

Elementary School Curriculum Guide 2018 - 2019





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AISC Mission

Together
we inspire
a love of learning,
empowering all
students with the
courage,
confidence,
creativity and
compassion
to make their unique
contribution in a
diverse and
dynamic world.





AISC BELIEVES THAT...

- Each person has equal intrinsic value, worthy of dignity and respect.
- We are responsible for our choices and their effect on ourselves, others and the environment.
- Being open to new ideas and challenging experiences enriches our lives.
- Mutual respect, trust and caring foster healthy interpersonal relationships.
- Embracing our diversity makes us a stronger community.
- In an interconnected world, our positive contributions to the community and the environment are essential.
- Individuals thrive in a nurturing environment that provides for their physical and emotional safety.

RESPONSIBILITY

EXCELLENCE

INTEGRITY

RESPECT

DIVERSITY



Vision for an AISC Learner

Leaders

We show courage by taking action and inspiring others to serve and contribute positively to our interconnected world. Leaders develop a vision, plan appropriately, and work collaboratively to achieve results.

Collaborators

We develop a deeper understanding by listening carefully to others' perspectives and confidently articulating personal viewpoints in the pursuit of common goals.

Innovators

We approach uncertainty with confidence, designing novel solutions in the face of challenges or change. Innovators are creative, resourceful, open-minded and resilient, seeking new perspectives through inquiry, trial, error and feedback.

Explorers

We investigate new interests with curiosity, inquiring with purpose, and seeking deeper understanding and fulfillment through our independent pursuits.

Thinkers

We use critical and creative thinking skills to analyze and take responsible action on complex problems. We exercise initiative in making reasoned, ethical, data-informed decisions.

Ethical

We show responsibility for our choices and consider their effects on ourselves, others, and the environment. We act on our principles and ideals because we value the dignity of others.

Versatile

We adapt to changing circumstances, balancing our commitments and showing courage as we take on new challenges. We seek new opportunities for learning, growth, and renewal.

Empathetic

We appreciate our own cultures and personal histories while respecting the values and traditions of others, believing each person has equal intrinsic value. We are sensitive to the needs of others and show compassion by making positive contributions to our local and global communities and the environment.

Resilient

We demonstrate on-going commitment to our endeavors by learning from our successes and failures in the positive pursuit of our objectives, goals, aspirations, and dreams. We practice patience and persistence in all situations, especially when they are challenging or uncomfortable.

Reflective

We pause to think about our goals, learning, and growth in order to develop and sustain our creativity and lifelong learning. We review and examine our own ideas and experiences in relation to the world and consider our interdependence and impact on others.

Internationalism at AISC



At AISC, we define internationalism as:

Possessing a strong sense of one's own cultural identity; **Respecting** and **valuing** the differences of others; **Learning** about local, national, and global issues; **Showing** empathy for others and care for the world around us.

Therefore, as an international school, we are committed to:

Incorporating other perspectives; **Seeking** common learning experiences with all peoples;
Finding enriching connections between cultures; **Using** exposure to language, history, and the arts to access diverse cultures; **Working** well with all; **Contributing** through service;
Reflecting about our thoughts and actions.

Welcome to the Elementary School Curriculum Guide

Our Elementary Section caters for students from Early Years 3 right through until Grade 5, and we know that our students learn in a variety of environments; their homes, schools and communities. Parents and teachers form a partnership to assist this learning.

When parents know what their children are doing at school, they can provide a further enriched and supportive environment at home.

This Elementary Curriculum Guide is designed to give parents an overview of their child's education by fostering an understanding of what students will be exploring at each year/grade level.

Our curriculum is inquiry based, aligned to standards, and is planned using the UbD or 'Back by Design' approach.

Each grade plans their year through blocks of time, defined as learning 'units'. In the homeroom, where our Elementary students spend the majority of their day, these units are planned for within the areas of Reading, Writing, Math, Science and Social Studies. Other focus' such as technology, personal, social and emotional education, health, child protection and making are not planned for as separate subjects, but are integrated drivers that help shape our units.

Outside of the homeroom, children explore the specialist subjects of PE, Music, Art, Indian Studies and World Language (Spanish and French, from Grade 3 onwards).

The Elementary school begins in the Early Years - Early Years 3, 4 & 5, and continues through Grades 1, 2, 3, 4 & 5. Each year/grade has its own distinct set of events, projects and units that are specifically planned with the developmental stages of the child in mind. Our curriculum is continually evolving to be further personalised, inquiry driven/play-based to best meet the needs of the youngest AISC learners. We know you will find the early years center a great place to learn.

Keryn Dowling

Elementary School Principal



Early Years Environment and Curriculum

Play Based Learning

Young children learn by exploring, thinking about, and inquiring about all sorts of phenomena through play. These experiences help children investigate 'big ideas', those that are important at any age and are connected to later learning.

Play is an important vehicle for developing self-regulation as well as for promoting language, cognition, and social competence. Play gives children opportunities to develop physical competence and enjoyment of the outdoors, understand while making sense of their world, interacting with others, and expressing and controlling their emotions. Through play, children are able to develop their symbolic and problem-solving abilities while practice their emerging skills in all areas.

We value the diversity within our community, and intentionally work to build strong partnerships between home and school.

Outdoor Learning Center (OLC)

Directly behind the Early Years 3 and 4 classes, along the Eastern wall of our AISC campus, is the wonderful Outdoor Learning Centre (OLC). This space is a continuation of these Early Years spaces and considered a learning environment first, and a recess space second. Children from Early Years 3 to Grade 1 enjoy this space throughout their day and are exposed to numerous opportunities to enhance their fine and gross motor skills; tricycles, grassy mounds to explore and climb up, tunnels to crawl through, sand pits, large wooden blocks, movable climbing frames and balance beams and a mud kitchen.

Early Years 3

Creative Curriculum Course Description

The Creative Curriculum for Early Years 3 is based on 38 objectives for development and learning. These objectives are fully aligned with the Head Start Child Development and Early Learning Framework, and State Early Learning Standards, and integrated into resources that makes up the curriculum. The curriculum helps teachers meet the needs of every learner, with a particular focus on English language development.

Units of Study

Unit 1 - Beginning of the Year

This Unit focuses on supporting children as they become familiar with the classroom and the school routine. By creating a caring, stimulating, and cooperative learning environment for all children, this unit allows them to find comfort in being a member of the classroom community while maintaining a secure connection to home.

Unit 2 - Clothes

This unit provides the foundation for learning about clothing and the role that it plays in people's lives. By researching questions such as "How is cloth made?" and "How do we take care of clothes?" children learn about different types of clothing and fabrics, how clothes are made and sold, the purpose of some garments and how clothes have changed over time.

Unit 3 - Bread

In this unit, children spend time during their meals examining, testing, and exploring bread of all kinds. Children investigate the characteristic of bread, make predictions, experiment with materials used to make bread, create their own bread recipes and represent what they know as they seek to find answers to questions such as "How bread is made?" and "Who works with bread?"

Unit 4 - Pets

This unit helps children understand the importance of taking care of pets, showing affection, being sensitive to others needs, and developing lasting friendships. Children are encouraged to investigate, solve problems, explore materials used to care for pets, create their own pet store and represent what they know as they find answers to questions such as "How do we care for pets?" and "how do pets make us feel?"

Unit 5 - Balls

This unit explores the interest shown by children towards balls. Children explore the features and nature of different types of balls. By investigating question such as "Do all balls bounce?" and "What makes balls move?" Children satisfy their curiosity about a topic of interest while learning and applying important investigatory and thinking skills.



Early Years 4

Creative Curriculum Course Description

The Creative Curriculum for Early Years 4 is based on 38 objectives for development and learning, a continuum from the Early Years 3. The curriculum offers daily opportunities to individualize instruction, to meet the needs of every learner with a particular focus on English language development. The five study topics allows for deep first hand exploration in science and social studies while developing skills in language and literacy, math, technology and the arts. It also lets children apply their acquired skills in meaningful real life contexts.

Units of Study

Unit 1 - Beginning of the year

This unit is all about getting familiar with the classroom, school routines and finding comfort in being a member of the classroom community. During the first several weeks of school, children will become familiar with the classroom and school routines, and learn to find comfort in being a member of the classroom community while maintaining a secure connection to home. Whether children are new to Early Years or not, there is an expectation that many will experience strong emotions - fear, anxiety, extreme excitement, sadness or frustration. The beginning of the year study has strategies for supporting children's social-emotional development as they become comfortable in their new environment. Children will find answers to questions like, 'What names do we need to know in school?', 'What are rules?', 'Who works at our school?'

Unit 2 - Trees

Children's interest in trees, to help them explore science and social studies and also use skills in literacy, math, technology, trees fascinate children and spark their curiosity and wonder. Rather than emphasis naming different trees, this study focuses on helping children develop an understanding of the characteristic of trees and their role on our natural and manmade worlds. They will wonder about questions like, 'Who lives on trees?', 'What food comes from trees?', 'How do trees change?', 'How would the world be without trees?', 'What comes from trees?'

Unit 3 - Exercise

This study begins with children's natural desire to move. A study of exercise not only offers opportunities for children to explore a topic that interests them, but also enables them to gather information. Children will explore many types of exercise, observe people while they are exercising and learn about the mechanics of movement, how to use special equipment for exercise. They will also learn about nutrition and jobs related to exercise, and the connection between exercise and healthy bones and muscles. They will explore a variety of challenging exercise movements. A study of exercise makes children feel capable and confident, releases tension, and builds strong bodies and mind.

Unit 4 - Reduce Reuse and Recycle

Trash and garbage are all around us and we find rubbish and waste in our homes. Children are always taught from the early years to throw garbage in the trash cans. Why? This natural curiosity provides a good starting point for what happens to trash after it is thrown away and exploring the concept of reducing, reusing and recycling. This study offers opportunities for children to become more aware of the world around them. They investigate questions like, 'Where does trash go?' 'What do people throw away?', 'How can we reuse junk?'. In this study, children will observe, gather data explore their community, learn new information and propose solution to problems.

Unit 5 - Getting ready for Early Years 5

During the last several weeks of the school year, children will be saying goodbye to the familiarity of their classroom, their routines and possibly even their friends. At the same time they will be looking forward to moving on to Early Years 5. During this time, they reflect on and celebrate the learning that has taken place throughout the year. Some children may be familiar with Early Years 5 because of older siblings, for some others the transition may not be easy. No matter the circumstances, children may have questions about what lies ahead, like, 'How is Early Years 5 different from Early Years 3 & 4?', 'How do we feel about going to Early Years 5?', 'How do we make and keep friends in Early Years 5?'.



PROGRAMMATIC OVERVIEWS

Literacy - Early Years 5 to Grade 5

The goal of the American International School Chennai's literacy program is to ensure that all students become proficient and critical readers and writers who continue to use these skills throughout their lives. To achieve this goal, literacy instruction is based on a comprehensive, inquiry based and balanced approach in which reading, writing, speaking and listening allow students to develop skills and understandings that will enhance all areas of their learning.

Teachers use ongoing formative and summative assessments to inform their instruction and to respond to each student's learning needs.

To foster a love of reading, to encourage students to explore new genres and authors, to allow children choice within the school day, and to reflect a literate community, we read.

To improve the overall literacy skills of our students, literacy instruction at AISC honors, captures, and capitalizes on critical literacy behaviors (reading, writing, listening, thinking, and speaking) through purposeful, integrated, and authentic instruction.

Teachers College Columbia Project - Reading and Writing Workshop Overview

At AISC, Elementary Students are taught Language Arts (LA) using the reading and writing workshop model from the Teachers College Reading and Writing Project of Columbia University. The overall goal is to ensure every student is engaged and working with materials appropriate to their proficiency and developmental levels. Teachers provide explicit instruction through a mini-lesson and conferences to the whole class, small groups and individuals.

The workshop model helps to develop independent, thoughtful and competent readers, writers, listeners and speakers by inquiring into different genres and writing styles.

Reading Workshop

Reading Workshop combines language and literature-rich activities associated with holistic reading instruction with the explicit teaching of skills as needed to develop the fluency and comprehension that proficient readers possess.

Such instruction emphasises development of lifelong reading strategies and skills, gaining meaning from print, and instruction of phonics in context. The Reading Workshop approach incorporates many reading strategies in order to meet the varying needs of all students. Some of the components of the approach include phonemic awareness and phonics instruction, reading aloud, independent and partner reading (private time and partner time), guided reading in small groups, shared reading, and literacy centers for independent practice. Reading Workshop cultivates the skills of reading, writing, thinking, speaking, and listening for all students.

Reading Workshop also allows for flexibility within the classroom. It allows the teacher to meet each child where he or she is and move him or her forward in the manner and time best suited to the individual.

Reading Assessment

The process and speed at which children learn to read is unique to each child. To accurately identify our students' present set of literacy skills and reveal appropriate steps of instruction, teachers use a variety of assessment practices at AISC.

From Early Years 5 to Grade 5, running records are administered throughout the year. These assessments identify a child's reading level through a number of different literacy tasks, including: fluency, accuracy, and comprehension of text.

Additionally, teachers regularly assess their students' reading levels and skills through informal assessment practices, including but not limited to, interest inventories, one-on-one conferring, and readers' notebooks. This information is used to identify present reading strengths, gauge progress over time, and assist in instructional choices.

Word Study (phonics, spelling, and vocabulary)

We know that a child's understanding and experience with language and writing become more sophisticated with age. In the early years, children begin to see that words are made up of letters. Later, children recognize that these letters make patterns. This understanding assists students in recognizing that letter patterns direct sound and meaning. These stages of spelling are progressive and developmental. Word Study is a systematic approach to teaching phonics, vocabulary and spelling. Teachers formally assess the quality of students' understanding of spelling conventions three times a year and informally assess throughout the year.

Writing

Purposeful writing instruction provides meaningful reasons for children to communicate ideas on paper in relation to identified standards. The role of the teacher during such experiences changes with student need and instructional purpose. Our elementary school teachers follow the Writing Workshop approach, with instruction which focuses on teaching students the academic demands of the three main types of writing: informational, narrative, and persuasive/ opinion. Beginning in Early Years 5, each grade level has units of study specifically designed to teach students discrete skills in the three text types, following grade-level standards and benchmarks.

Our units of study in writing follow the most recent research in best practice conducted by Columbia University's Teachers College Reading and Writing Project.

Writing Assessment

In alignment with writing standards and units of study, we formally assess writing using text-type specific rubrics. Progress is monitored by comparing on-demand writing samples from the beginning of each

unit to end-of-unit published pieces of writing. Writing assessments are passed along from year-to-year, so teachers and students can reflect on progress in writing each of the text types (informational, narrative, and persuasive/opinion). Formative assessments are made by teachers in weekly individual writing conferences with students. Weekly conferences allow teachers to closely follow students' work and modify instruction based on student need.

