

ELL CO-OP PLC WIDA/GSE Alignment Project

Earth/Space Science

ESS1 The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.

S:ESS1:4:1.3	ATMOSPHERE, CLIMATE, AND WEATHER: Based on data collected from daily weather observations, describe weather changes or weather patterns.
Level 1 Entering	Draw and label daily weather observations, using pictures and vocabulary cards.
Level 2 Beginning	Identify weather patterns and changes, using short oral phrases based on pictures or a daily observation chart, with a partner.
Level 3 Developing	Write sentences describing weather patterns, based on daily observations and a word bank.
Level 4 Expanding	Produce a weather report, in a small group, based on daily observations and data collection.
Level 5 Bridging	Discuss and explain trends in seasonal weather patterns.

S:ESS1:4:1.4	ATMOSPHERE, CLIMATE, AND WEATHER: Explain how the use of scientific tools helps to extend senses and gather data about weather (i.e., weather/wind vane—direction; wind sock—wind intensity; anemometer—speed; thermometer—temperature; meter sticks/rules—snow depth; rain gauges—rain amount in inches).
Level 1 Entering	Match pictures of scientific tools (e.g., weather vane, wind sock, anemometer, thermometer, meter stick, rain gauge) with word cards showing the names of the tools.
Level 2 Beginning	Describe orally, with a partner, the purpose/function of various weather tools, from pictures.
Level 3 Developing	Give examples, in small groups, of how various weather tools are used to gather data, using pictures of the tools.
Level 4 Expanding	Explain in a short written paragraph how weather tools allow us to get more information, after discussing uses of these tools in a small group.
Level 5 Bridging	Make and explain, orally or in writing, connections between data gained from weather tools and personal observations.

S:ESS1:4:2.3	COMPOSITION AND FEATURES: Given information about Earth materials, explain how their characteristics lend themselves to specific uses.
Level 1 Entering	Match samples of Earth materials (e.g., rocks, soil, water) with pictures of their uses.
Level 2 Beginning	Match Earth materials with phrases describing their uses, with a partner.
Level 3 Developing	Categorize Earth materials according to their use (e.g., water for drinking, gravel for driveways, soil for planting), using charts, tables, or graphic organizers.
Level 4 Expanding	Describe with a partner how Earth materials are used in everyday life by looking at physical models found around the school and community.
Level 5 Bridging	Write a short paragraph inferring why characteristics of Earth materials lend themselves to specific uses (e.g., why trees are used for building materials).

S:ESS1:4:2.4	COMPOSITION AND FEATURES: Given certain Earth materials (soils, rocks, or minerals) use physical properties to sort, classify, and/or describe them.
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Level 1 Entering	Sort samples of different kinds of Earth materials (e.g., soil, rock, mineral), with a partner.
Level 2 Beginning	Sort short phrases describing the physical properties of the three types of rocks (i.e., igneous, sedimentary, metamorphic), according to pictures of Earth materials and rock samples, with a partner.
Level 3 Developing	Categorize rock samples by physical properties and record the characteristics of each type of rock on a chart, table, or graphic organizer, in a small group.
Level 4 Expanding	Apply information about physical properties of minerals (e.g., color, luster, hardness, etc.) to describe and identify samples.
Level 5 Bridging	Interpret data from a chart about Earth materials' physical properties.

S:ESS1:4:5. 2	PROCESSES AND RATES OF CHANGE: Explain how wind, water, or ice shape and reshape the Earth's surface.
Level 1 Entering	Draw a picture showing the erosion of sand that occurs when water is poured on it, after a teacher demonstration.
Level 2 Beginning	Draw a picture and label pictures of what happens after a teacher demonstration showing the erosion of sand that occurs when water is poured on it.
Level 3 Developing	Produce oral sentences, with a partner, that describe what happens after a teacher demonstration showing the erosion of sand that occurs when water is poured on it.
Level 4 Expanding	Produce a short written paragraph that describes what happens after a teacher demonstration showing the erosion of sand that occurs when water is poured on it.
Level 5 Bridging	Explain causes and effects of the reshaping of the Earth's surface, orally or in writing, after performing an experiment or watching a teacher demonstration of sand erosion with added rocks/debris as a variable.

S:ESS1:4:6. 4	ROCK CYCLE: Use results from an experiment to draw conclusions about how water interacts with earth material (e.g., percolation, erosion, frost heaves).
Level 1 Entering	Sequence pictures of an experiment that demonstrates how water interacts with Earth materials, with a partner.
Level 2 Beginning	Describe the results of an experiment that demonstrates how water interacts with Earth materials, by drawing and labeling illustrations, using a word bank
Level 3 Developing	Analyze results of an experiment that demonstrates how water interacts with Earth materials, in a small group.
Level 4 Expanding	Complete a scientific method lab sheet for an experiment that demonstrates how water interacts with Earth materials, with teacher modeling.
Level 5 Bridging	Create and carry out an experiment in a small group involving percolation, erosion, or frost heaves, with teacher-selected materials.

