

4th Grade



CURRICULUM FOR 4TH GRADE @ORION

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www.OrionHS.org

K-4 Overview

General Information

Learners in Kindergarten, First, Second, Third, and Fourth take the following courses at Orion, with their assigned teacher/mentor:

- Reading/Language Arts
- Phonics (K-1-2 Only)
- Math
- Science
- Social Studies
- Spanish

At the same time, at home, the learner and parent are required to submit evidence, to the teacher, of:

- Physical Fitness/Activity Logs
- Bible Study/Activities
- Art and Culture Activities

K-4 Overview

Entry and Admissions

The entry point for learners coming in to Orion can be at any time. Upon enrollment, learners are assigned to their teacher and classroom, where there is a module regarding Orientation. Learners start at the Curriculum Calendar Point. For example, if a learner enters on November 19, that learner will start where all other learners are in the same grade level (Math Unit 3 for example).

We do that to ensure continuity of learning for all.

The Essential Knowledge and Skills

What do Children Learn at Our School?

Since many of our children come from other Texas schools, we utilize the State's Standards for learning, called the Texas Essential Knowledge and Skills, to build upon student learning. In grades K-1-2, we add a separate Phonics component in order to assist students who may be lagging in reading and comprehension, as we way to build their skill set. The following descriptions are general descriptions for student learning.

Art and Culture

The fine arts incorporate the study of dance, music, theatre, and the visual arts to offer unique experiences and empower learners to explore realities, relationships, and ideas. These disciplines engage and motivate all students through active learning, critical thinking, and innovative problem solving. The fine arts develop cognitive functioning and increase learner's academic achievement, higher-order thinking, communication, and collaboration skills, making the fine arts applicable to college readiness, career opportunities, workplace environments, social skills, and everyday life. Learners should develop aesthetic and cultural awareness through exploration, leading to creative expression. Creativity, encouraged through the study of the fine arts, is essential to nurture and develop the whole child.

There are four basic strands--foundations: observation and perception; creative expression; historical and cultural relevance; and critical evaluation and response--provide broad, unifying structures for organizing the knowledge and skills students are expected to acquire. Each strand is of equal value and may be presented in any order throughout the year. Students rely on personal observations and perceptions, which are developed through increasing visual literacy and sensitivity to surroundings, communities, memories, imaginings, and life experiences, as sources for thinking about, planning, and creating original artworks. Students communicate their thoughts and ideas with innovation and creativity. Through art, students challenge their imaginations, foster critical thinking, collaborate with others, and build reflective skills. While exercising meaningful problem-solving skills, students develop the lifelong ability to make informed judgments.

The Essential Knowledge and Skills

Physical Fitness/Activity

In Physical Education, learners acquire the knowledge and skills for movement that provide the foundation for enjoyment, continued social development through physical activity, and access to a physically-active lifestyle. The learner exhibits a physically-active lifestyle and understands the relationship between physical activity and health throughout the lifespan.

In K-5 children learn fundamental movement skills and begin to understand how the muscles, bones, heart, and lungs function in relation to physical activity. Learners begin to develop a vocabulary for movement and apply concepts dealing with space and body awareness. Learners are engaged in activities that develop basic levels of strength, endurance, and flexibility. In addition, learners learn to work safely in group and individual movement settings. A major objective is to present activities that complement their natural inclination to view physical activity as challenging and enjoyable.

The parent takes the lead in physical education, and provides evidence back to the school.

The Essential Knowledge and Skills

English Language Arts and Reading

The English language arts and reading standards embody the interconnected nature of listening, speaking, reading, writing, and thinking through the seven integrated strands of developing and sustaining foundational language skills; comprehension; response; multiple genres; author's purpose and craft; composition; and inquiry and research. The strands focus on academic oracy (proficiency in oral expression and comprehension), authentic reading, and reflective writing to ensure literacy. The strands are integrated and progressive with learners continuing to develop knowledge and skills with increased complexity and nuance in order to think critically and adapt to the ever-evolving nature of language and literacy.

There are seven strands for English language arts and reading and they are intended to be integrated for learning purposes and they are recursive in nature. Strands include the four domains of language (listening, and their speaking, reading, and writing) application in order to accelerate the acquisition of language skills so that learners develop high levels of social and academic language proficiency. Although some strands may require more learning time, each strand is of equal value, may be presented in any order, and should be integrated throughout the year. It is important to note that encoding (spelling) and decoding (reading) are reciprocal skills. Decoding is internalized when tactile and kinesthetic opportunities (encoding) are provided. Additionally, students should engage in academic conversations, write, read, and be read to on a daily basis with opportunities for cross-curricular content and student choice. Those conversations will be with your child's teacher as well as with you, the parent.

