

SCHEDULE 10-2

CURRICULUM

A. Overview

HFA: SCS will use the Henry Ford Academy Model as its curricular model. Based on substantive research in effective curriculum, instruction and school design, the HFA Model centers on teaching and learning for authentic achievement -- namely that meaningful learning occurs when students engage in *constructing knowledge* through *disciplined inquiry* that has *value beyond the classroom*. The key educational principles below are incorporated into the overall design for each course:

- High expectations for all students
- Differentiated instruction to ensure success for all students
- Alignment to state and national standards
- Research-based strategies for effective teaching and learning, in particular project-based learning

This framework is critical to the design and implementation of the curriculum, and promotes student mastery of the Five Developmental Areas, which organize the overall scope and sequence of knowledge and skills: 1) Academic Content, 2) Technology, 3) Communication, 4) Personal Development, and 5) Thinking & Learning. (*See Exhibit A for a more detailed description of the Five Developmental Areas.*)

B. Scope and Sequence

The HFA: SCS Elementary School Framework is aligned across all six grades. The HFA: SCS 6-12 School Framework has three aligned stages: middle school, early high school, and late high school. Each Framework is designed to provide a comprehensive orientation at the beginning of each stage, and then the structure and experiences to prepare students for the successive stage. For example, students entering the middle school attend a one-week orientation, where they meet teachers and classmates, and will be paired with a high school junior or senior “buddy.” During the week, they learn the important expectations and cultural norms of the school, take diagnostic tests in math and reading, and begin to become exposed to college and career opportunities. Their parents will also attend an orientation to learn about school culture and expectations. Similar week-long orientations help students transition to each new stage. (*For a detailed description of the K-5 School Framework and 6-12 School Framework, see Exhibit B.*)

The HFA: SCS Scope and Sequence includes Math, Science, Social Studies and English/Language Arts every day in every grade at the elementary school level. The middle school program includes three years of Math, Science, Social Studies and English/Language Arts. The high school program includes four years of required math, science and English/language arts, three years of social studies, and two years of a foreign language, with additional electives in each of these areas.

All students will also take courses that introduce key knowledge and skills that support the overall theme of the school: creativity and innovation. Elementary school students will have art

and design class twice a week. Middle and high school students will also take an art class every year, and complete the three-course Senior Mastery Process. (*For K-5 curriculum maps and the complete 6-12 Scope and Sequence, see Exhibit C*).

Accelerated Curriculum Experience (ACE)

HFA: SCS views all of its students as gifted and talented. Therefore, the HFA: SCS Curriculum will be designed so that teachers have multiple opportunities for differentiation and individualization of instruction within core classes. HFA: SCS will identify students' academic preparation, strengths and weaknesses through diagnostic testing, grades, class performance, and observation by and interactions with staff. Identified HFA: SCS students will be able to participate in the Accelerated Curriculum Experience (ACE) sequence, in which they take an accelerated version of the relevant grade level core class. Students who meet the outcomes expectations for that course may move into the next grade-level course for that discipline, opening up their future schedule in the upper grades of high school for more advanced coursework, often at local college campuses. An advantage of this approach is that these students are not removed from the overall student population; this enhances the development of their non-academic relationships and skills and ensures they meet the same high standards, but to do so at their own pace. Currently about 25% of students at HFA: Dearborn participates in the ACE program.

Strategies for Remediation

Just as accelerated courses are included in the core curriculum, extra support for students is integrated into every student's schedule in the following ways:

- Academic coaching—structured time during the day to complete homework, meet with one's team for collaborative projects, receive tutoring, make up tests, get additional help from older students or mentors, or complete on-site work
- Forum—daily advisory with structured time to address personal and academic goals, support the development of individual responsibility skills and strategies, host grade and school level meetings, and engage in community service
- Individualized instruction with differentiation and personal choice when and where possible, and
- PREP time—supervised time before and after school for students to complete homework and get academic or personal support

In addition, all students are given a diagnostic test in reading and math before the school year starts but after lottery numbers are assigned and students enroll for the year. Based on these initial results, students who demonstrate need for remedial support are scheduled for additional tutoring, targeted Academic Coaching and enhanced skills' development sessions.

C. College and Career Preparation

Post-secondary education is an expectation of all Henry Ford Academy students – one that will be established from their very first day at an Academy. Beginning in the sixth grade, students will engage in structured college visits with their class or Forum, research and explore potential colleges/universities and careers of interest, participate in coursework that links to future options,

interact with guest speakers and participate in workplace-based job shadowing. Through extensive learning in the community and a learning environment located in the Argonaut Building, students in all grades will gain exposure to and a chance to work alongside professionals in variety of careers often not observed by students in urban areas.

In high school, discussions with families about financial planning for college, separation concerns, and strategies to support their student will also begin. Juniors and seniors continue their growth with the Senior Mastery Process, which stresses career exploration and preparation, and Senior Transitions which directly addresses college preparation through a variety of group and individual experiences. Currently under development, Senior Transitions will be composed of workshops for students that address college expectations and culture, admissions requirements, applications, financial aid and planning, personal finance, family separation issues and skills for continued personal development. HFA: SCS will also conduct family workshops to support caregivers in this process as well. Upperclassmen will also participate in individually scheduled college visits and career exploration visits to sites of their choice.

Students measure their progress on important college and career prep milestones using a College/Career Readiness Report Card. The report card is then reviewed twice each year in meetings that include the student, a parent, and the Forum leader.

D. Creativity and Innovation Focus

Commenting on the new global economy and its requirements for high-skill workers, the New Commission on the Skills of the American Workforce said:

“The best employers the world over will be looking for the most competent, most creative, and most innovative people on the face of the earth and will be willing to pay them top dollar for their services. This will be true not just for the top professionals and managers, but up and down the length and breadth of the workforce.” (Tough Choices or Tough Times, 2007).

HFA: SCS is committed to preparing those competent, creative, and innovative people. Central to this effort is an integration of focus on creativity and innovation at three key levels:

1. Learning outcomes
2. Learning engagements (the experiences, both formal and informal, that create opportunities for students and staff learning), and
3. Learning environment (the space in which students and staff learn)

Learning Outcomes

Goals for students in the areas of creativity and innovation include:

- Apply relevant knowledge from different disciplines to understand complex problems, and to develop effective solutions
- Understand how complex issues affect various individuals and groups differently, and develop empathy for others’ needs and perspectives
- Generate new, imaginative solutions to problems

- Work effectively as a team
- Demonstrate effective leadership skills
- Demonstrate flexibility and ability to adapt quickly to new situations
- Receive and incorporate feedback and ideas from others
- Demonstrate awareness of one's role in local and global communities
- Act ethically and responsibly
- Grow through self-reflection

Learning Engagements

Design and innovation-based problem solving serves as the core organizational approach for the school, as demonstrated by:

- Deep, sustained project work with the design thinking and innovation process as a central element integrated into every core academic course
- Unique cross-disciplinary projects to promote collaboration with community partners
- A Foundations of Innovation course taken at the beginning of middle school and then again at the beginning of high school.
- Students who take at least one art/design course each year.
- Teacher orientation and induction that includes a “Foundations of Innovation” enhanced experience
- Instructional staff who receive ongoing professional development in areas of creativity and innovation and
- The ability for middle and high school students to enroll in courses in art and design co-taught by CCS and HFA: SCS staff

Learning Environment

The elementary school space itself will support creativity and innovation, as demonstrated by:

- Dedicated design studio workshops and exhibition spaces
- Learning studios that mirror innovative learning and work spaces of adults
- Visiting designer and artist programs

The middle and high school space will support creativity and innovation, as demonstrated by:

- Dedicated design studio workshops and exhibition spaces
- Learning studios and design alcoves that mirror innovative learning/work spaces of adults
- Student access to CCS studio space, and technology and design resources
- Students who see the work of CCS students and faculty on a daily basis
- Shared HFA: SCS and CCS public exhibition spaces
- Privileged student access to three CCS libraries: The Art and Design Library, the Visual Resources Library, and the Color and Materials Library
- Visiting designer and artist programs, like the Woodward and Toyota Lecture series, and the continual series of talks, visits, and artist-in-residence programs that individual CCS departments organize and host, and
- The opportunity to observe and work with CCS artists-in-residence

E. Distinctive Elements

The following distinctive elements will enrich the unique HFA: SCS curriculum: The Senior Mastery Process; Learning in the Community; Academic Coaching; Forum; Inter-disciplinary Projects; Integrated Technology Plan.

Senior Mastery Process

In the broadest sense, the Senior Mastery Process (SMP) describes the organizational framework that encompasses the full range of college and career preparation activities that begin in the 6th grade and culminate in the Senior Defense. However, there are four main parts to the SMP that occur in the junior and senior years of high school that we will highlight here: Junior Workshop, Senior Practicum, Senior Workshop and Senior Defense. In these four steps, students prepare for and complete an extended exploration of their career interests, design and conduct a substantial action research project, engage in an internship associated with that research, and present their findings in a formal defense. All students must successfully complete the SMP to graduate.

A variety of required experiences and deliverables are included in the SMP. Students:

- Engage in self-assessment of skills, interests, abilities
- Explore possible career interests
- Develop a portfolio of professional documents
- Demonstrate job search skills
- Complete an intensive work-place practicum in a career area of interest
- Conduct an action research project
- Create a work product that has real value to the practicum site or mentor
- Presentation of research and learning in the field at a formal defense, with committee review of work quality

(For a detailed explanation of the Senior Mastery Process, see Exhibit B)

Learning in the Community

Learning in the Community is a central part of the curriculum. In addition, the curriculum will integrate learning in the community into every core course, taking students out of the building to access resources in the wider world. Students will go on field trips, interview members of community and host them for talks on careers or important issues. Students will work with experts in field on real-world projects. In the process, students will learn that their work is connected in meaningful ways to the real world: they will watch how professionals and other successful adults fulfill their responsibilities and engage in solving real-world problems, and they gain sense of their role in local and global communities.

As mentioned before, the HFA: SCS middle and high school will share space with CCS, and several major organizations with a diverse work force and wide range of skill sets and professional contexts. Opportunities for interacting with talented college students, faculty, and other professionals will abound. On special projects, experts will host students for focused field placements, where they will advise students on projects, and provide feedback on their work.

Academic coaching

Academic Coaching serves as a time in middle and high school students' schedules where they can work to meet individual needs. For some, this is a time to gain additional tutoring on a difficult assignment. For others, time to make up missed tests or class work. Students call also use the time to meet with small project groups, attend college information sessions, meet with their counselor or Forum Leader, or simply work on pending homework or other ongoing project work. Because the entire school shares common time for Academic Coaching, students and teachers are able to meet with whomever they need; use science lab, project lab or art/design studio space and equipment; and improve the overall sense of an integrated learning community.

Forum

Forum is the HFA Model version of what is commonly called Advisory, and is a anchor of the elementary, middle and high school programs. Students meet daily for a short period of time in small groups (approximately 12-14 students) with their Forum Leader who serves in that capacity from the time the student enters until graduation. During that time, the Forum works through a number of regular activities to support students' connection to each other and the Forum Leader, strengthen their skills at managing their personal work loads and goal setting, and meet as needed with their whole class or school (elementary, middle and high school students would each meet as three distinct "schools"). At least twice each year, Forum leaders will review College/Career Readiness Report Cards with each student and their parents, making sure the student is on track to meet his/her learning goals and graduation requirements.

Inter-disciplinary projects

The HFA: SCS curriculum will be centered on a series of significant inquiry-based and project-based learning experiences for students. Designed to address the core standards and benchmarks as well as incorporate a significant opportunity for individual student choice, projects will explore complex issues from a wide range of perspectives. These projects will, by nature, integrate content and skills from multiple disciplines. Specifically, the curriculum is written to include identified partner course projects (math/science and language arts/social studies), grade-level projects (bringing together multiple disciplines and interests) and school-wide projects. Drawing on the unique nature of the partnership, projects for HFA: SCS teachers and students will frequently involve substantial attention to art/design, incorporate the resources and participation of local community partners, and be developed through a structured adaptation process that brings together CCS and HFA: SCS instructional staff, as well as HFLI curriculum development personnel.

Integrated Technology Plan

Technology and the ability to use it effectively, creatively, and ethically will be central to all learning at HFA: SCS. Technology is a required set of tools that helps students and teachers engage more effectively in the research, communication, problem-solving, collaboration, and the other important learning processes that occur in every class. In particular, HFA: SCS sees substantial alignment between the outcomes for

students in the areas of innovation and creativity, and those for technology: all of the phases of the design process are facilitated and deepened with the use of appropriate technologies. In addition, the fields of design and innovation are at the leading edge of not only producing new technologies, but, more importantly, integrating existing technologies into the very fabric of their work process. HFA: SCS's goal is to develop students skilled in art and design and prepared, if they so choose, to pursue further studies and careers in these fields. A commitment to deliberate and comprehensive integration of new technologies is therefore central to achieving the HFA: SCS mission.

Goals for Elementary School Students

At the elementary school level, students in grades K-5 will develop their competencies in:

- Basic operations and concepts
- Social, ethical and human issues
- Technical communication tools
- Technology problem-solving and decision-making tools
- Technology productivity tools
- Technology research tools

Goals for Middle and High School Students

HFA: SCS will prepare students to develop and demonstrate technological competence in the following ways:

- Students will develop fluency using a variety of technologies, including:
 - standard computer applications
 - digital collaboration technologies (such as wikis, blogs, resource depositories)
 - digital content creation technologies (photos, video, multi-media and internet publishing, etc.)
 - media tools for learning and teaching (video, podcasts, videoconference)
 - simple to complex automated machines
 - hand-held science probes and data collection devices
 - microscopes, scales and other measurement tools, and other “scientific” technology
 - graphing calculators
- Students will be able to evaluate a variety of options and select the tool(s) most appropriate for the task at hand. They will:
 - Be able to troubleshoot and understand how to learn new technologies
 - Use technology and critical thinking skills to plan and conduct research, manage project, solve problems, and make decisions
 - Create and explore models and simulations to help understand complex issues and predict future possibilities

- Collaborate, locally and at a distance, with peers and experts in the field, sharing information and perspectives, creating and publishing documents, and solving problems
- Use technology to effectively and persuasively communicate knowledge and ideas
- Publish work to sites that allow others to use their work as a resource.
- Communicate with learners from other cultures and locations as a way to develop deeper cross-cultural awareness and understanding
- Become leaders in digital citizenship, practicing and advocating for responsible, ethical use of technology

Technology Infrastructure:

In order to accomplish these goals, HFA: SCS will establish a physical and instructional infrastructure that includes:

- One-to-one computing environment as a mid-term goal
- Dedicated media/technology labs
- High-speed Internet connections (wired and wireless)
- Shared access to CCS studios and equipment (graphic design, animation, digital imaging and production, etc.) at the high school level
- Technology explicitly integrated into every core class
- Ongoing professional development for teachers to ensure their fluency and comfort with a range of new technologies and
- Art and Design courses co-taught with CCS and HFA: SCS staff at the middle/high school level

Development of Student Competency

Accomplishing these goals demands deliberate, consistent exposure and training over the course of many years, as knowledge and skills spiral to ever more complex and more independent uses and applications.

To understand the general pattern in which students in grades K-5 will develop these skills, see Exhibit C.

HFA: SCS middle/high school students will develop these skills in the following general pattern:

Competency	6th & 7th Grades	8th, 9th, & 10th Grades	11th & 12th Grades
<i>Integrating Technology</i>	Teachers structure learning in projects that integrate technology	Teachers collaborate with students to plan and manage projects that integrate technology	Students largely initiate their own projects and investigations, using a variety of tools and resources
<i>Learning New Technologies</i>	Teachers introduce new technologies, with explicit instruction to build student know-how	Teachers continue to introduce and teach new technologies; Teachers collaborate with students to assess technology needs and provide know-how	Students often introduce and teach new technologies to one another and/or learn from other resources (online, from community partners, etc.)
<i>Making Technology Choices</i>	Teachers make their rationale for technology choices transparent; students develop an understanding for appropriate use	Teachers continue to make their thinking transparent; students make choices and explain their rationale	Students reflect on and articulate their rationale for their technology choices

Competency	6th & 7th Grades	8th, 9th, & 10th Grades	11th & 12th Grades
<i>Sharing Work Products</i>	Teachers structure ways for students to produce and share their work in resource depositories	Teachers structure ways for students to actively use one another's published work as resources for their own learning	Students regularly publish their work in resource depositories that others use as resources
<i>Determining Source Credibility</i>	Teachers bring in information from reliable sources, and coach students to notice differences in reliability and quality of sources	Teachers and students work together to bring in high quality, reliable sources; teachers facilitate discussions of bias, information quality, appropriateness to task, etc.	Students develop their resource base independently; they demonstrate a critical understanding of quality and reliability, and consistently access credible sources

Competency	6th & 7th Grades	8th, 9th, & 10th Grades	11th & 12th Grades
<i>Using Technology Responsibly</i>	Teachers facilitate discussions related to ethical and social issues related to use of technology, and provide guidelines for responsible, ethical use	Teachers facilitate discussions on ethical and socially responsible use of technology; students and teachers collaborate to articulate guidelines in more complex ethical issues	Students reflect on and assess ethical and social issues related to their use of technology; take leadership in educating other students in responsible and ethical use

Exhibit A

Henry Ford Academy: School for Creative Studies will provide every student with the tools and capacity to thrive as a contributing member of the 21st global community. Each Academy graduate will demonstrate his/her readiness to do so by meeting the expectations for high standards of personal mastery in each of the Five Developmental Areas. Core and elective courses, the student activities, and the many formal and informal interactions among staff and students are consciously designed to reinforce one or more of the Developmental Areas, ensuring that students have multiple and varied means of support in their four years at HFA: SCS to achieve this challenging goal.

Academic Content:

Students will develop and demonstrate an understanding of the critical elements of the core academic disciplines (Language Arts, Mathematics, Science and Social Studies) by exploring compelling questions and/or problems, engaging in authentic work for each particular content area, and applying their skills and knowledge to real-world experiences through the process of design thinking. In addition, students will also develop competencies in and an appreciation for fine arts, life-long health and physical fitness, and world languages and cultures. They will understand that this knowledge is not a finite source of information; rather it is the foundation for effective learning and decision-making in both work and life.

Technology:

Through their daily work and life, students will use technology as an integral part of their learning and solving problems at the Academy. They will become familiar and develop expertise with a wide variety of technologies that include media tools, computers, hand-held data collection devices, graphing calculators and robots. Significantly, students will learn to evaluate the various tools that are available for a specific purpose and select the one that is most appropriate for their needs. They will also consider and address the intellectual, environmental and ethical issues associated with the use of technology and its impact on society.

Thinking and Learning:

Throughout their courses, students will develop and demonstrate proficiency with design thinking—a set of creative and critical thinking skills that enable them to identify problems correctly, gather and analyze needed information, and select innovative and effective solutions, which is a capacity they will need long after they leave formal schooling. Engaging in a variety of cognitive strategies, students will also develop their capacity as life long learners so that they will be able to adapt to new environments and challenges they will certainly face beyond high school. Lastly, students will be expected to understand their own learning needs and seek strategies or support that will enable them to meet the expectations for high personal and academic achievement.

Communication:

Learning and working in a team-centered community that emphasizes collaborative effort as critical to individual and collective success, students will develop and demonstrate a variety of effective communication skills that include reading, writing, speaking, listening, persuasion, negotiation and conflict resolution. They will learn to evaluate the validity, reliability and accuracy of the information they receive and the effectiveness of the communication strategies

they choose to employ in a variety of situations, including personal relationships, work-based interactions and larger social contexts. In an ever-changing global society, these skills will enable them to share ideas, work collaboratively and promote a more cohesive community made up of diverse people and cultures.

Personal Development:

Students will develop a strong awareness of their own values and use self-assessment and reflection as a means for personal growth. As a consequence of their education at HFA: SCS, they will demonstrate personal characteristics that include an orientation of innovation, creative confidence, focus on achievement, trustworthiness, reliability, flexibility, an openness to change, acceptance of diversity, and a commitment to their local, national and global community. In addition, students will demonstrate their ability to apply the “soft skills” in a variety of situations, including school-based and work-based environments. As an ongoing part of their experience, students will understand the importance of continuous learning and set goals that reflect a commitment to the values required to live in a diverse and democratic society. They will also be able to translate their competencies to a variety of settings, including school, home, work and community.