Life Science

LS1 All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).

S:LS1:4:1. 2	CLASSIFICATION: Sort/classify different living things using similar and different characteristics; and describe why organisms belong to each group or cite evidence about how they are alike or not alike.
Level 1	Sort living organisms on the basis of similar and different characteristics, with a

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Entering	partner, using pictures.
Level 2 Beginning	Sort and label living organisms on the basis of similar and different characteristics, using pictures and a word bank.
Level 3 Developing	Sort the characteristics of living things by completing a graphic organizer, with a partner.
Level 4 Expanding	Sort the characteristics of living things by completing a graphic organizer; then describe, with a partner, how the living things are alike or not alike.
Level 5 Bridging	Conduct a research project classifying two different living things by evaluating their similarities and differences.

S:LS1:4:2. 3	LIVING THINGS AND ORGANIZATION: Identify and explain how physical structures of an organism (plant or animals) allow it to survive in its habitat/environment (e.g., roots for water; nose to smell fire).
Level 1 Entering	Match pictures of plants or animals to their environment/habitat, with a partner.
Level 2 Beginning	Match descriptive phrases of physical structures of organisms to pictures of their environments, with a partner.
Level 3 Developing	Give examples of physical structures of an organism (e.g., deer, beaver, etc.) that allow it to survive in its environment, in a small group.
Level 4 Expanding	Complete a graphic organizer that explains what physical structures animals need to order to survive in specific habitats.
Level 5 Bridging	Explain orally or in writing how physical characteristics help an organism survive.

S:LS1:4:2. 4	LIVING THINGS AND ORGANIZATION: Identify the basic needs of plants and animals in order to stay alive (i.e., water, air, food, space).
Level 1 Entering	Show the needs of living things by creating a collage of magazine clippings, with a partner and using a word bank.
Level 2 Beginning	Use a Venn diagram to compare and contrast the similarities and differences between the basic needs of plants vs. animals, with a partner.
Level 3 Developing	Make predictions of what will happen if basic needs are not met, in a small group.
Level 4 Expanding	Confirm predictions by doing experiments with plants, adjusting air, food, water, and/or space, in a small group.
Level 5 Bridging	Create a poster showing examples of the basic needs of plants and animals, after reading grade-level text.

S:LS1:4:3. 4	REPRODUCTION: Predict, sequence, or compare the life stages of organisms (plants or animals): e.g., put images of life stages of an organism in order, predict the next stage in sequence, and compare two organisms.
Level 1 Entering	Sequence pictures of different life stages (e.g., life cycle of a butterfly), with a partner.
Level 2 Beginning	Label pictures of different life stages (e.g. for a picture of a lima bean plant, label <i>plant, seed, sprout, flower, fruit</i>), with a partner.
Level 3 Developing	Illustrate the life stages of a frog, in a small group.
Level 4 Expanding	Compare the life stages of two different organisms (e.g., butterfly vs. frog, or ant vs. bee), using a Venn diagram, in a small group.
Level 5 Bridging	Write a short paragraph describing what you have learned about the life stages of a particular organism.

LS2 Energy flows and matter recycles through an ecosystem.

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S:LS2:4:2. 2	FLOW OF ENERGY: Recognize that energy is needed for all organisms to stay alive and grow or identify where a plant or animal gets its energy.
Level 1 Entering	Match word cards of different energy sources for plants and animals (e.g., <i>sun, soil, water, plants, meat, fish, fruits, vegetables</i>) to pictures showing these energy sources, with a partner.
Level 2 Beginning	Match pictures of organisms to word cards that represent the food sources for the organism (e.g., <i>sun, soil, water, plants, meat, fish, fruits, vegetables</i>), with a partner.
Level 3 Developing	Draw pictures of where plants get their energy, in a small group, and label them using a word bank.
Level 4 Expanding	Describe orally, in a small group, how animals get their energy and grow, using a word bank.
Level 5 Bridging	Write a paragraph describing the process of how a plant or animal gets its energy and grows (e.g. photosynthesis, soil nutrients, water).

S:LS2:4:3. 2	RECYCLING OF MATERIALS: Describe ways plants and animals depend on each other (e.g., shelter, nesting, food).
Level 1 Entering	Match pictures of materials used by animals for shelter or nesting to pictures of their sources, with a partner.
Level 2 Beginning	Draw an animal shelter (e.g., nest, dam, den), showing the materials animals would use, in a small group; then orally identify the animals and the materials.
Level 3 Developing	Describe orally ways in which animals depend on plants, with a partner.
Level 4 Expanding	Draw a food chain that includes at least 3 stages and use it to explain orally, in a small group, how plants and animals rely on each other for food.
Level 5 Bridging	List examples in writing of how plants need animals and animals need plants (e.g., food, seed propagation).