The Essential Knowledge and Skills

Math

In mathematics, while children learn, we have clear focal points of learning for each grade level. Those focal points will be the focus of the learning modules in mathematics. How learners respond (projects, tasks, homework, etc.), will be how we integrate the mathematical process standards. Below are the focal points of learning for each grade level.

Kindergarten-The primary focal areas in Kindergarten are understanding counting and cardinality, understanding addition as joining and subtraction as separating, and comparing objects by measurable attributes.

First- The primary focal areas in Grade 1 are understanding and applying place value, solving problems involving addition and subtraction, and composing and decomposing two-dimensional shapes and three-dimensional solids.

Second-The primary focal areas in Grade 2 are making comparisons within the base-10 place value system, solving problems with addition and subtraction within 1,000, and building foundations for multiplication.

Third-The primary focal areas in Grade 3 are place value, operations of whole numbers, and understanding fractional units. These focal areas are supported throughout the mathematical strands of number and operations, algebraic reasoning, geometry and measurement, and data analysis. In Grades 3-5, the number set is limited to positive rational numbers. In number and operations, learners will focus on applying place value, comparing and ordering whole numbers, connecting multiplication and division, and understanding and representing fractions as numbers and equivalent fractions. In algebraic reasoning, learners will use multiple representations of problem situations, determine missing

The Essential Knowledge and Skills

Math

Fourth-The primary focal areas in Grade 4 are use of operations, fractions, and decimals and describing and analyzing geometry and measurement. These focal areas are supported throughout the mathematical strands of number and operations, algebraic reasoning, geometry and measurement, and data analysis. In Grades 3-5, the number set is limited to positive rational numbers. In number and operations, learners will apply place value and represent points on a number line that correspond to a given fraction or terminating decimal. In algebraic reasoning, learners will represent and solve multi-step problems involving the four operations with whole numbers with expressions and equations and generate and analyze patterns. In geometry and measurement, learners will classify two-dimensional figures, measure angles, and convert units of measure. In data analysis, learners will represent and interpret data.

The Essential Knowledge and Skills Science

Kindergarten-In Kindergarten, learners observe and describe the natural world using their senses. Learners do science as inquiry in order to develop and enrich their abilities to understand scientific concepts and processes. Learners develop vocabulary through their experiences investigating properties of common objects, earth materials, and organisms.

A central theme throughout the study of scientific investigation and reasoning; matter and energy; force, motion, and energy; Earth and space; and organisms and environment is active engagement in asking questions, creating a method to answer those questions, answering those questions, communicating ideas, and exploring with scientific tools. Scientific investigation and reasoning involves practicing safe procedures, asking questions about the natural world, and seeking answers to those questions through simple observations used in descriptive investigations

First-In Grade 1, learners observe and describe the natural world using their senses. Learners do science as inquiry in order to develop and enrich their abilities to understand the world around them in the context of scientific concepts and processes. Learners develop vocabulary through their experiences investigating properties of common objects, earth materials, and organisms.

A central theme in first grade science is active engagement in asking questions, creating a method to answer those questions, answering those questions, communicating ideas, and exploring with scientific tools in order to explain scientific concepts and processes like scientific investigation and reasoning; matter and energy; force, motion, and energy; Earth and space; and organisms and environment. Scientific investigation and reasoning involves practicing safe procedures, asking questions about the natural world, and seeking answers to those questions through simple observations used in descriptive investigations.

The Essential Knowledge and Skills Science

Second-In Grade 2, careful observation and investigation are used to learn about the natural world and reveal patterns, changes, and cycles. Learners should understand that certain types of questions can be answered by using observation and investigations and that the information gathered in these investigations may change as new observations are made. As learners participate in investigation, they develop the skills necessary to do science as well as develop new science concepts.

A central theme throughout the study of scientific investigation and reasoning; matter and energy; force, motion, and energy; Earth and space; and organisms and environment is active engagement in asking questions, creating a method to answer those questions, answering those questions, communicating ideas, and exploring with scientific tools. Scientific investigation and reasoning involves practicing safe procedures, asking questions about the natural world, and seeking answers to those questions through simple observations used in descriptive investigations.

Third-In Grade 3, learners learn that the study of science uses appropriate tools and safe practices in planning and implementing investigations, asking and answering questions, collecting data by observing and measuring, and using models to support scientific inquiry about the natural world.

Within the physical environment, learners recognize that patterns, relationships, and cycles exist in matter. Learners will investigate the physical properties of matter and will learn that changes occur. They explore mixtures and investigate light, sound, and thermal energy in everyday life. Learners manipulate objects by pushing and pulling to demonstrate changes in motion and position.

Within the natural environment, learners investigate how the surface of Earth changes and provides resources that humans use. As learners explore objects in the sky, they describe how relationships affect patterns and cycles on Earth. Learners will construct models to demonstrate Sun, Earth, and Moon system relationships.

