



Roy & Dora

**Whitman
Academy**

Grade Four Standards Booklet

This booklet was developed for parents and teachers as part of The Roy & Dora Whitman Academy commitment to high standards of educational excellence. We want parents to be able to partner with us to support their children's achievement of the knowledge, skills and understandings that should be accomplished by the end of each grade level. The Roy & Dora Whitman Academy standards were developed by adapting the United States' Common Core Standards and the United Kingdom's National Curriculum Standards and incorporating Christian worldview and local Jordanian culture.

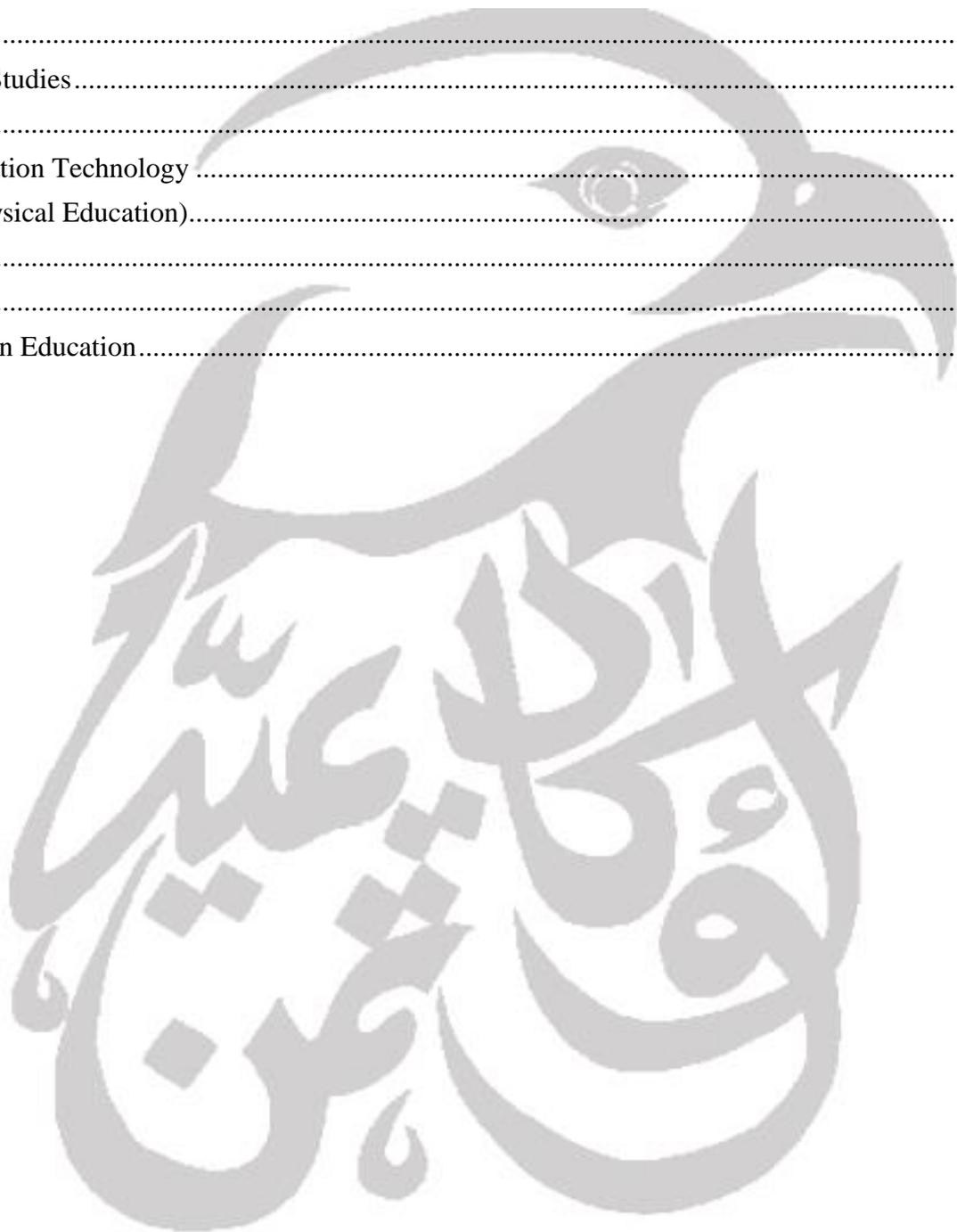
This booklet of standards aids parents in understanding the report cards that are sent out each month. Parents can look at the standards and interpret how their child is working at, below or above the grade level expectations.