Exhibit B

K-5 School Framework

TRANSITION to HFA: SCS ELEMENTARY	
<p>Student STEP Program (1-3 days, varies by grade level):</p> <ul style="list-style-type: none"> • Student orientation: welcome to school, to SCS Elem; find your learning studio and other essential spaces • Initial introduction to Responsive Classroom • Meet the teacher(s) and other school staff members; initiate 360° support for learning and growth • Supported transition from home, early child care to school as formal learning <p>Summer PREP Program:</p> <ul style="list-style-type: none"> • Summer workshops in key reading, math, writing skills gaps • Fun, challenging learning experiences that reinforce or deepen learning to promote on-grade-level matriculation • Field trips, learning experiences out in community • Not for all students – identified through initial interviews, ongoing diagnostics, observations 	<p>Parent STEP Program (1 day during student STEP)</p> <ul style="list-style-type: none"> • Orientation: welcome to school, to SCS Elem; locate key learning and support spaces in school; • Introduction to foundation programs: Responsive Classroom, Balanced Literacy, Every Day Math, Design Thinking; home-links and parent responsibilities • Initiate relationships with teachers, school staff and support team • Transition support from home, early child care experiences • Review logistics for “formal” school <p>Prior to Start of School:</p> <ul style="list-style-type: none"> • Family and student welcome events: initial interview to learn more about student, family; develop common understanding of ed program and vision • Initiate relationships as “family” of learners • Review and develop any possible individualized learning plans to promote “jump start” from day one • Signed agreement for commitment and expectations for key stakeholders
ELEMENTARY SCHOOL CORE ELEMENTS	
<p>Curriculum:</p> <ul style="list-style-type: none"> • HFA Curriculum – ADF and essential elements as appropriate to K-5 • Emphasis on Five Developmental Areas: academic content, communication, technology, thinking & learning, personal development • Core subjects: math, science, ELA, Social Studies, art • Stay with same teacher for math and ELA for 2-year cycle • Additional learning: art, design, PE/Health, technology, music • Focus on design thinking skills and mindsets <p>Additional Support:</p> <ul style="list-style-type: none"> • Access to after school tutoring, focused individual practice time with technology and other learning tools • At home practice with progressive digital technology tools • Extended time for ELA (1.5x) and math (2x) instruction, practice 	<p>Content Mastery:</p> <ul style="list-style-type: none"> • 5th Grade “exhibition” of learning and growth • On-grade level for math, reading and writing by end of 3rd grade <p>Young Navigator Program:</p> <ul style="list-style-type: none"> • In-school training workshop to develop skills to be a mentor to younger students (5th grade → K, 1st) • Structured learning and culture/climate events to promote strong support relationships among student pairs <p>PREP Program:</p> <ul style="list-style-type: none"> • Summer programs to address skill and content gaps • Saturday or vacation field trips for learning enrichment

The following programs will be implemented at all grade levels (K-5):

Curriculum Area	Program	Notes
Social Learning	Responsive Classroom	<ul style="list-style-type: none"> • Research-based program developed by Northeast Foundation for Children • Proven effectiveness in developing social skills and decreasing problem behaviors
English Language Arts	Readers and Writers Workshop (Balanced Literacy)	<ul style="list-style-type: none"> • Based on over two decades of research by Irene Fountas and Gay Su Pinnell • Includes assessment, instruction and intervention components • Tightly aligned with MI GLCE's and Common Core
Math	Every Day Math	<ul style="list-style-type: none"> • Research-based program developed at the University of Chicago as part of the School Mathematics Project over last 30 years • Includes assessment, instruction and intervention components • Tightly aligned with MI GLCE's and Common Core
Science	Battle Creek Science Units	<ul style="list-style-type: none"> • Inquiry-based Science program developed at Battle Creek Area Math and Science Center through extensive development and evaluation process • Tightly aligned with MI GLCE's • Efficient system for restocking kits
Social Studies	Social Studies Alive!	<ul style="list-style-type: none"> • Produced by Teachers Curriculum Institute and based on 5 well established research theories (Understanding by Design-Wiggins and McTighe; Non-Linguistic Representation – Marzano; Multiple Intelligences-Gardner; Cooperative Interaction-Cohen; and Spiral Curriculum (Bruner) • Highly interactive methodology • All materials available online; teachers print what they want to use; ongoing updates
Physical Education	Exemplary Physical Education Curriculum (EPEC)	<ul style="list-style-type: none"> • Research-based program developed by jointly by Michigan Departments of Education and Health • Tightly aligned with MI GLCE's • Proven effectiveness in promoting health, fitness and development of life-long skills
Innovation and Design Thinking	Grade Level Design Challenges	<ul style="list-style-type: none"> • Based on work done at Design Lab – Stanford University Design School

6-12 School Framework (6-8th, 9-10th, and 11-12th levels)

TRANSITION TO 6TH GRADE	
<p>Student STEP Program (one week):</p> <ul style="list-style-type: none"> ▪ Student orientation: welcome to CUE, host institution; behavior expectations, workplace process; academic expectations ▪ Initiate relationships: among grade level, with staff, with Jr/Sr Buddy ▪ Introduction to classes and academic expectations ▪ Initial introduction to long-term focus on college and career ▪ Supported transition to middle school ▪ Diagnostics to identify gap areas, relates to schedule of classes and labs <p>Student PREP Program:</p> <ul style="list-style-type: none"> ▪ Summer workshops in key math, reading, skills gaps ▪ Fun, invigorating, challenging experiences to support movement to grade level performance ▪ Field trips, work-based interactions, projects ▪ Varied lengths to meet individual needs ▪ Not for all students—identified through initial interviews and test scores 	<p>Parent STEP Program (one day during student STEP):</p> <ul style="list-style-type: none"> ▪ Orientation: welcome to CUE, host institution, parent group, introduction to curriculum, homework TIPS program, long term focus on college and career ▪ Initiate relationships with CUE staff, other parents, Parent Organization opportunities ▪ Transition support: middle school development ▪ Start college discussion and exposure ▪ Registration and 7 year commitment letter ▪ Parent programs introduced—available throughout school year <p>Prior to actual start of school:</p> <ul style="list-style-type: none"> ▪ Family and student interview with welcome and expectations for all partners (student, family, staff, community, host) ▪ Diagnostic testing for planning purposes ▪ Scheduling for any summer PREP programs ▪ Draft of 6-12th academic program plan with family input ▪ 6th schedule of classes—proposed (7th and 8th scheduled at start of successive school years) ▪ Signed agreements for commitment, expectations
MIDDLE SCHOOL CORE ELEMENTS	
<p>Curriculum:</p> <ul style="list-style-type: none"> ▪ HFA model curriculum—ADF and essential elements ▪ Core: Math, science, ELA, Social Studies core ▪ Targeted instruction in reading, math, writing, study and organization skills—AVID program ▪ Non-core and electives: innovation/creativity, foreign language, art, p.e., technology, others ▪ Daily Academic Coaching—focused individual and small group support, time for additional practice ▪ Emphasis on 5 Dev Areas, college focus in all classes <p>Forum:</p> <ul style="list-style-type: none"> ▪ Meets daily for short length of time ▪ Connected to 5 Dev Areas: calendar, academic goal setting and tracking, inter-personal skills, community service, Town Hall meetings with school, campus or grade level ▪ Looped within grade levels, i.e. 6-8, 9-10, 11-12 <p>Content Mastery:</p> <ul style="list-style-type: none"> ▪ Required demonstration in essential objectives to move to next phase ▪ 8th grade “defense” of learning and growth 	<p>6th Grade Senior Navigator Program:</p> <ul style="list-style-type: none"> ▪ Summer training workshop as elective for upperclassmen to serve as younger student “mentors”—participation in is worth credit ▪ Work with either individuals or small groups—maybe attached to Forum <p>PREP Program:</p> <ul style="list-style-type: none"> ▪ Summer programs to address skill and content gaps ▪ Before and after school workshops in gap areas ▪ Saturday enhancement field trips or workshops <p>TIPS:</p> <p>Parent homework support and involvement program</p> <p>Overall Schedule</p> <ul style="list-style-type: none"> ▪ Extended class time with paired classes for natural points of integration ▪ Core classes meet for entire year, non-core and electives for semester—consider “inter-sessions” for immediate remediation, grade-wide projects, unique electives with short term groups of students ▪ Extended day with before and after school options—academic, activities, social connections ▪ Team teaching with common planning time

TRANSITION TO 9TH GRADE	
<p>Milestone Marker to enter next level/high school Student STEP Program (one week):</p> <ul style="list-style-type: none"> ▪ Student orientation: welcome to high school, host institution; behavior expectations, workplace process ▪ Extend relationships: among grade level, with staff ▪ Introduction to classes and academic expectations of high school, planning for college ▪ Supported transition to high school ▪ New student registration and orientation as needed <p>Parent STEP Program (one day during student STEP):</p> <ul style="list-style-type: none"> ▪ Orientation: welcome to village, parent group refresh, introduction to high school curriculum and expectations ▪ Participation in Milestone Marker ▪ Further develop relationships with CUE staff, other parents, Parent Organization opportunities reminder ▪ Transition support: high school development ▪ Registration and 4 year commitment letter as needed for new students ▪ Continue college discussion and exposure ▪ Transcript review ▪ Parent programs introduced—available throughout school year 	<p>Student PREP Program:</p> <ul style="list-style-type: none"> ▪ Summer workshops in key math, reading, skills gaps ▪ Fun, invigorating, challenging experiences to support movement to grade level performance ▪ Field trips, work-based interactions, projects ▪ Varied length to meet individual needs <p>Prior to actual start of school:</p> <ul style="list-style-type: none"> ▪ Family and student interview with welcome and expectations, as needed for new students ▪ Diagnostic testing for planning purposes, as needed ▪ Scheduling for any summer PREP programs ▪ Review of 6-12th academic program plan with family input ▪ 9th schedule of classes for entire year (10th scheduled at start of following school year) ▪ Signed agreements for commitment, expectations in high school, as needed
EARLY HIGH SCHOOL CORE ELEMENTS—9th and 10th grade	
<p>Curriculum:</p> <ul style="list-style-type: none"> ▪ HFA Model curriculum—ADF and essential elements ▪ Core: Math, science, ELA, Social Studies, technology ▪ Non-core and electives: Ford PAS, innovation & creativity, foreign language, art, p.e., others ▪ Academic Coaching—regularly within week—possibly daily ▪ Emphasis on 5 Dev Areas, Innovation & Creativity <p>Forum:</p> <ul style="list-style-type: none"> ▪ Meets daily for short length of time, more independent implementation of first phase elements ▪ Connected to 5 Dev Areas: calendar, academic goal setting and tracking, inter-personal skills, community service, Town Hall meetings with school, campus or grade level ▪ Looped within grade levels, i.e. 6-8, 9-10, 11-12 <p>Content Mastery:</p> <ul style="list-style-type: none"> ▪ Required demonstration in essential objectives to move to next phase ▪ College and Career Prep Report Card ▪ 10th grade “defense” of learning and growth 	<p>TIPS:</p> <ul style="list-style-type: none"> ▪ Parent homework support and involvement program <p>PREP Program:</p> <ul style="list-style-type: none"> ▪ Summer programs to address skill and content gaps ▪ Before and after school workshops in gap areas ▪ Saturday enhancement field trips or workshops <p>Overall Schedule</p> <ul style="list-style-type: none"> ▪ Extended class time with paired classes for natural points of integration ▪ Schedule of quarter/semester—consider week-long “inter-sessions” between quarters for remediation, grade-level projects, unique electives with short term groups of students, college trips ▪ Extended day with before and after school options—academic, activities, social connections ▪ Team teaching with common planning time

TRANSITION TO 12TH GRADE/COLLEGE PROGRAM	
<p>Student STEP program (one week):</p> <ul style="list-style-type: none"> ▪ Introduction to unique campus, responsibilities and expectations ▪ Review of transcript requirements ▪ College testing and curriculum requirements update ▪ College application workshop ▪ SMP reminders and expectations 	<p>Student PREP Program:</p> <ul style="list-style-type: none"> ▪ Summer workshops in key transcript gaps ▪ Fun, invigorating, challenging experiences to support movement to grade level performance ▪ Field trips, work-based interactions, projects ▪ Varied length to meet individual needs ▪ Summer electives for Sr Navigator program
<p>PREP=Promoting Readiness for Education Progress</p> <p>STEP=Supported Transition for Education Progress</p> <p>TIPS=parent involvement and homework support program</p>	
<p>Orientation: developmental issues, site/campus issues, academic program, community building, relationships with staff, “tradition” events, extra/co-curricular options and first participation, milestone markers, include THF staff, Adult Partners, administrators</p>	

Exhibit C
K-5 Technology Curriculum Map

STRAND 1: BASIC OPERATIONS AND CONCEPTS					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Understand that people use many types of technologies in their daily lives (computers, cameras, audio/video players, phones, televisions)	Understand that people use many types of technologies in their daily lives (computers, cameras, audio/video players, phones, televisions)	Understand that people use many types of technologies in their daily lives (computers, cameras, audio/video players, phones, televisions)			
Identify common uses of technology found in daily life.	Identify common uses of technology found in daily life.	Identify common uses of technology found in daily life.			
Recognize, name and be able to label the major hardware components in a computer system (e.g., computer, monitor, keyboard, mouse, printer)	Recognize, name and be able to label the major hardware components in a computer system (e.g., computer, monitor, keyboard, mouse, printer)	Recognize, name and be able to label the major hardware components in a computer system (e.g., computer, monitor, keyboard, mouse, printer)			
Identify the functions of major hardware and various media types (e.g. CDs, DVDs, videotapes)	Identify the functions of major hardware and various media types (e.g. CDs, DVDs, videotapes)	Identify the functions of major hardware and various media types (e.g., CDs, DVDs, videotapes)			
Discuss the basic care of computer hardware and various media types	Discuss the basic care of computer hardware and various media types	Discuss the basic care of computer hardware and various media types	Demonstrate proper care in the use of hardware, software, peripherals and storage media.	Demonstrate proper care in the use of hardware, software, peripherals and storage media.	Demonstrate proper care in the use of hardware, software, peripherals and storage media.
Use various age appropriate technologies for gathering information (e.g., dictionaries, encyclopedias, audio/video players, phones, web resources)	Use various age appropriate technologies for gathering information (e.g., dictionaries, encyclopedias, audio/video players, phones, web)	Use various age appropriate technologies for gathering information (e.g., dictionaries, encyclopedias, audio/video players, phones, web)	Identify search strategies for locating needed information on the internet	Identify search strategies for locating needed information on the internet	Identify search strategies for locating needed information on the internet
Use a variety of age-appropriate technologies for sharing information (e.g.,	Use a variety of age-appropriate technologies for sharing information	Use a variety of age-appropriate technologies for sharing information (e.g.,	Proofread and edit writing using appropriate resources (e.g., dictionary, spell	Proofread and edit writing using appropriate resources (e.g., dictionary, spell	Proofread and edit writing using appropriate resources (e.g., dictionary, spell

drawing a picture, writing a story)	(e.g., drawing a picture, writing a story)	drawing a picture, writing a story)	check, grammar check, grammar references, writing references)	check, grammar check, grammar references, writing references)	check, grammar check, grammar references, writing references)
Recognize the functions of basic file menu commands (new, open, close, save, print)..	Recognize the functions of basic file menu commands (new, open, close, save, print)..	Recognize the functions of basic file menu commands (new, open, close, save, print)..			
Proofread and edit their writing using appropriate resources including dictionaries and a class developed checklist both individually and as a group.	Proofread and edit their writing using appropriate resources including dictionaries and a class developed checklist both individually and as a group.	Proofread and edit their writing using appropriate resources including dictionaries and a class developed checklist both individually and as a group.			
			Discuss ways technology has changed life at school and at home.	Discuss ways technology has changed life at school and at home.	Discuss ways technology has changed life at school and at home.
			Discuss ways technology has changed business and government over the years.	Discuss ways technology has changed business and government over the years.	Discuss ways technology has changed business and government over the years.
			Recognize and discuss the need for security applications (e.g., virus protection, spam defense, popup blockers, firewalls) to help protect information and to keep the system functioning properly.	Recognize and discuss the need for security applications (e.g., virus protection, spam defense, popup blockers, firewalls) to help protect information and to keep the system functioning properly.	Recognize and discuss the need for security applications (e.g., virus protection, spam defense, popup blockers, firewalls) to help protect information and to keep the system functioning properly.
			Know how to use basic input/output devices and other peripherals (e.g., scanners, digital cameras, video projectors)	Know how to use basic input/output devices and other peripherals (e.g., scanners, digital cameras, video projectors)	Know how to use basic input/output devices and other peripherals (e.g., scanners, digital cameras, video projectors)
			Know the layout of the keyboard and be able to use multiple entry methods	Know the layout of the keyboard and be able to use multiple entry methods	Know the layout of the keyboard and be able to use multiple entry methods
			Know how to exchange files with other students using technology (e.g., e-mail	Know how to exchange files with other students using technology (e.g., e-mail	Know how to exchange files with other students using technology (e.g., e-mail

			attachments, network file sharing, flash drives)	attachments, network file sharing, flash drives)	attachments, network file sharing, flash drives)
			Identify which types of software can be used most effectively for different types of data, for different information needs, or for conveying results to different audiences.	Identify which types of software can be used most effectively for different types of data, for different information needs, or for conveying results to different audiences	Identify which types of software can be used most effectively for different types of data, for different information needs, or for conveying results to different audiences
			Be able to store and retrieve files using a variety of applications (e.g., Dropbox, Google Docs)	Be able to store and retrieve files using a variety of applications (e.g., Dropbox, Google Docs)	Be able to store and retrieve files using a variety of applications (e.g., Dropbox, Google Docs)
STRAND 2: SOCIAL, ETHICAL AND HUMAN ISSUES					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Identify common uses of information and communication technologies	Identify common uses of information and communication technologies	Identify common uses of information and communication technologies	Explore various technology resources that could assist in pursuing personal goals.	Explore various technology resources that could assist in pursuing personal goals.	Explore various technology resources that could assist in pursuing personal goals.
			Identify technology resources and describe how those resources improve the ability to communicate, increase productivity, or help achieve personal goals.	Identify technology resources and describe how those resources improve the ability to communicate, increase productivity, or help achieve personal goals.	Identify technology resources and describe how those resources improve the ability to communicate, increase productivity, or help achieve personal goals.
Discuss advantages and disadvantages of using technology.	Discuss advantages and disadvantages of using technology.	Discuss advantages and disadvantages of using technology.	Identify cultural and societal issues related to technology.	Identify cultural and societal issues related to technology.	Identify cultural and societal issues related to technology.
Recognize that using a password helps protect the privacy of information.	Recognize that using a password helps protect the privacy of information.	Recognize that using a password helps protect the privacy of information.			
Discuss scenarios describing acceptable and unacceptable uses of age-appropriate technology (e.g., computers, phones, 911, internet, email) at home or at school.	Discuss scenarios describing acceptable and unacceptable uses of age-appropriate technology (e.g., computers, phones, 911, internet, email)	Discuss scenarios describing acceptable and unacceptable uses of age-appropriate technology (e.g., computers, phones, 911, internet, email) at home or at school.	Discuss scenarios describing acceptable and unacceptable uses of technology (e.g., computers, digital cameras, cell phones, PDAs, wireless connectivity)	Discuss scenarios describing acceptable and unacceptable uses of technology (e.g., computers, digital cameras, cell phones, PDAs, wireless connectivity)	Discuss scenarios describing acceptable and unacceptable uses of technology (e.g., computers, digital cameras, cell phones, PDAs, wireless connectivity)

	at home or at school.				
Discuss the consequences of irresponsible uses of technology resources at home or at school.	Discuss the consequences of irresponsible uses of technology resources at home or at school.	Discuss the consequences of irresponsible uses of technology resources at home or at school.	Discuss basic issues regarding appropriate and inappropriate uses of technology (e.g., copyright, privacy, file sharing, spam, viruses, plagiarism) and related laws.	Discuss basic issues regarding appropriate and inappropriate uses of technology (e.g., copyright, privacy, file sharing, spam, viruses, plagiarism) and related laws.	Discuss basic issues regarding appropriate and inappropriate uses of technology (e.g., copyright, privacy, file sharing, spam, viruses, plagiarism) and related laws.
			Use age – appropriate citing of sources for electronic reports.	Use age – appropriate citing of sources for electronic reports.	Use age – appropriate citing of sources for electronic reports.
Understand that technology is a source of information, learning and entertainment.	Understand that technology is a source of information, learning and entertainment.	Understand that technology is a source of information, learning and entertainment.			
Identify places in the community where one can access technology.	Identify places in the community where one can access technology.	Identify places in the community where one can access technology.			
			Discuss how information and communication technology supports collaboration, productivity and lifelong learning.	Discuss how information and communication technology supports collaboration, productivity and lifelong learning.	Discuss how information and communication technology supports collaboration, productivity and lifelong learning.
			Discuss how various assistive technologies can benefit individuals with disabilities.	Discuss how various assistive technologies can benefit individuals with disabilities.	Discuss how various assistive technologies can benefit individuals with disabilities.
			Discuss the accuracy, relevance, appropriateness and bias of electronic information sources.	Discuss the accuracy, relevance, appropriateness and bias of electronic information sources.	Discuss the accuracy, relevance, appropriateness and bias of electronic information sources.
			Identify appropriate kinds of information that should be shared in public chat rooms.	Identify appropriate kinds of information that should be shared in public chat rooms.	Identify appropriate kinds of information that should be shared in public chat rooms.
			Identify safety precautions that should be taken while on-line.	Identify safety precautions that should be taken while on-line.	Identify safety precautions that should be taken while on-line.