The Essential Knowledge and Skills

Science

Fourth-In Grade 4, investigations are used to learn about the natural world. Learners should understand that certain types of questions can be answered by investigations and that methods, models, and conclusions built from these investigations change as new observations are made. Models of objects and events are tools for understanding the natural world and can show how systems work. They have limitations and, based on new discoveries, are constantly being modified to more closely reflect the natural world.

Within the physical environment, learners know about the physical properties of matter including mass, volume, states of matter, temperature, magnetism, and the ability to sink or float. Learners will differentiate among forms of energy including mechanical, light, sound, and thermal energy. Learners will explore electrical circuits and design descriptive investigations to explore the effect of force on objects.

Within the natural environment, learners know that earth materials have properties that are constantly changing due to Earth's forces. The learners learn that the natural world consists of resources, including renewable and nonrenewable, and their responsibility to conserve our natural resources for future generations. They will also explore Sun, Earth, and Moon relationships. The learners will recognize that our major source of energy is the Sun.

Within the living environment, learners know and understand that living organisms within an ecosystem interact with one another and with their environment. The learners will recognize that plants and animals have basic needs, and they are met through a flow of energy known as food webs. Learners will explore how all living organisms go through a life cycle and have structures that enable organisms to survive in their ecosystem.

The Essential Knowledge and Skills

Social Studies

First-In Grade 1, learners study their relationship to the classroom, school, and community to establish the foundation for responsible citizenship in society. Learners develop concepts of time and chronology by distinguishing among past, present, and future events. Learners identify anthems and mottoes of the United States and their home state. Learners create simple maps to identify the location of places in the neighborhood and community. Learners explore the concepts of goods and services and the value of work. Learners identify individuals who exhibit good citizenship. Learners describe the importance of family customs and traditions and identify how technology has changed family life. Learners sequence and categorize information. Learners practice problem-solving, decision-making, and independent-thinking skills.

Second- In Grade 2, learners focus on a study of their local community by examining the impact of significant individuals and events on the history of the community as well as on the state and nation. Learners begin to develop the concepts of time and chronology. The relationship between the physical environment and human activities is introduced as are the concepts of consumers and producers. Learners identify functions of government as well as services provided by the local government. Learners continue to acquire knowledge of customs, symbols, and celebrations that represent American beliefs and principles. Learners identify the significance of works of art in the local community and explain how technological innovations have changed transportation and communication. Learners communicate what they have learned in written, oral, and visual forms.

The Essential Knowledge and Skills

Social Studies

Third- In Grade 3, learners learn how diverse individuals have changed their communities and world. Learners study the effects inspiring heroes have had on communities, past and present. Learners learn about the lives of heroic men and women who made important choices, overcame obstacles, sacrificed for the betterment of others, and embarked on journeys that resulted in new ideas, new inventions, new technologies, and new communities. Learners expand their knowledge through the identification and study of people who made a difference, influenced public policy and decision making, and participated in resolving issues that are important to all people. Throughout Grade 3, learners develop an understanding of the economic, cultural, and scientific contributions made by individuals .

Fourth-In Grade 4, learners examine the history of their home state from the early beginnings to the present within the context of how the state had influences on North America. Learners learn about colonization and reasons for the establishment of Spanish settlements and missions. Learners explain how American Indians governed themselves and identify characteristics of Spanish colonial and Mexican governments in states of the US.

Mathematics

First Semester Topics and Lessons

Module #	Number of Days and Lessons
1-Understand Whole Numbers and Operations	18 Lessons/18 Days
1-IXL Requirement	4 Days
2-Multiplication and Division Facts	16 Lessons/16 Days
2-IXL Requirement	4 Days
3-Multiply by 1 and 2 Digit Numbers	16 Lessons/16 Days
3-IXL Requirement	4 Days
4-Divide by 1 Digit Divisors	17 Lessons/17 Days
4-IXL Requirement	4 Days
5-Data and Algebra	22 Lessons/22 Days
5-IXL Requirement	4 Days
	There are more than the allotted time span. Save some days on IXL, and Keep moving

Mathematics

Second Semester Topics and Lessons

Module #	Number of Days and Lessons
6-Understanding Fractions	5 Lessons/5 Days
6-IXL Requirement	2 Days
7-Adding and Subtracting Fractions and Mixed Numbers	5 Lessons/5 Days
7-IXL Requirement	2 Days
8-Understanding Decimals	6 Lessons/6 Days
8-IXL Requirements	3 Days
9-Add and Subtract Decimals	6 Lessons/6 Days
8-IXL Requirements	3 Days
9-Customary Measurement	6 Lessons/6 Days
9-IXL Requirements	3 Days
10-Metric Measurement	5 Lessons/5 Days
10-IXL Requirement	3 Days
	49 Days Total (There are 77 days in the Second Semester.)