Teachers use the standards as a benchmark for their own instruction and assessment of students' learning, to ensure that they are supporting and challenging all students.

If parents have any questions or comments, they can contact the class teacher or department head.

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English

Reading
Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
Determine a theme of a story, drama, or poem from details in the text; summarize the text.
Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).
Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean).
Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.
Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.
Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.
Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.
By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range.
Determine the main idea of a text and explain how it is supported by key details; summarize the text.
Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.
Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a <i>grade 4 topic or subject area</i> .
Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.
Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.
Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.
Explain how an author uses reasons and evidence to support particular points in a text.

Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.
By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range.
Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.
Read grade-level text with purpose and understanding.
Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.
Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
Writing
Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose.
Provide reasons that are supported by facts and details.
Link opinion and reasons using words and phrases (e.g., <i>for instance, in order to, in addition</i>).
Provide a concluding statement or section related to the opinion presented.
Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
Link ideas within categories of information using words and phrases (e.g., <i>another, for example, also, because</i>).
Use precise language and domain-specific vocabulary to inform about or explain the topic.
Provide a concluding statement or section related to the information or explanation presented.
Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally.
Use dialogue and description to develop experiences and events or show the responses of characters to situations.
Use a variety of transitional words and phrases to manage the sequence of events.
Use concrete words and phrases and sensory details to convey experiences and events precisely.
Provide a conclusion that follows from the narrated experiences or events.
Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.
With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.
Conduct short research projects that build knowledge through investigation of different aspects of a topic.
Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.
Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
Speaking and Listening
Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
Follow agreed-upon rules for discussions and carry out assigned roles.
Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.
Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
Identify the reasons and evidence a speaker provides to support particular points.
Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.
Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation.
Grammar and Punctuation
Use relative pronouns (<i>who, whose, whom, which, that</i>) and relative adverbs (<i>where, when, why</i>).
Form and use the progressive (e.g., <i>I was walking; I am walking; I will be walking</i>) verb tenses.
Use modal auxiliaries (e.g., <i>can, may, must</i>) to convey various conditions.
Order adjectives within sentences according to conventional patterns (e.g., <i>a small red bag</i> rather than <i>a red small bag</i>).
Form and use prepositional phrases.

Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.
Correctly use frequently confused words (e.g., <i>to, too, two; there, their</i>).
Use correct capitalization.
Use commas and quotation marks to mark direct speech and quotations from a text.
Use a comma before a coordinating conjunction in a compound sentence.
Spell grade-appropriate words correctly, consulting references as needed.
Choose words and phrases to convey ideas precisely.
Choose punctuation for effect.
Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion).
Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.
Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., <i>telegraph, photograph, autograph</i>).
Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.
Explain the meaning of simple similes and metaphors (e.g., <i>as pretty as a picture</i>) in context.
Recognize and explain the meaning of common idioms, adages, and proverbs.
Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).
Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., <i>quizzed, whined, stammered</i>) and that are basic to a particular topic (e.g., <i>wildlife, conservation, and endangered</i> when discussing animal preservation).

Math

Operations and Algebraic Thinking

Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.

Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

Number and Operations in Base Ten

Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.*

Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.

Use place value understanding to round multi-digit whole numbers to any place.

Fluently add and subtract multi-digit whole numbers using the standard algorithm.

Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Numbers and Operations in Fractions

Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.

Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.

Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples:* $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2 \frac{1}{8} = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$.

Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.

Understand a fraction a/b as a multiple of $1/b$. *For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.*

Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)*

Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*

Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express $3/10$ as $30/100$, and add $3/10 + 4/100 = 34/100$.*

Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as $62/100$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*

Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual model.

Measurement and Data
Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. <i>For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...</i>
Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
Apply the area and perimeter formulas for rectangles in real world and mathematical problems. <i>For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.</i>
Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. <i>For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.</i>
An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a "one-degree angle," and can be used to measure angles.
An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
Geometry
Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Physical Science

Structure and Properties of Matter

EC1A.1 Objects have many observable properties, including size, weight, shape, color, temperature, and the ability to react with other substances. Those properties can be measured using tools, such as rulers, balances, and thermometers.