STRAND 3: TECHNICAL COMMUNICATION TOOLS					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Identify procedures for safely using basic telecommunication tools (e-mail, phone) with assistance from teachers, parents or student partners.	Identify procedures for safely using basic telecommunication tools (e-mail, phone) with assistance from teachers, parents or student partners.	Identify procedures for safely using basic telecommunication tools (e-mail, phone) with assistance from teachers, parents or student partners.	Use basic telecommunication tools (e.g., e-mail, Web Quests, IM, blogs, chat rooms, web conferencing) for collaborative projects with other students.	Use basic telecommunication tools (e.g., e-mail, Web Quests, IM, blogs, chat rooms, web conferencing) for collaborative projects with other students.	Use basic telecommunication tools (e.g., e-mail, Web Quests, IM, blogs, chat rooms, web conferencing) for collaborative projects with other students.
Know how to use age-appropriate media (presentation software, newsletters, word processors) to communicate ideas to classmates, families, and others.	Know how to use age-appropriate media (presentation software, newsletters, word processors) to communicate ideas to classmates, families, and others.	Know how to use age-appropriate media (presentation software, newsletters, word processors) to communicate ideas to classmates, families, and others.	Use a variety of media and formats to create and edit products (e.g., presentations, newsletters, brochures, web pages) to communicate ideas to various audiences.	Use a variety of media and formats to create and edit products (e.g., presentations, newsletters, brochures, web pages) to communicate ideas to various audiences.	Use a variety of media and formats to create and edit products (e.g., presentations, newsletters, brochures, web pages) to communicate ideas to various audiences.
Know how to select media formats (e.g., text, graphics, photos, video) with assistance from teachers, parents, or student partners to communicate and share ideas with classmates, families, and others.	Know how to select media formats (e.g., text, graphics, photos, video) with assistance from teachers, parents, or student partners to communicate and share ideas with classmates, families, and others.	Know how to select media formats (e.g., text, graphics, photos, video) with assistance from teachers, parents, or student partners to communicate and share ideas with classmates, families, and others.	Identify how different forms of media and formats may be used to share similar information, depending on the intended audience (e.g. presentation for classmates, newsletter for parents).	Identify how different forms of media and formats may be used to share similar information, depending on the intended audience (e.g. presentation for classmates, newsletter for parents).	Identify how different forms of media and formats may be used to share similar information, depending on the intended audience (e.g. presentation for classmates, newsletter for parents).
STRAND 3: TECHNOLOGY PROBLEM-SOLVING AND DECISION-MAKING TOOLS					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Discuss how to use technology resources (e.g., dictionaries, encyclopedias, search engines, websites) to solve age-appropriate problems)	Discuss how to use technology resources (e.g., dictionaries, encyclopedias, search engines, websites) to solve age-appropriate problems)	Discuss how to use technology resources (e.g., dictionaries, encyclopedias, search engines, websites) to solve age-appropriate problems)	Use technology resources to access information that can assist in making informed decisions about everyday matters (e.g., which movie to see, which product to purchase).	Use technology resources to access information that can assist in making informed decisions about everyday matters (e.g., which movie to see, which product to purchase).	Use technology resources to access information that can assist in making informed decisions about everyday matters (e.g., which movie to see, which product to purchase).
Identify ways that technology has been used to address real-world problems (personal	Identify ways that technology has been used to address real-world problems	Identify ways that technology has been used to address real-world problems (personal	Use information and communication technology tools (e.g., calculators,	Use information and communication technology tools (e.g., calculators,	Use information and communication technology tools (e.g., calculators,

or community)	(personal or community)	or community)	probes, videos, DVDs, educational software) to collect, organize, and evaluate information to assist with solving real-life problems (personal or community).	probes, videos, DVDs, educational software) to collect, organize, and evaluate information to assist with solving real-life problems (personal or community).	probes, videos, DVDs, educational software) to collect, organize, and evaluate information to assist with solving real-life problems (personal or community).
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STRAND 4: TECHNOLOGY PRODUCTIVITY TOOLS

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Know how to use a variety of productivity software (e.g., word processors, drawing tools, presentation software) to convey ideas and illustrate concepts)	Know how to use a variety of productivity software (e.g., word processors, drawing tools, presentation software) to convey ideas and illustrate concepts)	Know how to use a variety of productivity software (e.g., word processors, drawing tools, presentation software) to convey ideas and illustrate concepts)	Know how to use menu options in applications to print, format, add multimedia features; open, save, manage files; and use various grammar tools (e.g., dictionary, thesaurus, spell-checker)	Know how to use menu options in applications to print, format, add multimedia features; open, save, manage files; and use various grammar tools (e.g., dictionary, thesaurus, spell-checker)	Know how to use menu options in applications to print, format, add multimedia features; open, save, manage files; and use various grammar tools (e.g., dictionary, thesaurus, spell-checker)
Be able to recognize the best type of productivity software to use for certain age-appropriate tasks (e.g., word processing, drawing, web browsing)	Be able to recognize the best type of productivity software to use for certain age-appropriate tasks (e.g., word processing, drawing, web browsing)	Be able to recognize the best type of productivity software to use for certain age-appropriate tasks (e.g., word processing, drawing, web browsing)	Know how to insert various objects (e.g., photos, graphics, sound, video) into word processing documents, presentations or web documents.	Know how to insert various objects (e.g., photos, graphics, sound, video) into word processing documents, presentations or web documents.	Know how to insert various objects (e.g., photos, graphics, sound, video) into word processing documents, presentations or web documents.
			Use a variety of technology tools and applications to promote creativity.	Use a variety of technology tools and applications to promote creativity.	Use a variety of technology tools and applications to promote creativity.
			Understand that existing (and future) technologies are the result of human creativity.	Understand that existing (and future) technologies are the result of human creativity.	Understand that existing (and future) technologies are the result of human creativity.
Be aware of how to work with others when using technology tools (e.g., word processors, drawing tools, presentation software) to convey ideas or illustrate simple concepts related to a specific project.	Be aware of how to work with others when using technology tools (e.g., word processors, drawing tools, presentation software) to convey ideas or illustrate simple concepts related to a specific project.	Be aware of how to work with others when using technology tools (e.g., word processors, drawing tools, presentation software) to convey ideas or illustrate simple concepts related to a specific project.	Collaborate with classmates using a variety of technology tools to plan, organize, and create a group project.	Collaborate with classmates using a variety of technology tools to plan, organize, and create a group project.	Collaborate with classmates using a variety of technology tools to plan, organize, and create a group project.

STRAND 5: TECHNOLOGY RESEARCH TOOLS					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Know how to recognize the Web browser and associate it with accessing resources on the internet.	Know how to recognize the Web browser and associate it with accessing resources on the internet.	Know how to recognize the Web browser and associate it with accessing resources on the internet.	Use Web search engines and built-in search functions of other various resources to locate information.	Use Web search engines and built-in search functions of other various resources to locate information.	Use Web search engines and built-in search functions of other various resources to locate information.
Use of variety of technology resources (e.g., CD-ROMs, DVDs, search engines, websites) to locate or collect information relating to a specific curricular topic with assistance from teachers, parents or student partners.	Use of variety of technology resources (e.g., CD-ROMs, DVDs, search engines, websites) to locate or collect information relating to a specific curricular topic with assistance from teachers, parents or student partners.	Use of variety of technology resources (e.g., CD-ROMs, DVDs, search engines, websites) to locate or collect information relating to a specific curricular topic with assistance from teachers, parents or student partners.	Know how to independently use existing databases (e.g., library catalogs, electronic dictionaries, encyclopedias) to locate, sort and interpret information on an assigned topic.	Know how to independently use existing databases (e.g., library catalogs, electronic dictionaries, encyclopedias) to locate, sort and interpret information on an assigned topic.	Know how to independently use existing databases (e.g., library catalogs, electronic dictionaries, encyclopedias) to locate, sort and interpret information on an assigned topic.
Interpret simple information from existing age-appropriate electronic databases (e.g., dictionaries, encyclopedias, spreadsheets) with assistance from teachers, parents, or student partners.	Interpret simple information from existing age-appropriate electronic databases (e.g., dictionaries, encyclopedias, spreadsheets) with assistance from teachers, parents, or student partners.	Interpret simple information from existing age-appropriate electronic databases (e.g., dictionaries, encyclopedias, spreadsheets) with assistance from teachers, parents, or student partners.	Describe basic guidelines for determining the validity of information accessed from various sources (e.g., web site, dictionary, on-line newspaper, CD-ROM)	Describe basic guidelines for determining the validity of information accessed from various sources (e.g., web site, dictionary, on-line newspaper, CD-ROM)	Describe basic guidelines for determining the validity of information accessed from various sources (e.g., web site, dictionary, on-line newspaper, CD-ROM)
Provide a rationale for choosing one type of technology over another for completing a task.	Provide a rationale for choosing one type of technology over another for completing a task.	Provide a rationale for choosing one type of technology over another for completing a task.	Compare and contrast the functions and capabilities of the word processor, database, and spreadsheet for gathering data, processing data, performing calculations, and reporting results.	Compare and contrast the functions and capabilities of the word processor, database, and spreadsheet for gathering data, processing data, performing calculations, and reporting results.	Compare and contrast the functions and capabilities of the word processor, database, and spreadsheet for gathering data, processing data, performing calculations, and reporting results.
			Perform simple queries on existing databases and report results on an assigned topic.	Perform simple queries on existing databases and report results on an assigned topic.	Perform simple queries on existing databases and report results on an assigned topic.
			Identify appropriate technology tools and resources by evaluating the accuracy,	Identify appropriate technology tools and resources by evaluating the accuracy,	Identify appropriate technology tools and resources by evaluating the accuracy,

			appropriateness, and bias of the resource.	appropriateness, and bias of the resource.	appropriateness, and bias of the resource.
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K-5 ELA Curriculum Map

STRAND 1: Language					
CONVENTIONS OF STANDARD ENGLISH					
STANDARD 1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking					
KDG.	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Print many upper- and lower-case letters	Print all upper- and lower-case letters				
Use frequently occurring nouns and verbs	Use common, proper and possessive nouns	Use collective nouns	Explain function of nouns, pronouns, verbs, adjectives and adverbs in general and their functions in particular sentences		Explain the function of conjunctions, prepositions, and interjections in general and their functions in particular sentences
Form regular plural nouns orally by adding /s/ or /es/	Use singular and plural nouns with matching verbs in basic sentences	Form and use frequently occurring irregular nouns (e.g., feet, children, teeth)	Form and use regular and irregular plural nouns Use abstract plural nouns (e.g. childhood)		Form and use perfect verb tense (e.g., I had walked; I have walked)
					Use verb tense to convey various times, sequences, states and conditions
					Recognize and correct inappropriate shifts in verb tense*
Understand and use question words (who, what, when, where, why)	Use personal, possessive and indefinite pronouns (I, mine, my; they, them, their; anyone, everything)	Use reflexive pronouns (myself, ourselves)		Use relative pronouns (who, whose, whom, which, that) and relative adverbs (where, when, why)	
Use most frequently occurring prepositions (to, from, in, out, on, off, for, of, by, with)	Use frequently occurring prepositions (during, beyond, toward)		Form and use regular and irregular verbs Form and use simple verb tenses (past, present, future)	Form and use progressive verb tenses (e.g., I was walking; I am walking; I will be walking)	

	Use verbs to convey sense of past, present and future	Form and use past tense of frequently occurring irregular verbs (e.g., sat, hid, told)	Ensure subject-verb and pronoun-antecedent agreement*	Use modal auxiliaries (e.g., can, may, must) to convey various conditions	
	Use frequently occurring adjectives	Use adjectives and adverbs, and choose between them depending upon what is to be modified	Form and use comparative and superlative adjectives and adverbs, and choose between them, depending upon what is to be modified	Order adjectives within sentences according to conventional patterns (e.g., a small red bag rather than a red small bag)	
				Form and use prepositional phrases (e.g., on the computer)	
	Use frequently occurring conjunctions (e.g., and, but, or, so, because)		Use coordinating (for, and, nor, but, or, yet, so) and subordinating conjunctions (if, that, though, when)		Use correlative conjunctions (e.g., either/or, neither/nor)
	Use determiners (a, an, this, that, these, those)				
Produce and expand complete sentences in shared language activities	Produce and expand complete simple and compound declarative, interrogative, imperative and exclamatory sentences in response to prompts	Produce, expand and rearrange complete simple and compound sentences (e.g., The boy watched the movie; The little boy watched the movie; The movie was watched by the little boy.)	Produce simple, compound, and complex sentences	Produce complete sentences, recognizing and correcting fragments and run-ons.*	
				Correctly use frequently confused words (e.g., to, too, two, there, their)	

STANDARD 2: Demonstrate command of the conventions of standard English capitalization, punctuation and spelling when writing

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Capitalize the first word in a sentence and the pronoun I	Capitalize dates and names of people	Capitalize holidays, product names, and geographic names	Capitalize appropriate words in titles	Use correct capitalization	
Recognize and name end punctuation	Use end punctuation for end of sentences	Use commas in greetings and closings of letters	Use commas in addresses	Use a comma before a coordinating conjunction in a compound sentence	Use a comma to separate an introductory element from the rest of the sentence
					Use punctuation to separate items in a series*

					Use comma to set off the words yes and no (e.g., Yes, thank you.), to set off a tag question from the rest of the sentence (e.g., It's true, isn't it? And to indicate direct address (e.g., Is that you, Steve?)
			Use commas and quotation marks in dialogue	Use commas and quotation marks to mark direct speech and quotations from a text	
					Use underlining, quotation marks, or italics to indicate titles of works
	Use commas in dates and to separate single words in a series	Use an apostrophe to form contractions and frequently occurring possessives	Form and use possessives		
Write a letter or letters for most consonant and short-vowel sounds (phonemes)	Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words				
Spell simple words phonetically, drawing on knowledge of sound-letter relationships	Spell untaught words phonetically, drawing upon phonemic awareness and spelling conventions	Generalize learned spelling patterns when writing words (e.g., cage-badger; boy-boil)	Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words	Spell grade-appropriate words correctly, consulting references as needed	Spell grade-appropriate words correctly, consulting references as needed
		Consult reference materials, including beginning dictionaries to check and correct spellings	Consult reference materials, including beginning dictionaries, to check and correct spellings		
KNOWLEDGE OF LANGUAGE (begins in Grade 2)					
STANDARD 3: Use knowledge of language and its conventions when reading, writing, and speaking or listening					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
		Compare formal and informal uses of English	Choose word phrases for effect*	Choose words and phrases to convey ideas precisely* Choose	Expand, combine and reduce sentences for meaning, reader/listener

				punctuation for effect*	interest, and style
			Recognize and observe differences between the conventions of spoken and written standard English	Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small group discussions)	Compare and contrast the varieties of English (e.g., dialects, registers) used in stories, drama and poems
STANDARD 4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade level reading and content					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Identify new meanings for familiar words and multiple meaning words and phrases and apply them accurately (e.g., knowing a duck is a bird and learning the verb to duck)	Use sentence-level context to determine the meaning of a word or phrase	Use sentence-level context to determine the meaning of a word or phrase	Use sentence-level context to determine the meaning of a word or phrase	Use context (e.g., definitions, examples, or restatements) as a clue to the meaning of a word or phrase	Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase
Use the most frequently occurring inflections and affixes (e.g., -ed, -s, -ful, -less, re-, un-, pre-) as a clue to the meaning of an unknown word	Use frequently occurring affixes as a clue to the meaning of a word	Determine the new word formed when a known prefix is added to a known word (e.g., happy/unhappy; tell/retell)	Determine the new word formed with a known prefix is added to a known word (e.g., agreeable/disagreeable)		
	Identify frequently occurring root words (e.g., look) and their inflectional forms (e.g., look, looking)	Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., addition, additional)	Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., company, companion)	Use common, grade appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g. telegraph, photograph, autograph)	Use common, grade appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g. photograph, photosynthesis)
		Use knowledge of meaning of individual words to predict the meaning of compound words (e.g., birdhouse, lighthouse, housefly)			
		Use glossaries and beginning dictionaries, both print and digital, to determine or clarify meaning of	Use glossaries and beginning dictionaries, both print and digital, to determine or clarify meaning of	Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to	Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to

		words/phrases	words/phrases	find the pronunciation and determine or clarify precise meaning of key words and phrases	find the pronunciation and determine or clarify precise meaning of key words and phrases
STANDARD 5: With guidance and support from adults, explore figurative language, word relationships and nuances in word meanings					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Sort common objects into categories to gain a sense of the concepts the categories represent (e.g., shapes, food)	Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent				
	Define words by category and by one or more key attributes (e.g., a duck is a bird that swims; a tiger is a large cat with stripes)				
			Distinguish between the literal and non-literal meanings of words and phrases in context (e.g., take steps)	Explain simple similes and metaphors (e.g., pretty as a picture) in context	Interpret figurative language, including similes and metaphors, in context
				Recognize and explain the meaning of common idioms, adages and proverbs	Recognize and explain the meaning of common idioms, adages, and proverbs
Identify real-life connections between words and their use (e.g., note places at school that are colorful)	Identify real-life connections between words and their use (e.g., note places at home that are cozy)	Identify real-life connections between words and their use (e.g., describe foods that are spicy or juicy)	Identify real-life connections between words and their use (e.g., describe people who are friendly or helpful.)		
Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms)				Demonstrate an understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms)	Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words
Distinguish shades of meaning among verbs describing the same general	Distinguish shades of meaning among verbs of differing manner (e.g., look, peek,	Distinguish shades of meaning among closely related verbs (e.g., thin, slender, skinny,	Distinguish shades of meaning among related words that describe states of mind or degrees of		

action (e.g. walk, march, strut, prance) by acting out the meanings.	glance) and adjectives of differing intensity (e.g., large, gigantic) by defining or choosing them, or acting out the meanings.	scrawny)	certainty (e.g., knew, believed, suspected, heard, wondered)		
STANDARD 6: use words and phrases acquired through conversations, reading and being read to, and responding to texts					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Use words and phrases acquired through conversations, reading and being read to, and responding to texts	Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently used conjunctions to signal simple relationships (e.g., because)	Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including adjectives and adverbs to describe (e.g., When other kids are happy, that makes me happy.)	Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., After dinner that night we went looking for them.)	Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., wildlife, conservation and endangered when discussing animal preservation)	Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., however, although, nevertheless, similarly, moreover, in addition)

STRAND 2: FOUNDATIONS OF READING					
STANDARD 1: Demonstrate an understanding of the organization and basic features of print					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Follow words from left to right, top to bottom and page by page					
Recognize that spoken words are represented in written language by specific sequences of letters	Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation)				
Understand that words are separated by spaces in print					
Recognize all upper- and lower-					

case letters of the alphabet					
STANDARD 2: Demonstrate an understanding of spoken words, syllables, and sounds (phonemes)					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Recognize and produce rhyming words					
Count, produce, blend and segment syllables in spoken words					
Blend and segment onsets and rimes of single-syllable spoken words	Orally produce single-syllable words by blending sounds (phonemes) in spoken single-syllable words				
	Distinguish long from short vowel sounds in spoken single-syllable words				
Isolate and pronounce the initial, medial vowel, and final sounds in CVC words (does not include CVCs ending with /l/, /r/ or /x/)	Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words				
Add or substitute individual sounds in simple, one-syllable words to make new words	Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes)				
STANDARD 3: Know and apply grade-level phonics and word analysis skills in decoding words					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Demonstrate basic knowledge of letter-sound correspondences by producing the primary or most frequent sound for each consonant	Know the spelling-sound correspondences for common consonant digraphs (two letters that represent one sound)	Know spelling-sound correspondences for additional vowel teams			
	Decode regularly spelled one-syllable words	Decode regularly spelled two-syllable words with long vowels			
Associate the long and short sounds with common	Know final –e and common vowel team	Distinguish long and short vowels when reading			

spellings (graphemes) for the five major vowels	conventions for representing long vowel sounds	regularly spelled one-syllable words			
Read common high-frequency words by sight (e.g. the, of, you, she, my, is, are, do, does)	Recognize and read grade-appropriate irregularly spelled words	Recognize and read grade-appropriate irregularly spelled words	Read grade-appropriate irregularly spelled words		
		Identify words with inconsistent by common spelling-sound correspondences			
Distinguish between similarly spelled words by identifying the sounds of the letters that differ					
	Use knowledge that every syllable must have a vowel to determine the number of syllables in a printed word			Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.	Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.
	Decode two-syllable words following basic patterns by breaking words into syllables		Decode multi-syllable words		
	Read words with inflectional endings	Read words with common prefixes and affixes	Identify and know the meaning of the most common prefixes and derivational suffixes		
			Decode words with Latin suffixes		
STANDARD 4: Read with fluency					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Read emergent-reader texts with purpose and understanding	Read grade level text with purpose and understanding	Read grade level text with purpose and understanding	Read grade level text with purpose and understanding	Read grade level text with purpose and understanding	Read grade level text with purpose and understanding
	Read grade level text orally with accuracy, appropriate rate	Read grade level text orally with accuracy, appropriate rate and	Read grade level prose and poetry orally with accuracy,	Read grade level prose and poetry orally with accuracy,	Read grade level prose and poetry orally with accuracy,