MATH - BRIDGES PROGRAMME Overview

At AISC Elementary Mathematical Emphasis is taught using the Bridges Program

The mathematics in Bridges fully address the Common Core State Standards for Early Years 5 through to Grade 5. The program is aligned to the Critical Areas of Focus and Major Instructional Shifts intended by the authors of the CCS, and it weaves together the standards for content and practice in ways that support student learning. Bridges also features key visual models that deepen students' mathematical learning, while providing developmentally appropriate ways for them to employ the mathematical practices as they engage with new mathematical content.



Social Studies Overview

The Elementary School Social Studies curriculum is founded on a standards-based, inquiry approach that provides opportunities for students to explore four major theme throughout the EY5-5 grade levels.

Self and Society

The study of people, communities, cultures and societies, the ways in which individuals, groups and societies interact with each other.

Continuity and Change through time

The study of the relationships between people and events through time; the past, its influences on the present and its implications for the future; people who have shaped the future.

Humans in their Environments

The study of the distinctive features that give a place its identity; how people experience and represent place; the impact of natural disasters on people and the built environment. The interaction between people and the environment; study of how humans allocate and manage resources; positive and negative effects of this; impact of scientific and technological developments on the environment.

Human systems and organizations

The study of how and why people construct organisations and systems; the ways in which people connect locally and globally; the distribution of power and authority.

Through these themes students will develop the disciplinary thinking of a historian, economist, geographer, and civic-minded individual.

They will find ways to make their ideas public and explore the relationship their conclusions have on their lives, inside and outside the classroom.



Science Overview

The Elementary School science program is based on the Next Generation Science Standards (NGSS). The NGSS are structured to emphasize three important dimensions that help students learn science.

- **Scientific and Engineering Practices:** The practices describe behaviors that scientists and engineers use to explain the world or solve problems.
- **Crosscutting Concepts:** Concepts that cut across all domains of science, and include big ideas such as patterns and cause and effect.
- **Disciplinary Core Ideas:** Identifies content or fundamental scientific knowledge.

Disciplinary ideas are grouped in four domains.

Physical Science

Recognizing mechanisms of cause and effect in systems and processes that can be understood through a common set of physical and chemical principles.

Life Science

Making sense of the living world, from single organisms to ecosystems to the entire biosphere.

Earth and Space Science

Understanding the different processes that cause Earth to change over time, interconnected systems of the Earth, and the Earth's place in the solar system.

Engineering, Technology and Applications of Science

Exploring how engineers identify and define problems, develop possible solutions, and optimize design solutions as well as looking at how engineering, technology, science, and society are interconnected.



Design Studio/MakerSpace

Our Design Studio is a hands-on collaborative work space inside our Elementary school for making, learning, exploring and sharing. We have a huge variety of high tech to no tech tools. This space is open to our student makers and entrepreneurs and have a variety of maker equipment laser cutters, soldering irons, hand tools and even sewing machines. We also have cardboard, legos and art supplies where children can create something out of nothing! This space is helping to prepare our students with the critical 21st century skills in the fields of science, technology, engineering and math (STEM). Focusing on hands on learning, students engage with critical thinking skills and learn simple electronics, 3D modeling, robotics and even woodworking.



Elementary Kitchen

Our Elementary Kitchen is a newly designed space for our elementary students to explore, prepare and cook with food - often food that is grown in our own gardens here at AISC. With careful supervision, children experiment with a range of recipes and make incredible growth in this vital hands-on learning area. These range from basic kitchen skills like using knives and other equipment, to making fresh pasta and pasta sauce to be enjoyed for lunch.

Elementary Garden

Tucked away in prime growing conditions behind the FAC building are a series of raised garden beds for elementary classes to adopt in their 'adopt-a-garden' project. Classes sign up to adopt a garden which includes preparing the garden beds, seeding, planting, growing, harvesting and eventually cooking and eating the fruits of their success. Teachers make connections to many curricular areas, in particular, science, math and visual arts.

EARLY YEARS 5

Early Years 5 follows a curriculum that incorporates aspects of play-based learning whilst also introducing students to more academic concepts such as literacy (reading and writing), conceptual mathematics, science, and social studies.



Early Years 5 Reading Overview

Early Years 5 is a time for students to independently gain power and confidence not just as readers and writers but as thinkers as well. Throughout the year, students will begin to use state-of-the-art tools and methods to help them move up the ladder of complexity. They learn to rely on their minds and skill-sets to create stories and make meaning of books. Students will build foundational reading skills and strategies like making inferences, synthesizing, and identifying the main idea. Teachers will use the Teachers College of Columbia Reading and Writing project structure of mini lessons to teach a full and balanced literacy course. There is demonstration, shared demonstrations, independent practice, response, and feedback with on-going assessments. A goal of this course is for students to receive targeted, strategy instruction and are given significant amounts of time to practice these strategies in their independent reading and writing.

Early Years 5 Reading Units

We are Readers

We are readers exploring the exciting world of book independently and with a partner. This unit is designed to induct students into a reading workshop and to help them dive into many different kinds of books. They will begin to develop their identities as readers and learn routines and procedures of readers.

Super Powers

Students will become familiar with storybooks and how to think deeply about them. There is a strong focus on student collaboration to further our deep thinking about storybooks. Students will also get more practice with making connections to their books and connecting books with other books through the use of reading super powers.

Bigger Books, Bigger Reading Muscles

The purpose of this unit is to teach children to use multiple sources of information in order to read conventionally. The overarching goal of the unit is to teach children that they can do the same work they have been doing in emergent storybooks and shared reading, while placing a greater emphasis on looking at the print and developing the concept of one-to-one matching. This unit is known as the superpowers unit as they are taught reading strategies, or superpowers to help them reading.

Becoming Avid Readers

This unit supports readers in applying their newly learned reading skills as they encounter more books. Students will meet and work in small groups and partnerships for instruction based on their needs. This will continue throughout the unit, with changes to groups and instruction made as needed. In this unit, mini lessons will encourage students to use the strategies that were taught in previous units to foster independence and build on concepts.

Early Years 5 Writing Overview

Early Years 5 is a time for students to independently gain power and confidence not just as readers and writers but as thinkers as well. Throughout the year, students will begin to use state-of-the-art tools and methods to help them move up the ladder of complexity. They learn to rely on their minds and skill-sets to create stories and make meaning of books. Students will build foundational reading skills and strategies like making inferences, synthesizing, and identifying the main idea. Teachers will use the Teachers College of Columbia Reading and Writing project structure of mini lessons to teach a full and balanced literacy course. There is demonstration, shared demonstrations, independent practice, response, and feedback with ongoing assessments. A goal of this course is for students to receive targeted, strategy instruction and are given significant amounts of time to practice these strategies in their independent reading and writing.

Early Years 5 Writing Units

Launching the Writing Workshop

The first unit, Launching the Writing Workshop, acknowledges that most children will be labeling their drawings—and the letters in those labels will include squiggles and diamonds. In this unit, students will learn that they are authors. Students will begin to increase their writing stamina over time so that they

are able to think longer and invest more in a piece of writing. A guiding principle of this unit is that writers start with something to say and then do everything they can to put that meaning on to the page. They begin writing true stories with a clear beginning, middle and end. Towards the end of this unit students will begin to publish, focusing on revising and editing as they make stories the best they can be.

Writing for Readers

The second unit, Writing for Readers, helps children write true stories—but does so, fully aware that the hard part will be writing readable words. Students will begin to realize that their wonderful writing is, so far, hard to read. They will create piles and decide what about their writing is hard to read or easy to read. This is the foundational groundwork that will lead the rest of the unit. Writing in clear sentences and rereading their work as they write are two crucial pieces of this unit. Students will also be introduced to checklists and learn how they might use a writing checklist as a guide for how to make their writing easy to read. Additionally, in this unit, students will begin to learn that all words have a vowel and that we can use sight words to make our writing easy to read. Towards the end of the unit students will focus, again, on revision and how they can use and rely on partnerships to help them revise and make their writing easy to read.

How-To Books

In How-To Books: Writing to Teach Others, our third unit, students independently choose and write informational “how-to” texts on a procedure familiar to them. This unit is integrated with the Early Years 5 Science unit on Pushes and Pulls, Forces and Motion. Students begin to realize that writers not only use writing to tell stories but they also use writing to teach others how to do stuff. They will use their expertise to write a story teaching someone how to do something like push a broom, or push in a chair, or pull a rope. It is important to teach writers to write and draw with clarity, including details so that others can follow the directions. Students will rely on partners so they can test out their “how-to” writing stories. We will also use real, published, mentor texts as exemplars and then use what they learn from those texts both to help them write better first drafts, and also to make revisions.

Writing of All Kinds

In Writing of All Kinds: Using Words to Make a Change, the final unit in the Early Years 5 series, students craft petitions, persuasive letters, and signs. The students learn that these communication tools can be used to rally people to address problems in the classroom, the school, and the world. As they progress toward addressing concerns that are not obvious, that tackle hard to understand topics, they also learn more about persuasive writing and about writing in general. They begin to ponder the deep question of “What could make things better?” Students will be learning to make words (and pictures) to express what they want by writing stories, making posters, making lists, etc. In this unit, students will also realize that they can write directly to someone who can help them solve their problem by writing a letter to them. At the end of this unit, the class will rally together around one common topic and write stories or posters to persuade an audience to make a change.

Early Years 5 Math Units

Bridges develops children's mathematical thinking and reasoning abilities through age appropriate problems and investigations in the areas of number, operations, algebraic thinking, measurement, data, and geometry. Some of these problems and investigations grow out of ventures into everyday life—reading stories, playing games, drawing pictures, building structures, and making collections—while others delve more deeply into the world of mathematics itself. Students are encouraged to explore, develop, test, discuss, and apply ideas: to see mathematics as something that is fluid, vibrant, creative, and relevant.

Early Years 5 focus' intensively on the two critical areas specified by the Common Core State Standards for Mathematics in Early Years 5: 1) representing and comparing whole numbers; 2) describing shapes and space.

Bridges Early Years 5 includes eight units of study, with 20 sessions per unit. Six of those eight units are devoted to number and operations. They help students learn to use numbers, including written numerals, to represent quantities and solve problems; count out a given number of objects; compare sets or numerals; and model simple joining and separating situations with objects, fingers, words, actions, drawings, numbers, and equations. The other two units focus on geometry. They invite students to describe and analyze the attributes of shapes in the world around them; find, count, draw, build, and compare shapes; and fit shapes together to make other shapes and complete puzzles.



Early Years 5 Math Characteristics

CCSS Standard for Mathematical Practice	Characteristics at Early Year 5 / Kindergarten
Make sense of problems and persevere in solving them (K.MP.1)	Kindergarteners learn to make sense of problems and focus their attention while persevering in their efforts to solve those problems. They use manipulatives, pictures, numbers, and talking to engage with problems and develop strategies for solving them.
Reason abstractly and quantitatively (K.MP.2)	Kindergarteners use numerals to represent quantities. They also use pictures, objects, and manipulatives to represent problems situations. They begin to connect numbers and operational symbols to their representations as well.
Construct viable arguments and critique the reasoning of others (K.MP.3)	Kindergarteners use pictures, objects, and words to describe their understanding of a problem as well as their strategies for solving it. They become better able to listen to others too, and ask questions to learn more about each other's thinking.
Model with mathematics (K.MP.4)	Kindergarteners model mathematical situations with objects, drawing, actions, numbers, and more. They also draw connections between these different ways of modeling a given situation or problem.
Use appropriate tools strategically (K.MP.5)	Kindergarteners learn to use a variety of tools. Including measuring devices, manipulatives, computational strategies, and technological materials. As they become more proficient with using such tools. Young students can begin to think about when and how it is most helpful to use them.
Attend to precision (K.MP.6)	Kindergarteners learn to attend to precision when taking measurements, performing calculations, and communicating about their thinking. They begin to appreciate why precision is important for their mathematical learning and communications
Look for and make use of structure (K.MP.7)	Kindergarteners look for patterns and structure as they explore mathematics. Patterns and structure-and students' search for them-contribute to their mathematical learning and development of efficient strategies for performing mathematical tasks.
Look for and express regularity in repeated reasoning (K.MP.8)	Kindergarteners notice repetitive actions when exploring new mathematical concepts or tasks. This helps them make generalizations and develop efficient strategies for counting, calculating, and more in-depth problem solving.

Early Years 5 Science

Pushes and Pulls

Students will study motion and forces as they investigate the effects of different strengths or different directions of pushes and pulls. The concept of cause and effect is emphasized throughout the unit. Through inquiry and observation, students will brainstorm designs and solutions to problems which involve speed, direction, pushes, and pulls.

Growing and Living in our Climate

Students develop an understanding of recording and analyzing patterns and variations in local weather. They will understand how sunlight warms the Earth's surface, and work in the Discovery Studios to design and build a structure to protect from and reduce the the warming effect of sunlight.

Taking care of the Environment

Students use observations to describe what plants and animals (including humans) need to survive, and the relationship between their needs and where they live. Students also explore solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.

Early Years 5 Social Studies

The Uniqueness of Me

Students explore what makes them special, as well as their connections to people and places. This builds to develop a community of learners, where they understand their individual roles and responsibilities in their community. Through reflection, as well as asking and answering questions, students learn to compare their perspective with that of others.



GRADE I

Grade I Writing Overview

First grade students become active and engaged writers. Students will write narrative, persuasive, and non-fiction texts. Students publish at least one piece of writing by the end of each unit, and they reflect upon their writing. As students progress through the writing cycle, they learn editing and revising skills while applying their understanding of how writing is used to communicate ideas.

The following writing Units of Study are completed in Grade I.

Grade I Writing Unit Descriptions

Small Moments

In this unit students take the everyday events of their young lives and make them into focused, well-structured stories, then they breathe life into the characters by making them talk, think, and interact. One focus for writers is stamina. We start the year by providing booklets--not single pages--each containing three to five pages. Each page can contain a box for the picture and plenty of lines, emphasizing our expectations that first-graders will write pages every day, and to write sentences--not just a sentence--on each page. Another goal of the unit is to help children be brave and resourceful word solvers. We weave instruction in spelling throughout the unit to help students write using initial and final consonant sounds, then further develop and represent the sounds inside words. A third goal is for students to learn to generate and record cohesive, sequenced narratives. As they progress, they will be ready to learn to write with greater detail.

Non-fiction Chapter Books

Students enter the world of informational writing as they combine pictures and charts with domain-specific vocabulary and craft moves to create engaging teaching texts. We begin with how to make a basic type of information book--a picture book--and end with children creating multiple information chapter books, filled with elaboration, interesting text elements, and pictures that supplement the teaching of the words.