EC1A.2 Objects are made of one or more materials, such as paper, wood, and metal. Objects can be described by the properties of the materials from which they are made, and those properties can be used to separate or sort a group of objects or materials.

EC1A.3 Materials are composed of parts that are too small to be seen without magnification.

EC1A.4 Materials can exist in different states — solid, liquid, and gas—and each state has distinct physical properties.

Changes of Properties of Matter

EC1B.1 Things can be done to materials to change some of their properties (heating, freezing, mixing, cutting, dissolving, bending), but not all materials respond the same way to what is done to them.

EC1B.2 The mass of a material remains constant whether it is together, in parts, or in a different state.

Motions and Forces

EC1C.1 The position of an object can be described by locating it relative to another object or the background.

EC1C.2 An object's motion can be described by tracing and measuring its position over time. Things move in many different ways (e.g., straight line, zigzag, vibration, circular motion).

EC1C.3 The position and motion of objects can be changed by a force. The size of the change is related to the strength of the force and to the mass of the object.

EC1C.4 Gravity causes things near the Earth fall to the ground unless something holds them up.

EC1C.5 Electrically charged materials pull on all other materials and can attract or repel other charged materials.

EC1C.6 Magnets attract and repel each other and certain kinds of other materials without touching them.

Interactions of Energy and Matter

EC1D.1 Moving objects have energy. Energy can also be stored in various ways and converted to different forms.

EC1D.2 Heat can be produced in many ways, such as burning, rubbing, or mixing one substance with another. Heat is often produced as a byproduct when one form of energy is converted to another form (e.g. when machines and living organisms convert stored energy to motion). Heat can move from one object to another by conduction and some materials conduct heat better than others.

EC1D.3 Sound is produced by vibrating objects. The pitch of the sound can be varied by changing the rate of vibration.

EC1D.4 Light travels in a straight line until it strikes an object. Light can be reflected by a mirror, refracted by a lens, or absorbed by an object.

EC1D.5 Electricity in circuits can produce light, heat, sound, and magnetic effects. Electrical circuits require a complete loop through which an electrical current can pass.

Life Science

Structure of Cells and Organisms

EC2A.1 Organisms have basic needs. For example, animals need air, water, nutrients, and light. Organisms can survive only in environments in which their needs can be met, and they have features that help them live in different environments.

EC2A.2 Each plant or animal has different structures that serve different functions in growth, survival, and reproduction. For example, humans have distinct body structures for walking, holding, seeing, and talking.

Reproduction and Heredity

EC2B.1 Plants and animals have life cycles that include being born, developing into adults, reproducing, and eventually dying. The details of this life cycle are different for different organisms.

EC2B.2 Plants and animals closely resemble their parents, but differences exist among individuals of the same kind of plant or animal.

EC2B.3 Many characteristics of an organism are inherited from the parents of the organism, but other characteristics result from an individual's interactions with the environment. Inherited characteristics include the color of flowers and the number of limbs of an animal. Other features, such as the ability to ride a bicycle, are learned through interactions with the environment and cannot be passed on to the next generation.

Regulation and Behavior of Organisms

EC2C.1 The behavior of individual organisms is influenced by internal cues (such as hunger) and by external cues (such as a change in the environment). Humans and other organisms have senses that help them detect internal and external cues.

Diversity and Adaptations of Organisms

EC2D.1 Living things can be grouped in different ways (e.g. plants/animals, bones/no bones, insects/spiders, live on land/live in water). These groupings have different purposes.

EC2D.2 There are similarities and differences in the appearance and behavior of plants and animals.

EC2D.3 Some kinds of organisms that once lived on Earth have completely disappeared (e.g. dinosaurs, trilobites, mammoths, horsetail trees).

Populations and Ecosystems

EC2E.1 Plants, animals, and the non-living things around them make up an ecosystem. Different types of ecosystems support different kinds of organisms.

EC2E.2 The transfer of energy, such as through the consumption of food, is essential to all living organisms. Organisms are part of food chains and food webs. All animals depend on plants, which make their own food with sunlight, water, and air. Some animals eat plants for food. Other animals eat animals that eat the plants.