	and expression	expression	appropriate rate and expression	appropriate rate and expression	appropriate rate and expression
	Use context to confirm or self-correct word recognition and understanding, rereading as necessary	Use context to confirm or self-correct word recognition and understanding, rereading as necessary	Use context to confirm or self-correct word recognition and understanding, rereading as necessary	Use context to confirm or self-correct word recognition and understanding, rereading as necessary	Use context to confirm or self-correct word recognition and understanding, rereading as necessary
STRAND 3: READING LITERATURE					
STANDARD 1: Key ideas and details					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
With prompting and support, ask and answer questions about key details in a text	Ask and answer questions about key details in a text	Ask and answer such questions as <i>who, what, when, where, why</i> and <i>how</i> to demonstrate understanding of key details in a text	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers	Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text	Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text
With prompting and support, retell familiar stories, including key details	Retell stories, including key details, and demonstrate understanding of their central message or lesson	Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson or moral.	Recount stories, including fables, folktales, and myths from diverse cultures, and determine their central message, lesson or moral and explain how it is conveyed through key details in the text	Determine a theme of a story, drama or poem from details in the text; summarize the text	Determine a theme of a story, drama, or poem from details in the text, including how characters in the story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text
With prompting and support, identify characters, settings and major events in a story	Describe characters, settings, and major events in a story, using key details	Describe how characters in a story respond to major events and challenges	Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events	Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions)	Compare and contrast two or more characters, settings or events in a story or drama, drawing on specific details in the text (e.g., how characters interact)
STANDARD 2: Craft and structure					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Ask and answer questions about unknown words in a text	Identify words or phrases in stories or poems that suggest feelings or appeal to the senses	Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning to a story, poem or song	Determine the meaning of words and phrases as they are used in a text, distinguishing between literal and non-literal language	Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean)	Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes
Recognize common types of text (e.g.,	Explain major differences between books	Describe the overall structure of a story, including describing	Refer to parts of stories, dramas, and poems when	Explain major differences between poems,	Explain how a series of chapters, scenes, or stanzas

storybooks, poems)	that tell stories and books that give information, drawing on a wide range of text types	how the beginning introduces the story and the ending concludes the action	writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each part builds on earlier sections	drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text	fit together to provide the overall structure of a particular story, drama, or poem
With prompting and support, name the author and illustrator of a story and define the role of each in telling the story	Identify who is telling the story at various points in a text	Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud	Distinguish their own point of view from that of their narrator or those of the characters	Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations	Describe how a narrator's or speaker's point of view influences how events are described
STANDARD 3: Integration of knowledge and ideas					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
With prompting and support, describe the relationship between the illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts)	Use illustrations and details in a story to describe its characters, setting, or events	Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting or plot	Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting)	Make connections between the text of a story or drama and the visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text	Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem)
With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories	Compare and contrast the adventures and experiences of characters in stories	Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures	Compare and contrast the themes, settings, and plots of stories written by the same author, about the same or similar characters (e.g., in books from a series)	Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures	Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics
STANDARD 4: Range of reading and level of text complexity					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Actively engage in group reading activities with purpose and understanding	With prompting and support, read prose and poetry of appropriate complexity for grade 1	By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2-3 text complexity	By the end of the year, read and comprehend literature, including stories, drama, and poetry, at the high	By the end of the year, read and comprehend literature, including stories, drama and poetry, in the grades 4-5	By the end of the year, read and comprehend literature, including stories, drama, and poetry, at the high end of

		band proficiently, with scaffolding as needed at the high range of the band	end of the grades 2-3 text complexity band independently and proficiently	text complexity band proficiently, with scaffolding as needed at the high range of the band	the grades 4-5 text complexity band independently and proficiently
STRAND 4: INFORMATIONAL TEXT					
STANDARD 1: Key ideas and details					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
With prompting and support, ask and answer questions about key details in a text	Ask and answer questions about key details in a text	Ask and answer such questions as <i>who, what, when, where, why</i> and <i>how</i> to demonstrate understanding of key details in a text	Ask and answer questions to demonstrate an understanding of text, referring explicitly to the text as the basis for the answers	Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text	Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text
With prompting and support, identify the main topic and retell key details in a text	Identify the main topic and retell key details of a text	Identify the main topic of a multi-paragraph text as well as the focus of specific paragraphs within the text	Determine the main idea of a text; recount the key details and explain how they support the main idea	Determine the main idea of a text and explain how it is supported by key details; summarize the text	Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text
With prompting and support, describe the connection between two individuals, events, ideas or pieces of information in a text	Describe the connection between two individuals, events, ideas or pieces of information in a text	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in a technical procedure in a text	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect	Explain events, procedures, ideas or concepts in a historical, scientific or technical text, including what happened and why, based on specific information in the text	Explain the relationships or interactions between two or more individuals, events, ideas or concepts in a historical, scientific, or technical text based on specific information in the text
STANDARD 2: Craft and structure					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
With prompting and support, ask and answer questions about unknown words in a text	Ask and answer questions to help determine or clarify the meaning of words and phrases in a text	Determine or clarify the meaning of words and phrases in a text relevant to a grade 2 topic or subject area	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 4 topic or subject area	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area
Identify the front cover, back cover, and page of a book	Know and use various text features (e.g., heading, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in text	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in text	Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently	Describe the overall structure (e.g. chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text	Compare and contrast the overall structure (e.g. chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts

Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text	Distinguish between information provided by pictures or other illustrations and information provided by the words in a text	Identify the main purpose of a text, including what the author wants to answer, explain or describe	Distinguish their own point of view from that of the author of a text	Compare and contrast firsthand and secondhand accounts of the same event or topic; describe the differences in focus and the information provided	Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent
STANDARD 3: Integration of knowledge and ideas					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts)	Use the illustrations and details in a text to describe its key ideas	Explain how specific images (e.g., diagram showing how a machine works) contribute to and clarify a text	Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why and how key events occur)	Interpret information presented visually, orally, or quantitatively (e.g., charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears	Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently
With prompting and support, identify the reasons an author gives to support points in a text	Identify the reasons an author gives to support points in a text	Describe how reasons support specific points the author makes in a text	Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third sequence)	Explain how an author uses reasons and evidence to support particular points in a text	Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s)
With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., illustrations, descriptions, or procedures)	Identify basic similarities and differences between two texts on the same topic (e.g., illustrations, descriptions, procedures)	Compare and contrast the most important points presented by two texts on the same topic	Compare and contrast the most important points and key details presented in two texts on the same topic	Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably	Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably
STANDARD 4: Range of reading and level of text complexity					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Actively engage in group reading activities with purpose and	With prompting and support, read informational texts	By the end of the year, read and comprehend informational texts,	By the end of the year, read and comprehend informational	By the end of the year, read and comprehend informational	By the end of the year, read and comprehend informational

understanding	appropriately complex for grade 1	including history/social studies, science and technical texts, in the grades 2-3 complexity band proficiently, with scaffoldings needed in the high end of the range	texts, including history/social studies, science and technical texts, at the high end of the 2-3 complexity band independently and proficiently	texts, including history/social studies, science and technical texts, in the grades 4-5 complexity band proficiently, with scaffoldings needed in the high end of the range	texts, including history/social studies, science and technical texts, at the high end of the 4-5 complexity band independently and proficiently
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STRAND 5: WRITING

STANDARD 1: Text Types and Purposes

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell the reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., <i>My favorite book is...</i>)	Write opinion pieces in which they introduce the topic or name of the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure	Write opinion pieces in which they introduce the topic or name of the book they are writing about, state an opinion, supply reasons for the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section	Write opinion pieces on topics or texts, supporting a point of view with reasons. Introduce the topic, state an opinion, and create an organizational structure that lists reasons. Provide reasons that support the opinion. Use linking words and phrases (e.g., because, therefore, since, for example) to connect opinion and reasons. Provide a concluding statement or section.	Write opinion pieces on topics or texts, supporting a point of view with reasons and information. Introduce the topic, state an opinion, and create an organizational structure in which related ideas are grouped to support the author's purpose. Provide reasons that support by facts and details. Link opinion and reasons using words and phrases (e.g., for instance, in order to, in addition). Provide a concluding statement or section	Write opinion pieces on topics or texts, supporting a point of view with reasons and information. Introduce the topic clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the author's purpose. Provide logically ordered that are supported by facts and details. Link opinion and reasons using words, phrases, and clauses (e.g., consequently, specifically). Provide a concluding statement or section that is related to the opinion presented.
Use a combination of drawing, dictating and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic	Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure	Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section	Write informative/ Explanatory texts to examine a topic and convey ideas and information clearly. Introduce a topic and group related information together; include illustrations when useful to aiding comprehension. Develop the topic with facts,	Write informative/ Explanatory texts to examine a topic and convey ideas and information clearly. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations and multimedia when useful to aiding comprehension.	Write informative/ Explanatory texts to examine a topic and convey ideas and information clearly. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations and multimedia when useful to aiding

			<p>definitions, details. Use linking words (e.g., also, another, and, more, but) to connect ideas within categories of information. Provide a concluding statement or section,</p>	<p>Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. Link ideas within categories of information using words and phrases (e.g., another, for example, also, because). Use precise language and domain-specific vocabulary to inform about or explain the topic. Provide a concluding statement or section related to the information or explanation presented.</p>	<p>comprehension. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially). Use precise language and domain-specific vocabulary to inform about or explain the topic. Provide a concluding statement or section related to the information or explanation presented.</p>
<p>Use a combination of drawing, dictating and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened</p>	<p>Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure</p>	<p>Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure</p>	<p>Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. Establish situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally. Use dialogue and descriptions of action, thoughts, feelings to develop experiences and events or show the response of characters to situations. Use temporal words and phrases to signal event order. Provide a</p>	<p>Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. Use dialogue and description to develop experiences and events or show the responses of characters to situations. Use a variety of transitional words and phrases to manage the sequence of</p>	<p>Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. Use narrative techniques such as dialogue, description, and pacing to develop experiences and events or show the responses of characters to situations. Use a variety of transitional words, phrases, and</p>

			sense of closure.	events. Use concrete words and phrases and sensory details to convey experiences and events precisely. Provide a conclusion that follows from the narrative experiences or events.	clauses to manage the sequence of events. Use concrete words and phrases and sensory details to convey experiences and events precisely. Provide a conclusion that follows from the narrative experiences or events.
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STANDARD 2: Production and Distribution of Writing

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
			With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose (Grade-specific expectations and writing types are defined in standards 1-3 above)	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience (Grade-specific expectations and writing types are defined in standards 1-3 above)	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience (Grade-specific expectations and writing types are defined in standards 1-3 above)
With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed	With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed	With guidance and support from adults, focus on a topic and strengthen writing as needed by revising and editing	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising and editing.	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising and editing.	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers	With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers	With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers	With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.	With guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single writing.	With guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single writing.

STANDARD 3: Research to Build and Present Knowledge					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them)	Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions)	Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report, record science observations)	Conduct short research projects that build knowledge about a topic.	Conduct short research projects that build knowledge through investigation of different aspects of a topic.	Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question	With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question	Recall information from experiences or gather information from provided sources to answer a question	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into categories.	Recall information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.	Recall information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources
				Draw evidence from literary or informational texts to support analysis, reflection and research. Apply grade 4 Reading standards to literature (e.g., “Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text – a character’s thoughts, actions or words”)* Apply grade 4 reading standards to informational texts (e.g., “Explain how an author uses reasons and evidence to support particular points in a text”).	Draw evidence from literary or informational texts to support analysis, reflection and research. Apply grade 5 Reading standards to literature (e.g., “Compare and contrast two or more characters, settings or events in a story or a drama, drawing on specific details in the text”). Apply grade 5 reading standards to informational texts (e.g., “Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which points”).
STANDARD 4: Range of Writing					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
			Write routinely over extended time frames (time	Write routinely over extended time frames (time for	Write routinely over extended time frames (time for

			for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, audiences	research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, audiences	research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, audiences
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STRAND 6: SPEAKING AND LISTENING

COMPREHENSION AND COLLABORATION

STANDARD 1: Participate in collaborative conversations with diverse partners

Participate in collaborative conversations with diverse partners about Kdg. topics and texts with peers and adults in small and larger groups. Follow agreed upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion; Continue a conversation through multiple exchanges	Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. Follow agreed upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion; Build on others' talk in conversations by responding to the comments of others through multiple exchanges; Ask questions to clear up any confusion about the topics or texts under discussion.	Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. Follow agreed upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). Build on others; talk by linking their comments to the remarks of others. Ask for clarification and further explanation as needed about the topics and texts under discussion.	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. Follow agreed upon rules for discussion (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion. As questions to check understanding of information presented, stay on topic and link their comments to the remarks of others. Explain	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. Follow agreed upon rules for discussion and carry out assigned roles. Pose and respond to questions to clarify or follow up on information, and make comments that contribute to the discussion and link their comments to the remarks of others. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. Follow agreed upon rules for discussion and carry out assigned roles. Pose and respond to questions to clarify or follow up on information, and make comments that contribute to the discussion and link their comments to the remarks of others. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
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			their own ideas and understanding in light of the discussion.		
Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood	Ask and answer questions about key details in a text read aloud or information presented orally or through other media.	Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.	Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.	Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
Ask and answer questions in order to seek help, get information, or clarify something that is not understood	Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood	Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.	Identify the reasons and evidence a speaker provides to support particular points.	Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
PRESENTATION OF KNOWLEDGE AND IDEAS					
Describe familiar people, places, things, and events and, with prompting and support, provide additional detail	Describe people, places, things and events with relevant details, expressing ideas and feelings clearly	Tell a story or recount an experience with appropriate facts and relevant descriptive details, speaking audibly in coherent sentences.	Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.	Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.	Report on a topic or text, or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
Add drawings or other visual displays to descriptions as desired to provide additional detail	Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings				
Speak audibly and express thoughts, feelings, and ideas clearly		Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts and	Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to	Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes	Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or

		feelings.	emphasize or enhance certain facts or details.		themes.
	Produce complete sentences when appropriate to task and situation.	Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.	Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.	Differentiated between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation.	Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation.

K-5 Math Curriculum Map

DOMAIN 1: CARDINALITY					
CLUSTER 1: Number names and count sequence					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Count to 100 by ones and tens					
Count forward beginning from a given number within the known sequence (instead of having to begin at 1)					
Write numbers from 0 to 20. Represent a number of objects with a written numeral)-20 (with 0 representing a count of no objects.					
CLUSTER 2: Count to tell the number of objects					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Understand the relationship					

<p>between numbers and quantities; connect counting to cardinality. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.</p>					
<p>Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.</p>					
<p>Understand that each successive number name refers to a quantity that is one larger.</p>					
<p>Count to answer “how many” questions about as many as 20 things arranged in a line, a rectangular array, a circle, or as many</p>					

as 10 things in a scattered configuration, given a number from 1-20, count out that many objects.					
CLUSTER 3: Compare numbers					
Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, <i>e.g., by using matching and counting strategies (include groups with up to 10 objects)</i>					
Compare two numbers between 1 and 10 presented as written numerals.					
DOMAIN 2: OPERATIONS AND ALGEBRAIC THINKING					
CLUSTER 1: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations					
Solve addition	Use addition and	Use addition and			

<p>and subtraction word problems, and add and subtract within 10, <i>e.g., by using objects or drawings to represent the problem</i></p>	<p>subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, <i>e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem</i> Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, <i>e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</i></p>	<p>subtraction within 100 to solve one and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions, <i>e.g., by drawings and equations with a symbol for the unknown number to represent the problem.</i></p>			
<p>Decompose numbers less than or equal to 10 into pairs in more than one way, <i>e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5=2+3$ and $5=4+1$)</i></p>					
<p>For any number from 1 to 9, find the number that makes 10 when added to the given number, <i>e.g.,</i></p>					

<i>by using objects or drawings, and record the answer with a drawing or equation.</i>					
Fluently add and subtract within 5.					
CLUSTER 2: Understand and apply properties of operations and the relationship between operations					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
	Apply properties of operations as strategies to add and subtract. <i>Examples: If $8+3=11$, then $3+8=11$ is also known. To add $2+6+4$, the second two numbers can be added to make a ten, so $2+6+4=10+2=12$.</i>		Apply properties of operations as strategies to multiply and divide. <i>Examples: If $6\times 4=24$ is known, then $4\times 6=24$ is also known. $3\times 5\times 2$ can be found by $3\times 5=15$, then $15\times 2=30$, or by $5\times 2=10$, then $3\times 10=30$. Knowing that $8\times 5=40$ and $8\times 2=16$, one can find 8×7 as $8\times (5+2) = (8\times 5) + (8\times 2) = 40+16=56$.</i>		
	Understand subtraction as an unknown-addend problem. <i>For example, subtract $10-8$ by finding the number that makes 10 when added to 8. Add and subtract within 20.</i>		Understand division as an unknown-factor problem. <i>For example, find $32/8$ by finding the number that makes 32 when multiplied by 8.</i>		
CLUSTER 3: Add, Subtract, Multiply and Divide					
	Relate counting to addition and subtraction (e.g., by counting on 2 to add 2)	Fluently add and subtract within 20 using mental strategies. By end of grade 2, know from memory all sums of two one-digit	Fluently multiply and divide within 100, using strategies such as the relationship between		

		numbers.	multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40/5 = 8$) or properties of operations. By the end of grade 3, know from memory all products of two one-digit numbers.		
	Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten; decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition (knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$) and subtraction; and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$)				
CLUSTER 4: Work with addition and subtraction equations					
	Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? $6 = 6$, $7 = 8 -$				

	$1, 5+2=2+5.$ $4+1=?+2)$				
	Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. <i>For example, determine the unknown number that makes the equation true in each of the equations: $8+?=11, 5=?-3, 6+6=?$</i>				
CLUSTER 5: work with equal groups of objects to gain foundations for multiplication					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
		Determine whether a group of objects (up to 20) has an odd or even number of members, <i>e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.</i>			
		Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.			
CLUSTER 6: Represent and solve problems involving multiplication and division					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
			Interpret products of whole numbers <i>e.g., interpret 5×7 as the total</i>		

			<p>number of objects in 5 groups of 7 objects each. <i>For example, describe a context in which a total of number of objects can be expressed as 5×7.</i></p>		
			<p>Interpret whole number quotients of whole numbers, e.g., interpret $56/8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of share when 56 objects are partitioned into equal shares of 8 objects each. <i>For example, describe a context in which a number of share or a number of groups can be expressed as $56/8$.</i></p>		
			<p>Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., <i>by using drawing and equations with a symbol for the</i></p>		

			<i>unknown number to represent the problem.</i>		
			Determine the whole unknown number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8x=48$, $5=?/3$, $6x6=?$)		
CLUSTER 7: Solve problems involving the four operations, and identify and explain patterns in arithmetic					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
			Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess reasonableness of answers using mental computation and estimation strategies including rounding.	Interpret a multiplication equation as a comparison, e.g., interpret $35=5x7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.	
			Identify arithmetic patterns (including patterns in the addition table or multiplication table), and then explain them using properties	Multiply or divide word problems involving multiplicative comparison, e.g., <i>by using drawings and equations with a symbol for the</i>	

			of operations. <i>For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.</i>	<i>unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.</i>	
				Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess reasonableness of answers using mental computation and estimation strategies including rounding.	
CLUSTER 8: Gain familiarity with factors and multiples					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
				Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a	

				given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.	
CLUSTER 9: Patterns and Relationships					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
				Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. <i>For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.</i>	Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinated plane. <i>For example, give the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</i>
CLUSTER 10: Write and interpret numerical expressions					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
					Use parentheses, brackets, or braces in numerical expressions, and

					evaluate expressions with these symbols
					Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. <i>For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8+7)$. Recognize that $3 \times (18932+921)$ is three times as large as $18932+921$, without having to calculate the indicated sum or product.</i>

DOMAIN 3: OPERATIONS IN BASE 10

CLUSTER 1: Understand place value system

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Compose and decompose numbers from 11-10 into ten ones and some further ones, <i>e.g., by using objects or drawings, and record each composition or decomposition in a drawing or equation (such as $18=10+8$); understand that these numbers are composed of ten ones and one, two, three, etc.</i>	Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: <i>10 can be thought of as a bundle of ten ones-called a “ten”; the numbers from 11 to 19 are composed of a ten and one, tow, three, etc. ones; the numbers 10, 20, 30 etc refer to one, two, three, etc tens (and no ones)</i>	Understand that the three digits of a three-digit number represent amounts of hundreds, tens and ones. <i>E.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: 100 can be thought of as a bundle of ten tens-called a “hundred. The numbers 100, 200, 300 etc. refer to one, two, three, etc. hundreds (and 0 tens and 0 ones)</i>		Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. <i>For example, recognize that $700/70=10$ by applying concepts of place value and division.</i>	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right and 1/10 of what it represents in the place to its left..

<i>ones.</i>					
		Read and write numbers to 100 using base-ten numerals, number names, and expanded form.		Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form.	Read, write and compare decimals to thousandths, <i>Read and write decimals to thousandths using base-ten numerals, number names and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$</i>
	Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$	Compare two three-digit numbers based on meanings of the hundreds, tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$		Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of the comparisons.	Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ to record the results of comparisons.
			Use place value understanding to round whole numbers to the nearest 10 or 100	Use place value understanding to round multi-digit whole numbers to any place	Use place value understanding to round decimals to any place.
					Explain patterns in number of zeros of the product when multiplying a number of powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole number exponents to denote powers of 10.
CLUSTER 2: Extend the counting sequence					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5

	Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.	Count within 1000, skip-count by 5s, 10s, and 100s.			
CLUSTER 3: Use place value understanding and properties of operations to perform arithmetic					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
	Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and sometimes it is necessary to compose a ten.	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.		Fluently add and subtract multi-digit whole numbers using the standard algorithm	Fluently multiply multi-digit whole numbers using the standard algorithm.
	Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count, explain the reasoning used.	Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.	Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (<i>e.g.</i> , 9×80 , 5×60) using strategies based on place value and properties of operations.	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two-digit numbers using strategies based on place value and properties of operations.	