Writing Reviews

Students create persuasive reviews of all sorts...pizza restaurant reviews, TV show reviews, ice cream flavor reviews, and finally book reviews that hook the reader, clearly express the writer's opinion, and bolster their argument in convincing ways. Students will learn to write their judgements and their reasons for those judgements and to organize their reasons and supply supporting details for those reasons. They will use their skills at writing to make and defend judgements also to write reviews of all sorts. Students will appreciate the power and purposes of writing.

From Scenes to Series

In this final unit, students learn to “show, not tell” and use action, dialogue, and feelings to create a whole series of fiction books modeled after a popular series. The focus of the unit is on realistic fiction rather than any kind of fiction. Students will draw on their ability to tell what happens first, then next and to bring their characters to life by describing what they do, say and think. Students will plan and act out and bring their lively imaginations to their serious work as writers. Students will create characters that return for more than one book and have more than one adventure. Students will learn that writers use patterns to elaborate, and they will then draw on all their skills and knowledge as writers of fiction to create even more powerful stories.

Grade I Reading Overview

Grade I students become active and engaged readers. Students practice their reading skills individually and with partners. Strategy groups enable students to read books at a level that provides scaffolding for them to progress and become stronger readers. Students learn how to read smoothly, make predictions about stories and make connections between themselves and the world around them through literature.

Grade I Reading Unit Descriptions

Building Good Reading Habits

This unit is all about helping children feel secure, safe, and confident that they will become strong readers. Like runners, as readers we warm up for reading, set goals for ourselves, establish good habits and push ourselves to be the strongest readers we can be. The good reading habits that the students will practice are organized into three categories- habits for reading long and strong, habits for solving hard words, and habits for working with a partner. The students practice previewing books and making prediction about the text, looking at the pictures and the print for help with tough words, and retelling what they have read, all while building their reading stamina. Readers learn the routines involved with using their Book Bags, including how to choose appropriate books. Students learn that we read for a variety of purposes: to learn something new, for pleasure, and to build their skills.

Learning About the World

Students discover what makes nonfiction reading special and unique. They begin the unit by learning strategies for reading nonfiction texts by studying the pictures and integrating that knowledge into work with words and sentences. Students will learn strategies that will help them constantly monitor for meaning and focus on text details that help understand the larger meaning. Students also learn strategies for solving hard words that they encounter in nonfiction texts. They are taught strategies to decode the words and also think about their meanings. Students practice reading fluency by preparing a nonfiction read aloud that will be read to a kindergarten class. Students work with partners throughout the unit through discussions about the books they read and the words they learn.

Readers Have Big Jobs to Do

In this unit, students focus on the importance of not only reading the words but also monitoring for understanding. Readers need to envision the story, think about what's happening, and predict what could come next. They are also working hard to decode new words and solve tricky parts of the text. Students will learn strategies that will help them read more independently and conquer challenging books. To do this, readers think about the story and make predictions about how the story will go before reading. They use all they know about letters, sounds, patterns and basic sight words. They monitor their reading when it does not sound right or make sense. Students and teachers will work together to analyze their own reading and see where they have difficulty solving tricky words and monitoring for understanding. Students will begin to use reading partners to help them work through these challenges and read independently. Most importantly, students become active problem solvers when reading.

Meeting Characters and Learning Lessons

In this unit, students will step into the shoes of the characters they meet in books and bring those characters to life. Readers will explore the world of acting and through acting the important role of coming to understand characters with greater complexity. There is a playful yet vital relationship between reading and drama. When we read, readers both embodying the character and seeing through their eyes, what we really are doing is putting ourselves into the drama of the story and this means coming to understand it in richer ways. Student goals are to envision as they read. When students envision the story and characters, they can read with increased fluency and richer comprehension and can share this new understanding with other people.



Grade 1 Math Units

Bridges develops children's mathematical thinking and reasoning abilities through age appropriate problems and investigations in the areas of number, operations, algebraic thinking, measurement, data, and geometry. Some of these problems and investigations grow out of ventures into everyday life—reading stories, playing games, drawing pictures, building structures, making collections, and conducting simple hands-on science experiments—while others delve more deeply into the world of mathematics itself. Students are encouraged to explore, develop, test, discuss, and apply ideas: to see mathematics as something that is fluid, vibrant, creative, and relevant.

First graders focus intensively on the four critical areas specified by the Common Core State Standards for Mathematics in Grade 1: 1) addition and subtraction within 20; 2) whole number relationships and place value; 3) linear measurement in non-standard units; and 4) reasoning with shapes and their attributes. Bridges Grade 1 includes eight units of study, with 20 sessions per unit. Four of those eight units are devoted to the major clusters relating to addition and subtraction within 20. They help students gain fluency with facts to 10 and develop increasingly sophisticated strategies for facts to 20. During these units, students model, solve, and pose a wide variety of story problems to construct meaning for the operations of addition and subtraction, as well as an understanding of how the two operations are related. Two units focus on place value, and the related major clusters, with students extending the counting sequence to 120 and thinking of 2-digit whole numbers as groups of tens and ones. In these units, students also develop, discuss, use, and generalize methods for accurately and efficiently adding within 100 and subtracting multiples of 10. Two more units involve geometry and measurement. The geometry unit challenges children to identify, describe, construct, draw, compare, compose, and sort shapes. Students also learn about fractions in the context of two-dimensional shapes. The final unit helps students understand the meaning and processes of measuring time and length through conducting duration experiments; constructing, flying, and measuring the flight distances of paper gliders; and investigating some of the many ways in which they have grown and changed since they were born.



Grade I Math Characteristics

CCSS Standard for Mathematical Practice	Characteristics at Grade I
Make sense of problems and persevere in solving them (I.MP.1)	First graders make sense of problems, develop strategies for solving them, and focus their attention while persevering in their efforts to solve those problems. They begin to evaluate whether their answers make sense and become better able to troubleshoot when their answers do not make sense or when they reach an impasse.
Reason abstractly and quantitatively (I.MP.2)	First graders use pictures objects, and manipulatives to represent problem situations and begin writing equations to represent mathematical problems and their strategies for solving them. They can contextualize (think about the problem context) and decontextualize (think about the numbers out of context) as needed when solving problems.
Construct viable arguments and critique the reasoning of others (I.MP.3)	First graders use pictures, objects and words to describe their understanding of a problem as well as their strategies for solving it. They listen respectfully to others and ask questions to learn more about and make connections between others' thinking and their own.
Model with mathematics (I.MP.4)	First graders model mathematical situations with objects, drawings, actions, numbers, tables, and graphs. They also draw connections between these different ways of modeling a given situation or problem.
Use appropriate tools strategically (I.MP.5)	First graders use a variety of tools, including measuring devices, manipulatives, computational strategies, and technological materials. As they become more proficient with using such tools, they are able to select the most helpful and appropriate tool for a given task.
Attend to precision (I.MP.6)	First graders learn to attend to precision when taking measurements, performing calculations, and communicating about their thinking verbally and in written form. They begin to appreciate why precision is important for their mathematical learning and communication.
Look for and make use of structure (I.MP.7)	First graders look for patterns and structure as they explore mathematics. Patterns and structure-and students' search for them-contribute to their mathematical learning and development of efficient strategies for performing mathematical tasks.
Look for and express regularity in repeated reasoning (I.MP.8)	First graders notice repetitive actions when exploring new mathematical concepts or tasks. This helps them make generalizations and develop efficient strategies for counting, calculating, and more in-depth problem solving.

Grade I Science Units Descriptions

Light and Sound

Students develop an understanding of the causes and effects of light and sound. They explore the relationship between sound and vibrating materials; as well as how light penetrates surfaces and bends. The students work with a variety of hands-on materials including musical instruments, tuning forks, mirrors, flashlights, and bottles filled with colored liquids. They ultimately work to engineer a device to use light and/or sound to communicate over a distance.

Patterns of Living Things and the Environment

Students develop an understanding of how plants and animals grow and survive in their environment. Students work to analyze the patterns that exist in nature, and how these affect the local Olive Ridley turtles. They then engage in a service learning project to help with the efforts to rehabilitate injured turtles.

Grade I Social Studies Units

Responsibility

Students start off their year with examining their roles and responsibilities as learners, and as part of a learning community. They identify the characteristics of responsible students and community members, as well as determine that everyone is important in their community. They develop an understanding of rules and expectations of an academic setting, and that individuals make decisions that impact themselves and others.

Systems in Our Community

Students explore different systems in the school and around Chennai. They identify how a system works, and the role of problem solving when deciding to create or improve systems. Students work on self-selected projects to create or improve systems here at school, explaining how people play important roles to accomplish common tasks.



GRADE 2

Grade 2 Writing Overview

Across the writing genres, children develop an understanding of the techniques that published authors use by investigating mentor texts. Students will engage their audience by applying a variety of these techniques to their own written work. They focus on the Writing Process with a particular emphasis on revising and editing. Students' progress against the standards will be measured by a variety of forms of assessment, including multi-media projects, a variety of forms of writing, and publishing for a shared audience. Students view their writing as a joyful way to share stories and ideas.

Grade 2 Writing Unit Descriptions

The following writing Units of Study are completed in Grade 2

Lessons from the Masters

This unit teaches students how to create engaging narratives by stretching out small moments and elaborating on their stories in detail. Students will write narratives in which they recount an event from their lives, include details to describe actions, thoughts, and feelings. They will use temporal words to signal event order, a strong beginning to hook their reader, and an ending that provides a sense of closure.

Lab Reports and Science Books

Informational texts are used to inspire students to design and write multimedia works. Students use various text features to deliver key facts and information to their audience. Students write informative and explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

Writing About Reading

Students read closely and gather evidence to craft persuasive arguments. Students write opinion pieces in which they introduce their topic, state an opinion, supply reasons that support the opinion, use linking words (e.g. because, and, also) to connect opinion and reasons, and provide a concluding statement or section.

Big Thought in Small Packages

Poetry helps children explore language through poetic devices such as onomatopoeia, alliteration, similes and metaphors. Students learn to use line breaks to create a rhythm, use powerful imagery to convey emotion, and create a mental picture for their audience.

Grade 2 Reading Overview

In second grade, children move from a focus on print to focus on meaning and build an understanding that reading is thinking. They work on developing the habits and strategies of strong readers, building stamina and cultivating a love of reading. Students' progress against the standards is measured by assessing their ability to read grade-level texts with fluency, expression and comprehension.

Grade 2 Reading Unit Descriptions

Reader's workshop begins with teaching children to take charge of their reading. We discuss choosing "just right" books, how to tackle tricky words, make connections to their world and ask questions about the books they read. They begin to ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.

Second-Grade Reading Growth Spurt

Children learn that books can be their teachers as we delve into mentor texts to look at author's craft. They notice how authors use sensory description, action, dialogue and interesting adjectives to tell their stories and work towards applying the same techniques to their own work. They continue to build their reading stamina and demonstrate an understanding of the text.

Becoming Experts

This unit allows students to study text features and understand how they can locate key facts or information in a text efficiently. Students begin to identify the main purpose of a text, including what the author wants to answer, explain, or describe. Another important skill that is cultivated in this unit is paraphrasing; putting the main topic of a paragraph into their own words. Children also investigate other ways to locate information using media sources.

Bigger Books Mean Amping Up Reading Power

This unit builds on the skills used in personal narratives and introduces the concept of story elements such as character, setting, and plot. Students analyze a variety of mentor texts to see how the author presents the problem and solution in a story arc. We also take this time to engage in an author's study and to look for where the author may have found inspiration.

Series Book Clubs

Children work within book clubs to study author's craft to understand ways authors use word choice, figurative language, punctuation, and even patterns to construct a series and evoke feelings in readers.

Grade 2 Math Unit Descriptions

For math at AISC we use the Bridges program in the Elementary School.

Bridges develops children's mathematical thinking and reasoning abilities through age appropriate problems and investigations in the areas of number, operations, algebraic thinking, measurement, data, and geometry. Some of these problems and investigations grow out of ventures into everyday life—reading stories, playing games, exploring interesting creatures in the environment, buying and selling at the market, and conducting simple hands-on science experiments—while others delve more deeply into the world of mathematics itself. Students are encouraged to explore, develop, test, discuss, and apply ideas: to see mathematics as something that is fluid, vibrant, creative, and relevant. This year, students focus intensively on the four critical areas specified by the Common Core State Standards for Mathematics in Grade Two: 1) extending understanding of base ten notation; 2) building fluency with addition and subtraction; 3) using standard units of linear measure; and 4) describing and analyzing shapes.

Bridges Grade 2 includes eight units of study, with 20 sessions per unit. The first unit revisits and extends addition and subtraction within 20, with students practicing the efficient, flexible, and accurate strategies they developed in Grade 1 to develop fact fluency with understanding.

Three full units, and half of another unit, are devoted to place value and multi-digit addition and subtraction. During these units, students learn to count by 5s, 10s, and multiples of hundreds, tens and ones; read, write, and compare numbers to 1,000; and develop fluency with addition and subtraction to 100 as they solve and pose a wide variety of story problems.

Later in the year, students use concrete models and sketches as well as strategies based on place value, properties of operations, and the relationship between addition and subtraction to add and subtract to 1000. One entire unit focuses on geometry by having students investigate, describe, build, draw, combine, decompose, and analyze two- and three-dimensional shapes. This work helps students build foundations for understanding area, volume, congruence, similarity, and symmetry, which are explored in greater depth in later years. One entire unit, and half of another, focus on standard units of linear measurement. Students construct their own rulers; estimate and measure in inches, feet, yards, centimeters, and meters; and solve problems that involve adding, subtracting, and comparing lengths.

The final unit of the year also focuses on linear measurement in the context of science and engineering. Students make and test cardboard ramps of different kinds to investigate some of the factors that cause marbles to roll farther and faster. In the process, they generate data by measuring marble roll distances multiple times, pool their data, and enter it on line plots to better see, understand, and analyze how manipulating the different variables affects the outcomes.

