

## **LANGUAGE ARTS**

Developing skillful readers and writers is one of the fundamental goals of our language arts program. Reading and writing are complementary skills which are taught through an integrated language arts program. Students are required to construct meaning from text, communicate through writing, listen effectively, and speak with clarity.

Reading is a dynamic process which encourages readers to apply their existing knowledge to text as they read. The major goal of a reading program is to develop students who use a variety of strategies in order to understand and interpret what is being read and to reflect and respond in a thoughtful manner.

While first grade is traditionally the time when most children learn to read, it is important to realize that children from kindergarten through third grade progress through the developmental stages of emergent readers, early readers, fluent readers, and finally independent readers. Since not all children pass through these stages in lock step progression, the first grade program meets children where they are and differentiates instruction to address their needs. The expectation is that all students will master the first grade English language arts standards by June.

First graders are taught that good readers use multiple strategies to decode and make meaning of unfamiliar words. They begin to understand the appropriate use of semantic (meaning), syntactic (sentence structure) and phonetic (sound/symbol) cues to assist them. They learn that when good readers read, some of the information they use comes from the page, and some from their experience of the world and of language. As they read, the goal is to use these three major sources of information simultaneously. When reading about an unfamiliar subject, they depend more on the visual or phonetic cueing system. When reading about a familiar topic, they use semantic and syntactic cues to a greater extent. The following prompts are used to help children internalize the cueing systems and monitor their comprehension: Does it make sense? Does it sound right? Does it look right? First graders are introduced to the importance of setting a purpose before reading and the role that previewing a text, making predictions and asking questions play in helping them to focus their attention. After reading, they respond in a variety of ways which may include discussion, drawing, writing, role playing, and engaging in tasks that provide opportunities for them to become better listeners, speakers, and writers.

The teaching of phonics is included in our first grade program, although not in the form of traditional phonics “workbooks.” Teachers are trained in Project Read Phonology, and teach decoding and encoding through this systematic approach using multi-sensory strategies and materials.

Materials to teach reading are drawn from many sources including literature collections, trade books, picture books, poetry and nonfiction. For instructional purposes the goal is always to match the level of the text to the needs of the child. Although children have many opportunities to interact with text through shared reading, paired reading, read alouds, and flexible groupings, it is the direct instruction provided through guided reading that children have on a daily basis which is key to their learning to read.

Children are explicitly taught to write a variety of genres during writing workshop. As is the case with reading, children are at different developmental stages along the writing continuum. For most first grade writers, fluency of expression is the goal. Children are asked to write about what they know, and to this end, writing is integrated across the curriculum. First graders may keep journals, record science observations, write about math as well as other short and focused forms of prose. They are taught to apply the sound/symbol relationships they are learning in phonics as a means to approximate the spelling of words they need in order to communicate their ideas. In addition, first graders are introduced to a small sampling of high frequency, priority words which they are expected to read, spell, and use in their daily writing. Students produce writing samples twice a year, in the fall and spring. Samples are dated and placed in the students' cumulative writing files. Opportunities for children to link technology and writing are also available at the first grade level with Kid Pix. Children gain important introductory computer skills through exposure to this software as well as the motivation to publish selected pieces of work.

Formal handwriting instruction also occurs in first grade. Children receive direct instruction and practice in manuscript writing through a program called "Handwriting Without Tears." The goal is to help children develop an efficient, legible handwriting style with sufficient speed to meet their needs. Correct size, good form, neatness, and good habits for letter formation, pencil grip, and posture are stressed.

## **MATHEMATICS**

The major goal of the elementary mathematics curriculum is to develop students who are proficient in and empowered by the effective use of mathematics. This goal is consistent with the philosophy of the National Council of Teachers of Mathematics *Principles and Standards for School Mathematics* which supports the view of school mathematics as an experience that is "grounded in the belief that all students should learn important mathematical concepts and processes with understanding".