				Illustrate and explain the calculation by using equations; rectangular arrays and/or area models.	
		Add up to four two-digit numbers using strategies based on place value and properties of operations.		Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	Find whole number quotients of whole numbers with up to 4-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
	Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences); using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, and	Fluently add or subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or relationship between addition and subtraction.		Add, subtract, multiply and divide decimals to hundredths, using concrete models or drawings, strategies based on place value, properties of operations, and/or relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning.

		ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.			
		Explain why addition and subtraction strategies work, using place value and the properties of operations.			
STRAND 4: NUMBER AND OPERATIONS - FRACTIONS					
CLUSTER 1: Understanding fraction as numbers					
KDG	GRADE 1	GRADE 2	GRADE 3 (Expectations limited to fractions with denominations of 2,3,4,6,8)	GRADE 4	GRADE 5
			Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by parts of a size $1/b$.		
			Understand a fraction as a number on the number line; representing fractions on a number line diagram. <i>Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts.</i> <i>Recognize that</i>		

			<p><i>each part has size $1/b$ and the endpoint of the part based at 0 locates the number $1/b$ on the number line. Represent a fraction a/b on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.</i></p>		
			<p><i>Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Recognize and generate some simple equivalent fractions (e.g., $\frac{1}{2} = \frac{2}{4}$, $\frac{4}{6} = \frac{2}{3}$) Explain why the fractions are equivalent, e.g. by using a visual fraction model. Express whole numbers as fractions, and recognize fractions that</i></p>	<p><i>Explain why a fraction a/b is equivalent to a fraction $(n \times a) / (n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.</i></p>	

			<p><i>are equivalent to whole numbers – examples: Express 3 in the form $3=3/1$; recognize that $6/1=6$; locate $4/4$ and 1 at the same point of a number line diagram. Compare fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record results of comparisons with the symbols $>$, $=$, and $<$ and justify the conclusions, e.g. by using a visual fraction model.</i></p>		
				<p>Compare two fractions with different numerators and denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $\frac{1}{2}$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the</p>	

				results of comparisons with symbols $>$, $=$, and $<$, and justify the conclusions, <i>e.g., by using a visual fraction model.</i>	
CLUSTER 2: Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
				<p>Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$. <i>Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.</i> <i>Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g. by using a visual fraction model;</i> <i>Examples: $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 2/8 + 1/8$; $2/8 = 1/8 + 1/8$.</i> <i>Add and subtract mixed numbers with like denominators, e.g. by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and</i></p>	<p>Add and subtract fractions with unlike denominators (including using mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. <i>For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$.</i> <i>(In general, $ab = c/d = (ad + b/c)/db$.)</i></p>

				<p><i>the relationship between addition and subtraction. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.</i></p>
				<p>Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$, by observing that $\frac{3}{7} < \frac{1}{2}$.</p>
				<p>Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve</p>

					<p>word problems involving division of whole numbers leading to answers in the form of fractions or mixed number, e.g., by using visual fraction models or equations to represent the problem. <i>For example, interpret $\frac{3}{4}$ as the result of dividing 3 by 4, noting that $\frac{3}{4}$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $\frac{3}{4}$. If 9 people want to share a 50 pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?</i></p>
					<p>Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. <i>Interpret the product $(\frac{a}{b}) \times q$ as a parts of a partition of q into b equal parts, equivalently, as the result of a sequence of operations $a \times q \div b$. For example, use a</i></p>

					<p><i>visual fraction model to show $(\frac{2}{3}) \times 4 = \frac{8}{3}$, and create a story context for this equation. Do the same with $(\frac{2}{3}) \times (\frac{4}{5}) = \frac{8}{15}$. (In general, $(\frac{a}{b}) \times (\frac{x}{d}) = \frac{ac}{bd}$.)</i></p> <p>Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.</p>
					<p>Interpret multiplication as scaling (resizing), by: Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing</p>

					<p>multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.</p>
					<p>Solve real world problems involving multiplication of fractions and mixed numbers, <i>e.g., by using visual fraction models or equations to represent the problem.</i></p>
					<p>Apply and extend previous understandings of division to divide fractions by whole numbers and whole numbers by unit fractions. <i>Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between</i></p>

					<p><i>multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$. Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$. Solve real world problems involving division of unit fractions to non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share $1/2$ lb. of chocolate equally? How many $1/3$ cup servings are in 2 cups of raisins?</i></p>
CLUSTER 3: Understand decimal notation for fractions, and compare decimal fractions					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4 (Expectations are limited to fractions with	GRADE 5

				denominators 2, 3, 4, 5, 6, 8, 10, 12, 100)	
				Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators, 10 and 100. <i>For example, express $\frac{3}{10}$ as $\frac{30}{100}$, and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$</i>	
				Use decimal notation for fractions with denominators 10 or 100. <i>For example, rewrite 0.62 as $\frac{62}{100}$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.</i>	
				Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, and $<$, and justify conclusions, <i>e.g., by using a visual model.</i>	
STRAND 5: MEASUREMENT AND DATA					
CLUSTER 1: Describe and compare measurable attributes					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Describe					

<p>measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.</p>					
<p>Directly compare two objects with a measurable attribute in common, to see which object has “more of”/”less of” the attribute, and describe the difference. <i>For example, directly compare the heights of two children and describe one child as taller/shorter.</i></p>	<p>Order 3 objects by length, compare the lengths of two objects indirectly by using a third object.</p>				
	<p>Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. <i>Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.</i></p>	<p>Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.</p>		<p>Know relative sizes of measurement units within one system of units including km, m, cm; g, g; lb, oz; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. <i>For example, know that 1 ft is 12 times as long as</i></p>	

				<i>1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24) etc.</i>	
		Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.			
		Estimate lengths using units of inches, feet, centimeters and meters			
		Measure to determine how much longer one object is than another; expressing the length difference in terms of a standard length unit.			
CLUSTER 2: Relate addition and subtraction to length					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
		Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, <i>e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number</i>			

		<i>to represent the problem.</i>			
		Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers, 0, 1, 2..., and represent whole-number sums and differences within 100 on a number line diagram			
CLUSTER 2: Classify objects and count the number of objects in each category					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Classify objects into given categories; count the number of objects in each category and sort the categories by count (limit category counts to be less than or equal to 10)					
CLUSTER 3: Work with time and money					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
	Tell and write time in hours and half-hours using analog and digital clocks	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, <i>e.g.</i> , by <i>representing the problem on a number line diagram.</i>		
		Solve word problems			

		involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. <i>If you have 2 dimes and 3 pennies, how many cents do you have?</i>			
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CLUSTER 4: Solve problems involving measurement

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
			Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, <i>e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem).</i>	Use the four operations to solve word problems involving distances, intervals or time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	Convert among different-sized standard measurement units within a given measurement system (<i>e.g., convert 5 cm to 0.05 m</i>), and use these conversions in solving multi-step, real world problems.
				Apply the area and perimeter formulas for rectangles in real world and mathematical problems. <i>For example, find the width of a rectangular</i>	

				<i>room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.</i>	
CLUSTER 5: Represent and interpret data					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.	Generate measurement data by measuring lengths of several objects to show the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. <i>For example, draw a bar graph in which each square in the bar graph might represent 5 pets.</i>	Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. <i>For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.</i>	Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. <i>For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.</i>
		Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.	Generate measurement data by measuring lengths using rulers marked with halves and fourths or an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units – whole number, halves		

			or quarters.		
CLUSTER 5: Geometric Measurement					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
			<p>Recognize area as an attribute of plane figures and understand concepts of area measurement. <i>A square with side length 1 unit, called a “a unit square” is said to have “one square unit” of area, and can be used to measure area. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.</i></p>	<p>Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: <i>An angle is measured with reference to a circle with its center at the common end point of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle”, and can be used to measure angles. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.</i></p>	<p>Recognize volume as an attribute of solid figures and understand concepts of volume measurement. <i>A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.</i></p>
			<p>Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units)</p>	<p>Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.</p>	<p>Measure volumes by counting unit cubes, using cubic cm, cubic m, cubic ft, and improvised units.</p>
			<p>Relate area to the operations of multiplication</p>	<p>Recognize angles measures as additive. When an angle is</p>	<p>Relate area to the operations of multiplication and addition and</p>

			<p>and addition. <i>Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b+c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the</i></p>	<p>decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.</p>	<p>solve real world and mathematical problems involving volume. <i>Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent three-fold whole-number products as volumes, e.g., to represent the associative property of multiplication. Apply the formulas $V=l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-</i></p>
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			<i>non-overlapping parts, applying this technique to solve real world problems.</i>		<i>overlapping parts, applying this technique to solve real world problems.</i>
			Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.		

STRAND 6: GEOMETRY

CLUSTER 1: Identify and describe shapes

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Describe objects in the environment using names of shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres), and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.					
Correctly name shapes regardless of their orientations or overall size.					
Identify shapes as two-dimensional (lying in a plane,					

“flat”) or three-dimensional (“solid)					
CLUSTER 2; Analyze, compare, create, and compose shapes					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (<i>e.g., number of sides and vertices/”corners”</i>) and other attributes (<i>e.g., having sides of equal length</i>)	Distinguish between defining attributes (<i>e.g., triangles are closed and three-sided</i>) versus non-defining attributes (<i>e.g., color, orientation, overall size</i>); build and draw shapes to possess defining attributes.		Understand that shapes in different categories (<i>e.g., rhombuses, rectangles, and others</i>) may share attributes (<i>e.g., having four sides</i>), and that the shared attributes can define a larger category (<i>e.g., quadrilaterals</i>). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.		
Model shapes in the world by building shapes from components (<i>e.g., sticks and clay balls</i>) and drawing shapes.		Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.			
Compose simple shapes to form larger shapes. <i>For example, “Can you join these two triangles with full sides touching to</i>	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-				

<p><i>make a rectangle?"</i></p>	<p>circles , and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.</p>				
		<p>Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.</p>	<p>Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. <i>For example, partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ of the area of the shape.</i></p>		
	<p>Partition circles and rectangles into two and four equal shares, describe the shares using the words <i>halves, fourths, and quarters</i>, and use the phrases <i>half of, fourth of, and quarter of</i>. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing</p>	<p>Partition circles and rectangles into two, three, and four equal shares, describe the shares using the words <i>halves, thirds, fourths, and quarters, half of, third of, fourth of, and quarter of</i>. Describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have</p>			

	into more equal shares creates smaller shares.	the same shape.			
				Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	
				Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. <i>For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.</i>
				Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetry figures and draw lines of symmetry.	Classify two-dimensional figures in a hierarchy based on properties.
CLUSTER 3: Graph points on the coordinate plane					
					Use a pair of perpendicular number lines, called axes, to

					<p>define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).</p>
					<p>Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.</p>

K-5 Social Studies Curriculum Map

STRAND 1: CIVICS AND GOVERNMENT					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Identify our country's flag as an important symbol of the United States	Identify important symbols of the United States of America (<i>e.g., Statue of Liberty, Uncle Sam, White house, Bald Eagle</i>)	Describe how the Pledge of Allegiance reflects the core democratic value of patriotism			
				Identify questions political scientists ask in examining the United States (<i>e.g., What does government do? What are the basic value and principles of American democracy? What is the relationship of the United States to other nations? What are the roles of the citizen in American democracy?</i>)	
Explain why people do not have the right to do whatever they want (<i>e.g., to promote fairness, ensure the common good, maintain safety</i>)	Identify some reasons for rules in school (<i>e.g., provide order, predictability, and safety</i>)	Explain why people form governments	Give an example of how Michigan state government fulfills one of the purposes of government (<i>e.g., protecting individual rights, promoting common good, ensuring fair treatment under the law</i>)		
Describe fair ways for groups to make decisions	Explain how decisions can be made or how conflicts might be resolved in fair and just ways (<i>e.g., majority rules</i>)	Distinguish between government action and private action	Describe how Michigan state government reflects the principle of representative government		
Describe situations in which they demonstrated self-discipline and individual responsibility (<i>e.g., caring for a pet, completing chores, following</i>	Describe some responsibilities people have at home and at school (<i>e.g., taking care of oneself, respect for the rights of others, following rules, getting</i>	Distinguish between personal and civic responsibilities and explain why they are important in community life	Distinguish between the roles of state and local government	Give examples of powers granted to the federal government (<i>e.g., coining of money, declaring of war</i>) and those reserved for the states (<i>e.g., driver's license, marriage license</i>).	Describe the powers of the national government and state governments under the Articles of Confederation.

<i>rules, taking turns, working in a group)</i>	<i>along with others)</i>				
					Give reasons why the Framers wanted to limit the power of government (<i>e.g., fear of a strong executive, representative government, importance of individual rights</i>).
					Describe the principle of federalism and how it is expressed through the sharing and distribution of power as stated in the Constitution (<i>e.g., enumerated and reserved powers</i>).
	Give some examples of use of power with authority in school (<i>e.g., principal, teacher or bus driver enforcing school rules</i>)	Explain how local governments balance individual rights with the common good to solve local community problems		Explain how the principles of popular sovereignty, rule of law, checks and balances, separation of powers, and individual rights (<i>e.g., freedom of religion, freedoms of expression, freedom of press</i>) serve to limit the powers of the federal government as reflected in the Constitution and Bill of Rights.	Using an event from the Revolutionary era (<i>e.g., Boston Tea Party, quartering of soldiers, writs of assistance, closing of colonial legislatures</i>), explain how British and colonial views on authority and the use of power without authority differed (views on representative government)
	Give some examples of use of power without authority in school (<i>e.g., types of bullying, taking cuts in line</i>)			Give examples of ways the Constitution limits the powers of the federal government (<i>e.g., election of public officers, separation of powers, checks and balances, Bill of Rights</i>).	
				Give examples of how the system of checks and balances limits the power of the federal government	

				<i>(e.g., presidential veto of legislation, courts declaring a law unconstitutional, congressional approval of appointments).</i>	
				Describe how the President, members of Congress, and justices of the Supreme Court come to power <i>(e.g., elections versus appointments).</i>	
	Identify situation in which people act as good citizens in the school community <i>(e.g., thoughtful and effective participation in the school decisions, respect for the rights of others, respect for the rule of law, voting, volunteering, compassion, courage, honesty)</i>	Give examples of how local governments make, enforce, and interpret law (ordinances) in the local community		Explain probable consequences of an absence of government and the rule of laws.	
		Use examples to describe how local government affects the lives of its citizens		Explain how the federal government uses taxing and spending to serve purposes of government	
		Identify services commonly provided by local governments <i>(e.g., police, fire departments, schools, libraries, parks)</i>	Identify goods and services provided by the state government and describe how they are funded <i>(e.g., taxes, fees, fines)</i>		
			Identify the three branches of state government in Michigan and the powers of each	Describe the organizational structure of the federal government in the US <i>(legislative, executive and judicial branches)</i>	
			Explain how state courts function to resolve conflict		
			Describe the purpose of the Michigan	Describe the purposes of government as	

			Constitution	identified in the Preamble of the Constitution .	
			Identify rights (e.g., <i>freedom of speech, freedom of religion, right to won property</i>) and responsibilities of citizenship (e.g., <i>respecting the rights of others, voting, obeying laws</i>)	Identify situations in which specific rights guaranteed by the Constitution and Bill of Rights are involved (e.g., <i>freedom of religion, freedoms of expression, freedom of press</i>).	Describe the rights found in the First, Second, Third and Fourth Amendments to the US Constitution
		Identify ways citizens participate in community decisions		Explain responsibilities of citizenship (e.g., <i>initiating changes in laws or policy, holding public office, respecting the law, being informed and attentive to public issues, paying taxes, registering to vote and voting knowledgeably, serving as a juror</i>).	
		Design and participate in community improvement projects that help or inform others		Describe ways in which citizens can work together to promote the values and principles of American democracy.	
				Describe the relationship between rights and responsibilities	
				Explain why rights have limits.	
STRAND 2: ECONOMICS					
				Identify questions economists ask in examining the US (e.g., <i>What is produced? How is it produced? How much is produced? Who gets what is produced? What role does the government play in the government?</i>)	
Describe economic wants they have	Using examples, describe why people cannot	Identify the opportunity cost involved in a	Explain how scarcity, opportunity costs,	Explain how price affects decisions about purchasing	

experienced	have everything that they want (<i>scarcity</i>) and describe how people respond (<i>choice</i>)	consumer decision	and choices affect what is produced and consumed in Michigan.	goods and services (<i>substitute goods</i>)	
		Identify businesses in the local community			
		Describe how businesses in the local community meet economic wants of consumers	Describe how entrepreneurs combine natural, human, and capital resources to produce goods and services in Michigan.		
Distinguish between goods and services	Describe ways in which families consume goods and services				
	Distinguish between producers and consumers of goods and services	Describe the natural, human, and capital resources needed for production of a good or service in a community	Analyze how Michigan's location and natural resources influenced its economic development (<i>e.g., how waterways and other natural resources have influenced economic activity such as mining, lumbering, automobile manufacturing, and furniture making</i>).		
				Describe some characteristics of a market economy (<i>e.g., private property rights, voluntary exchange, competition, consumer sovereignty, incentives, and specialization</i>)	
			Using a Michigan example, describe how specialization leads to increased interdependence (<i>cherries grown in Michigan are sold in Florida; oranges grown in Florida are sold in Michigan</i>)	Explain how specialization and division of labor increase productivity (<i>e.g., assembly line</i>)	

			Explain the role of business development in Michigan's economic future		
			Identify incentives (<i>e.g., sales, tax breaks</i>) that influence economic decisions people make in Michigan	Describe how positive (<i>e.g., responding to a sale, saving money, earning money</i>) and negative (<i>e.g., library fines, overdue video rental fees</i>) incentives influence behavior in a market economy.	
Recognize situations in which people trade	Describe reasons why people voluntarily trade	Use examples to show that people cannot produce everything they want (specialization) and depend on trade with others to meet their wants.	Identify products produced in other countries and consumed by people in Michigan.		
	Describe ways in which people earn money (<i>e.g., providing goods and services to others, jobs</i>)				
	Describe how money simplifies trade				
				Explain how competition among buyers results in higher prices and competition among sellers results in lower prices (<i>e.g., supply, demand</i>)	
				Demonstrate the circular flow model by engaging in a market simulation, which includes households and businesses and depicts the interactions among them.	
				Explain why public goods (<i>e.g., libraries, roads, parks</i>) are not privately owned.	
				Explain how changes in the US	

				economy impacts levels of employment and unemployment (<i>e.g., changing demand for natural resources, changes in technology, and changes in competition</i>)	
				Describe how global competition affects the national economy (<i>e.g., outsourcing of jobs, increased supply of goods, opening new markets, quality controls</i>)	
					Describe Triangular Trade including: the trade routes, the people and goods that were traded, the Middle Passage, its impact on life in Africa.
STRAND 3: GEOGRAPHY					
Recognize that maps and globes represent places	Construct simple maps of the classroom to demonstrate aerial perspective	Construct maps of the local community that contain symbols, labels, and legends denoting human and natural characteristics of place			
				Identify questions geographers ask in examining the United States (<i>e.g., Where is it? What is it like there? How is it connected to other places?</i>)	
Use environmental directions or positional words (<i>up/down, in/out, above/below</i>) to identify significant locations	Use personal directions (<i>left, right, front, back</i>) to describe the relative location of significant places in the school environment.	Use maps to describe the spatial organization of the local community by applying concepts including relative location and using distance, direction and scale.		Use maps to describe elevation, climate, and patterns of population density in the United States.	Use maps to locate peoples in the desert Southwest, the Pacific Northwest, the nomadic nations of the Great Plains, and the woodland peoples east of the Mississippi River (Eastern Woodland)
					Use maps to locate

					the major regions of Africa (northern Africa, western Africa, central Africa, eastern Africa, and southern Africa)
					Locate New England, Middle and South colonies on a map.
			Use cardinal directions (<i>north, south, east, west</i>) to describe the relative location of significant places in the immediate environment.	Use cardinal and intermediate directions to describe the relative location of significant places in the United States.	
				Identify and describe the characteristics and purposes (<i>e.g., measure distance, determine relative location, classify a region</i>) of a variety of geographic tools and technologies (<i>e.g., globe, map, satellite image</i>)	
				Use geographic tools and technologies, stories, songs, and pictures to answer geographic questions about the United States.	
Identify and describe place in the immediate environment (<i>e.g., classroom, home, playground</i>)	Give examples of places that have absolute locations (<i>e.g., home address, school address</i>)				
	Distinguish between landmasses and bodies of water using maps and globes.	Compare the physical and human characteristics of the local community with those of another community.	Use thematic maps to describe the physical and human characteristics of Michigan.		
	Distinguish between physical (<i>e.g., clouds, trees, weather</i>) and human (<i>e.g., steam, gardens, buildings, playgrounds,</i>			Compare physical and human characteristics of a region to which Michigan belongs (<i>e.g., Great Lakes, Midwest</i>) with those of another	

	<i>sidewalks</i>) characteristics of places.			region in the US	
	Describe the unifying characteristics and/or boundaries of different school regions (e.g., <i>playground, reading corner, restroom</i>)	Describe how the local community is part of a larger region (e.g., <i>county, metropolitan area, state</i>).	Use a variety of visual materials and data sources to describe ways in which Michigan can be divided into regions.	Describe ways in which the US can be divided into different regions (e.g., <i>political regions, economic regions, landform regions, vegetation regions</i>)	
			Describe different regions to which Michigan belongs (e.g., <i>Great Lakes Region, Midwest</i>)		
	Use components of culture (e.g., <i>food, language, traditions, religion</i>) to describe diversity in family life.	Use components of culture (e.g., <i>foods, language, traditions</i>) to describe diversity in the local community.	Describe diverse groups that have come into a region of Michigan and reasons why they came (push/pull) factors	Use a case study or story about migration within or to the US to identify push and pull factors (why they left, why they came) that influenced the migration	
				Describe the impact of immigration to the US on the cultural development of different places or regions of the US (e.g., <i>forms of shelter, language, food</i>)	
			Use data and current information about the Anishinaabeg and other American Indians living in Michigan today to describe the cultural aspects of modern American Indian life; give example of how another cultural group in Michigan today has preserved and built upon its cultural heritage.		
		Describe land use in the community (e.g., <i>where people live, where services are provided, where</i>	Locate natural resources in Michigan and explain the consequences of their use.		