EC2E.3 An organism's patterns of behavior are related to the nature of that organism's environment, including the kinds and numbers of other organisms present, the availability of food and resources, and the physical characteristics of the environment. When the environment changes, some plants and animals survive and reproduce, and others die or move to new locations.

Personal Health

EC2F.1 Safety and security are basic needs of humans. Safety involves freedom from danger, risk, or injury. Security involves feelings of confidence and lack of anxiety and fear. Student understandings include following safety rules for home and school, preventing abuse and neglect, avoiding injury, knowing whom to ask for help, and when and how to say no.

EC2F.2 Individuals have some responsibility for their own health. Students should engage in personal care - dental hygiene, cleanliness, and exercise - that will maintain and improve health. Understandings include how communicable diseases, such as colds, are transmitted and some of the body's defense mechanisms that prevent or overcome illness.

EC2F.3 Nutrition is essential to health. Students should understand how the body uses food and how various foods contribute to health. Recommendations for good nutrition include eating a variety of foods, eating less sugar, and eating less fat.

EC2F.4 Different substances can damage the body and how it functions. Such substances include tobacco, alcohol, over-the-counter medicines, and illicit drugs. Some substances, such as prescription drugs, can be beneficial, but any substance can be harmful if used inappropriately.

Earth and Space Science

Earth's Composition and Structure

EC3A.1 Earth materials are solid rocks and soils, water, and the gases of the atmosphere. The varied materials have different physical and chemical properties which make them useful in different ways; for example, as building materials, as sources of fuel, or for growing the plants we use as food. Earth materials provide many of the resources that humans use.

EC3A.2 Rock is composed of different combinations of minerals. Rocks come in many different shapes and sizes (e.g. boulders, pebbles, sand). Smaller rocks come from the breakage and weathering of larger rocks and bedrock.

EC3A.3 Soils are composed of weathered rock, living organisms, and products of plants and animals. Soils have properties of color and texture, capacity to retain water, and ability to support the growth of many kinds of plants, including those in our food supply.

EC3A.4 The surface of the earth changes. Some changes are due to slow processes, such as erosion and weathering, and some changes are due to rapid processes, such as landslides, volcanic eruptions, and earthquakes.

EC3A.5 Fossils provide evidence about the plants and animals that lived long ago and the nature of the environment at that time. Fossils can be compared to one another and to living organisms to observe their similarities and differences.

Atmospheric Processes and the Water Cycle

EC3B.1 The sun provides the light and heat necessary to maintain the temperature of the Earth.

EC3B.2 Air is a substance that surrounds us, takes up space, and moves around us as wind.

EC3B.3 Water exists in the air in different forms, such as in clouds and fog as tiny droplets and in rain, snow, and hail. It changes from one form to another through freezing, condensation, precipitation, and evaporation.

EC3B.4 Weather changes from day to day and over the seasons. Weather can be described by measurable quantities, such as temperature, wind direction and speed, and precipitation.

Natural Resources and Environmental Change

EC3C.1 Resources are things that we get from the living and nonliving environment to meet the needs and wants of a population. Some resources are basic materials, such as air, water, and soil; some are produced from basic resources, such as food, fuel, and building materials; and some resources are nonmaterial, such as quiet places, beauty, security, and safety.

EC3C.2 The supply of many resources is limited. If used, resources can be extended through recycling and decreased use.

EC3C.3 All organisms cause changes in the environment where they live. Some of these changes are detrimental to the organism or other organisms, whereas others are beneficial.

EC3C.4 Humans depend on their natural and constructed environments. Humans change environments in ways that can be either beneficial or detrimental for themselves and other organisms. God has given man the responsibility to make sure His ecosystems are maintained at healthy levels and not destroyed. Pollution is a change in the environment that can influence the health, survival, or activities of organisms, including humans.

EC3C.5 Some environmental changes occur slowly, and others occur rapidly. Changing environments in small increments over long periods will have different consequences than changing environments in large increments over short periods.

Composition and Structure of the Universe

EC3D.1 The Sun, Moon, stars, clouds, birds, and airplanes all have properties, locations, and movements that can be observed and described.

EC3D.2 Objects in the sky have patterns of movement. Night and day are caused by the Earth's rotation on its axis. The Sun appears to move across the sky from east to west every day, but its position in the sky changes slowly over the seasons.