The *Principles* describe particular features of high-quality mathematics education. The six principles for school mathematics address overarching themes:

- \* Equity
- \* Curriculum
- \* Teaching
- \* Learning
- \* Assessment
- \* Technology

The *Standards* describe the mathematical content and processes that students should learn. The Content Standards explicitly describe the content that students should learn. The Content Standards are:

- \* Number and Operations
- \* Algebra
- \* Geometry

- \* Measurement
- \* Data Analysis
- \* Probability

The Process Standards highlight ways of acquiring and using content knowledge. The Process Standards are:

- \* Problem Solving
- \* Reasoning and Proof
- \* Communications
- \* Representations

Our K-5 Mathematics Program is the Revised “Investigations in Number, Data, and Space” 2008 Program (Pearson Scott Foresman). The Investigations curriculum incorporates years of research about how children learn mathematics and the vision for mathematics education as described in Principles and Standards for School Mathematics. Various resource materials are used in conjunction with the program. Manipulatives such as unifix and interlocking cubes, base ten blocks, Geoblocks, pattern blocks, color tiles, geometric solids, fraction bars, decimal squares, calculators and other technologies, are used as tools to engage students in thinking about and interacting with mathematical concepts.

In grade one, students continue to develop their number and operation sense. They learn to manipulate numbers using the Hundred Number Chart. Students play games and solve problems that involve finding number combinations and counting, combining, and comparing amounts. They read, write and sequence numbers up to 100; and solve addition and subtraction story problems. Many activities involve working with combinations of 10 and 20, and counting and combining things that come in 2’s, 5’s and 10’s. Students investigate patterns, data collection, and changes over time. They begin to observe, describe, compare and classify the shapes they see around them. Students explore the relationship between 3D shapes and 2D representations of those shapes. They use and identify coins and their values. They focus on the process of measuring weight, capacity and length through comparing. Students engage in critical mathematical processes such as sharing and explaining their strategies; using pictures, numbers, and words to show their work; and working cooperatively with peers. They gather, describe, represent, and interpret data.

## **SCIENCE**

Science literacy for all students is one of the fundamental goals of the elementary science program. Science is a way of knowing and inquiry is central to science learning. Because questions are at the core of science and technology, the students need to “tangle” with questions just as scientists and technologists do. They need to participate in projects, investigations, and design challenges that allow them to puzzle and search, raise questions, and rethink them. Like scientists and technologists, they must arrive at the essential content of science and technology

through inquiry. The goal of inquiry-based learning is for the students to become questioners themselves - not just to 'know the questions' but to 'own the questions'.

The elementary science curriculum is based on a constructivist approach to learning. Experiential learning -- "hands-on", "minds-on" science investigations, explorations and activities - is the core of the elementary science program. The students develop process skills and construct their understanding of science concepts and content through active involvement with materials and equipment and the systematic observation of organisms and ecosystems.

Throughout the elementary science curriculum emphasis is placed on the development of science process skills - including measuring; observing phenomena; making predictions; collecting, organizing, recording, analyzing and interpreting data; formulating and generating questions; forming hypotheses; designing experiments; and drawing conclusions - and habits of mind, including curiosity, open mindedness, and persistence.

The elementary science program includes three strands which reflect the major domains of science - physical sciences, life sciences, and earth and space sciences. Each and every year, beginning in grade one and continuing through grade four, the science curriculum includes at least three units of study - one from each of the three strands. In addition, beginning in grade one and continuing through grade four, there is a unifying science theme or concept for each grade level. In the unifying concepts approach, "science learning is organized around the concepts and processes common to all the domains of science."

"Change" is the unifying science theme for grade one. The physical science unit for grade one is *States of Matter*. Building on their kindergarten experiences with the material objects, first graders observe, sort, classify and describe solids and liquids according to different properties such as color, odor, and texture. Using various activities and investigations from the *Scholastic SciencePlace Unit- Solids, Liquids and Gases, States of Matter and How They Change, the EDC Insights Unit- Liquids, the FOSS Air and Weather* module and the *STC Changes Unit* the students identify the characteristic properties of solids, liquids and gases. For example the students learn that liquids take the shape of their containers. In addition, the students explore and investigate different substances such as "oobleck." The students also explore the concept of change. The students learn that materials can change from one state to another through processes such as freezing, melting, evaporation and condensation. For example students may explore the melting and freezing of ice cubes or how water evaporates. These investigations connect with the grade one earth science unit and provide opportunities for integration with engineering and technology explorations.