		<i>goods are produced)</i>			
		Describe the means people create for moving people, goods, and ideas within the local community.			
Describe ways people use the environment to meet human needs and wants (e.g., food, shelter, clothing)	Describe ways in which people modify (e.g., cutting down trees, building roads) and adapt to the environment (e.g., clothing, housing, transportation)	.Suggest ways people can responsibly interact with the environment in the local community.	Describe how people adapt to, use, and modify the natural resources of Michigan	Describe past and current threats to Michigan's natural resources; describe how Michigan worked in the past and continues to work today to protect its natural resources.	Compare how American Indians in the desert Southwest and the Pacific Northwest adapted to or modified the environment.
		Describe positive and negative consequences of changing the physical environment of the local community.		Assess the positive and negative effects of human activities on the physical environment of the US	
			Describe major kinds of economic activity in Michigan today, such as agriculture (e.g., corn, cherries, dairy), manufacturing (e.g., automobiles, wood products), services and tourism, research and development (e.g., Automation Alley, life sciences corridor, university communities), and explain the factors influencing the location of these economic activities		
			Describe some of the current movement of goods, people, jobs or information to, from, or within Michigan and explain reasons for the movements		
STRAND 4: HISTORY					
Distinguish among, yesterday, today, tomorrow	Demonstrate chronological thinking by distinguishing	Demonstrate chronological thinking by distinguishing			

	among the past, present and future using family or school events.	among the past, present and future using family or school events.			
	Use a calendar to distinguish among days, week, and months.				
Create a timeline using events from their own lives (<i>e.g., birth, crawling, walking, loss of first tooth, first day of school</i>)	Investigate a family history for at least two generations, identifying various members and their connections in order to tell a narrative about family life		Create a timeline to sequence early Michigan history (<i>American Indians, exploration, settlement, statehood</i>).	Create timelines (using decades after 1930) to sequence and describe important events in Michigan history; annotate with connections to the past and impact on the future.	
Identify the beginning, middle and end of historical narratives or stories	Retell in sequence important ideas and details from stories about families or schools				
			Identify questions historians ask in examining the past in Michigan (<i>e.g., What happened? When did it happen? Who was involved? How and why did it happen?</i>)	Use historical inquiry questions to investigate the development of Michigan's major economic activities (<i>agriculture, mining, manufacturing, lumbering, tourism, technology and research</i>) from statehood to the present.	
Describe ways people learn about the past (<i>e.g., photos, artifacts, diaries, stories, videos</i>)	Use historical records and artifacts (<i>e.g., photos, diaries, oral histories, and videos</i>) to draw possible conclusions about family or school life in the past		Explain how historians use primary and secondary sources to answer questions about the past.		
	Compare life today with life in the past using the criteria of family, school, jobs, or communication		Use informational text and visual data to compare how American Indians and settlers in the early history of Michigan adapted to, used, and modified their environment.	Use visual data and informational text or primary accounts to compare a major Michigan economic activity today with that same or a related activity in the past.	
					Describe Eastern Woodland American Indian life with respect to

					governmental and family structures, trade, and views on property ownership and land use.
					Explain the technological (<i>e.g., invention of the astrolabe and improved maps</i>), and political developments (<i>e.g., rise of nation-states</i>) that made sea exploration possible.
					Describe the life and cultural development of people living in western Africa before the 16 th century with respect to economic (the ways people made a living) and family structures, and the growth of states, towns, and trade.
					Describe the convergence of Europeans, American Indians and Africans in North America after 1492 from the perspective of these three groups.
		Construct a historical narrative about the history of the local community from a variety of sources (<i>e.g., data gathered from local residents, artifacts, photographs</i>)	Use a variety of primary and secondary sources to construct a historical narrative about daily life in the early settlements of Michigan (pre-statehood).	Use primary and secondary sources to explain how migration and immigration affected and continue to affect the growth of Michigan.	Use primary and secondary sources (<i>e.g., letters, diaries, maps, documents, narratives, pictures, graphic data</i>) to compare Europeans and American Indians who converged in the western hemisphere after 1492 with respect to governmental structure, and views on property ownership and land use.
	Identify the events				

	or people celebrated during United States national holidays and why we celebrate them (e.g., <i>Independence Day, Constitution Day, Martin Luther King, Jr. Day Presidents' Day</i>)				
			Describe the causal relationships between three events in Michigan's past (e.g., <i>Erie Canal, more people came, statehood</i>).	Describe how the relationship between the location of natural resources and the location of industries (after 1937) affected and continues to affect the location and growth of Michigan cities.	
			Draw upon traditional stories of American Indians (e.g., <i>Anishinaeg-Ojibway (Chippewa), Odawa (Ottawa), Potawatomi; Menominee; Huron Indians</i>) who lived in Michigan in order to make generalizations about their beliefs.	Draw upon stories, photos, artifacts, and other primary sources to compare the life of people in towns and cities in Michigan and in the Great Lakes region during a variety of time periods from 1837 to the present (e.g., <i>1837-1900, 1900-1950, and 1950-2000</i>)	
				Use a variety of primary and secondary sources to construct a historical narrative about the beginnings of the automobile industry and the labor movement in Michigan	
			Use case studies or stories to describe how the ideas or actions of individuals affected the history of Michigan.	Use case studies or stories to describe the ideas and actions of individuals involved in the Underground Railroad in Michigan and in the Great Lakes region.	Use case studies of individual explorers and stories of life in Europe to compare the goals, obstacles, motivations, and consequences for European exploration and

					colonization of the Americas (<i>e.g., economic, political, cultural, and religious</i>)
			Describe how Michigan attained statehood.		
					Explain the impact of European contact on American Indian cultures by comparing the different approaches used by the British and French in their interactions with American Indians.
					Describe the Columbian Exchange and its impact on Europeans, American Indians, and Africans.
		Describe changes in the local community over time (<i>e.g., types of businesses, architecture and landscape, jobs, transportation, population</i>)			Describe significant developments in the Southern colonies, including: patterns of settlement and control including the impact of geography (landforms and climate) on settlement, establishment of Jamestown, development of one-crop economies (plantation land use and growing season for rice in Carolinas and tobacco in Virginia), relationships with American Indians, development of colonial representative assemblies (House of Burgesses), development of slavery.
					Describe

					<p>significant developments in the New England colonies, including: patterns of settlement and control including the impact of geography (landforms and climate) on settlement, relations with American Indians, growth of agricultural (small farms) and non-agricultural (shipping, manufacturing) economies, the development of government including establishment of town meetings, development of colonial legislatures and growth of royal government, religious tensions in Massachusetts that led to the establishment of other colonies in New England.</p>
					<p>Describe significant developments in the Middle Colonies, including patterns of settlement and control including the impact of geography (landforms and climate) on settlement, the growth of Middle Colonies economies (e.g., breadbasket), the Dutch settlements in New Netherlands, Quaker settlement in Pennsylvania, and subsequent English takeover of the Middle</p>

					Colonies immigration patterns leading to ethnic diversity in the Middle Colonies.
					Compare the regional settlement patterns of the Southern colonies, New England and the Middle colonies
					Describe the life of enslaved Africans and free Africans in the American colonies.
					Describe how Africans living in North America drew upon their African past (e.g., sense of family, role of oral tradition) and adapted elements of new cultures to develop a distinct African-American culture.
					Describe the daily life of people living in the New England, Middle and Southern colonies.
		Explain why descriptions of the same event in the local community can be different.			Describe colonial life in America from the perspectives of at least three different groups of people (e.g., <i>wealthy landowners, farmers, merchants, indentured servants, laborers and the poor, women, enslaved people, free Africans, and American Indians</i>)
					Describe the development of the emerging labor force in the colonies (e.g., <i>cash crop farming,</i>

					<i>slavery, indentured servants)</i>
					Make generalizations about the reasons for regional differences in colonial America.
					Describe the role of the French and Indian War, how British policy toward the colonies in America changed from 1763 to 1775, and colonial dissatisfaction with the new policy.
					Describe the causes and effects of events such as the Stamp Act, Boston Tea Party, the Intolerable Acts, and the Boston Massacre.
					Describe the role of the First and Second Continental Congress in unifying the colonies (<i>addressing the Intolerable Acts, declaring independence, drafting the Articles of Confederation</i>)
					Use the Declaration of Independence to explain why the colonists wanted to separate from Great Britain and why they believed they had the right to do so.
		Use an example to describe the role of the individual in creating history.			Identify the role that key individuals played in leading the colonists to revolution, including George Washington, Thomas Jefferson,

					Benjamin Franklin, Patrick Henry, Samuel Adams, John Adams, and Thomas Paine.
					Describe how colonial experiences with self-government (e.g., <i>Mayflower Compact, House of Burgesses and town meetings</i>) and ideas about government (e.g., <i>purposes of government such as protecting individual rights and promoting common good, natural rights, limited government, representative government</i>) influenced the decision to declare independence.
		Identify a problem in a community's past and how it was resolved.			Identify a problem confronting people in the colonies, identify alternative choices for addressing the problem with possible consequences, and describe the course of action taken.
					Describe the advantages and disadvantages of each side during the American Revolution with respect to military leadership, geography, types of resources, and incentives.
					Describe the importance of Valley Forge, Battle of Saratoga, and Battle of Yorktown in the American Revolution.
					Compare the role

					of women, African Americans, American Indians, and France in helping shape the outcome of the war.
					Describe the significance of the Treaty of Paris (establishment of the US and its boundaries)
					Give examples of problems the country faced under the Articles of Confederation (<i>e.g., lack of national army, competing currencies, reliance on state governments for money</i>)
					Explain why the Constitutional Convention was convened and why the Constitution was written.
					Describe the issues over representation and slavery the Framers faced at the Constitutional Convention and how they were addressed in the Constitution.
					Describe the concern that some people had about individual rights and why the inclusion of a Bill of Rights was needed for ratification.

STRAND 5: PUBLIC DISCOURSE, DECISION-MAKING, AND CITIZEN INVOLVEMENT

Identify classroom issues	Identify public issues in the school community	Identify public issues in the local community that influence the daily lives of its citizens.	Identify public issues in Michigan that influence the daily lives of its citizens.	Identify public issues in the US that influence the daily lives of its citizens,	Identify contemporary public issues related to the United States Constitution and their related factual,
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					definitional and ethical questions.
Use simple graphs to explain information about a classroom issue	Use graphic data to analyze information about a public issue in the school community	Use graphic and other sources to analyze information about a public issue in the local community and evaluate alternative resolutions.	Use graphic data and other sources to analyze information about a public issue in Michigan and evaluate alternative resolutions.	Use graphic data and other sources to analyze information about a public issue in the US and evaluate alternative resolutions.	Use graphic data and other sources to analyze information about a contemporary public issue related to the United States Constitution and evaluate alternative resolutions.
Compare their viewpoint about a classroom issue with the viewpoint of another person	Identify alternative resolutions to a public issue in the school community	Give examples of how conflicts over core democratic values lead people to differ on resolutions to a public policy issue in the local community.	Give examples of how conflicts over core democratic values lead people to differ on resolutions to a public policy issue in Michigan.	Give examples of how conflicts over core democratic values lead people to differ on resolutions to a public policy issue in the US.	Give examples of how conflicts over core democratic values lead people to differ on contemporary constitutional issues in the US
Express a position on a classroom issue	Express a position on a public policy issue in the school community and justify the position with a reasoned argument	Compose a statement expressing a position on a public policy issue in the local community and justify the position with a reasoned argument.	Compose a paragraph expressing a position on a public policy issue in Michigan and justify the position with a reasoned argument.	Compose a brief essay expressing a position on a public policy issue in Michigan and justify the position with a reasoned argument.	Compose a short essay expressing a position on a contemporary public policy issue related to the Constitution and justify the position with a reasoned argument
Develop and implement an action plan to address or inform others about a public issue	Develop and implement an action plan to address or inform others about a public issue	Develop and implement an action plan to address or inform others about a public issue	Develop and implement an action plan and know how, when, and where to address or inform others about a public issue.	Develop and implement an action plan and know how, when, and where to address or inform others about a public issue.	Develop and implement an action plan and know how, when, and where to address or inform others about a public issue.
Participate in projects to help or inform others.	Participate in projects to help or inform others.	Participate in projects to help or inform others.	Participate in projects to help or inform others.	Participate in projects to help or inform others.	Participate in projects to help or inform others.

K-5 Science Curriculum Map

STRAND 1: INQUIRY – Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.					
STANDARD 1: INQUIRY PROCESS					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Unit: SENSES					
Make purposeful observations of the natural world using appropriate senses; of the movement of	Make purposeful observations of a variety of objects that sink and float and objects that are attracted to				

objects in response to pushes and pulls	magnets, and the life cycle of an animal or characteristics of animals using the appropriate senses.				
Generate questions based on observations using the senses, of objects falling toward the Earth	Generate questions regarding objects attracted to a magnet, objects that sink and float, and life cycle of organisms based on observations.				
Plan and conduct simple investigations using the senses, about changing the speed or direction of moving objects,	Plan and conduct simple investigations into objects that sink and float, objects that are attracted to magnets, and needs of animals in the classroom habitat				
Manipulate simple tools (hand lens, balances) that aid observation and data collection, to collect data about the effect of pulls or pushes changing the speed or direction of moving objects,	Manipulate simple tools (hand lens) that aids in observation of properties of matter, and pencils and rulers that aid in the observation of animals.				
	Make accurate measurements of the growth of different plants and animals in a classroom habitat.				
Construct simple charts from data and observations.	Construct simple charts from data and observations regarding objects that sink and float and objects that are attracted to magnets. Construct simple growth charts from observations and data of plants and animals in the classroom habitat.				
STANDARD 2: INQUIRY ANALYSIS AND COMMUNICATION					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Share ideas about the senses	Share ideas about properties of				

through purposeful conversation.	objects, sink and float investigations, magnetism investigations, and animals and their offspring through purposeful conversation.				
Communicate and present findings of observations.	Communicate and present findings of observations of properties of objects; sink and float investigations, magnetism investigations, and life cycles and growth of animals in the classroom habitat.				
Develop strategies for information gathering (ask an expert, use a book, make observations, conduct simple investigations and watch a video).	Develop strategies for information gathering (ask an expert, use a book, make observations, conduct simple investigations and watch a video) about properties of objects, sink and float objects, objects that are attracted to a magnet, and the life cycle of different animals.				

STANDARD 3: REFLECTION AND SOCIAL IMPLICATIONS

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Demonstrate science concepts about the senses through illustrations, performances, models, exhibits, and activities.	Demonstrate science concepts through illustrations, performances, models, exhibits, and activities about describing objects by their properties, sink and float investigations, water as a solid and as a liquid, objects that are attracted to magnets, and the life cycle of an animal.				

STRAND 2: PHYSICAL SCIENCE

STANDARD 1: FORCE AND MOTION					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Unit: MOTION			Unit: CHANGES IN MOTION		Unit: FORCES AND MOTION
Describe the position of an object (above, below, in front of, behind, on) in relation to other objects around it.			Identify the force that pulls objects toward the Earth.		Distinguish between contact forces and non-contact forces.
Describe the direction of a moving object (for example: away from or closer to) from different observers' views.			Describe how a push or pull is a force.		Demonstrate contact and non-contact forces to change the motion of an object.
Observe how objects fall toward the Earth.			Relate a change in motion of an object to the force that caused the change of motion.		Describe what happens when two forces act on an object in the same or opposing directions.
Demonstrate pushes and pulls on objects that can move.			Demonstrate how the change in motion of an object is related to the strength of the force acting upon the object and to the mass of the object.		Describe how constant motion is the result of balanced (zero net) forces.
Observe that objects initially at rest will move in the direction of a push or pull.			Demonstrate when an object does not move in response to a force, it is because another force is acting on it.		Describe how changes in the motion of objects are caused by a non-zero net (unbalanced) force.
Observe how pushes and pulls can change the speed or direction of moving objects.			Compare and contrast the motion of objects in terms of direction.		Relate the size of change in motion to the strength of unbalanced forces and the mass of the object.
Observe how the shape and mass of an object can affect motion.			Identify changes in motion (change in direction, speeding up, slowing down)		Explain the motion of an object relative to its point of reference.
			Calculate the speed of an object based on the distance it travels divided by the amount of time it took to travel that distance.		Describe the motion of an object in terms of distance, time, and direction, as the object moves, and in relationship to

					other objects. Illustrate how motion can be measured and represented on a graph.
STANDARD 2: PROPERTIES OF MATTER					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
	Unit: SORTING THINGS OUT	Unit: MEASURING MATTERS	Unit: LIGHT AND SOUND	Unit: ENERGY TRANSFER	
	Demonstrate the ability to sort objects according to observable properties such as color, shape, size, sinking and floating	Describe objects and substances according to their properties (color, size, shape, texture, hardness, liquid or solid, sinking or floating)	Demonstrate how some materials are heated more than others by light that shines on them.	Demonstrate magnetic field by observing the patterns formed with iron filings using a variety of magnets.	
	Demonstrate that water as a solid keeps its own shape (ice).	Measure the length of objects using rulers (centimeters) and meter sticks (meters)	Explain how we need light to see objects: light from a source reflects off objects and enters our eyes.	Demonstrate that magnetic objects are affected by the strength of the magnet and the distance away from the magnet.	
	Demonstrate that water as a liquid takes on the shape of the container that holds it.	Measure the volume of objects using common measuring tools (graduated measuring cups and measuring spoons)		Identify objects that are good conductors or poor conductors of heat and electricity.	
		Compare objects using balances.			
				Unit: STATES OF MATTER	
				Measure the weight (spring scale) and mass (balances in grams or kilograms) of object.	
				Measure the volumes of liquids and capacities of containers in milliliters and liters.	
				Demonstrate the use of centimeter cubes poured into a container to estimate the container's capacity.	
				Compare and contrast the states (solids, liquids, gases)	
STANDARD 3: CHANGES IN MATTER					

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
				Unit: STATES OF MATTER	
				Explain how matter can change from one state (solid, liquid, gas) to another by heating and cooling.	
STANDARD 4: MAGNETS					
	Identify materials that are attracted by magnets				
	Observe that like poles of a magnet repel and unlike poles of a magnet attract.				
STANDARD 5: ENERGY					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
			Unit: LIGHT AND SOUND	Unit: ENERGY TRANSFER	
			Demonstrate that light travels in a straight line and that shadows are made by placing an object in a path of light.	Identify heat and electricity as forms of energy.	
			Demonstrate what happens to light when it travels from air to water (straw half in water looks bent)	Demonstrate how temperature can be increased by adding energy.	
			Relate sounds to their sources of vibrations (for example: a musical note produced by a vibrating guitar string, the sounds of a drum made by the vibrating drum head).	Describe heat as the energy produced when substances burn, certain kinds of materials rub against each other, and when electricity flows through wire.	
			Distinguish the effect of fast or slow vibrations as pitch.	Describe how heat is produced through electricity, rubbing and burning.	
				Explain how electrical energy is transferred and changed through the use of a simple circuit.	
				Create a simple working electromagnet and explain the conditions necessary to make the	

				electromagnet.	
STRAND 3: LIFE SCIENCE					
STANDARD 1: ORGANIZATION OF LIVING THINGS					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Unit: IS IT LIVING?	Unit: AN ANIMAL'S LIFE	Unit: A PLANT'S LIFE		Unit: ORGANISMS IN THEIR ENVIRONMENT	Unit: SYSTEMS AND SURVIVAL
Recognize that living things have basic needs (air, water, and food)	Identify the needs of animals (air, water, food, space)	Identify the needs of plants.		Determine that plants require air, water, light, and a source of energy and building material for growth and repair.	Identify the general purpose of selected animal systems (digestive, circulatory, respiratory, skeletal, muscular, nervous, excretory, and reproductive).
Identify and compare living and nonliving things	Describe the life cycle of animals including the following stages: egg, young adult; egg, larva, pupa, adult.	Describe the life cycle of familiar flowering plants including the following stages: seed, plant, flower, and fruit.		Determine that animals require air, water, light, and a source of energy and building material for growth and repair.	Explain how animal systems (digestive, circulatory, respiratory, skeletal, muscular, nervous, excretory, and reproductive) work together to perform selected activities.
STANDARD 2: HEREDITY					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
	Unit: AN ANIMAL'S LIFE	Unit: A PLANT'S LIFE			Unit: SYSTEMS AND SURVIVAL
	Identify characteristics (for example: body coverings, beak shape, number of legs, body parts) that are passed on from parents to young.	Identify the characteristics of plants (leaf shape, flower type, color, size) that are passed on from parent to young.			Explain that the traits of an individual are influenced by both the environment and the genetics of an individual.
	Classify young animals based on characteristics that are passed on from parents (dogs/puppies, cats/kittens, cows/calves, chicken/chicks)				Distinguish between inherited and acquired traits.
STANDARD 3: EVOLUTION					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
				Unit: ORGANISMS IN	Unit: SYSTEMS AND

				THEIR ENVIRONMENT	SURVIVAL
				Identify individual differences (for example: color, leg length size, wing size) in organisms of the same kind.	Explain how behavioral characteristics (adaptation, instinct, learning, habit) of animals help them to survive in the environment.
				Identify how variations in physical characteristics of individual organisms give them an advantage for survival and reproduction.	Describe the physical characteristics (traits) of organisms that help them survive in their environment.
					Describe how fossils provide evidence about how living things and environmental conditions have changed.
					Analyze the relationship of environmental change and catastrophic events (volcanic eruption, floods, asteroid impacts, tsunamis) to species extinction.
					Relate degree of similarity in anatomical features to the classification of contemporary organisms.
STANDARD 4: ECOSYSTEMS					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
				Unit: ORGANISMS IN THEIR ENVIRONMENT	
				Identify organisms as part of a food chain or food web.	
				Explain how environmental changes can produce a change in the food web.	
STRAND 4: EARTH SCIENCE					

STANDARD 1: EARTH SYSTEMS					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
	Unit: WEATHER WATCHERS		Unit: EARTH AND ME		Unit: OBJECTS IN THE SKY
	Compare daily changes in the weather related to temperature (cold, hot, warm, cool); cloud cover (clear, cloudy, partly cloudy, foggy); precipitation (rain, snow, hail, freezing rain); wind (breezy, windy, calm)		Identify natural resources (metals, fuels, fresh water, farmland, and forests).		Demonstrate using a model, seasons as the result of variations in the intensity of sunlight caused by the tilt of the Earth on its axis, and revolution around the sun.
	Identify the tools that might be used to measure temperature, precipitation, cloud cover and wind.		Classify renewable (fresh water, farmland, forests) and non-renewable (fuels, metals) resources.		
	Observe and collect data of weather conditions over a period of time.		Describe ways humans are protecting, extending, and restoring resources (recycle, reuse, renewal).		
	Describe and compare weather related to the four seasons in terms of temperature, cloud cover, precipitation, and wind.		Recognize that paper, metal, glass, and some plastics can be recycled.		
	Describe severe weather events.		Describe ways humans are dependent on the natural environment (forests, water, clean air, earth materials) and constructed environments (homes, neighborhoods, shopping malls, factories, industry).		
	Describe precautions that should be taken for human safety during severe weather conditions		Describe helpful or harmful effects of humans on the environment (garbage, habitat destruction, land		

	(thunderstorms, lightning, tornadoes, high winds, blizzards)		management, renewable and non-renewable resources).		
	Identify the sun as the most important source of heat which warms the land, air and water on Earth.				
	Demonstrate the importance of sunlight and warmth in plant growth.				