EC3D.3 The Moon appears sometimes at night and sometimes during the day. It moves across the sky on a daily basis much like the sun. The observable shape of the moon changes from day to day in a cycle that lasts about a month.

EC3D.4 The Earth is one of several planets that orbit the Sun, and the Moon orbits the Earth. Planets look like stars, but over time they appear to move through the constellations.

EC3D.5 The patterns of stars in the sky stay the same, although they appear to slowly move from east to west across the sky nightly, and different stars can be seen in different seasons.

EC3D.6 Astronomical objects in space are massive in size and are separated from one another by vast distances. There are innumerable stars in the universe, but they are so distant they look like points of light.

Skills

Scientific Inquiry

ES1.1 Ask a question about objects, organisms, and events in the environment which can be answered with scientific knowledge and their own observations. Answer their questions by seeking information from reliable sources of scientific information and from their own observations and investigations.

ES1.2 Plan and conduct an investigation. In the earliest years, investigations are largely based on systematic observations. Later, they are simple experiments based on a fair test .

ES1.3 Employ simple equipment and tools to gather data and extend the senses. Record data in drawings, tables, and graphs.

ES1.4 Use data to construct a reasonable explanation and make predictions. Learn what constitutes evidence, and judge the merits or strength of the data and information that is used to make explanations. Support and check explanations using the knowledge and evidence obtained in an investigation, scientific knowledge, experiences, and observations of others.

ES1.5 Communicate investigations and explanations, and critique and analyze their work and the work of other students. This communication might be spoken, drawn, or written.

Technological Design

ES2.1 Identify a simple problem, explaining the problem in their own words and identifying a specific task and solution related to the problem.

ES2.2 Propose a solution to build something or get something to work better, including describing and communicating their ideas. Recognize that designing a solution might have constraints, such as cost, materials, time, space, or safety.

ES2.3 Work individually and collaboratively on products or designs, and use suitable tools, techniques, and quantitative measurements when appropriate. Balance simple constraints in problem solving.

ES2.4 Evaluate a product or design, both their own and that of others, by considering how well a product or design met the challenge to solve a problem. Use measurements and include constraints and other criteria in the evaluations when possible. Modify designs based on the results of evaluations.

ES2.5 Communicate the design process and product through oral, written, and pictorial means. Communication could include show and tell, group discussions, short written reports, or pictures.

General Lab Skills

- Follow basic safety procedures in investigations.
- Make careful observations.
- Measure time using a stopwatch.
- Measure length using a ruler.
- Measure mass using a double-pan balance.
- Measure volume using a graduated cylinder.
- Measure temperature using a thermometer.
- Observe objects and organisms with magnifiers.
- Observe the finer details of plants and animals with a microscope.

Social Studies

Geographical Knowledge and Skills

Extend their knowledge and understanding of the location and characteristics of a range of the world's most significant human and physical features.

develop their use of geographical knowledge, understanding and skills to enhance their locational and place knowledge.

Locational knowledge

- locate the world's countries, using maps, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities
- name and locate Jordan, its geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time.
- identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night).

Place knowledge

- understand geographical similarities and differences through the study of human and physical geography of two contrasting regions of the world.

Human and physical geography

- describe and understand key aspects of:
 - physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle.
 - human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water.

Geographical skills and fieldwork

- use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied.
- use the 8 points of a compass, 4- and 6-figure grid references, symbols and key to build their knowledge of the world.
- use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.

Historical Knowledge and Skills

Know and understand the history of Jordan and the wider world as a coherent, chronological narrative, from the earliest times to the present day: how people's lives have shaped the world.

Know and understand significant aspects of the history of the wider world: the nature of ancient civilisations; the expansion and dissolution of empires; characteristic features of past societies; achievements and follies of mankind.

Gain and deploy a historically grounded understanding of abstract terms such as 'empire', 'civilisation', 'parliament' and 'peasantry'.

Understand historical concepts such as continuity and change, cause and consequence, similarity, difference and significance, and use them to make connections, draw contrasts, analyse trends, frame historically valid questions and create their own structured accounts, including written narratives and analyses.

Understand the methods of historical enquiry, including how evidence is used rigorously to make historical claims, and discern how and why contrasting arguments and interpretations of the past have been constructed.