In first grade students explore the life cycles and metamorphosis of insects and amphibians, *The STC Life Cycle of Butterflies Unit* is the primary curriculum component of the grade one life science program. Students observe, describe and record the life cycles of painted lady butterflies (*Vanessa cardui*) from larval to adult stages. The students observe and study the basic structures and parts of the butterfly and learn that as with all insects, butterflies have six legs and three body parts. In addition a freshwater aquarium is established in each grade one classroom. The students observe and describe the different aquarium organisms, which include Spirogyra, duckweed (*Lemna minor*), Elodea plants, and pond snails. In early April wood frog eggs are

added to the classroom aquarium and for the next several weeks the students observe, describe, study and record the life cycle of the wood frogs (*Rana sylvatica*) from egg to adult stages. The students compare and contrast the life cycles of the butterflies and frogs and learn that organisms have basic needs that are met by their environments. The grade one life science unit includes a one-hour field trip to the Butterfly Place in Westford, Massachusetts and a two and one-half-hour field trip to Weir Hill, which is part of the Great Meadows National Wildlife Refuge. During their visit to Weir Hill the students observe plants and animals in the five different habitats and extend and deepen their understanding of the diversity of life.

The grade one earth science unit, *Always Changing I* introduces students to the concept of weather and how it affects their lives. Throughout the unit and during the course of the school year the students learn about various weather features including clouds, precipitation, wind and temperature. The students make weather observations, use various tools to collect and record weather data, and look for weather patterns. Specific investigations such as measuring the temperatures of warm and cold water and measuring and recording indoor and outdoor temperatures provide students with opportunities to develop their thermometer reading skills. The grade level-unifying theme - change - is addressed as the students discuss changes in the weather. *The STC Weather Unit*, *the FOSS Air and Weather* module, and other curriculum materials are used in conjunction with this unit.

In grade one students are introduced to the steps in the Engineering Design Process. Many of the student learning experiences with technology/engineering occur within the context the physical science and earth science units.

## **SOCIAL STUDIES**

This content studied will provide a framework for defining values, skills and student experiences. This content is based on four central strands: United States and world history, geography, economics, civics and government. These strands will interact with the curriculum to unify and enrich the content across grade levels. They are introduced in the primary grades and regularly reappear through the years, each time deepened and extended. At various grade levels, some strands may reflect greater emphasis depending on the focus. Along with these strands we have constructed a conceptual framework when studying a culture or period of time in our own history. These concepts which include examining environment and resources, culture and diversity, adaptation and change, conflict and discrimination are important to consider when building a curriculum. Integrated into this framework of knowledge are study skills, critical thinking, participation skills and developing 'historical habits of mind.' We believe that connections should be made to the fine arts, literature, religions, ethics, sciences, mathematics and technology throughout the topics of study.

We will provide our students with experiences both in and out of the classroom and encourage using a wide variety of sources. 'Hands on' exploration and activities are vital to an elementary social studies program. They allow students to construct their own meaning and bring alive many of the historical people and stories they have studied.

The social studies curriculum for grade one focuses on self-awareness, working and living with others and developing a respect for human differences. Through the use of stories and other literature, teacher assistance and their own investigation, students begin to understand and respond to the effects of climate and physical geography on various parts of the world and foster openness and curiosity toward other cultures.

Through the use of literature such as folk tales, historical stories, poetry and songs, students are introduced to historical events and begin to recognize the idea of past and present.

A unit on maps and globes focuses on the attributes of a map, features in the child's environment which can be mapped, rudimentary map symbols, and basic geographical terms.

## **TECHNOLOGY**

Computers are integrated throughout the curriculum to support, reinforce, apply and enhance learning in mathematics, science, social studies, writing, reading, health, and research. Selected software titles have been designated by grade level to support specific subject areas.

School-wide, generic software tools such as Microsoft Office, AppleWorks (word processing, database, spreadsheet, drawing, painting, presentation), Internet Explorer, Inspiration, EasyBook Deluxe, Kid Pix Studio Deluxe, iMovie, and HyperStudio are used to publish and create multimedia presentation of subject material. In addition, individual software programs are available in the computer lab for teachers to supplement and enrich students' classroom projects. Some examples include TimeLiner, Dreamweaver, TERC Math, Type To Learn, and interactive video CD-ROMS from National Geographic Society.