STANDARD 2: SOLID EARTH

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Unit: MY EARTH		Unit: EARTH'S LAND AND WATER	Unit: EARTH AND ME		
Describe how earth materials contribute to plants and animals (plants grow in soil; need water to survive; animals eat plants, need water and air to grow and survive)		Describe the major landforms of the surface of the Earth (mountains, plains, plateaus, valleys, hills).	Identify and describe natural causes of change in the Earth's surface (erosion, glaciers, volcanoes, landslides and earthquakes).		
Identify earth materials that occur in nature (rocks, sand, soil, and water)			Identify earth materials used to construct some common objects (for example: bricks, buildings, roads, glass).		
			Describe how materials taken from the Earth can be used as fuels for heating and transportation.		

STANDARD 3: FLUID EARTH

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
		Identify water sources (wells, springs, lakes, rivers, oceans).			
		Identify household uses of water (drinking, cleaning, food preparation)			
		Describe			

		properties (visible, flowing, melting, dew) of water as a liquid (lakes, rivers, streams, oceans)			
		Describe the properties (hard, visible, frozen, cold) of water as a solid (ice, snow, iceberg, sleet, hail).			
		Describe how rain collects on the surface of the Earth and flows downhill into bodies of water (streams, rivers, lakes, oceans) or into the ground.			
		Describe the major bodies of water on the Earth's surface (lakes, ponds, oceans, rivers, streams).			

STANDARD 4: EARTH IN SPACE AND TIME

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
				Unit: THE VIEW FROM THE EARTH	Unit: OBJECTS IN THE SKY
				Identify common objects in the sky, such as the sun and moon.	Design a model that describes the position and relationship of the planets and other objects (comets and asteroids) to the sun.
				Compare and contrast the characteristics of the sun, moon, and Earth, including relative distances and abilities to support life.	Describe the motion of planets and moons in terms of rotation on axis and orbits due to gravity.
				Describe the orbit of the Earth around the sun as it defines a year.	Explain moon phases as they relate to the position of the moon in its orbit around the Earth, resulting in the amount of observable reflected light.
				Explain that the spin	Recognize that

				of the Earth creates day and night.	nighttime objects (stars and constellations) and the sun appear to move because the Earth rotates on its axis and orbits the sun.
				Describe the motion of the moon around the Earth.	Explain lunar and solar eclipses based on the relative position of the Earth, moon, and sun and the orbit of the moon.
				Explain how the visible shape of the moon follows a predictable cycle, which takes approximately one month.	Explain the tides of the oceans as they relate to the gravitational pull and orbit of the moon.B
				Describe the apparent movement of the sun and moon across the sky through day/night and the seasons.	
				Explain how fossils provide evidence of the history of the Earth.	
				Compare and contrast life forms found in fossils and organisms that exist today.	

K-5 Design Thinking Curriculum Map

STRAND 1: DESIGN THINKING MINDSET					
STANDARD 1: HUMAN-CENTERED – understanding needs of people; focus on human values					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
With prompting and support, define what it takes to feel safe, happy, successful focused on self	With prompting and support, identify the emotion(s) of a peer, or of a character in a book and explain why character feels that way given some	Identify emotion(s) of a character in a book and explain why character feels that way given some evidence from the story	Write a simple paragraph explaining a character’s needs by citing a character’s words, thoughts, or actions.	With prompting and support, identify the values (what is most important to the person/people – drives their actions) of a person or group	Identify the values (what is most important to the person/people – drives their actions) of a person or group of people in a text by drawing on quotes and specific details

	evidence from the story			of people in a text by drawing on quotes and specific details	
With prompting and support, recognize that different people have different needs (<i>e.g. children and adults</i>)	With prompting and support, identify need(s) of a character in a story by referencing the story	Identify need (s) of a character in a story by referencing the story	Identify the needs of people in fables, folktales, and myths from diverse cultures, referring explicitly to text as the basis for needs identified	Summarize the needs of a person or group of people based on review of several different pieces of evidence (<i>e.g. magazine articles, web search, movies, books, interviews</i>)	Compare and contrast the needs of two people or groups of people in a story, in different historical times, or in different cultures/parts of the world based on review of several different pieces of evidence.
With prompting, and support, explain own role in helping others feel safe, happy, successful	With prompting and support, explain how a character in a story helped meet someone else's need(s)	Explain how a character in a story helped meet someone else's need(s)	With teacher direction and support, participate in group effort to meet a community need	With teacher prompting and support, help to identify a community need, ways to address that need, and then work with peers to address it	Identify a community need (class, school, or wider community) and develop a personal action plan to address it
STANDARD 2: RADICAL COLLABORATION - collaborate across boundaries					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Move to group/activity efficiently without undue noise given teacher directions and support	Negotiate the space safely and without undue noise	Join group in a constructive way and invite others to join	Solve problems with input from everyone	Solve problems by reaching mutually acceptable decisions without name calling or hurtful behavior	Solve problems cooperatively in a limited period of time
Exhibit ability to share materials and attention without arguing, pouting or quitting	Exhibits ability to share materials and equipment, including waiting to use something in limited supply when necessary	With teacher support, identify needed project supplies, independently gather the supplies and return unused materials to their proper storage places.	Identify needed project supplies, independently gather the supplies and return unused materials to their proper storage places.	Work with others to identify needed project supplies and gather them from the immediate environment (room/school) and return unused supplies to proper storage places	Work with others to identify and obtain needed project supplies whether they are in the immediate environment or not and return unused supplies to proper storage places
Demonstrate ability to listen to others without interrupting while others are sharing	Ask questions of clarification that are relevant to what a speaker has shared	Ask questions that help extend a person's thinking	Summarize the main points of a discussion	Disagree with ideas without criticizing the speaker (present different point of view)	Generate comments that relate ideas shared/plans with requirements of a project/assignment
Maintain eye contact with the speaker	Provide praise for ideas	Provide encouragement to contribute ideas	Restate an idea to check for understanding	Provide constructive feedback	

Contribute ideas to group discussion	Contribute ideas that are relevant to the topic under discussion	Build on the ideas of others by adding to ideas presented in a conversation or by extending an explanation	Encourage others to share their ideas	Analyze ideas for similarities and differences	Integrate ideas into a single position or proposal
Follow one-step teacher directions	Follow teacher directions to develop a multi-step project	Work with others teacher has selected to develop a project/address a challenge	With teacher support, identify who is needed to develop a project/address a challenge	Work with peers to identify who is needed to develop a project/address a challenge	Work with peers to identify who is needed to develop a project/address a challenge and generate plan to involve those people
STANDARD 3: EXPERIMENTAL (CULTURE OF PROTOTYPING)					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
With teacher support, will try new ways of doing routine tasks without quitting. Will try again if experiences failure.	Will attempt new activities/ways of doing things with minimal encouragement without quitting if experience failure	With teacher support, demonstrate ability to generate ideas to improve a product or process without quitting	Demonstrate ability to generate ideas to improve a product or process	Demonstrate ability to share work with others and receive feedback for improvement with positive attitude	Able to identify things learned through a failure experience, and the benefits of that learning.
STANDARD 4: SHOW DON'T TELL					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
With teacher support, build, draw, or act out a solution to a given problem that depicts the essential concept of the solution	Build, draw, or act out a solution to a given problem that depicts the essential concept of the solution	With teacher and/or peer support, build, draw and/or act out more than one solution to a given problem that depicts the essential concept of the solution	With teacher support, work with peers to build, draw and/or act out more than one solution to a given problem that depicts the essential concept of the solution	With teacher support, work with peers to build, draw and/or act out several solutions to a given problem that depicts the essential concept of the solution within a given time period	Work with peers to build, draw, or act out several solutions to a given problem that depicts the essential concept of the solution within a given time period
STANDARD 5: BIAS TOWARDS ACTION					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
With teacher prompting, can develop empathy for a user by observing or interacting with the user.					Can suggest appropriate activities for gaining empathy with users around a given issue
STANDARD 6: BE MINDFUL OF PROCESS					
Contribute ideas to group sharing of steps followed to	With teacher prompts, retell process used to complete a task/project	Retell process used to complete a task/project and be able to identify what went well and what was difficult	With teacher structuring, generate short written reflection on process used to complete a task/project and successes and stumbling blocks encountered along the	With teacher support and structuring, generate written reflection on process used to complete a task/project	Generate written reflection on process used to complete a task/project complete with steps followed, successes and stumbling

complete a tasks/project			way	complete with steps followed, successes and stumbling blocks, surprises and learning to be applied in the future.	blocks, surprises and learning to be applied in the future.
STRAND 2: DESIGN THINKING DISPOSITIONS					
STANDARD 1: CURIOUS					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Explore materials by using them in different ways	Ask questions/ experiment with materials/objects to understand how things work	Explore a topic or process over a period of time and identify follow up questions.	Generate potential solutions to a problem by posing “what if” questions and proposing theories.	Gather information from several sources to answer a self-generated question of interest (e.g., book, website, expert, observation) and summarize findings.	Gather information from several sources to answer a self-generated question of interest (e.g., book, website, expert, observation), summarize findings, and identify follow up questions/areas to research
STANDARD 2: PERSISTENT IN THE FACE OF FAILURE					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Will attempt to complete a task independently before asking for help from others	Will attempt more to solve a problem before asking for help from others	Will attempt more than one way to solve a problem before asking for help from others.	Generates effective solutions to problems experienced in executing a plan either independently or with support of peers.	Makes appropriate choices to complete tasks and meet goals within given time limits	Works efficiently enough to allow for self-initiated extensions. Sets new goals as goals are reached.
STANDARD 3: COMFORTABLE WITH AMBIGUITY					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Be able to describe the positive and negative aspects of a situation	Identify situations in which one is certain and situations in which one is uncertain cite some evidence in support of identification	Be able to describe how the same choice might be good at one time/in one setting and poor at another time/in another setting and accept different choices without disruptive outbursts	Accept multiple solutions to a single problem as effective and describe the benefits of each	Be able to identify the costs and benefits of different decisions	Explain how different people’s needs and values shape their reactions to experiences and ideas
Able to make a choice, and paraphrase why another child made a different choice and explain why that choice was made.	Able to make a choice, explain why choice was made and paraphrase why another child made a different choice	Able to make a choice, explain why choice was made and persist in acting on it in the face of emergent difficulties	Able to make a choice, act on it, and explain in which way(s) results were expected.	Able to make a choice, act on it, and explain in which way(s) results were unexpected but contributed to learning .	Able to make a choice, act on it, and articulate reasons why, as well as at least one potential disadvantage to that choice and describe advantages and disadvantages of the choice, and what was learned in

					pursuing the choice.
sSTANDARD 4: RISK-TAKER					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Will try new experiences or techniques with encouragement of teacher	Comfortably shares ideas with peers	Will try new experience or technique at suggestion of peer	Can generate a quick sketch to represent an idea without need to make it perfect	Will take a position different from group and provide support for position	Will pursue ideas despite fear of/experiencing doubts about the idea from peers or adults
STRAND 3: DESIGN THINKING PROCESSES/PHASES					
STANDARD 1: EMPATHY (understanding the needs of someone else)					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Give examples of the ways in which different people see things the same and differently (likes/dislikes); have similar and different needs	Generate questions to learn about people's needs regarding a specific problem/issue in a teacher-facilitated group activity (e.g., What should we ask to learn what kids most want in a school playground?)	With teacher scaffolding, work in small groups to develop simple interview questions to learn about people's needs regarding a specific problem/issue	Without teacher scaffolding, work in small groups to develop a simple interview protocol that asks questions and elicits stories to learn about people's needs regarding a specific problem/issue.	With teacher guidance, work in a collaborative group, to design information gathering process that involves both interviews and observation to learn about people's needs regarding a specific problem/issue.	Use multiple means (e.g., observation, interviewing, reading articles) to develop an understanding of people's needs related to a given topic/issue
Provided questions, asks one or two interview questions of a peer or familiar adult and listens to answer.		Can distinguish between open-ended and close-ended questions and can select questions most likely to inform about a need, given a choice of questions.	Asks follow-up questions to elicit deeper responses.	In an interview, uses prepared questions and interview plan as a guide, but adjusts on the fly to follow energy and responses of interviewee.	Consistently asks follow-up questions to elicit deeper responses, and to probe areas that are rich with user needs. Occasionally notes contradictions between what users say and what they do.
With teacher guidance, able to articulate one or two statements to describe what people are doing in a given location/situation.	With teacher guidance, able to articulate one or two statements to describe what people are doing in a given location/situation and one or two statements to describe how they are doing it.	Able to make multiple statements about what people are doing in a given location/situation and how they are doing it	With teacher support regarding where and how to observe, notices "work-arounds" and "stress points."	Independently chooses strategic locations and techniques for noticing "work-arounds" and "stress points".	Independently chooses strategic locations and techniques for noticing "work-arounds" and "stress points". Captures observations with a wide flexibility and a variety of tools (e.g. notes, photos, quick sketches, voice recordings, etc.
Gather data regarding different people's likes/dislikes; needs using	Identify one or two things what to look for using observation as a means of	With teacher scaffolding, Work in small groups to develop simple	Without teacher scaffolding, work in small groups to develop simple observation protocol to learn about		

teacher-generated interview protocol. Record data with pictures or a pictogram.	learning about people's needs regarding a specific problem/issue in a teacher-facilitated group activity.	observation protocol to learn about people's needs regarding a specific problem/issue.	people's needs regarding a specific problem/issue.		
	With teacher scaffolding, collect data using interview or observation protocol and report back to the group.	Collect data using interview and/or observation protocol. Record notes in pictures and words and report back to the group.	Collect data using interview and/or observation protocol and record notes in words/short phrases. Report back to the group.	Gather data using interview and observation protocols and organize data with teacher support, in a simple visual display that can be analyzed in define phase.	Gather data using interview and observation protocols and organize data in a simple visual display that can be analyzed in define phase.
Describe the ways two characters in a story experience the same event differently.	Describe the way two different characters in a story experience the same event and provide an explanation of why they react in different ways that references the text or common human experience.				

STANDARD 2: DEFINE (developing insights into the needs of someone else; re-framing a general issue or problem into a specific problem statement with user needs at the center) articulating a clear statement of a problem and the need of a user)

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
With teacher support, make statements about the needs of a group as seen in pictorial representation of a data set. With teacher support, identify obvious feelings and needs	With peers, make statements about the needs of a group as seen in pictorial representation of a data set With teacher support, infer feelings and needs from an interview or observation, and support inferences with evidence	With teacher support, synthesize interview/s and/or observation/s, and identify needs that seem more important/"core" vs. less important; make connections between different feelings and needs	With teacher support, synthesize observational data from multiple groups to come up with a problem statement based on the synthesis	With teacher support, work with peers to synthesize what has been learned about the needs of a user from observations and interviews and create a problem statement based on that synthesis	With peers, synthesize what has been learned about the needs of a user from multiple observations and interviews, articulate deep and/or surprising insights about user needs, and create a problem statement based on a core need
Describe feelings of story character(s) or peers and cite something in the story (words, pictures) or situation in support (e.g., the	With teacher support, make statements about the feelings of a person or story character based upon what the person/character said or did	Share quotes from a story character of real interviewees that help frame a problem	Share inspiring stories from observation that help frame a problem	Identify themes in reports of observations and/or interviews	Create a visual representation of what is deemed to be most surprising/powerful in what was learned

<i>boy is happy. He's smiling.)</i>					
STANDARD 3: IDEATE (generating a rich body of ideas to address a problem)					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Contribute relevant ideas to a prompt	Contribute multiple relevant ideas to a prompt	Record ideas in pictorial form	Record ideas in written form		Be able to capture an idea on a post-it note (the central idea w/o details)
Listen to ideas of others without interrupting	Listen to ideas of others and avoid repetition of ideas	Shows enthusiasm for ideas of others	Encourage others to contribute additional ideas	Occasionally build on ideas of others	Routinely build on the ideas of others
		Show enthusiasm for "wild" ideas	Generate "wild" ideas		
Participate in brainstorming directed by adult					With teacher support, effectively serve as facilitator and/or recorder in brainstorming session
STANDARD 4: PROTOTYPE (creating a tangible representation of an idea that allows idea to be tested)					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Draw, build or act out a tangible representation of an idea	Draw, build or act out a tangible representation of an idea that clearly communicates the central idea	With adult support, draw, build, or act out more than one tangible representation of an idea that clearly communicates the central idea	Draw, build, or act out more than one tangible representations of an idea that clearly communicates the central idea.	Collaborate with peers to build a prototype	Collaborate with peers to select multiple ideas to prototype, and to build those prototypes with some economy of detail.
Share tools and materials in a cooperative manner		Support peers in creation of prototypes by suggesting materials, demonstrating techniques, etc.	Demonstrate understanding of different ways to make a group decision (<i>e.g., voting, consensus</i>)	With teacher support, make a group decision about how to decide which ideas to prototype.	As a peer group, make a decision about how to decide which idea(s) to prototype
Clean up personal space.	Clean up general space.	Move through the space in manner that respects the work of others and avoids destroying work product.	Use materials responsibly (<i>e.g. have clear idea of what is to be created and how it will be created prior to beginning with materials to avoid false starts and wasted materials</i>)	Demonstrate flexibility of thinking (creativity) in selection of materials to make an idea tangible	
STANDARD 5: FEEDBACK (putting solution into play to obtain feedback for improvement)					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Share prototype(s) with peer and be able to explain central concept			Share prototype with peers and other students.		Share prototype with group that involves peers and external reviewers in a manner that allows reviewers to

					meaningfully experience the prototype.
Ask for feedback from peers (e.g. <i>I am ready for questions and comments.</i>) Thank reviewers for feedback	Restate one or two pieces of feedback	Be able to describe one change that would improve the prototype based on feedback provided	Ask follow-up questions re: feedback provided	Summarize feedback in written form (identify main issues to be addressed in second generation prototype.	Ask for specific feedback relevant to the problem being explored to gain more empathy for user and inform next generation prototype. Send thank you notes to external reviewers (e.g. <i>community members, experts in the field, parents</i>)
Provide positive feedback to peers (e.g. <i>I liked the way you...</i>)	Ask questions of clarification (e.g. <i>I didn't understand...can you say that again/say more about it</i>)	Suggest additional ideas	Ask probing questions (e.g. <i>exactly how will...work?</i>)	Ask questions to extend thinking (e.g. <i>have you thought about...</i>)	Draw forth reflections from previous learning that impact prototype under review
				Make second generation prototype based on feedback	

STRAND 4: SEEING DESIGN THINKING IN THE WORLD (INNOVATIONS AND INNOVATORS)

STANDARD 1: KNOWLEDGE INNOVATORS AND INNOVATIONS THAT HAVE SHAPED OUR LIVES

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Edward Binney and Harold Smith (Crayolas)	Philo Farnsworth (Television)	Douglas Engelbart (Computer Mouse)	Tim Berners Lee (www)	Neil Armstrong (Moon Exploration)	Patricia Bath (cataract surgery)
Ole Kirk Christiansen (LEGO)	Alexander Graham Bell (Telephone)	Steve Jobs (Personal Computer)	Hedy Lamarr (wireless communication)	Hypatia (Astrolabe)	Otis Boykin (electronic control devices for guided missiles, computers and pacemakers)
Andy Warhol and Claus Oldenburg (Pop Art)	Benjamin Franklin (Lightning Rod)	Frank Epperson (Popsicle)	Rachel Zimmerman (Blissymbol Printer)	Henry Ford (cars for the ordinary man)	Mark Zuckerberg (Facebook)
	Marc Chagall (Cubism)	Claude Monet, Mary Cassatt, Vincent Van Gogh (Impressionism)	Arthur Schawlow and Charles H. Townes (Laser)	Alessandro Volta (Battery)	Leonardo da Vinci (art, weaponry, science)
			Emmet Leither and Jris Upatnieks (Holography)	Thomas Edison (electric light bulb)	Chuck Close (photorealism)
			Ashok Gagel (Water Disinfection)	Lewis Latimer (carbon filament)	Salvador Dali, Rene Magritte and Alberto Giacometti (Surrealism)
			Sir Isaac Newton (laws)	Conrad Hubert	

			of motion)	(flashlight)	
			Maria Telkes (Residential Solar Heating)	Garrett Morgan (traffic light)	
			Jane Goodall (Study of primate characteristics/behavior that led to redefinition of what it means to be "human")	Pablo Picasso (Expressionism)	

K-5 Art Curriculum Map
Comprehensive Art Education Approach (from CA Dept of Ed.)