Due to the length of the first semester topics, learners will start semester 2 with finishing 1st semester.

Reading/Language Arts

First Semester Topics and Lessons

Module #	Number of Days and Lessons
1-Island of the Blue Dolphins	20-25 Days
2-Mysteries	5 Days
3-Living in Alaska and Other Stories	5 Days
4-Astronauts in Training and Other Stories	5 Days
5-Rafting-Ready or Not, and Other Stories	5 Days
6-Mighty Jackie and Other Stories	5 Days
7-Stealing Beauty and Other Stories	5 Days
8-How Ben Franklin Stole the Lightning and Other Stories	5 Days
9-Dear Mr. Winston and Other Stories	5 Days
10-Flycatcher and Coyote and Other Stories	5 Days
11-Snowflake Bentley and Other Stories	5 Days
	70 Days of Reading for First Semester

Reading/Language Arts

Second Semester Topics and Lessons

Module #	Number of Days and Lessons
12-Man's Best Friend	5 Days
13-Creative Solutions	5 Days
14-Energy: Power Source	5 Days
4-Astronauts in Training and Other Stories	5 Days
5-Whales	5 Days
6-The Sea	5 Days
7-Stealing Beauty and Other Stories	5 Days
8-The Library	5 Days
9-Putting on a Play	5 Days
10-Explorations	5 Days
11-Artists at Work	5 Days
12-Wild Horses	5 Days
13-The Gold Rush	5 Days
14-Wild Visitors	5 Days
	70 Days of Reading for Second Semester

Science

First Semester Topics and Lessons

Module #	Number of Days and Lessons
1-Learned Behavior of Animals	5 Days
2-Nervous System	5 Days
3-The Respiratory System	5 Days
4-The Cardiovascular System	5 Days
5-The Digestive System	5 Days
6-The Skin	5 Days
7-The Skeletal System	5 Days
	With 7 Modules in Science, those only need to be completed by end of first semester to allow learners extra time for other subjects.

Science

Second Semester Topics and Lessons

Module #	Number of Days and Lessons
8-Living Things Need Energy	7 Days
9-Living Things and Their Environment	7 Days
10-Rocks and Minerals	7 Days
11-Slow Changes on Earth	7 Days
12-Fast Changes on Earth	7 Days
13-Electricity	7 Days
23-What do you do with a tail like this?	7 Days
24-Magnetism	7 Days
	56 Days of Science in Second Semester

Social Studies

First Semester Topics and Lessons

Module #	Number of Days and Lessons
1-Boston Tea Party	5 Days
2-The Intolerable Acts	5 Days
3-United We Stand	5 Days
4-Liberty of Death!	5 Days
5-The Midnight Ride	5 Days
6-The Shot Hear Round the World	5 Days
7-Green Mountain Boys	5 Days
8-The Second Continental Congress	5 Days
9-Bunker Hill	5 Days
10-Washington Takes Command	5 Days
11-Postmaster General Franklin	5 Days
12-Common Sense	5 Days
13-The Turtle	5 Days
	65 Days of Social Studies (United States History)

Social Studies

Second Semester Topics and Lessons

Module #	Number of Days and Lessons
14-One Life to Lose	5 Days
15-Captain Molly	5 Days
16-American Crisis	5 Days
17-Captain Molly	5 Days
18-American Crisis	5 Days
19-Across the Delaware	5 Days
20-An American in Paris	5 Days
21-Sybil Ludington	5 Days
22-Lafayette Arrives	5 Days
23-The Hessians Are Coming	5 Days
24-Valley Forge	5 Days
25-Allies at Last	5 Days
26-Honor and Compromise	5 Days
27-The New Frontier	5 Days
	70 Days of Social Studies (United States History)

Spanish

First Semester Topics and Lessons

Module #	Number of Days and Lessons
Unit 1 - Language Basics	There are 4 Lessons, and a total of 33 Sub-Lessons (parts of each lesson). This should take around 35 Days
Unit 2-Greetings and Introductions	There are 4 Lessons, and a total of 26 Sub lessons (parts of each lesson). This should take approximately 35 Days
	70 Days of the first 1/2 of Spanish Level 1

Spanish

Second Semester Topics and Lessons

Module #	Number of Days and Lessons
Unit 3-Work and School	There are 4 Lessons, and a total of 33 Sub-Lessons (parts of each lesson). This should take around 35 Days
Unit 4-Shopping	There are 4 Lessons, and a total of 33 Sub lessons (parts of each lesson). This should take approximately 35 Days
	70 Days of the second 1/2 of Spanish Level 1