Facilities in every elementary school include a computer lab, wireless mobile labs, and at least one computer and ActivBoard in every classroom. Internet access is available in each classroom as well as the school library.

## **K-5 HEALTH**

The overall goal of the health education program is to provide students with the knowledge, skills and habits of mind needed to make healthy, self-enhancing decisions. This goal is further supported and aligned with the core concept of the Massachusetts Health Education Curriculum Framework which states, "the aim of teaching comprehensive school health education is to develop and nurture resilience, which is the ability to thrive, persevere, and maintain a positive attitude and healthy body. By beginning in the early years to educate and promote the well being of students, school health programs help them to avoid future problems like substance abuse, eating disorders and school failure. Students learn how to develop and maintain their own physical wellness and personal relationships; they discover that health means much more than

the absence of disease or the avoidance of danger. Making choices that promote health and well-being can make life more productive and rewarding.”

Research on developing resiliency in children supports the notion that this overall goal is best achieved by continuing to build strong partnerships between parents, teachers, administrators and the community-at-large. In keeping with the spirit of this partnership, it is our practice to inform parents about the health education curriculum specific to each grade level, so that the topics taught can be discussed, supported and introduced at home.

This practice complies with the 1996 Massachusetts Parent Notification Law, which requires districts to inform parents/guardians about the content of the human sexuality component of the program. The law also requires districts to make materials available for parent viewing and to provide parents/guardians the option of whether or not their child participates in the learning of the human sexuality curriculum. These requirements have been common practice in Concord at the K-5 level since the inception of the human sexuality segment of the program since 1995.

In grades K-5, strands from the Department of Education Health Frameworks document organize the health education curriculum that are introduced in kindergarten and developed in an age appropriate way through grade 5. These include: Growth and Development, Physical Activity & Fitness, Nutrition, Reproduction and Sexuality, Mental Health, Family Life, Interpersonal Relationships, Disease Prevention, Safety & Injury Prevention, Tobacco, Alcohol & Other Drugs, Violence Prevention. These strands are further centered around three themes: About Me: Physical, About Me: Emotional and About Me: Social.

Throughout the K-5 curriculum, emphasis is on developing skills such as problem-solving, decision-making, and social skills including communication, empathy and assertiveness, and habits of mind, including open-mindedness, flexibility, curiosity, sense of interdependence and acceptance of personal, social and civic responsibility. Classroom teachers, with assistance from our school Social Workers and Health Curriculum Specialist, have been trained in the Wellesley College *Open Circle* Social Competency program to meet the health education standards in the Social Emotional Health Strand.

In grade 1, the program builds upon the self-awareness activities introduced in kindergarten. The program progresses from understanding the physical and emotional aspects of a healthy “me,” to the social needs that family, friends and other community members provide, and emphasizes that each person has the responsibility to make healthy decisions and to develop healthy relationships.

Topics covered are self-esteem, dealing with feelings, human body, friendships, families, nutrition, and personal safety, good/bad touch. The Concord Fire Department will present the SAFE fire prevention program. In an effort to help students recognize the connections with other academic areas, a number of health topics are integrated with self, family and community themes taught in social studies; with life-cycle, growth and development concepts taught in science; with literature selections that reinforce language arts and library media curricular goals; with math skills and concepts such as graphing and measuring; with classroom management, conflict management and social skills reinforced each day in the classroom, and with fitness concepts

stressed in physical education. Health topics and skills are being modified to incorporate instructional approaches using technology.

## **ART**

The K-5 art program gives children another language for learning. Children are encouraged to express themselves through their art to draw inspiration from observation, imagination, personal experience and classroom study. A variety of two- and three-dimensional processes are explored and then used as a means to realize personal expression. Reflection and discussion are important elements of each art experience, fostering insights which may be applied to future learning. After kindergarten, art classes are one hour in length to accommodate a dialogue and a presentation of a daily lesson, a time for students to work through ideas, and time to wrap up with sharing of solutions which articulate learning.

## **MUSIC**

The music program in grade one (one forty-five minute class per week) begins with a review of the concepts of pitch matching, steady beat, and loud/soft, high/low, fast/slow, long/short, choppy/smooth. With this foundation of musical skill development, the concepts of rhythm, melodic line, form and timbre recognition are added. Goals in this child-centered environment are accomplished through active participation and exploration in singing, listening, playing classroom rhythmic instruments, moving and playing musical games.