LS3 Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).

S:LS3:4:1. 3	CHANGE: Using information (data or scenario), explain how changes in the environment can cause organisms to respond (e.g., survive there and reproduce, move away, die).
Level 1 Entering	Identify environmental changes from a set of <i>before</i> and <i>after</i> pictures, with a partner.
Level 2 Beginning	Match pictures of environmental changes to pictures of the causes of the changes, with a partner.
Level 3 Developing	Discuss in a small group how organisms respond to different environmental changes.
Level 4 Expanding	Predict in a small group how an organism will respond to a specific environmental change.
Level 5 Bridging	Explain in writing the reasons why an organism may survive in a particular habitat, reproduce, move away, or die due to environmental changes.

LS4 Humans are similar to other species in many ways, and yet are unique among Earth's life forms.

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S:LS4:4:3.1	HUMAN IDENTITY: Identify what the physical structures of humans do (e.g., sense organs—eyes, ears, skin, etc.) or compare physical structures of humans to similar structures of animals.
Level 1 Entering	Match pictures of body parts (e.g., eye, ear, nose, tongue, finger) with word cards of the five senses (<i>see, hear, smell, taste, touch</i>), with a partner.
Level 2 Beginning	Label pictures of the five sensory organs (eye, ear, nose, tongue, finger) with their names and the corresponding sense (e.g., on a picture of an eye, write <i>eye</i> and <i>see</i>), using a word bank.
Level 3 Developing	Label specific uses of various physical structures on a diagram of a body (e.g., <i>feet-walk, teeth-chew, stomach-digest</i> , etc.), using a word bank, in a small group.
Level 4 Expanding	Compare and contrast the physical structures of humans with the physical structures of a particular animal, using a Venn diagram, in a small group.
Level 5 Bridging	Write a paragraph comparing and contrasting the physical structures of humans with the physical structures of a particular animal.

S:LS4:4:3.2	HUMAN IDENTITY: Distinguish between characteristics of humans that are inherited from parents (i.e., hair color, height, skin color, eye color) and others that are learned (e.g., riding a bike, singing a song, playing a game, reading).
Level 1 Entering	Sort picture cards showing characteristics that are inherited and characteristics that are learned into two groups, with a partner.
Level 2 Beginning	Create a poster showing learned characteristics and inherited characteristics, with a partner.
Level 3 Developing	Describe characteristics of people shown in photographs, and explain why each characteristic is either inherited or learned, in a small group.
Level 4 Expanding	List examples of learned and inherited characteristics from students' own personal inherited physical characteristics and learned physical abilities, in a small group.
Level 5 Bridging	Summarize in writing what type of characteristics are learned and what type are inherited.

Physical Science

PS1 All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).

S:PS1:4:1.2	COMPOSITION: Use measures of weight (data) to demonstrate that the whole equals the sum of its parts.
Level 1 Entering	Explore how the whole equals the sum of its parts by using a scale and various dividable objects (e.g., graham crackers: four parts weigh the same as one whole cracker); then draw a picture showing the results.
Level 2 Beginning	Follow oral directions to make a recipe (e.g., trail mix), weighing each item on a scale as it is added and then weighing the whole; draw a picture showing the results.
Level 3 Developing	Calculate the weight of a whole when given the weight of each of the various parts.
Level 4 Expanding	Predict the weight of a particular number of equal parts when given the weight of a whole.
Level 5 Bridging	Write a part to whole weight story with illustrations.

S:PS1:4:2.4	PROPERTIES: Make a prediction about what might happen to the state of common materials when heated or cooled; or categorize materials as solid,
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	liquid, or gas.
Level 1 Entering	Sort picture cards and objects into three categories: solid, liquid, gas.
Level 2 Beginning	List examples of solids, liquids, and gasses, in a small group.
Level 3 Developing	Match before and after pictures of states of matter when heated or cooled (e.g., water to ice or water to steam).
Level 4 Expanding	Describe orally the results of experiments involving heating and cooling different liquids, with a partner.
Level 5 Bridging	Give an oral report or write a paragraph summarizing the results of experiments involving heating and cooling different liquids.