Grade 2 Math Characteristic

CCSS Standard for Mathematical Practice	Characteristics at Grade 2
Make sense of problems and persevere in solving them (2.MP.1)	Second graders make sense of problems, develop strategies for solving them, and persevere in their efforts to solve those problems. They evaluate whether their answers make sense and become better able to troubleshoot when their answers do not make sense or when they reach an impasse.
Reason abstractly and quantitatively (2.MP.2)	Second graders use manipulatives, drawings, and equations to represent problems and their strategies for solving them. They can contextualize (think about the problems context) and decontextualize (think about the numbers out of context) as needed when solving problems.
Construct viable arguments and critique the reasoning of others (2.MP.3)	Second graders use pictures, objects and words to describe their understanding of a problem as well as their strategies for solving it. They listen respectfully to others and ask questions to learn more about and make connections between others' thinking and their own.
Model with mathematics (2.MP.4)	Second graders model mathematical situations with objects, drawings, actions, numbers, tables, and graphs. They also draw connections between these different ways of modeling a given situation or problem.
Use appropriate tools strategically (2.MP.5)	Second graders use a variety of tools, including measuring devices, manipulatives, computational strategies, and technological materials. As they become more proficient with using such tools, they are able to select the most helpful and appropriate tool for a given task.
Attend to precision (2.MP.6)	Second graders learn to attend to precision when taking measurements, performing calculations, and communicating about their thinking verbally and in written form. They begin to appreciate why precision is important for their mathematical learning and communication to self-correct when a lack of precision appears in their own work.
Look for and make use of structure (2.MP.7)	Second graders look for patterns and structure as they explore mathematics. Patterns and structure-and students' search for them-contribute to their mathematical learning and development of efficient strategies for performing mathematical tasks.
Look for and express regularity in repeated reasoning (2.MP.8)	Second graders notice repetitive actions when exploring new mathematical concepts or tasks. This helps them make generalizations and develop efficient strategies for counting, calculating, and more in-depth problem solving.

Grade 2 Science Units Descriptions

Properties of Matter and Materials

Through hands-on learning, students explore how and why things are made the way they are. They design their own investigations of heating and cooling, properties of different materials, and if changes are permanent. They apply their learning to a design project- Building a Bridge, in which they determine the best materials to build a bridge in Chennai in a needed area.

Biodiversity and Earth's Processes

All things are all connected. Through observations and experiments, students make sense of how plants and animals develop, and connect to the non-living things in the ecosystem. They focus on the biodiversity of a particular area, and how diversity contributes to the overall health of the world around us. Students spend time gardening, collecting natural items, studying seeds and plants, and create a model of how seeds are dispersed from animals, and how animals contribute to the pollination of plants. They analyze the effects of erosion and deposition, and how earth changes slowly.

Grade 2 Social Studies Unit Descriptions

Evidence and Identity

In our first social studies unit of the year, students inquire into their own lives to come to a better understanding of how events in their lives have shaped their identity. Through reflection, interview, gathering and evaluating sources, and building a timeline, they reveal their identity with evidence for their own understanding of themselves. Families and friends join the students for a Identity Museum, where the students' evidence and artifacts are displayed.

Economic Interdependence

In this unit, students explore the role of value and exchange in consumer decisions. Through project-based learning, they make predictions from evidence of things that will be valuable to their consumers, designing services and goods to raise money for a local school.

Grade 3

Grade 3 Writing Course Overview

In writing workshop, third graders are expected to write for increasingly extended periods of time. There is a greater emphasis on drafting and revising to improve their writing pieces. Students will be able to write for an audience. Students will craft personal narrative stories and will create non-fiction chapter books. They will also write a speech that uses logical reasoning to convince others to see their own view related to a cause that is important to them. They will explore techniques of fiction writing by changing elements of an existing fairy tale to create their own fractured fairy tale. At the end of each unit, students will show their learning through “on demand” writing assessments.

The following Units of Study are completed in Grade 3 for writing: Crafting True Stories, The Art of Information Writing, Changing the World, and Once Upon a Time.

Grade 3 Writing Unit Descriptions

Crafting True Stories

Third grade writers will write about personal experiences in journals and then work through the writing process to produce two published pieces. Third-grade writers are expected to use dialogue and descriptions of actions, thoughts and feelings to develop their small moment story. Students will generate writing ideas while concurrently building writing stamina.

The Art of Information Writing

Students will be invited to choose a topic that they know well to write their first informational book. For their second project, they will use multiple resources to research and take notes on a new topic of interest. They will include nonfiction text features and group similar ideas together in sections or chapters. They will publish their work to share what they have learned and to teach their reader about their chosen topic.

Changing the World

Throughout the course of this unit, students will come to see that their passionate opinions are strengthened by thoughtful reasoning and evidence. First, third grade writers will try to persuade others to make the world a better place in some way by writing a persuasive speech. Then they will apply the skills they have learned to writing a persuasive letter. The students will come to see the power in language and word choice as they make careful decisions about how to write convincingly.

Fairy Tales

Students will choose a traditional fairy tale and then change some key elements to write their own fractured fairy tale. They will focus on inventing characters, setting, problems, solutions, and dialogue which will be used to write their fairy tale.

Grade 3 Reading Course Overview

In reading workshop, third-graders ramp up their reading skills by immersing themselves in “just right” fiction and nonfiction texts. Students will use fiction texts to work on observing characters, making predictions and inferences, and visualizing stories. Students will read non-fiction texts to determine main ideas, to use nonfiction text features, and to compare texts on the same topic. Children will work in book clubs to compare different books in a series. Students are assessed throughout the year using running records to check for their reading fluency, literal comprehension, ability to make inferences and retell.

The following Units of Study are completed in Grade 3 for reading: Building a Reading Life, Reading to Learn, and Character Studies.

Grade 3 Reading Unit Descriptions

Building a Reading Life

This unit of study will use realistic fiction books to inspire readers to think deeply about and to learn from their characters. Readers are invited to immerse themselves in the worlds of the books they are reading—and to do so by wearing the shoes of the characters who inhabit those worlds. Living as their characters, readers will develop their skills at predicting, envisioning, inferring, and reading with fluency.

Reading to Learn

This unit of study gives children stretches of time to read whole nonfiction texts to learn what the author wants to teach. There is an emphasis on skills essential to a reader of nonfiction such as finding the main idea and supportive details, using text features to find information, questioning, figuring out new content-specific vocabulary, and applying analytical thinking skills to compare and contrast nonfiction texts on the same topic.

Character Studies

In this unit of study, students will compare and contrast the themes, setting, plots and characters of stories in a series. Students will carefully examine main characters in a series to determine how the characters may grow and change over time and to revise their initial theories about the characters. They will meet in a book club with other readers using accountable talk to facilitate productive discussions.

Grade 3 Math Units

Bridges develops children’s mathematical thinking and reasoning abilities through age appropriate problems and investigations in the areas of number, operations, algebraic thinking, measurement, data, and geometry. Some of these problems and investigations grow out of ventures into everyday life—reading stories, playing games, exploring interesting aspects of the environment, buying and selling at the market, and conducting simple hands-on science experiments—while others delve more deeply into the world

of mathematics itself. Students are encouraged to explore, develop, test, discuss, and apply ideas: to see mathematics as something that is fluid, vibrant, creative, and relevant.

This year, students focus intensively on the four critical areas specified by the Common Core State Standards for Mathematics in Grade 3: 1) developing understanding of multiplication and division and strategies for multiplication and division within 100; 2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); 3) developing understanding of the structure of rectangular arrays and of area; and 4) describing and analyzing two-dimensional shapes. Bridges Grade 3 includes eight units of study, with 20 sessions per unit.

Much of the work in Unit 1 provides students with opportunities to review and extend skills and concepts from the previous grade level, including addition and subtraction to 20, double-digit addition and subtraction, and linear measurement. During Unit 3, students learn to round whole numbers to the nearest 10 or 100. They apply this skill to estimating the results of multi-digit problems while developing increasingly efficient methods—including use of the standard algorithms—for adding and subtracting within 1,000.

Units 2, 5, and 7 focus on multiplication and division. Students work with several models, including groups of equal sizes, the number line, and rectangular arrays, as they transition from additive to multiplicative thinking. The associative, commutative, and distributive properties help students find efficient and generalizable strategies for multiplication with products to 100, multiples of 10, and 1-digit-by-2-digit combinations. In the first half of Unit 4, students work with measurement and estimation of time, mass, and liquid volume. The latter half of the unit features work with fractions, culminating in several sessions around line plots. Fractions, multiplication, and division appear regularly throughout the rest of the year in a variety of contexts, connecting these concepts and operations with everyday experience and helping students develop a repertoire of models and strategies for working with them.

In Unit 6, students develop precise ways to describe, classify, and make generalizations about two-dimensional shapes. Students categorize polygons, with a special focus on quadrilaterals, according to their shared attributes. Then they measure and calculate the perimeters and areas of various polygons. Shapes, area, and fractions come together at the end of unit when the largest square that can be formed on a geoboard is assigned an area of 1 unit, and students determine the (fractional) areas of different regions on the board.

The final unit of the year uses science and engineering explorations to revisit and cement the skills students have built in the previous units while providing a foundation for work they'll begin in fourth grade. Students make and test model bridges of different kinds to investigate factors that allow bridges to span longer distances and support greater loads. In the process, they generate data by measuring length and mass; organize and visualize data in tables, line plots, and bar graphs; plan and manage their own time while designing models and experiments; and predict and analyze how geometric shapes and materials they choose affect their models' performance.

Grade 3 Math Characteristics

CCSS Standard for Mathematical Practice	Characteristics at Grade 3
Make sense of problems and persevere in solving them (3.MP.1)	Third graders consider the meaning of a problem and look for appropriate efficient ways to solve it. They use concrete and visual models as well as expressions and equations to represent, understand and solve problems. They try different approaches when necessary, evaluate whether their solutions make sense in the context of the problem, and use alternative methods to check their answers.
Reason abstractly and quantitatively (3.MP.2)	Third graders connect the specific quantity represented by a number to written symbols. They make abstract representations of problems as they solve them, for example by writing equations. They can also think about those symbols in relation to the problem to make sense of the quantities in context.
Construct viable arguments and critique the reasoning of others (3.MP.3)	Third graders refine their mathematical communication skills by using words (written and spoken) and symbols (equations and expressions) to clarify their thinking. They support the representations they have made with sketches or objects, and they explain and justify their own strategies and solutions. They also ask specific questions to better understand and evaluate other students' reasoning.
Model with mathematics (3.MP.4)	Third graders represent mathematical situations with numbers, words, sketches, actions, charts, graphs, expressions, arrays, and ratio tables. They learn to connect these models and explain the connections among them. They use model not only as a way to represent problems, but also as tools for solving them and developing deeper understanding of the mathematics.
Use appropriate tools strategically (3.MP.5)	Third graders learn to consider the tools, both concrete and abstract, at their disposal and select the one that will be most useful to them in solving a particular mathematical problem or performing a particular task. For example, they learn to use estimation as a tool for solving problems and checking their answers. When faced with problems requiring a finite, exhaustive number of solutions, they generate organized lists or tables to ensure that they've found them all. If they are measuring the length of an object, they select a measuring device with appropriate units and an appropriate degree of precision. To use tools strategically, student must understand the requirements of the task, their own needs and strengths, and the capabilities of the tools available to them.
Attend to precision (3.MP.6)	Third graders are increasingly able to be clear and precise in communicating mathematically, both in writing and in discussion. They specify units of measure and are careful to use the correct language to describe operations and symbols. They also take care to measure, draw, and label with precision.
Look for and make use of structure (3.MP.7)	When considering mathematical situations and solving problems, third graders seek out patterns and notice structure. They use what they notice to solve problems and develop deeper conceptual understandings.
Look for and express regularity in repeated reasoning (3.MP.8)	Third graders notice repetition when solving problems and use that repetition to develop more efficient strategies for solving similar problems. They also learn to pause regularly while solving problem strings or multi-part problems in order to evaluate their work and be sure their answers so far make sense.

Grade 3 Science Unit Descriptions

Interdependent Relationships in Ecosystems and Life Cycle

With the local ecosystems as the backdrop, students explore the life cycles and traits of living organisms found there. They investigate how natural and man-made changes have impacted the marsh, the plant and animal life, and the local community. Students explore what can be done to protect the marsh and raise awareness of environmental impact.

Forces and Interaction

Students determine the effects of balanced and unbalanced forces on the motion of an object and engage in inquiry to discover some cause and effect relationships of magnetic interactions between two objects not in contact with each other. They are then able to apply their understanding of magnetic interactions to define a simple design problem that can be solved with magnets.

Grade 3 Social Studies Unit Descriptions

Legacies of the Past

Students develop an understanding of the idea that historical sources provide insight into cultural and environmental changes over time. They further develop their understanding by inquiring into how culture influences the way people modify and adapt to their environments. They then compare life in specific historical time periods to life today.

Children's Rights

Students develop an understanding of the idea that everyone has a responsibility to protect human rights and treat others fairly. They further develop their understanding by inquiring into rights and rules developed to protect citizens, points of view on civic issues, the relationship between incentives and decisions, and how individuals and groups influence human rights.

Grade 4

Grade 4 Writing Course Description

This unit develops students' ability to write focused pieces that are planned, rehearsed, revised and edited. The students follow the Writing Process. This unit develops students' ability to write focused pieces that are planned, rehearsed, revised and edited. The students follow the Writing Process.

The following writing Units of Study are completed in Grade 4: The Arc of Story, Boxes and Bullets, Bringing History to Life, and Literary Essay.

Grade 4 Writing Unit Descriptions

The Arc of Story

Students learn that fiction writers get their ideas from paying attention to the moments and issues in their lives. Students will collect a few true small moment stories to help launch into fictionalizing those moments. Children develop ideas about their character traits incorporating internal and external traits. Students delve deeper into developing three dimensional characters. Students will think critically about what a character wants and needs. Story arcs will be introduced to help students with the planning, drafting and revising process. The story arc will help students show how stories with two to three strong scenes can successfully show a character, plot, and even setting change over the course of the story.

Boxes and Bullets

Students learn the value of organization and form as they gather evidence to support and express an opinion on topics they know well. Students will learn a variety of more sophisticated strategies for introducing their topics and providing reasons to support their opinions with facts and details to elaborate on these reasons. They will learn to create pieces that are more cohesive by incorporating more sophisticated transition words. Students will also develop persuasive opinions that are more generalized and develop a plan for a persuasive essay.

Bringing History to Life

Students are ready to tackle historical research in which they collect evidence and use details to vividly describe people and events long ago and far away. In this unit, students learn the foundations of research report writing, as they dive deep into the project of writing more than one research report. As part of their research, they work with citations, primary documents, conflicting views on a subject and the challenge of synthesizing information into logically structured pieces of writing. Students will work to introduce a topic and group related information, and then develop the topic, elaborating with facts, definitions and details. Students will learn sophisticated ways to organize their writing, such as including formatting, search as headings and subheadings and to include information that is rich detailed and concrete.

Literary Essay

To write well about reading, students not only need to learn more about writing; they also need to learn more about reading. Throughout this unit, students will be taught the value of close reading of complex texts. Students will learn to read literature closely- and to write about the literature they are reading. Students will focus on arguing for ideas about characters while carrying forward what they have been taught about planning and drafting a boxes-and-bullets essay, writing introductions and conclusions, and showing evidence from the book. Students will continue to draft stories while focusing on writing more interpretively and analytically. While writing about favorite texts, novels, read-alouds, short stories, students will learn to resist closure on an issue, to value complexity, and to commit themselves to examining all sides of an issue with the most open mind possible.