## **PHYSICAL EDUCATION**

The physical education program (one hour class per week) offers children a variety of creative motor experiences that promote healthy attitudes toward exercise. The physical education program offers vigorous and non-vigorous activities that build skills, strength, speed, coordination, self-confidence, and self-image. Social and emotional development is addressed through the teaching of concepts such as cooperation, problem solving, team building, fair play, and respect for human differences. The physical education program clearly plays a vital role in the education of the whole child. Doing one's "personal best" is a theme at all grade levels.

In grade one, the physical education program further develops movement patterns, ball skills and fitness through participation in simple games, cooperative activities, gymnastics and dance.

## **LIBRARY MEDIA**

### **Learning Expectations - Grade 1**

In first grade, students will develop the ability to:

- Appreciate and identify various genres of children's literature including:
  - picture books
  - folk and fairy tales
  - award winning books
  - books by specific authors and illustrators
  
- Differentiate between fiction and nonfiction and understand that these books may have different uses
  
- Properly care for books
  
- Independently choose books for recreational reading
  - Early readers
  
- Understand that the library is arranged by specific types of books and locate areas that have books meeting their reading interests
  
- Understand that reference sources such as encyclopedias and dictionaries are used to find certain kinds of information
  
- Introduce early library skills
  - alphabetical order
  - call numbers
  - parts of a book

### **ALA Information Literacy Standards for Student Learning**

*Standards 1, 2, 4, 5, 9 performed to BASIC level*

## **CONCORD ELEMENTARY SCHOOLS - HOMEWORK GUIDELINES**

### **What Is Homework?**

Homework is any assigned activity done outside of school which relates to any phase of learning. It should be an enrichment and a reinforcement of learning activities. It should not be used to teach something new, to fulfill a time requirement, or to punish. From time to time homework may also be used to encourage discussion among family members and to provide linkages between home and school.

### **Purpose of Homework**

1. To supplement and reinforce skills and work done in class.
2. To enrich the child's school experience.
3. To provide opportunities to use skills/knowledge learned in school in creative ways outside of school.
4. To promote individual responsibility.
5. To teach the child how to budget time and organize materials.
6. To promote independent study and research skills.
7. To develop leisure interests in learning that will enhance later experiences in life.

### **Role of Student**

1. To be responsible for the completion of assignments.
2. To confer with parents and/or teachers if assignments are not clear or are too difficult.

### **Role of Teacher**

1. To communicate with parents early in the year about homework expectations.
2. To design homework to accomplish a specific purpose closely related to the curriculum for the grade level.
3. To insure that homework assignments are clear.
4. To assist student in learning how to study.
5. To examine completed assignments so that they can be utilized efficiently in instruction.
6. To communicate with the child and parents when problems concerning homework arise.
7. To vary types of assignments so as to hold the child's interest and to meet different needs.

*(continued on next page)*

## CONCORD ELEMENTARY SCHOOLS - HOMEWORK GUIDELINES (cont.)

### Role of Parent

1. To encourage the child to accept the responsibility for completing home assignments.
2. To provide a quiet study environment.
3. To assist the child when the teacher and parent have conferred and agreed that this assistance would be helpful.
4. To monitor the time spent on homework and to confer with the teacher if the amount of time appears to be consistently excessive or too little.
5. To confer with the teacher if assignments seem consistently unclear or too difficult.
6. To notify the teacher if an unforeseen occurrence prevents the child from completing an assignment.

### Guidelines for Time and Frequency

Grade Level	Time	Frequency
Kindergarten	Discretion of teacher	
Grade 1	Discretion of teacher	
Grade 2	Discretion of teacher	
Grade 3	20 minutes*	Monday through Thursday
Grade 4	30 minutes*	Monday through Thursday
Grade 5	45 minutes*	Monday through Thursday

*\*A guideline is by its nature an approximate standard meant to convey to parents the average amount of time the teacher anticipates a student will need to spend on homework. Homework time will vary from student to student and from day to day. Teachers may also give additional assignments such as reading independently, writing journals, or keeping up with current events. They may also give long-term assignments such as research reports or book-related projects.*