S:PS1:4:2.5	PROPERTIES: Collect and organize data about physical properties in order to classify objects or draw conclusions about objects and their characteristic properties (e.g., temperature, color, size, shape, weight, texture, flexibility).
Level 1 Entering	Sort objects by physical property (e.g., temperature, color, size, shape, weight, texture, flexibility), with a partner.
Level 2 Beginning	Match word cards stating different physical properties (e.g., <i>big, small, heavy, etc.</i>) to various objects in the classroom, with a partner.
Level 3 Developing	Describe orally the characteristic properties of an object (e.g., temperature, color, size, shape, weight, texture, flexibility), with a partner.
Level 4 Expanding	Compare and contrast two classroom objects according to their characteristic properties, using a Venn diagram, in a small group.
Level 5 Bridging	Make connections between objects and their characteristic properties (e.g., bricks are a good material to build walls because they are dense, strong, and rectangular).

PS2 Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.

S:PS2:4:3.6	ENERGY: Given a specific example or illustration (e.g., simple closed circuit, rubbing hands together) predict the observable effects of energy (i.e., the bulb lights, a bell rings, hands warm up). A test item may ask, "What will happen when ...?"
Level 1 Entering	Demonstrate physical activities which show cause and effect (e.g., rubbing hands together will create heat), with a partner.
Level 2 Beginning	Describe orally what happens after rubbing hands together for one minute, using a word bank.
Level 3 Developing	Follow simple oral directions to complete a simple closed circuit, and make a diagram illustrating the experiment, with a partner.
Level 4 Expanding	Follow written directions to complete a simple closed circuit, and make a diagram showing what happens if the circuit is broken, in a small group.
Level 5 Bridging	Describe in writing the results of creating a closed/open circuit.

S:PS2:4:3.7	ENERGY: Use observations of light in relation to other objects/substances to describe the properties of light (i.e., can be reflected, refracted, or absorbed).
Level 1 Entering	Match word cards to pictures illustrating the properties of light (e.g., reflected, refracted, absorbed).
Level 2 Beginning	Draw and label observations of the result of shining a flash light on various objects, with a partner.
Level 3	Write a simple definition of each of the properties of light (e.g., can be reflected,

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Developing	refracted, or absorbed), with a partner.
Level 4 Expanding	Predict what light will do when it is shone on various real-life objects (e.g. <i>a mirror will reflect light, a prism will refract light</i>), in a small group.
Level 5 Bridging	Provide examples of the different properties of light (e.g., <i>Black paint absorbs light.</i>).

S:PS2:4:3.8	ENERGY: Experiment, observe, or predict how heat might move from one object to another.
Level 1 Entering	Match before and after pictures illustrating the transfer of heat (e.g., bread to toast, cold room to heated room, snow to melting snow), with a partner.
Level 2 Beginning	Sort illustrated word cards that show before, heat source, and after the transfer of heat (e.g., bread/toaster/toast, snow/sun/water, boy with parka/campfire/boy with sweatshirt) into three categories, in a small group.
Level 3 Developing	Experiment to determine how the distance between the heat source and an object affects heat transfer; draw and label a diagram showing the results, in a small group.
Level 4 Expanding	Explain orally how distance from the heat source affects the transfer of heat, in a small group.
Level 5 Bridging	Demonstrate heat transfer (e.g., putting a light bulb close to a thermometer); then write a short paragraph explaining the results.

PS3 **The motion of an object is affected by force.**

S:PS3:4:1.5	FORCES: Use observations of magnets in relation to other objects to describe the properties of magnetism (e.g., attract or repel certain objects or has no effect).
Level 1 Entering	Draw pictures exemplifying the properties of magnetism (e.g., a magnet attracting a nail, or repelling another magnet, or having no effect on a non-metal object).
Level 2 Beginning	Classify objects on a chart according to properties of magnetism (e.g.. attract, repel, no effect), with a partner
Level 3 Developing	List examples of classroom objects that magnets attract, repel, or have no effect on, with a partner..
Level 4 Expanding	Make predictions about how various objects will respond to magnetism; then in a small group confirm the predictions through experiments.
Level 5 Bridging	Write a paragraph explaining each of the properties of magnetism, providing examples of objects that show each of the properties.

S:PS3:4:2.1	MOTION: Use data to predict how a change in force (greater/less) might affect the position, direction of motion, or speed of an object (e.g., ramps or balls).
Level 1 Entering	Chart information gained from experiments (e.g., dropping a ball from different heights and recording the time it takes to fall to the ground), with a partner.
Level 2 Beginning	Predict how a change in force (e.g. throwing a ball underhand vs. overhand) could affect the speed of an object, with a partner.
Level 3 Developing	Create an experiment showing how a change in force might affect the position, direction of motion, or speed of an object, in a small group
Level 4 Expanding	Explain orally how force affects the position, direction of motion, or speed of an object, in a small group.
Level 5 Bridging	Write a paragraph explaining how force affects the position, direction of motion, or speed of an object, providing examples from class experiments