Grade 4 Reading Overview

Through the reader's workshop pedagogy, students continue to develop reading behaviors. They are introduced to a range of genres and will continue to build reading stamina. Students use different reading strategies to develop their comprehension and write about their reading to provide evidence of their understanding. Students are assessed throughout the year using running records to check for their reading fluency, literal comprehension, ability to make inferences and retell.

The reading units are Interpreting Characters: Interpreting Characters, Reading the Weather, Reading History, and Historical Fiction Clubs.

Grade 4 Reading Unit Descriptions

Interpreting Characters

Students learn how to build a reading life and get started doing the work readers do. They will be inducted into the structures, routines, and habits of a richly literate reading workshop. Students also make places for reading in their homes; it is helpful to develop habits, tools, and places that support reading not only in the reading workshop but also across people's whole lives.

Children will be taught to read intensely to grow ideas about their characters. There is an emphasis on growing significant, text-based ideas about characters. Here the focus will shift to help readers think in more complex ways about characters by drawing evidence-based conclusions, tweaking their ideas so they are grounded in the text and defensible. Students will further their understanding by shifting their focus from studying characters to building interpretations. Students will connect ideas to form interpretations that are supported across a whole text, conveying to students that there is no one-and-only correct way to interpret literature.

Reading the Weather, Reading the World

In this unit, students will be taught the skills that are becoming the new essentials for researchers. Students learn to read in a such a way that they can summarize a text, leaning on the text structure to help them determine importance. Working hard to form a basic understanding of the topic, that first text can provide a context to reading denser and more difficult texts. Students will be launched into studies of hurricanes, tornadoes, earthquakes, and tsunamis. Teaching will support the skill of synthesis channeling children to think about how new information can add to or change information they have already learned. Students will practice the skills of close reading as well as comparing and contrasting. They will compare and contrast not only the content of what they are learning but also the tone and craft between texts. Readers practice the skill of evaluating the sources to determine their credibility.

Reading History

This unit builds upon the work of the first fourth-grade nonfiction unit and guides students on a journey of learning to read like historians. Students embark on a research project on the events leading up to the

American Revolution. Student begin building their knowledge about the era by reading accessible texts. Students will learn that researchers pay attention to text structures in order to organize their notes and their thinking. Synthesizing new information into what the students already know will be an important aspect of this unit. Paying special attention, as historians do, to the people, geography, and the chronology of the event they are studying is another skill students will learn. Students will understand that historians learn about multiple points of view in order to gain a more complete picture of events in the past. .

Historical Fiction Clubs

Students practice reading analytically, synthesizing complicated narratives, comparing and contrasting themes, and incorporating nonfiction research into their reading. This is a unit on reading skills - specifically on developing ideas about characters, determining themes, inferring within a text, comparing and contrasting texts, synthesizing and analyzing across text, and talking and writing about reading.

When reading historical fiction, readers pay close attention “Story Elements: Time, Plot, Setting.” The novels themselves are inherently complex. The characters live in places in which our students have not lived, in time they have not known. Readers must figure out the nature of the setting, the ways people live, and not just who the characters are but also the relationships the characters have to historical tensions and this will offer more work around “Analyzing Author’s Craft.” Students will realize during this unit that reading is, really, about learning how to live. In Book Clubs children read in the company of friends where they consider which perspectives are missing, which characters’ voices and thoughts are we not hearing? This will ramp up their work in “Analyzing Perspective.” These clubs are important because it is helpful for young people to develop interpretations in the company of others. The shared pleasure of reading with friends matters when the goal here is to help kids author lives in which reading matters.

Grade 4 Math Units

Bridges develops children’s mathematical thinking and reasoning abilities through age appropriate problems and investigations in the areas of number, operations, algebraic thinking, measurement, data, and geometry. Some of these problems and investigations grow out of ventures into everyday life, while others delve more deeply into the world of mathematics itself. Students are encouraged to explore, develop, test, discuss, and apply ideas: to see mathematics as something that is fluid, vibrant, creative, and relevant.

This year, students focus intensively on the three critical areas specified by the Common Core State Standards for Mathematics in Grade 4: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

Bridges Grade 4 includes eight units of study, with 20 sessions per unit. Much of the work in Unit 1 provides students with opportunities to explore multiplication and division, focusing in particular on

models, strategies, and multiplicative comparisons. During Unit 2, students continue to build multiplicative reasoning as they work with multi-digit multiplication and early division. Later in the year, during Unit 6, students revisit multiplication and division as they explore the many connections between the two. Each module in Unit 6 is rich with opportunities to model and solve problems, share and explain strategies, play games, and apply computational skills and concepts in a variety of contexts. During Unit 3, students focus on fractions and decimals. They work with a variety of tools, including folded paper strips, egg cartons, geoboards, number lines, and base ten pieces, to model, read, write, compare, order, compose, and decompose fractions and decimals.

In Unit 4, students study addition, subtraction, and measurement concepts. They compare the use of algorithms to other methods and make generalizations about which work best for certain problems. The measurement concepts in this unit include length and distance, liquid volume, time, mass, and weight. During Unit 5, students are formally introduced to a host of new geometric concepts, including angles and angle measure, parallel and perpendicular lines, and reflective symmetry. They also measure the area and perimeter of rectangles, making generalizations that support the introduction of the formulas for both.

Unit 7 offers a review of material covered earlier in the year, as well as opportunities to extend skills and concepts into working with larger numbers and bigger ideas. Early in the unit, students investigate a variety of shape and number sequences, looking for patterns that will enable them to extend each sequence and state the general rule that produced it. In the second module, they hone their skills at choosing and writing equations to represent multi-step number and word problems. In the latter half of the unit, they review some of the strategies they have developed for multi-digit multiplication over the year, and explore the standard multiplication algorithm.

The final unit of the year uses science and engineering explorations to revisit and cement the mathematical skills students have built in the previous units while providing a foundation for work they'll begin in fifth grade. Students design and build scaled model playgrounds that incorporate simple machines. They experiment with simple machines, conduct research to help them make decisions about safety issues, survey the school community to find the most important playground items to use in their designs, and use spreadsheet software to analyze the data they collect. They then use the information to create a scaled map of their designs and to build a scaled 3-D model.



Grade 4 Math Characteristics

CCSS Standard for Mathematical Practice	Characteristics at Grade 4
Make sense of problems and persevere in solving them (4.MP.1)	Fourth graders consider the meaning of a problem and look for appropriate efficient ways to solve it. They use concrete and visual models as well as expressions and equations to represent, understand and solve problems. They try different approaches when necessary, evaluate whether their solutions make sense in the context of the problem, and use alternative methods to check their answers.
Reason abstractly and quantitatively (4.MP.2)	Fourth graders connect the specific quantity represented by a number to written symbols. They make abstract representations of problems as they solve them, for example by writing equations. They can also think about those symbols in relation to the problem to make sense of the quantities in context.
Construct viable arguments and critique the reasoning of others (4.MP.3)	Fourth graders refine their mathematical communication skills by using words (written and spoken) and symbols (equations and expressions) to clarify their thinking. They support the representations they have made with sketches or objects, and they explain and justify their own strategies and solutions. They also ask specific questions to better understand and evaluate other students' reasoning.
Model with mathematics (4.MP.4)	Fourth graders represent mathematical situations with numbers, words, sketches, actions, charts, graphs, expressions, arrays, and ratio tables. They learn to connect these models and explain the connections among them. They use model not only as a way to represent problems, but also as tools for solving them and developing deeper understanding of the mathematics.
Use appropriate tools strategically (4.MP.5)	Fourth graders learn to consider the tools, both concrete and abstract, at their disposal and select the one that will be most useful to them in solving a particular mathematical problem or performing a particular task. For example, they may use graph paper or a number line to represent and compare decimals and protractors to measure angles. They use other measurement tools to understand the relative size of units within a system and express measurements given in larger units in terms of smaller units. To use tools strategically, student, must understand the requirements of the task, their own needs and strengths, and the capabilities of the tools available to them.
Attend to precision (4.MP.6)	Fourth graders are increasingly able to be clear and precise in communicating mathematically, both in writing and in discussion. They specify units of measure and are careful to use the correct language to describe operations and symbols. They also take care to measure, draw, and label with precision.
Look for and make use of structure (4.MP.7)	When considering mathematical situations and solving problems, fourth graders seek out patterns and notice structure. They use what they notice to solve problems and develop deeper conceptual understandings.
Look for and express regularity in repeated reasoning (4.MP.8)	Fourth graders notice repetition when solving problems and use that repetition to develop more efficient strategies for solving similar problems. Students use models to explain calculations and understand how algorithms work. They also use models to examine patterns and generate their own algorithms.

Grade 4

Grade 4 Science Unit Descriptions

Processes that Shape the Earth

Students develop an understanding of the idea that Earth's surface is constantly changing. They further develop their understanding by inquiring into weathering and erosion, patterns in rock formations and fossils, and natural catastrophic events that impact humans in various parts of the world. Students generate solutions to reduce the impact of such processes on humans.

Waves and Energy

Students develop an understanding of the transfer of energy through waves which affects humans in various ways. They further develop their understanding by inquiring into patterns that waves follow, how waves cause objects to move, and the transfer of energy through waves. Students explore models of waves and then engage in a simulation that uses patterns to transfer information. Students also design and build a device that converts energy from one form to another.

Grade 4 Social Studies Unit Descriptions

Making a Difference

Students develop an understanding of the idea that throughout time, people have been motivated to make a difference. They further develop their understanding by inquiring into the variety of reasons that people are motivated to make a difference, the different perspectives of people based on beliefs, experiences, and values, and the idea that anyone can make a difference.

Interdependence of Global Economies through Trade

Students develop an understanding of the idea that trade supports global economies. They further develop their understanding by inquiring into the needs and wants that are met through trade, the economic interdependence that develops through trade, and cultural and environmental elements that affect the distribution and movement of people, goods, and ideas.

Grade 5

Grade 5 Writing Course Description

Through Writer's Workshop pedagogy, students will begin the year by consolidating writing behaviors. They will then hone their writing skills in the genres of Shaping Texts: From Essay And Narrative To Memoir; Navigating Nonfiction: Using Text Structures to Comprehend; Writing Fiction; Big Dreams; Tall Ambitions; Little Things Are Big; Making Meaning from Poems and Poetic Craft in Literature and The Research-Based Argument Essay. Students will have the opportunity to explore the work of established authors across these different genres.

Students will gather ideas, draft relevant pieces, revise, edit and publish work for sharing.

For each genre, a published piece of work will be assessed against a rubric which addresses desired skills of the genre, allied with the Common Core Writing Standards for Fifth Grade.

Grade 5 Writing Unit Descriptions

Narrative Craft

During this unit, most children write two focused personal narrative stories and then select one for further revision, editing, and publication. The major “bends in the road” of the unit teach children: how to find the beauty in small moments, drafting seed ideas, revising a timeline, making a movie in their minds whilst envisioning the story, editing and recopying the draft as their best. Also important in this unit is checking their use of end punctuation, capitals, paragraphs, and spellings of high-frequency words.

The Lens of History

Through the art of writing research reports, students will learn from informational texts and write informational texts that teach others in engaging ways. Students will learn how to use primary and secondary resources in their informational writing. Students will analyze what writers do to shape their craft, add structure and provide perspective. In this unit, students will learn to angle their research reports in compelling ways.

Shaping Texts

This unit helps students recognise significant events in their lives and write about these events reflectively. Students will understand that a memoir is a piece of writing that demonstrates a personal epiphany or journey that has transformed them. This piece of writing is written about a single, or collected number of events in the past, and is written in the first person narrative. Although based on a real event or events, it can be embellished for the purpose of entertaining the reader.

The literacy Essay Argument Essay

Students learn to develop a solid argument by researching both sides of an issue. Students read critically and evaluate data collected, examine it for flaws and present their findings persuasively to an audience. Students will be guided to understand how to develop a solid argument.

Grade 5 Reading Course Description

Through Reader's Workshop pedagogy, students will begin the year by consolidating reading behaviors. They will then build stamina across a range of genres, making their thinking visible and writing coherently about their reading. They will keep a reading log to track their reading habits.

The reading units are: Interpretation Book Clubs, Tackling Complexity, Argument and Advocacy, and Fantasy Book Clubs. Within each unit, students will be assessed against the Common Core Reading Standards for Fifth Grade.

Grade 5 Reading Unit Descriptions

Interpretation Book Clubs

In this unit, students will read closely, inferring, to grow and formulate theories about characters. Students will also notice that sometimes the author offers windows into a character's mind by writing passages exposing the character's thoughts or offering an explanation of a character's motives.

Tackling Complexity

Much of the work in fifth grade informational reading is similar to the work students were expected to do in fourth grade, but fifth graders are now expected to do this work with greater independence and complexity. Students will explore text features of the genre and will be expected to use these features to glean further information about a topic.

Argument and Advocacy

This unit helps students develop the reading strategies and the skills that enable them to read critically and to think deeply, especially about power, relationships, and social issues. The skills that students will use to improve their reading of texts - empathy, critical reading, and interpretation - are skills they can also use to "read" their worlds and to inform the way they live their lives.

Fantasy Book Clubs

In this unit, students explore elements of Fantasy. They specifically think about how understanding these elements as a reader, helps to build expertise as a writer. Students work in pairs to follow a book club routine in preparation for larger group book-clubs later in the year.

Math Bridges Units in Grade 5

Bridges develops children's mathematical thinking and reasoning abilities through age appropriate problems and investigations in the areas of number, operations, algebraic thinking, measurement, data, and geometry. Some of these problems and investigations grow out of ventures into everyday life, while others delve more deeply into the world of mathematics itself. Students are encouraged to explore, develop, test, discuss, and apply ideas: to see mathematics as something that is fluid, vibrant, creative, and relevant.

This year, students focus intensively on the three critical areas specified by the Common Core State Standards for Mathematics in Grade 5: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

Bridges Grade 5 includes eight units of study, with 20 sessions per unit. In Unit 1, students use the study of volume to review and extend a host of skills and concepts related to multiplication. They use expressions with parentheses to represent different rectangular prisms, find the surface area of boxes, develop multi-digit multiplication strategies to solve real-world and mathematical problems, and revisit multiplication and division through the lens of the area model. Much of Unit 2 centers on students adding and subtracting fractions with unlike denominators, using a variety of strategies to find common denominators.

The focus shifts to decimals in Unit 3 as students read, write, and compare decimals as well as round and examine the decimal patterns of multiplying and dividing numbers by 10. Students use their place value understandings to convert within a measurement system, and add and subtract decimals to hundredths.