Gain historical perspective by placing their growing knowledge into different contexts: understanding the connections between local, regional, national and international history; between cultural, economic, military, political, religious and social history; and between short- and long-term timescales.

Develop a chronologically secure knowledge and understanding of local and world history, establishing clear narratives within and across the periods they study.

Note connections, contrasts and trends over time and develop the appropriate use of historical terms.

Regularly address and sometimes devise historically valid questions about change, cause, similarity and difference, and significance.

Construct informed responses that involve thoughtful selection and organisation of relevant historical information.

Understand how our knowledge of the past is constructed from a range of sources.

Art

Create sketchbooks to record observations and use them to review and revisit ideas.

Improve mastery of art and design techniques, including drawing, painting and sculpture with a range of materials.

Learn about great artists, architects and designers in history.

Develop techniques, including control and use of materials, with creativity, experimentation and increasing awareness of different kinds of art, craft and design.

Information Technology

Analyse, evaluate and present data and information.

Use a variety of software to design and create content that accomplish given goals.

Investigate animation by:

- Creating a short computer animation using one or more moving stick figures.
- Creating a recorded animation involving a number of moving characters on a background.
- Structuring specific timing of animations using a time slider.
- Using a camera to create a short stop-motion animation film.

Make photo stories by:

- creating a comic strip layout using photos in a desktop publisher.
- Editing and enhancing photos and text for animation.
- Arranging and layering objects, including titles and backgrounds.
- Adding and arranging photos to a movie presentation, with animation effects.
- Adding an audio soundtrack and text captions to a photo sequence.
- Using beginning and ending enhancements to turn a movie maker project into a finished movie file.

Design, write and debug programmes that accomplish specific goals, including controlling or simulation physical systems, solve problems by decomposing them into smaller parts.

Use sequence, selection and repetition in programmes; work with variables and various forms of input and output.

Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programmes.

PE (Physical Education)

Apply and develop a broad range of skills, learning how to use them in different ways and to link them to make actions and sequences of movement.

Develop an understanding of how to improve in different physical activities and sports and learn how to evaluate and recognise their own success.

Use running, jumping, throwing and catching in isolation and in combination.

Play competitive games, modified where appropriate, and apply basic principles suitable for attacking and defending.

Develop flexibility, strength, technique, control and balance [for example, through athletics and gymnastics].

Perform dances using a range of movement patterns.

Take part in outdoor and adventurous activity challenges both individually and within a team.

Compare their performances with previous ones and demonstrate improvement to achieve their personal best.

If swimming is taught, children should be taught to:

- swim competently, confidently and proficiently over a distance of at least 25 metres
- use a range of strokes effectively [for example, front crawl/freestyle, backstroke and breaststroke].
- perform safe self-rescue in different water-based situations.

Music

Play and perform in solo and ensemble context, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression.

Improvise and compose music for a range of purposes using the interrelated dimensions of music.

Listen with attention to detail and recall sounds with increasing aural memory.

Use and understand staff and other musical notations.

Appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians.

Develop an understanding of the history of music.

Arabic

Classical

Read, write and correctly pronounce all letters.

Write statements and questions using the correct punctuation.

Write full sentences and begin to write short paragraphs.

Use and understand topic words: room names, personal introductions, greetings, seasons, clothing, feelings, traffic lights.

Recite the Lord's prayer and key memory verses.

Conversational

Learn topic vocabulary and use in sentences: summer holiday activities, personal introductions, calendar, birthday celebrations, time, numbers, money, shopping, cultural holidays.

Christian Education

God: Learn about the character of God: his power, knowledge, divinity, humanity, presence. Know the gospel message: that Christ died for our sins so we can be free to spend eternity with Him. Learn about the nature and activities of the Holy Spirit: His wisdom, power and indwelling.

Bible: Know how to use maps, timelines and concordances to deepen understanding of the Bible. Know that the Bible is God's inspired word and is the truth.

Church: Know that the church is the body of Christ. Know that the message of the church reaches out to bring others into the body.

Response: Know how Jesus saves us from sin. Understand the consequences of sin and that salvation is by God's grace alone. Consider how to cultivate a close relationship with God, through prayer, daily devotions, standing firm on God's truth. Develop strategies for sharing the gospel with others.