STRAND 1: ARTISTIC PERCEPTION – Students perceive and respond to works of art, objects in nature, events, and the environment. They also use the vocabulary of the visual arts to express their observations.					
STANDARD 1: DEVELOP PERCEPTUAL SKILLS AND VISUAL ARTS VOCABULARY					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Recognize and describe simple patterns found in the environment and works of art.	Describe and replicate repeated patterns in nature, in the environment, and in works of art.	Perceive and describe repetition and balance in nature, in the environment, and in works of art.	Perceive and describe rhythm and movement in works of art and in the environment.	Perceive and describe contrast and emphasis in works of art and in the environment.	Identify and describe the principles of design in visual compositions, emphasizing unity and harmony.
Name art materials (e.g., clay, paint, and crayons) introduced in lessons.	Distinguish among various media when looking at works of art (e.g., clay, paints, drawing materials)	Perceive and discuss differences in mood created by warm and cool colors.	Describe how artists use tints and shades in painting.	Describe how negative shapes/forms and positive shapes/forms are used in a chosen work of art.	Identify and describe characteristics of representational, abstract, and nonrepresentational works of art.
			Identify how foreground, middle ground, and background are used to create the illusion of space.	Identify pairs of complementary colors (yellow/violet; red/green; orange/blue) and discuss how artists use them to communicate an idea or mood.	
			Compare and contrast two works of art that are made by the use of different art tools and media (e.g., watercolor, tempera, and computer)	Describe the concept of proportion (in face, figure) as used in works of art.	
STANDARD 2: ANALYZE ART ELEMENTS AND PRINCIPLES OF DESIGN					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5

Identify the elements of art (line, color, shape/form, texture, value, space) in the environment and in works of art, emphasizing line, color and shape/form.	Identify the elements of art in objects in nature, in the environment, and in works of art, emphasizing line, color, shape/form and texture.	Identify the elements of art in objects in nature, the environment, and works of art, emphasizing line, color, shape/form, texture and space.	Identify and describe elements of art in works of art, emphasizing line, color, shape/form, texture, space and value.	Describe and analyze the elements of art (color, shape/form, line, texture, space, value) emphasizing form, as they are used in works of art and found in the environment.	Use their knowledge of all the elements of art to describe similarities and differences in works of art and in the environment.
STRAND 2: CREATIVE EXPRESSION - Students apply artistic processes and skills, using a variety of media to communicate meaning and intent in original works of art.					
STANDARD 1: SKILLS, PROCESSES, MATERIALS AND TOOLS					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Use lines, shapes/forms, colors to make patterns.	Use texture in two-dimensional and three-dimensional works of art.	Demonstrate beginning skill in the use of basic tools and art-making processes such as printing, crayon rubbings, collage and stencils.	Explore ideas for art in a personal sketchbook.	Use shading (value) to transform a two-dimensional shape into what appears to be a three-dimensional shape (e.g., circle to sphere)	Use one-point perspective to create the illusion of space.
Demonstrate beginning skill in use of tools and processes, such as use of scissors, glue, and paper in creating three-dimensional construction.	Mix secondary colors from primary colors and describe the process.	Demonstrate beginning skill in the use of art media, such as oil pastels, watercolors, and tempera.	Mix and apply tempera paints to create tints, shades and neutral colors.	Use the conventions of facial and figure proportions in a figure study.	Create gesture and contour observational drawings.
Make a collage with cut or torn paper shapes/forms.	Demonstrate beginning skill in the manipulation and use of sculptural materials (e.g., clay, paper and papier mache) to create form and texture in works of art.			Use additive and subtractive processes in making simple sculptural forms.	Demonstrate beginning skill in the manipulation of digital imagery (e.g., computer-generated art, digital photography, or videography)
				Use fibers or other materials to create a simple weaving.	
STANDARD 2: COMMUNICATION AND EXPRESSION THROUGH ORIGINAL WORKS OF ART					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Paint pictures expressing ideas about family and neighborhood	Plan and use variations in line, shape/form, color, and texture to communicate ideas or feelings	Depict the illusion of depth (space) in a work of art, using overlapping	Paint or draw a landscape, seascape, or cityscape that shows the illusion of space.	Use accurate proportions to create an expressive portrait or a figure drawing or painting.	Create an expressive abstract composition based on real objects.

	in works of art.	shapes, relative size, and placement within the picture.			
Use lines in drawings and paintings to express feelings	Create a representational sculpture based on people, animals, or buildings.	Create a painting or drawing, using warm or cool colors expressively.	Create a work of art based on the observation of objects and scenes in daily life, emphasizing value changes.	Use the interaction between positive and negative space expressively in a work of art.	Assemble a found object sculpture (an assemblage) or a mixed media two-dimensional composition that reflects unity and harmony and communicates a theme.
Use geometric shapes/forms(circle, triangle, square) in a work of art.	Draw or paint a still life, using secondary colors.	Use bilateral or radial symmetry to create visual balance.	Create an imaginative city sculpture based on an organic form.	Use contrast (light and dark) expressively in an original work of art.	Use perspective in an original work of art to create a real or imaginary scene.
Create a three-dimensional form, such as a real or imaginary animal.	Use visual and actual texture in original works of art.		Create an original work of art emphasizing rhythm and movement, using a selected printing process.	Use complementary colors in an original composition to show contrast and emphasis.	Communicate values, opinions, or personal insights through a original work of art.
	Create artwork based on observations of actual objects and everyday scenes.				

STRAND 3: HISTORICAL AND CULTURAL CONTEXT – Students analyze the role and development of the visual arts in past and present cultures throughout the world, noting human diversity as it relates to the visual arts and artists.

STANDARD 1: ROLE AND DEVELOPMENT OF THE VISUAL ARTS

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Describe functional and non-utilitarian art seen in daily life; that is, works of art that are used versus those that are only viewed.	Recognize and discuss the design of everyday objects from various time periods and cultures.	Explain how artists use their work to share experiences or communicate ideas.	Compare and describe various works of art that have a similar theme and were created at different time periods.	Describe how art plays a role in reflecting life (e.g., in photography, quilts, architecture)	Describe how local and national art galleries and museums contribute to the conservation of art.
Identify and describe works of art that show people doing things together.	Identify and describe various subject matter in art (e.g., landscapes, seascapes, portraits, still life).	Recognize and use the vocabulary of art objects from various cultures and time periods.	Identify artists from his or her own community, county, or state and discuss local or regional art traditions.		Identify and describe various fine, traditional and folk arts from historical periods worldwide.
			Distinguish and describe representational, abstract, and non-representational works of art.		

STANDARD 2: DIVERSITY OF THE VISUAL ARTS					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Look at and discuss works of art from a variety of places and times.	View and then describe art from various cultures	Identify and discuss how art is used in events and celebrations in various cultures, past and present, including their own lives.	Identify and describe objects of art from different parts of the world observed in visits to a museum or gallery (e.g., puppets, masks, containers)	Identify and discuss the content of works of art in the past and present, focusing on the different cultures that have contributed to Michigan's history and art heritage.	Identify and compare works of art from various regions on the United States.
	Identify art objects from various cultures (e.g., Japanese screen painting, Mexican tin art, African masks) and describe what they have in common and how they differ.		Write about a work of art that reflects a student's own cultural background.	Research and describe the influences of religious groups on art and architecture, focusing primarily on buildings in Michigan both past and present.	View selected works of art from a major culture and observe changes in materials and styles over a period of time.
STRAND 4: AESTHETIC VALUING – Students analyze, assess, and derive meaning from works or art, including their own, according to the elements of art, the principles of design, and aesthetic qualities.					
STANDARD 1: DERIVE MEANING					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Discuss their own works of art, using appropriate art vocabulary (e.g., color, shape/form, texture)	Discuss works of art created in the classroom, focused on selected elements of art (e.g., shape/form, texture, line, color)	Compare ideas expressed through their own works of art with ideas expressed in the work of others.	Compare and contrast selected works of art and describe them, using appropriate vocabulary of art.	Describe how using the language of the visual arts helps to clarify personal responses to works of art.	Identify how selected principles of design are used in a work of art and how they affect personal responses to and evaluation of the work of art.
Describe what is seen (including both literal and expressive content) in selected works of art.	Identify and describe various reasons for making art.	Compare different responses to the same work of art.		Identify and describe how a person's own cultural context influences individual responses to works of art.	Compare the different purposes of a specific culture for creating art.
				Discuss how the subject and selection of media relate to the meaning or purpose of a work of art.	
STANDARD 2: MAKE INFORMED JUDGMENTS					
KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Discuss how and why they made a specific work of art.	Describe how and why they make a selected work of art, focusing on the	Use the vocabulary of art to talk about what they wanted to do in	Identify successful and less successful compositional and expressive	Identify and describe how various cultures define and value art differently.	Develop and use specific criteria as individuals and in groups to assess works of art.

	media and the technique.	their own works of art and how they succeeded.	qualities of their own works of art and describe what might be done to improve them.		
Give reasons why they like a particular work of art they made, using appropriate art vocabulary.	Select something they like about their work of art and something they would change.	Use appropriate vocabulary of art to describe the successful use of an element of art in a work of art.	Select an artist's work and , using appropriate vocabulary of art, explain its successful compositional and communicative qualities.	Describe how the individual experiences of an artist may influence the development of specific works of art.	Assess their own works of art, using specific criteria, and describe what changes they would make for improvement.

STRAND 5: CONNECTIONS, RELATIONSHIPS, APPLICATIONS – Students apply what they learn in the visual arts across subject areas. They develop competencies and creative skills in problem-solving, communication, and management of time and resources that contribute to lifelong learning and career skills. They also learn about careers in and related to the visual arts.

STANDARD 1: CONNECTIONS AND APPLICATIONS

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Draw geometric shapes/forms (e.g., circles, squares, triangles) and repeat them in dance/movement sequences	Clap out rhythmic patterns found in the lyrics of music and use symbols to create visual representations of the patterns.	Use placement, overlapping, and size differences to show opposites (e.g., up/down, in/out, over/under, together/apart, fast/slow, stop/go)	Describe how costumes contribute to the meaning of a dance.	Select a nonobjective painting, work in small groups to interpret it through dance/movement; and then write a paragraph reporting on the arts experience.	Use linear perspective to depict geometric objects in space.
Look at and draw something used everyday (e.g., scissors, toothbrush, fork) and describe how the object is used.	Compare and contrast objects of folk art from various time periods and cultures.	Select and use expressive colors to create mood and show personality within a portrait of a hero from long ago or the recent past.	Write a poem or story inspired by one of their own works of art.	Identify through research twentieth-century artists who have incorporated symmetry as part of their work and then create a work of art, using bilateral or radial symmetry.	

STANDARD 2: VISUAL LITERACY

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Point out images (e.g. photographs, paintings, murals, ceramics, sculptures) and symbols found at home, in school, and in the community, including national and state symbols and icons.	Identify and sort pictures into categories according to the elements of art emphasized in the works (e.g., color, line, shape/form, texture)	Identify pictures and sort them into categories according to expressive qualities (e.g., theme, mood)	Look at images in figurative works of art and predict what might happen next, telling what clues in the work support their ideas.	Construct diagrams, maps, graphs, timelines, and illustrations to communicate ideas or tell a story about a historical event.	Identify and design icons, logos and other graphic devices as symbols for ideas and information.

STANDARD 3: CAREERS AND CAREER-RELATED SKILLS

KDG	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
Discuss the various works of art (e.g.,	Describe objects designed by	Discuss artists in the	Describe how artists (e.g.,	Read biographies and stories about	Research and report on what various

ceramics, paintings, sculpture) that artists create and the type of media used.	artists (e.g., furniture, appliances, cars) that are used at home and at school.	community who create different kinds of art (e.g., prints, ceramics, paintings, sculpture)	architects, book illustrators, muralists, industrial engineers) have affected people's lives.	artists, and summarize the readings in short reports, telling how the artists mirrored or affected their time period or culture.	types of artists (e.g., architects, designers, graphic artists, animators) produce and how their works play a role in our everyday environment.
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The following programs will be implemented at all grade levels (K-5):

Curriculum Area	Program	Notes
Social Learning	Responsive Classroom	<ul style="list-style-type: none"> • Research-based program developed by Northeast Foundation for Children • Proven effectiveness in developing social skills and decreasing problem behaviors
English Language Arts	Readers and Writers Workshop (Balanced Literacy)	<ul style="list-style-type: none"> • Based on over two decades of research by Irene Fountas and Gay Su Pinnell • Includes assessment, instruction and intervention components • Tightly aligned with MI GLCE's and Common Core
Math	Every Day Math	<ul style="list-style-type: none"> • Research-based program developed at the University of Chicago as part of the School Mathematics Project over last 30 years • Includes assessment, instruction and intervention components • Tightly aligned with MI GLCE's and Common Core
Science	Battle Creek Science Units	<ul style="list-style-type: none"> • Inquiry-based Science program developed at Battle Creek Area Math and Science Center through extensive development and evaluation process • Tightly aligned with MI GLCE's • Efficient system for restocking kits
Social Studies	Social Studies Alive!	<ul style="list-style-type: none"> • Produced by Teachers Curriculum Institute and based on 5 well established research theories (Understanding by Design-Wiggins and McTighe; Non-Linguistic Representation – Marzano; Multiple Intelligences-Gardner; Cooperative Interaction-Cohen; and Spiral Curriculum (Bruner) • Highly interactive methodology • All materials available online; teachers print what they want to use; ongoing updates
Physical Education	Exemplary Physical Education Curriculum (EPEC)	<ul style="list-style-type: none"> • Research-based program developed by jointly by Michigan Departments of Education and Health • Tightly aligned with MI GLCE's • Proven effectiveness in promoting health, fitness and development of life-long skills
Innovation and Design Thinking	Grade Level Design Challenges	<ul style="list-style-type: none"> • Based on work done at Design Lab – Stanford University Design School

6-12: Possible Scope and Sequence of Classes

	6 th Grade	7 th Grade	8 th Grade	9 th Grade	10 th Grade	11 th Grade	12 th Grade	HS Req's
Art/Design	Foundations in Art & Design Foundations in Innovation	Art Selective—required to do one, choices available	Art Selective—required to do one, choices available	Art Selective—required to do one, choices available	Art Selective—required to do one, choices available	Art Selective—required to do one, choices available	Art Selective—required to do one, choices available	4 courses
Creative Studies (ACE pathway)	Foundations in Art & Design Foundations in Innovation	Art Selective—required to do one, choices available	Art Selective—required to do one, choices available	Advanced Selectives <i>Portfolio required for joining "studio"</i>	Advanced Selectives	Junior Studio Class ¹	Senior Studio Class	Entire series required for "arts diploma"
Social Studies	World Geography—people and society	US History—major themes and issues: Am Rev to 1900	World History	Civics/Economics—functioning as a good citizen in 21 st century	US History--1900 to present	Global Issues	Social Studies Elective	3 years
Language Arts	ELA – 6	ELA – 7	ELA - 8	Contemporary Literature—Stories of Innovation	American Literature--with advanced composition	Contemporary World Literature	Contemporary Issues in Life and Literature	4 years
Language Arts (add'l support)	Direct Instruction in reading and/or writing	Writer's and/or Reader's workshop	Writer's and/or Reader's workshop	Direct Instruction in reading and/or writing	Research Methods and Writing or Writers' Workshop	Writers' Workshop	Writer's Workshop	
Science	6 th grade Integrated Science	7 th grade Integrated Science	Integrated Science with Geo-Physical Science emphasis	Integrated Science with Biology emphasis	Integrated Science with Chemistry emphasis	Integrated Science with Physics emphasis	Senior Science Selective ²	4 years
Science (ACE pathway)	6 th grade Integrated Science	7 th grade Integrated Science	Integrated Science with Geo-Physical Science emphasis	Integrated Science with Biology emphasis	Integrated Science with Chemistry emphasis	Integrated Science with Physics emphasis	Dual Enrollment Electives at local college Selected AP	4 years

¹ Independently focused program on individual student area of interest and potential mastery—likely on alternate schedule and much more integrated with collegiate program

² Discipline specific elective in scientific discipline—bio-medical, ecology, astronomy—TBD by teacher(s) interests and available partnerships

	6 th Grade	7 th Grade	8 th Grade	9 th Grade	10 th Grade	11 th Grade	12 th Grade	HS Req's
Math	6 th grade Integrated Math	7 th grade Integrated Math	Integrated Math with emphasis on Pre-Algebra	Integrated Math with an emphasis on Algebra	Integrated Math with emphasis on Geometry	Integrated Math with emphasis on Algebra 2	Integrated Math with emphasis on Trigonometrics/Statistics/Pre-Calc Calculus	4 years
Math (add'l support)	Foundations in Mathematics	(Math Workshop)	(Math Workshop)	Foundations in Mathematics	(Math Workshop)	(Math Workshop)		
Math (ACE pathway)	6 th grade Integrated Math and Topics in 7 th Grade Integrated Math	Integrated Math with emphasis on Algebra	Integrated Math with emphasis on Geometry	Integrated Math with emphasis on Alg II/Trig	Integrated Math with emphasis on Statistics/Pre-Calc	Pre-Calculus	Calculus AP Calculus	4 years
Technology	Intro Tech Tools for Learning (software and hardware)			Intermediate Tech Tools for Learning	Tech Elective	Advanced Tech Tools for Learning (software and hardware)	Tech Elective	1 year of Adv TTL
PE/Health	Health and Fitness	Health and Fitness	Health and Fitness	Health and Fitness	Fitness Elective	Fitness Elective	Fitness Elective	1 course
Foreign Language--site choice				Year One	Year Two	Year Three (optional)	Year Four (optional)	2 years
SMP (Career Focus, with emphasis on art/design)	Embedded: guest speakers or teachers, field studies with community partners	Embedded: guest speakers or teachers, field studies with community partners	Embedded: guest speakers or teachers, field studies with community partners	Embedded: guest speakers or teachers, research on careers, job shadowing, support for summer internships	Embedded: guest speakers or teachers, research on careers, job shadowing, support for summer internships	Junior Workshop, support for summer internships	Senior Practicum, Senior Workshop, Senior Defense	Entire JW-SD series required
Ford PAS³				Selections from PAS modules	Selections from PAS modules	Selections from PAS modules	Selections from PAS modules	1 credit

³ Connects to college credit and possible scholarships

	6 th Grade	7 th Grade	8 th Grade	9 th Grade	10 th Grade	11 th Grade	12 th Grade	HS Req's
College Focus	College visits, consistent references, visible in learning studios and school	College visits, consistent references, visible in learning studios and school	College visits, consistent references, visible in learning studios and school	College visits, research, education pathway research, family meetings in STEP	College visits, college research, education pathway research, family meetings in STEP	Admissions tests, college visits, bi-weekly mtgs with college advisor, education path (JW), family workshops throughout year and in STEP	Final applications, final visits, letter of rec process, family workshops throughout year and in STEP	Req's detailed in Read. Report card
Potential Non-core classes	Selectives Print-making Ceramics Comic Book Illustration Watercolors Graphic Design Woodworking		Automotive Design Industrial Design Sculpture		Electives related to Art/Design Engineering 101—If You Build It... Business of Art/Design American Crafts Architecture of Detroit Science in Art—ceramics, glassware Math in Art—tessellations, perspective, for example Art in Movies and Literature		American Inventors Art History (intro and/or AP) American Media Studies	