In Unit 4, students return to the study of multiplication and division strategies, including the standard multiplication algorithm. The teacher formally introduces the algorithm after reviewing the area model and partial products. Students also use the area model and ratio tables to help with understanding long division. During Unit 5, students extend their understandings of multiplication and division to working with fractions. Early in the unit, students review and extend skills and concepts first introduced in Grade 4 to solidify their understandings of whole number-by-fraction multiplication. Then they use rectangular arrays to model and solve fraction-by-fraction multiplication problems. The end of the unit features an introduction to division of whole numbers by unit fractions, and unit fractions by whole numbers.

Unit 6 formally introduces students to several new geometric concepts, including coordinate graphing and the use of hierarchies to classify two-dimensional shapes by their properties. Students also review volume, working from counting the cubes that will fit into a box to measuring prisms in continuous units and using standard formulas ($V = l \times w \times h$ and $V = b \times h$) to find their volumes. In the final unit of the year, students design and build scaled model houses that incorporate solar energy features.

They begin by investigating different aspects of solar energy—reflection, absorption, concentration—and ways to collect and store the sun's rays. They analyze their data to inform their own design, using both spreadsheet software and graph paper. While students investigate these science principles, they apply

many math skills they've learned throughout the year, including work with fractions, decimals, volume, surface area, conversions within measurement systems, and points in the coordinate plane.

During Unit 7, students continue their study of division, including its relationship to multiplication. Early in the unit, students find partial quotients as they divide 3- and 4-digit dividends by 2-digit divisors. They also investigate scenarios involving rate, which leads to the strategy of finding equivalent ratios to solve division problems, even when the numbers are fractions. Module 2 centers around the sharing and grouping interpretations of division, providing opportunities to review dividing unit fractions by whole numbers and vice versa. In the last two modules, students review and extend their thinking about the effects of multiplying and dividing by powers of 10, as well as multiplying and dividing decimal numbers.



Grade 5 Math Characteristics

CCSS Standard for Mathematical Practice	Characteristics at Grade 5
Make sense of problems and persevere in solving them (5.MP.1)	Fifth graders consider the meaning of a problem and look for efficient ways to represent and solve it. They apply their understanding of operations with whole numbers, decimals, and fractions including mixed numbers. They try different approaches when necessary, evaluate whether their solutions make sense in the context of the problem, and use alternative methods to check their answers.
Reason abstractly and quantitatively (5.MP.2)	Fifth graders connect the specific quantity represented by a number to written symbols. They make abstract representations of problems as they solve them, for example, by writing equations. They can also think about those symbols in relation to the problem to make sense of the quantities in context.
Construct viable arguments and critique the reasoning of others (5.MP.3)	Fifth graders refine their mathematical communication skills by using words (written and spoken) and symbols (equations and expressions) to clarify their thinking. They support the representations they have made with sketches or objects, and they explain calculations based upon models and properties of operations and rules that generate patterns. They explain and justify their own strategies and solutions. They also ask specific questions to better understand and evaluate other students' reasoning.
Model with mathematics (5.MP.4)	Fifth graders represent mathematical situations with numbers, words, sketches, objects, charts, lists, graphs, and equations. They learn to connect these models and explain the connections among them. They use models not only as a way to represent problems, but also as tools for solving them and developing deeper understanding of the mathematics. They also evaluate the utility of models to determine which models are most useful and efficient to solve problems.
Use appropriate tools strategically (5.MP.5)	Fifth graders learn to consider the tools, both concrete and abstract, at their disposal and select the one that will be most useful to them in solving a particular mathematical problem or performing a particular task. For example, they may use unit cubes to fill a rectangular prism and then use a ruler to measure the dimensions. They use graph paper to accurately create graph and solve problems or make predictions from real world data. To use tools strategically, students must understand the requirements of the task, their own needs and strengths, and the capabilities of the tools available to them.
Look for and make use of structure (5.MP.7)	When considering mathematical situations and solving problems, fifth graders seek out patterns and notice structure. They examine numerical patterns and relate them to a rule or a graphical representation. They also use properties of operations as strategies to add, subtract, multiply and divide with whole numbers, fractions, and decimals.
Look for and express regularity in repeated reasoning (5.MP.8)	Fifth graders notice repetition when solving problems and use that repetition to develop more efficient strategies for solving similar problems. Students use models to explain calculations and understand how algorithms work. They also use models to examine patterns and make generalizations.

Grade 5 Science Unit Descriptions

Structure and Properties of Matter and the Interrelationship of Matter in Organisms and Ecosystems

Students develop an understanding of the interrelationship of matter's properties and how it can be used. They further develop their understanding by inquiring into how materials are identified by their properties, how matter can be broken down until it is too small to be seen, that the weight of matter is conserved even when it changes form, and that mixing two or more substances can form a new substance with different properties. Students extend their understanding by exploring the movement of matter among plants, animals, decomposers, and the environment.

The Solar System

Students develop an understanding that planet Earth is a tiny part of a vast universe that has predictable and observable patterns. They further develop their understanding by inquiring into how relative distance affects the appearance of stars and can be used to explain patterns of motion and change in relation to the sun, moon, and stars. Students also begin to explore how the regular and predictable patterns of motion of Earth and the moon, relative to the sun, can be described as a result of the force of gravity.

Grade 5 Social Studies Unit Descriptions

Human Movement

Students develop an understanding of the idea that human migrations are initiated by many factors and impact societies, economies, and cultures. They further develop their understanding by inquiring into the various perspectives surrounding migration, the positive and negative impacts of migration, and the causes and effects of human migration both historically and in current day.

Advocacy for Change

Students develop an understanding of the idea that people can impact their society by advocating for change. They further develop their understanding by inquiring into various systems that exist to provide order and services, ways citizens can influence governing bodies, and how citizens contribute to the lives of others.

Physical Education (Lower Elementary)

Early Years 5

Initiative & Collaborative Challenge (ICC)

Students will be introduced to routines and behaviours for safe and enjoyable participation in Physical Education. Students will participate in games and activities that develop self confidence, cooperative skills and empathy. Through participation in this unit students will identify activities, inside and outside of the classroom, that they perform for enjoyment and challenge.

Movement Competency (MC)

Students will be introduced to range of locomotor, stability and manipulative skills that they will be able to identify and practice for increased coordination, balance and movement accuracy. Through participation in discrete practice and low organised games, students will begin to apply some fundamental movement skills and reflect on how these activities affect their bodies.

Aquatics (AQ)

The Red Cross Swimming standards provide a framework for students to be appropriately levelled and challenged in aquatic activities. Students will work on various skills, from blowing bubbles to basic rescue techniques and water survival skills while learning and refining the core swimming strokes. Through participation in the Aquatics program students increase water related movement competency and gain safety knowledge for enjoyment in and around water.

Grade 1

Initiative & Collaborative Challenge (ICC)

Students will continue to apply the rules and parameters of participation in individual and group activities during PE lessons. Activities that provide physical and cooperative challenges that are designed to demonstrate positive outcomes. Through participation in challenge activities, students will be introduced to the association of perseverance and resilience to desired solutions.

Movement Competency (MC)

Students will continue to refine simple locomotor, stability and manipulative skills. They will be able to demonstrate increased coordination, balance and movement accuracy and begin to add speed, strength and fluency to these movements. Through participation in low organised games, students will begin to apply fundamental movement and equipment manipulative skills.

Aquatics (AQ)

The Red Cross Swimming standards provide a framework for students to be appropriately levelled and challenged in aquatic activities. Students will work on various skills, from blowing bubbles to basic rescue techniques and water survival skills while learning and refining the core swimming strokes. Through participation in the Aquatics program students increase water related movement competency and gain safety knowledge for enjoyment in and around water.

Grade 2

Initiative & Collaborative Challenge (ICC)

Roles and responsibilities of individuals in team challenges. Students will begin to be able to describe and apply the rules and parameters of successful participation in individual and group activities during PE lessons. Working together in activities that provide physical and cooperative challenges to solve problems designed to demonstrate positive outcomes. Through participation in challenge activities, students will make connections between perseverance, resilience and desired solutions.

Movement Competency (MC)

Students will refine simple and be introduced to more complex locomotor, stability and manipulative skills. They will demonstrate increased coordination, balance and movement accuracy and begin to add speed, strength, power and fluency to these movements. Through participation in low organised games, students will begin to apply fundamental movement and equipment manipulative skills with greater precision.



Physical Education (Upper Elementary)

Grade 3

Movement Competency (MC)

Integrated into each strand of the Upper Elementary PE program is Movement Competency. Students will develop movement and manipulative skills through practice, training and implementation in both a broad sense and in specific contexts within the other strands of PE. Students will understand themselves as movers, understanding strengths and areas for improvement with respect to the components of fitness. Students will learn, through regular participation how physical, emotional and mental health are combined for holistic well-being.

Initiative and Collaborative Challenge (ICC)

Students will participate in individual and group challenge activities that require effective communication of their ideas and managing of emotions to solve problems and create positive outcomes. Students will understand the need for perseverance and the role of individuals in achieving team goals.

Games and Sports (GS)

Students will begin to understand a way of categorising games that have a common tactical approach. Students will participate in small-sided games that require decision making to maintain possession in Territorial Games and maintain a rally in Net Games. Students will begin to understand how space is a key concept in games. Students will continue to develop movement competency through use of equipment related to a specific game or modified sporting context.

Lifestyle & Recreational (LR)

Lifestyle and Recreational activities are those which can enhance health and well-being across the lifespan. They include individual, group and active recreation activities. The specific context of these activities vary from year to year in the PE program and are determined by a combination of factors including student interest, teacher specialty, geographic and cultural opportunities. Examples of these activities include but not limited to parkour, cycling, skating, resistance training, pilates, CrossFit, kayaking, outdoor adventure and rock climbing.

Aquatics (AQ)

The Red Cross Swimming standards provide a framework for students to be appropriately levelled and challenged in aquatic activities. Students will work on various skills, from blowing bubbles to basic rescue techniques and water survival skills while learning and refining the core swimming strokes. Through participation in the Aquatics program students increase water related movement competency and gain safety knowledge for enjoyment in and around water.

Grade 4

Movement Competency (MC)

Integrated into each strand of the Upper Elementary PE program is Movement Competency. Students will develop movement and manipulative skills through practice, training and implementation in both a broad sense and in specific contexts within the other strands of PE. Students will understand themselves as movers, understanding strengths and areas for improvement with respect to the components of fitness. Students will learn, through regular participation how physical, emotional and mental health are combined for holistic well-being.

Initiative and Collaborative Challenge (ICC)

Students will participate in challenge activities that will require them to use a range of problem-solving activities, making decisions as an individual and a group member. Students will refine communication strategies to effectively make positive contributions towards desired outcomes in individual and group activities.

Games and Sports (GS)

Students will continue to explore the categorising of games that have common tactical approaches. Students will participate in small-sided games that require decision making to set up an attack then win a point in Territorial and Net Games. In Striking and Fielding small-sided games, students will utilise and defend available space depending on the team role. Students will continue to refine their movement competency through the use of equipment related to a specific game or modified sporting context.



Lifestyle & Recreational (LR)

Lifestyle and Recreational activities are those which can enhance health and well-being across the lifespan. They include individual, group and active recreation activities. The specific context of these activities vary from year to year in the PE program and are determined by a combination of factors including student interest, teacher specialty, geographic and cultural opportunities. Examples of these activities include but not limited to parkour, cycling, skating, resistance training, pilates, CrossFit, kayaking, outdoor adventure and rock climbing.

Grade 5

Movement Competency (MC)

Integrated into each strand of the Upper Elementary PE program is Movement Competency. Students will develop movement and manipulative skills through practice, training and implementation in both a broad sense and in specific contexts within the other strands of PE. Students will understand themselves as movers, understanding strengths and areas for improvement with respect to the components of fitness. Students will learn, through regular participation how physical, emotional and mental health are combined for holistic well-being.

Initiative and Collaborative Challenge (ICC)

Students will participate in challenge activities that will require them to consider differing points of view when developing solutions. They will be required to communicate ideas confidently, make informed decisions and accept consequences of the decisions made. Students will understand the need to behave in a manner that enhances their own contribution and one that values the cooperation of others.

Games and Sports (GS)

Through a tactic to skill approach to Games, students will strategically apply movement and manipulative skills with greater refinement. Students will understand the relationship between attackers and defenders through small sided and lead in games. Students will be introduced to more specific skills and rules from known sports.

Lifestyle & Recreational (LR)

Lifestyle and Recreational activities are those which can enhance health and well-being across the lifespan. They include individual, group and active recreation activities. The specific context of these activities vary from year to year in the PE program and are determined by a combination of factors including student interest, teacher specialty, geographic and cultural opportunities. Examples of these activities include but not limited to parkour, cycling, skating, resistance training, pilates, CrossFit, kayaking, outdoor adventure and rock climbing.

PE Dance and Gymnastics

Dance Descriptions

Through creative dance, a concept-driven dance genre that combines the mastery of movement with the artistry of expression, students will develop the basic movement and dance vocabulary, body awareness, body control, coordination, strength and flexibility to confidently communicate using the body. This whole body approach allows for effective artistic expression and injury-free dancers. We will also investigate what influences choice-making in creating choreography. Through the elements of dance, dance improvisation and other choreographic devices, students will create movement which will be incorporated into future choreography.

Lower Elementary Unit Description

EY5-Grade 2 students will begin this unit by focusing on body control, awareness, alignment and coordination. Once these introductory concepts are established, students will then consider the many different shapes, parts, relationships, directions, levels and pathways the body can move in space. Our five part class structure will include an introduction to the day's concept followed by a warm-up, concept exploration, technique, choreography and a cool down where students will have the opportunity to reflect on the day's lesson. As students progress through the lower elementary dance program, there will be an increasing focus on student led components as well as an increasing difficulty in dance technique and choreography.

Upper Elementary Unit Description

Students in grades 3-5 will begin this unit with a focus on physical conditioning, flexibility, strength, endurance and complex technique study. After a brief review of the previously taught concepts of body, space, time and energy, students will then undertake the task of adding expression to make their movements come to life. Students must investigate where do choreographers get ideas for dances and how do dancers work with space, time and energy to communicate artistic expression. We will use literature, poetry, musical lyrics, pictures and dance history as a stimulus for choreography. Students will experience the ongoing dance making cycle of presentation, analyzation, reflection and revision as a way to create their best artistic work.

Gymnastics

Students will be introduced to gymnastics and apply the previously learned concepts of control, flexibility, coordination, strength and endurance to an apparatus. Students will work to steadily progress through skills including rolls, handstands, jumps, leaps, turns, holds, casts, and mounts on the bars, floor, beam and vault. The USA Gymnastics Junior Olympics Program levels 1-3 is used as a benchmark for these progressions. The end of the unit will culminate with the creation of a short routine on an apparatus of the student's choice.

Lower Elementary Unit Description

EY5-Grade 2 students will work on gaining the body control, coordination and endurance needed to safely undertake an apparatus. Students at this level will first work to perform a forward roll, backward roll, handstand on the wall and cartwheel on the flat surface of the mat. When ready, students will then move to perform these skills on the raised surface of the balance beam.

Upper Elementary Unit Description

Students in grades 3-5 will work on strength, flexibility, alignment and proper technique to tackle more difficult skills on both flat and raised surfaces including bars and vault. Specifically, students at this level will work on performing each skill with expression and confidence. After considering all platforms and safely progressing through each level, students will have the opportunity to create an individualized routine on an apparatus of choice.



Art

Lower Elementary Course Description

The aim of the Visual Arts Program is to enable students to create, analyze, respond and discuss the Visual Arts. We will explore the elements and principles of art, application of artistic processes and skills, art forms of various cultures and aim for visual literacy. We teach ART with an inquiry approach using the inclusion of Technique, Criticism, Art History, and Aesthetics. We will have discussions and do projects to build art related language skills. Each unit will be based on specific standards and benchmarks and these will be built upon each subsequent year. Students are assessed on their ability to create, respond and connect to their own art and the art of others.

Early Years 5 Unit Descriptions

Identity

Students begin the school year by understanding the basic elements of art which help students to create any art work of their choice. Students learn about, line, shape, color, value, texture, form and space in detail. They use these art elements to create art projects which portray that art works cannot be created without having these basic elements. Later they fuse these concepts into their project on the color wheel to make other colors. Students understand the color wheel concepts with primary colors and secondary colors. They will choose a theme of their own using these color wheel concepts. Lesson plans are structured in ways which would make students learn the various combinations and proportions with colors. Later students understand the concepts of Shapes & Patterns- Shapes can be geometric or organic- Shapes can be repeated to make simple repeat patterns. Students will explore geometric and organic shapes. They will make a shape collage art project which is also an integrated unit with their math lesson on geometric shapes. Using the acquired basic skills they begin their Self portraits- Observation and proportion are necessary to create accurate images. Students study self portraits from a variety of cultures and times. Students learn to make self portraits of their choice. This unit is an integrated activity with science lesson on five senses.

Cultural Diversity

Students understand the concept that every culture creates art. India Month project is a particular project which varies from year to year based on the theme and concepts of the India month. Students get to learn a traditional art form which depicts India and that project would be used for decorating the campus during India month celebration/Diwali mela. eg: Diwali lamps, Gujarathi danglers & Rangoli. This unit is an integrated unit with Indian studies. The concept of understanding cultural diversity is again taught to students in their next unit on Origami-Students learn about the art element form from different cultures. They use polish paper to understand the basic methods of paper folding which is a very famous art form from Japan.

Human and Nature

Students learn the concept of observational and contour drawings through these units in art. Students get to know the art of pointillism made famous by Georges Seurat and Paul Signac. They observe and draw a still life subject and get to see and learn from the examples of these artists' work to make their own creations depicted in their style. Later students are exposed to a Collage art which can be made with any found materials. Students will do a paper collage based on the work of Eric Carle. They get to create all their own papers through printing and painting with images and patterns. Students have the freedom to choose own theme or integrate with their science unit on parts of the plant.

Reality and Fantasy

Students use this unit to understand the concepts of texture, shape and form. They also get a better insight into composition of an art piece. Having this concept in mind they begin to understand being expressive with modern art techniques in their Abstract art project. They get inspired with the styles of great artist Wassily Kandinsky, Henri Matisse and Jackson pollock. Students will explore imaging with non-traditional tools. This unit could be integrated with music. Later they understand the concept of form, balance through their clay art project. Students get introduced to some basic clay projects where they learn to handle clay and make some small artworks with three dimensional effects.

Grade I Unit Descriptions

Identity

Students begin the school year by understanding the basic elements of art which helps them to create any art work of their choice. Students learn about line, shape, color, value, texture, form and space in detail. They use these art elements to create art projects which portray that art-works cannot be created without having these basic elements. Later they fuse this concept into their project the color wheel to make other colors. Students understand the primary colors, secondary colors and tertiary colors in this lesson. They get to make birthday cakes using these color wheel concepts. Lesson plans are structured in ways which would make students learn the various combinations and proportions with colors. Later during the course of the school year students learn to make self portraits. Students study self portraits from a variety of cultures and times. Various measurements are used as a guide toward correct proportion while also emphasizing observational skills. They use a variety of mediums to create texture on their portraits observing specific characteristics.

Cultural Diversity:

Students understand the concept that every culture creates art. India Month project is a particular project which varies from year to year based on the theme and concepts of the India month. Students get to learn a traditional art form which depicts India and that project would be used for decorating the campus during India month celebration/Diwali mela. This unit is an integrated unit with Indian studies. The concept of understanding cultural diversity is again taught to students in their next unit on Origami-Students learn

about the concept of form from different cultures. They use polish paper to understand the basic methods of paper folding which is a very famous art form from Japan.

Reality and Fantasy:

Students use this unit to understand the concept of Organic & geometric shapes as well as textures through Surrealism-Surrealism was a famous art movement. Students are encouraged to visualise and draw out of imagination. They will create their own papers in Eric Carl's style and understand to create textures and use it for their project. They get to know about the great artist Salvador Dali and his surreal dreams and create a surreal art project which is portrayed in his style. Later students understand the concept of Optical Illusion and learn to do Contour drawing techniques which are taught to students to make a composition of patterns using various types of lines & shapes.

Human and Nature

Observational drawing is taught to students in their next art lesson. Students learn how to create landscapes which comprises the physical features of an area of land. Students learn some technical art terms and application methods to make their compositions. They compare and study the various elements of each category such as countryscapes, seascapes and cityscapes and apply them to create their artworks. Later students will learn about 2D-Relief art, understanding texture, non objective art. This project is an integrated unit of their science lesson on vertebrates animals with backbone. Students also combine this artwork comparing it with the Mexican repousse art form of making metal reptiles. They experiment with various tools and art materials to work on this project. Later students do a project with Clay understanding the concept of Form to make works of art. Students get introduced to some basic clay art projects where they learn to handle clay and make some small art works with three dimensional effects.

Grade 2 Unit Descriptions

Identity

Students begin the school year by understanding the basic elements of art which helps students to create any art work of their choice. Students learn about, line, shape, color, value, texture, form and space in detail. They use these art elements to create art projects which portray that art-works cannot be created without having these basic elements. Later student learn the concept of abstract expressionism-Expressionism is a famous art movement. This project is an untitled abstract artwork where the artist expresses his own feelings. Students learn to create a splattered painting in the style of the great artist Jackson pollock who is known for his action paintings. They experiment and explore with different art tools and create a splatter painting using regular and metallic paints. In the later part of the school year students create their own self portraits by understanding the concept of observational and contour drawings. Students create a pop art in the style of the great artist Andy Warhol. They try to use his technique of bright colors, simple but strong shapes that really stand out. They learn to make their own printing plates which they use for printing on paper using special printing inks and brayers. They also have a wide exposure to other printing techniques like block printing, stamp printing, foam printing etc.

Reality and Fantasy

Using Geometric & Organic shapes to create a composition of their imagination. Students create a fantasy 'extraterrestrial' creature and learn about symmetry and balance as a design principle, by applying a simple transfer method. Later they try to use other mediums of art such as Clay, cardboard or plywood to understand the concept of Form which can be used to make works of art. Students get introduced to some basic clay art projects where they learn to handle clay and make some small art-works with three dimensional effects.

Human and Nature

Observational drawing is taught to students in their next art unit. Students learn to create a jungle picture of a tropical forest in the style of the great artist Henri Rousseau who is known for his Jungle paintings. They observe, experiment and create beautiful jungle scenes with wild animals and birds and variety of grass, plants, trees and flowers using the technique of double and triple shading. They experiment with a variety of mediums to work on this project understanding background, middle ground, foreground and overlapping drawing and blending with gradation techniques. In the later part of the year they start working with their Tech art using technology as an art tool to create art. Students get to use some art softwares like Kid Pix and Tux Paint to create visuals. They make a picture story book with visuals that go with the text. They use special softwares to create the cover design for their storybook. This project helps students to be more imaginative and visualize their own stories.

Cultural Diversity

Students understand the concept that every culture creates art. India month art project is in particular a project which varies from year to year based on the theme and concepts of the Indian month. Students get to learn a traditional art form which portrays India and that project would be used for decorating the campus during India month celebration/Diwali mela. This unit is an integrated unit with Indian studies. Later students learn about Paper mache Art and the concept of recycling materials. Students learn about art from different cultures. They learn how to create a 3 dimensional paper mache African tribal masks. They use a variety of tools and materials to work on this project. They also understand the concept of recycling old cartons, papers and cardboards into beautiful vibrantly colored masks. They understand to build relief, tissue layering process, preparation of the glue and paper during the course of this project. They also use a variety of embellishments to add details and enhance their masks.

Stories

This unit focuses on the students understanding, analysis, interpretation and creation of visual art which tells a story. Various forms of storytelling such as fairy tales, myths, fiction, nonfiction, world history, historical narrative and personal narrative will be used. Students integrate this idea with their Indian studies unit on various states and create a visual depiction of their ideas of the state and its artifacts.

Upper Elementary Course Description

The aim of the Visual Arts Program is to enable students to create, analyze, respond and discuss the Visual Arts. We will explore the elements and principles of art, application of artistic processes and skills, art forms of various cultures and aim for visual literacy. We teach ART with an inquiry approach using the inclusion of Technique, Criticism, Art History, and Aesthetics. We will have discussions and do projects to build art related language skills. Each unit will be based on specific standards and benchmarks and these will be built upon each subsequent year. Students are assessed on their ability to create, respond and connect to their own art and the art of others.

Grade 3 Unit Descriptions

Identity

As an introduction to the year, students create their own name collage after studying the life and work of Henri Matisse. Using the cut-out letters of their name along with other shapes, students develop a personal name composition. They strengthen their awareness of their names as part of identity. Next, the students gain a greater perspective of their own physical identity by studying self portraits from a variety of cultures and times and then use a variety of mediums towards creating their own self portrait. Various measurements are used as a guide toward correct proportion while also emphasizing observational skills. Last, Students will again use the letter shapes of their name as well as any other desired shapes to make a relief print.

Humans, Nature & Culture

Students consider a variety of big ideas dealing with nature and man's relation to nature as well as understanding and appreciating the diversity of world cultures including their own culture. After discussing many historical, natural, and cultural aspects of tigers, students create a chalk pastel drawing of any patterned Indian animal.

Students then move onto creating a Panama rain forest cut paper 'Mola', which is integrated with their study of rainforests. Students learn about the indigenous Cuna people of Panama and their traditional Mola applique artworks. Students make their paper applique design based on rainforest creatures. Following this, 3rd graders will begin their 'Characters in a room' drawing. They explore proportion and basic figure drawing both through observation and memory. Then, using visuals, they draw a variety of "characters" and place them in a 1-point perspective room. Last, the concept of 'Man the Maker, is explored as students make ceramic coiled pots and vases.

Reality and Fantasy

Students explore concepts of fantasy and fantasy in art through creating ceramic fantasy creature sculptures. Many basic understandings and techniques of clay modeling and ceramic processes are introduced. Next they use paper sculpture to create a 'fantasy/realistic' stuffed paper fish.

Stories

This unit focuses on the students understanding, analysis, interpretation and creation of visual art which tells a story. Various forms of storytelling such as fairy tales, myths, fiction, world history, historical narrative and personal narrative will be used.

Through learning stories from Greek mythology, students will draw upon their social studies unit from in the classroom. Focusing on Ancient Greece, students study the meaning and stories shown visually on ancient pottery as well the techniques used to create the pots and vases. Students then make a drawing of a vase incorporating a visual story based on ancient greek mythology or culture.

Grade 4 Unit Descriptions

Identity

Building on the theme of Identity and design concepts learned in third grade, students add additional design principles to a name design. Students use the letters of their names as the principal shapes to be arranged in a 'dynamic' composition which shows movement as the main principle of design. Students also create self portraits which delve deeper into the idea of identity by relating and getting inspiration from an art movement or artist.

Humans and Nature and Culture

Students consider a variety of big ideas dealing with nature and man's relation to nature as well as understanding and appreciating the diversity of world cultures including their own culture.

First, students paint an imaginary landscape which demonstrates understanding of Van Gogh's use of space and line in creating depth as well as Van Gogh's style of mark making and how it contributes to depicting the landscape.

Next, students learn how to draw cubes in one-point perspective and then create an imaginary city or town in 'realistic' 1-point perspective. Last, students create a mixed media 'figure' collage which emphasizes observational drawing, figure drawing and a variety of surface design. The collages of contemporary artist Miriam Schapiro are the main source of inspiration and guidance.

Indus valley metal embossing- This project integrates the students' social studies unit of ancient Indus Valley culture as students learn metal repousse and emboss metal foil to replicate ancient Indus Valley trading seals.

During 'India Month' students focus on a particular region or concept of India and create 'folk art' or stylized art which reflect their personal experiences in India.

Projects focusing on other cultures would be added if time permits.

Reality and Fantasy

Students explore concepts of fantasy and fantasy in art as they learn basic ceramic handbuilding methods

to create a 'whimsical' fish sculpture . Students first study and draw a variety of realistic fish and then learn about the art of caricature and apply the selective exaggeration to their drawings. Students then translate the 2-Dimensional drawing to a 3-Dimensional form. Last, students will create a 'fantasy/realistic self portrait in which the student researches and creates 'realistic ' image of themselves with 'fantasy' props, costumes, and settings.

Stories

This unit focuses on the students understanding, analysis, interpretation and creation of visual art which tells a story. Various forms of storytelling such as fairy tales, myths, fiction, world history, historical narrative, personal narrative etc. will be used. Creating visuals with a choice of a variety of mediums to communicate stories, the students will focus on representing one or more parts of the story.

Grade 5 Unit Descriptions

Identity

The students understand that art is a reflection and an expression of who they are.

Students are introduced to logo designing and relief printing by creating a simple black and white lino-cut print which reflects their identity with a personal logo.

Students design and create a lidded ceramic box which reflects the identity of either themselves or another person for whom the container is designed.

Humans, Nature and Culture

Students consider a variety of big ideas dealing with nature and man's relation to nature as well as understanding and appreciating the diversity of world cultures including their own culture.

First, students look at Islamic tile, tessellations, and art works by M.C. Escher's and then make linoleum-relief prints which are designed to create a repeating pattern.

Next, students create a mask by building a cardboard armature on which to apply paper mache. Students learn to recognize masks from a variety of cultures as well as understanding the various functions and contexts of masks. Last, Students will make a still life painting. This unit teaches and practices the skill of observational drawing but later introduces the works of expressionist painters and the importance and use of color schemes. Students begin by making charcoal studies of a still life as they focus on composition, emphasis, proportion and balance. They also learn to recognize light direction and shadow. Next they paint their sketches of the still life applying their knowledge of color schemes as they study the works of expressionist painters such as Henri Matisse and other Fauve artists. Next, students focus on humanity's ceramic history as they make a ceramic coiled vessel. Good craftsmanship and creative manipulation of coils are emphasized.

Reality and Fantasy

Students explore concepts of fantasy and fantasy in art as they create an 'extraterrestrial' or imaginary creature and learn about symmetry and balance as a design principle. Next they make ceramic dragon sculptures and learn a variety of clay hand building techniques and various ceramic processes. Next, Students use photo editing software programs to learn the basics of photo editing and manipulation as they study the art movement of surrealism and create a 'surreal' photo collage. Last, students explore 'realism' as they further their knowledge of perspective drawing by using two vanishing points to create a realistic illusion of depth. The subject matter and themes may change.

Stories

This unit focuses on the students' understanding, analysis, interpretation and creation of visual art which tells a story. Various forms of storytelling such as fairy tales, myths, fiction, world history, historical narrative, personal narrative etc will be used.

Creating visuals with a choice of a variety of mediums to communicate stories, the students will focus on representing one or more parts of the story.



MUSIC

Lower Elementary Course Description

In grades K-2, students are invited to develop an awareness for all cultures of music, an intellectual curiosity, and a desire for love and lifelong learning in music. They will acquire basic skills and knowledge to create music of varying forms, and analyze music created by peers. They will create music using a variety of instruments in a child-centred classroom, considering the learning styles and particular interests of each child. Units in the Lower Elementary Music Course are connected and overlapping, allowing for student choice and voice into the elements of a rich musical environment.

Lower Elementary Music Unit Descriptions

Music Fundamentals and Exploration

“Solfege”, and basics of melody. Students will explore varying instruments to make music, with varying dynamics, pitch, rhythms, and tempos.

Concert and Performance Preparation- Students will develop aptitudes for performing on stage, in front of audiences, and as part of an ensemble. They will inquire what skills make a performer dynamic for their audience, as well as contribute in a positive way to their group.

Music Composition and Improvisation

Students will develop original pieces of music, both written and “in the moment”. Students will compose pieces of vocal, instrumental, or other chosen medium. Throughout this unit, students will learn that music has form and structure, as well as begin to develop their identity as a composer. Students will practice skills of asking and providing feedback to peers on their specific pieces. Students will work to analyze feedback, making choice adaptations to their original compositions.

Artistry and Expressive Communication

Students will apply developed skillsets from the Music Fundamentals and Exploration and Music Composition and Improvisation Units to further their impact as a performer. This unit invites students to explore their development as a solo performer, building on their skills gained from Concert Preparation, as an ensemble member.

Cultural Awareness and Diversity

Students explore instrumental, vocal, rhythmic, and other pieces of music from varying cultures around the world. They work to develop an appreciation for the diversity in music, as an expression of the culture.

Upper Elementary Course Description

The aim of the Upper Elementary Music Program is to provide an avenue for each child's individual need for self expression, building on the fundamental music skills and knowledge they have from lower elementary. Through continued inquiry into understanding music as art, students are able to hear, speak and think in the medium of music. Units in the Upper Elementary Music Program are focused on refining individual talent, as well as exploring future areas of interest. Time is structured to allow for content and concept building, rehearsal, and reflection.

Upper Elementary Music Unit Descriptions

Music Fundamentals and Structure:

Structure creates order and clarity in music. Students are given structured and guided opportunities to explore and understand the building blocks of music. How do tempo, dynamics, rhythm and beat compliment and support melody? How do vocal music and instrumental music work together? How can our vocal instrument demonstrate pitch proficiency in coordination with instrumental music? During this unit and throughout the year, students play a variety of instruments - pitched and unpitched to add accompaniment to demonstrate the various elements of music, as well as demonstrate various rhythm patterns.

Concert Preparation and Performance

Music is one of the oldest forms of cultural expression and communication. Students will engage in formal and informal performances, reflecting on their growth. What collaborative steps should be taken to produce a quality performance? What is the role of rehearsal? How can performing as an ensemble, and performing individually communicate meaning to an audience?

Composition and Improvisation

Students will be invited to explore the potential to elicit a response through the notation of music. Through composing and improvising, you learn to connect ideas with symbols, sound patterns and musical elements. Composition and improvisation are grounded in prior knowledge and personal experience. Manipulation of the elements creates individuality in music. What inspires musical creation? When is one's creative work ready to share?

Instrumental Technique

Students will explore the techniques and skills needed to learn an instrument. They will be invited to learn to play the recorder and other instruments, demonstrating simple songs, and exploring playing in harmony. Students will learn to read and notate music, perform melodies from the treble clef, and improvise endings using traditional notation. Are there other ways of notating or reading music? Is it connected to culture or history or both?

Indian Studies

Course Description

The aim of Elementary Indian Studies Program is to provide students with opportunities to explore, investigate, and inquire into their host country. With a focus on experiential learning and our Vision of an AISC Learner, students build understanding and appreciation for our diverse cultural and geographical environment through art, literature, cooking, music, and movement.

Grade 1 Unit Descriptions

UNITS

Exploring the Roles and Responsibilities of Traditional Community Helpers in India

In this opening unit, students investigate how Indian life in villages and cities is similar to and different from their home country. They explore the roles and responsibilities of fishermen, flower sellers, police and fire services, as well as other roles in Chennai.

Celebrating India's Rich Culture through Art and Stories

First grade students celebrate India's culture by experiencing stories of festivals, learning foundations of Indian Yoga, as well as modern dance. They work to prepare a performance of a Bollywood Song for India Month, connecting important celebrations to the movements.

Making and Cooking with the Flora of India

In this final unit, students in grade one make and cook with the rich plant life in India. They engage in projects such as stringing flowers, using all parts of five different trees to make products and foods, and exploring how indigo and other dyes are made from natural items.

Grade 2 Unit Descriptions

UNITS

Exploring the Cultural Characteristics of Tamil Nadu

Students in grade two open their year with examining evidence of the culture around them in India. They inquire into traditions such as draping saris, making kolams, and playing traditional games of Tamil Nadu. Through a year-long connection with students at a local school, students explore how their cultures are connected, and they reflect on what they can learn from each other.

Celebrating India's Rich Culture through Art and Stories

In the second unit of grade two, students explore Hindi Epic Stories, including the story of Diwali. They expand their practice of yoga, and work to prepare a traditional Indian folk song for performance during India Month.

Making and Cooking with the Spices of Tamil Nadu

In the final unit of grade two, students experience the spices of Tamil Nadu through making and cooking. They create Tamil New Year dishes, as well as goods for sale. Students investigate how the spices and herbs make traditional healing foods as part of the culture of Tamil Nadu.

Grade 3 FLEX

Grade 3 FLEX Program Description

Throughout the 3rd Grade FLEX Program, students have the opportunity to learn Spanish, French, and Indian Studies for one trimester each year.

During the trimester of French and Spanish class, the students are exposed to language and culture. Through the exploratory nature of the trimester, students will dive into the beginning stages of learning the language. Students learn some basic conversational language and expressions as well as some thematic vocabulary to express likes and dislikes. Students also learn how to ask and answer simple autobiographical questions.

In Indian Studies, students connect their learning from Social Studies to their experience in India. Grade 3 works in three units:

Investigating the Monuments and Structures of India

In this first unit, third grade students explore how the past is commemorated in the present, through structures and monuments in Chennai. Investigations of temples, statues and other building of significance allows for rich analysis of how the past has influenced the present here in India. Students engage in a design project for their own structure of significance, reflecting on their experience in our host country.

Celebrating India's Rich Culture through Art and Stories

Students connect to the rich culture of arts and stories in India through this unit of performing arts. Through movement, theatre, and instrumental music, students explore a favorite Indian story to share with an audience.

Designing and Opening our Own Indian Restaurant

In this final unit of grade three, students use all they have learned about their host country to design and open their own Indian restaurant. Using the design thinking model, they make their own menu creations, using skills of collaboration and creativity.

World Language Grade 4 & 5

Upper Elementary World Language Course Description

The Elementary World Language Program at AISC is an academic program based on the AERO World Language Standards. The languages offered to grades 3 to 5 are French and Spanish. The program strives to inspire a love for language learning, enabling students to communicate with confidence in the target language and to develop a foundation for intercultural awareness that will foster international understanding. Students begin to develop skills to communicate in a foreign language through a thematic and inquiry-based program.

A variety of formative and summative assessments, such as interactive role play and audio/visual presentations and projects, are used to measure student progress.

The curriculum is designed for novice level learners and facilitates interpersonal communication. While each unit introduces new vocabulary and sentence patterns, there are also many opportunities for students to use previously learned language. Students are introduced to the history, traditions and customs of Francophone and Hispanic countries and begin to identify similarities and differences between those cultures and their own.

Grade 4 Unit Descriptions

In grade 4, there are 3 units of study, in which students start to expand their communication skills through questioning and responding orally and in writing.

Unit 1: NEW FRIENDS AT SCHOOL In this unit students review names and descriptions of school objects. They learn to introduce themselves and a friend, and expand upon the basic introductions learned in grade 3. They also learn to tell about where they come from and what the seasons and weather are like there.

Unit 2: MY FAMILY In this unit students learn how to name and describe personal details about their own lives and that of family members. Students become more proficient with asking questions and providing descriptions of their family: personalities, likes or interests, physical descriptions, as well as adding to their repertoire of vocabulary when describing one's self in this context.

Unit 3: MY HOME In this unit students learn to name and describe rooms of a house, some common household objects, and placement using prepositions. They ask and answer questions about where they live, what their houses are like, and what they do in their homes.

Grade 5 Unit Descriptions

In grade 5, there are 3 units of study, in which students are encouraged to elaborate their responses orally and in writing.

Unit 1: A WEEK AT SCHOOL In this unit students learn to name and describe school subjects, make a weekly school schedule, and have a conversation about a week at school. They learn how to understand

and apply sequencing words to describe their schedule. They also learn to tell time and express preferences for particular subjects.

Unit 2: MY WEEKEND In this unit students focus on talking about themselves, their families, their routines, and their weekend activities in the target language. They describe their daily routines and leisure activities with more specific details about when they do certain activities, while also paying attention to sequencing their actions. Students revisit and deepen their ability to describe where they live and where they do different activities. Students choose from a variety of technology to showcase their ability to describe their weekend.

Unit 3: MY COMMUNITY In this unit students learn to name and describe places in a community. They expand on the concept of including more details when talking and writing about where different key locations are situated within their community, as well as what activities they do in those locations.

World Language English

This class is offered to students in grades 3, 4 or 5 who are new to English. Small class sizes offer targeted instruction for developing social and instructional speaking and listening skills. Students practice asking and answering questions and expressing their ideas. As students show developing proficiency with English, they have the opportunity to transfer to Spanish or French.



Digital Citizenship

A digital citizen knows how to harness the power of technology safely, respectfully, and responsibly.

Overview

Digital citizenship is divided into two categories: behavior and ethical decision-making and information literacy.

Behavior and ethical decision-making: Students learn about how to avoid risky situations on the internet. They learn the difference between private and personal information. Students practice communicating responsibly and respectfully on the internet and in their digital community.

Information Literacy: Students learn to search the internet and evaluate websites. They also learn about copyright laws and plagiarism.

Lower Elementary

Students learn about internet safety, privacy and security, and relationships and communication. There is a focus on exploring websites that are safe and suggested by an adult. They also learn about what information is safe to post online and what information needs to remain private. Students learn about how to communicate with their peers respectfully online. Information literacy is interwoven in curricular units.

Upper Elementary

Students learn about internet safety, how to build a strong passwords, and cyberbullying. They also receive instruction into how to build a positive digital footprint. In fifth grade, students explore self image and how the media influences our views. Information literacy is interwoven throughout curricular units.



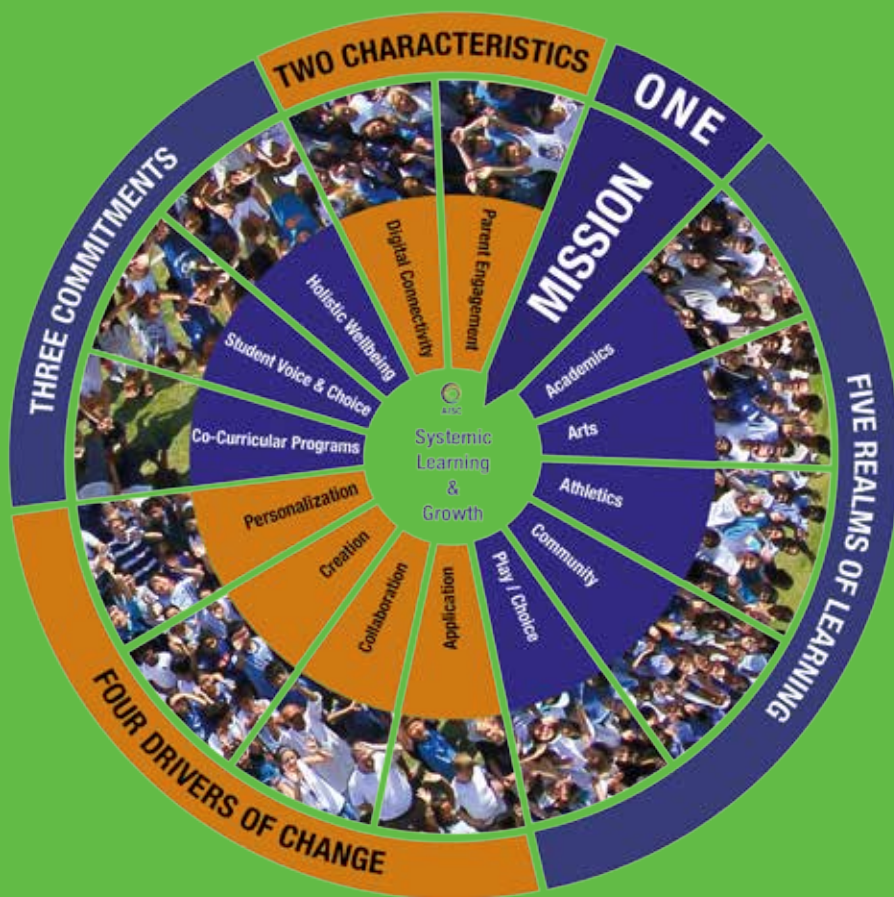
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