

SCIENCE – Extended Grade Band Instructional Examples: 4

Model Academic Standard A: Science Connections B: Nature of Science

NOTE: Extended Grade Objectives **A: Science Connections** and **B: Nature of Science** are combined into a single Extended Grade Objective consistent with the combined reporting in the general education assessment.

EXTENDED GRADE BAND OBJECTIVE: A-B1			
Use Science Resources to Gather Information			
Instructional Achievement Descriptors			
Advanced	Proficient	Basic	Minimal
<i>Select appropriate science resources to gather information</i>	<i>Use science resources to gather information</i>	<i>Recognize science resources in classroom</i>	<i>Attend to science information</i>
Have student use microscopes, hand lenses, and their eyes to explore a leaf. On a teacher-made template, have student record or illustrate their observations about color, shape, leaf veins, texture, and cell-structure. Have student determine which tools would be best to collect the different types of information.	Have student use microscopes, hand lenses, and their eyes to explore a leaf. On a teacher-made template, have student record or illustrate their observations about color, shape, leaf veins, texture, and cell-structure.	Have student use hand lenses, and their eyes to explore a leaf. Have student illustrate observations made with each tool.	Have student use hand lenses, and their eyes to explore a leaf.
Provide student with pictures of two types of scales, a hand lens and microscope, two types of thermometers, two types of printed materials, etc. Have the student identify the appropriate tool to find specific information (e.g., to determine a person’s weight, determine pounds of produce).	Provide student with various science resources and tools (books, scale, microscope, thermometer, computer, etc.). Have student identify which resource to use to answer a specific question, “What should I use to determine the weight of an object, temperature of an object, etc.?”	Provide student with various science resources and tools (books, scale, microscope, thermometer, computer, etc.). Have student identify the resources on request.	Provide student with a scale and a microscope. Have the student place an object on the scale or under a microscope.
Use a local newspaper or internet, to obtain a 5-day weather forecast. Have student observe and record actual weather for each of the 5 days. How many days were correct? Have student determine if the forecasts are a good way to find out information about the weather.	Use a local newspaper or internet, to obtain a 5-day weather forecast. Have student observe and record actual weather for each of the 5 days. How many days were correct?	Have student observe and record weather for 5 days. Record on a teacher-made template using symbols.	Have student go outside and observe weather conditions (hot or cold, sunny or cloudy). Return to the classroom and have student give a basic report by identifying the correct symbols.

<p>Provide student with cut-outs of the sun, moon, earth and two adjacent planets, and a picture of the solar system. Have student match the cut-outs to the objects in the picture. Identify pictures as source of information for systems we can't see (skeleton, muscles, solar system, etc.). Have student identify where scientific pictures can be found.</p>	<p>Provide student with cut-outs of the sun, moon, earth and two adjacent planets, and a visual depicting the position of each in the solar system. Have student match the cut-outs to the objects in the picture. Identify pictures as source of information for systems we can't see (skeleton, muscles, solar system, etc.).</p>	<p>Provide student with cutouts of the sun, moon, earth, and a visual of depicting the position of each in the solar system. Have student place the cutout on the correct object in the visual.</p>	<p>Provide student with visual or tactile representation of the sun, moon, and earth. Have student identify each visual or object.</p>
<p>Provide student with a variety of scientific topics (sun, earth, rocks, body, animals, etc.). Have student identify a topic they would like to learn more about. Show student two books, one fiction and one non-fiction. Have student identify the book that will give accurate information on the topic.</p>	<p>Provide student with a variety of scientific topics (sun, earth, rocks, body, animals, etc.). Have student identify a topic they would like to learn more about. Show student various books and articles, some that align with the topic and some that do not. Have student choose resources using pictures and titles as clues that will help them gather information on their chosen topic.</p>	<p>Provide student with a scientific topic (sun, earth, rocks, body, animals, etc.). Show student two books with lots of pictures, one that aligns with the topic and one that does not. Have student choose the book, using pictures as cues that will help them gather information on their topic.</p>	<p>Show student two books with lots of pictures, on scientific topics (sun, moon, earth, body, rocks, animals, etc.). Have student choose one to look at.</p>
<p>Show student five picture symbols that represent the five senses. Introduce each card and have student identify body part that is associated with each sense. Discuss how the senses help us gather information. Pop popcorn – have student identify what information they learned about popcorn through using their senses.</p>	<p>Show student five picture symbols that represent the five senses. Introduce each card and have student identify body part that is associated with each sense. Discuss how the senses help us gather information. Pop popcorn – have student explore (<u>touch</u>) the kernels (before popping) listen (<u>hear</u>) to the kernels popping, <u>smell</u> the popcorn as it begins to pop, <u>taste</u> the popcorn, and <u>see</u> the kernels that did not pop.</p>	<p>Show student five picture symbols that represent the five senses. Introduce each card and have students identify body part that is associated with each sense. Pop popcorn - have student identify what they heard and saw and how the popcorn tasted and smelled (good, salty, crunchy, etc.).</p>	<p>Show student five picture symbols that represent the five senses. Introduce each card and have student identify body part that is associated with each sense. Discuss how the senses help us gather information. Pop popcorn – have student identify if they liked how the popcorn tasted and smelled.</p>

Model Academic Standard C: Science Inquiry

<i>EXTENDED GRADE BAND OBJECTIVE: C1</i>			
Use Basic Science Vocabulary and Tools			
<i>Instructional Achievement Descriptors</i>			
Advanced	Proficient	Basic	Minimal
<i>Select basic science vocabulary and tools for conducting simple science experiments</i>	<i>Use basic science vocabulary and tools</i>	<i>Recognize basic science vocabulary and tools</i>	<i>Observe (see, hear, touch) scientific tools in use</i>
Bring in a 1-ply and a 2-ply roll of paper towels both claiming to be absorbent. Pair each towel with a copy of magazine or newspaper ad for the product. Discuss the meaning of the word absorbent. Demonstrate the absorbency of the paper towels. Using the information generated by the demonstration, have student select which paper towel was more absorbent. Have student identify other claims (e.g. economical, number of sheets, etc.), and discuss if the claims can be tested.	Bring in two different brands of paper towels, both claiming to be absorbent. Pair each towel with a copy of magazine or newspaper ad for the product. Discuss the meaning of the word absorbent. Demonstrate the absorbency of the paper towels. Using the information generated by the demonstration, have student select which paper towel was more absorbent.	Bring in a 1-ply and a 2-ply roll of paper towels both claiming to be absorbent. Demonstrate the absorbency of the paper towels. After demonstration, create a spill or mess that needs to be cleaned up. Provide student with a sheet of notebook paper and the more absorbent paper towel. Have student identify which one they would use to clean up the mess.	Bring in two different brands of paper towels, both claiming to be absorbent. Demonstrate the absorbency of the paper towels. After demonstration, have student identify a wet paper towel and a dry paper towel.
Lead the class in an investigation by selecting a question to investigate: Does the depth at which a seed is planted affect plant growth? Ask probing questions to develop a hypothesis: deeper the seed the longer to spout. Guide student in developing a procedure for the investigation, collecting data by observation and measurement, interpreting information, and communicating their conclusion. Have student collect the tools and materials needed to start the investigation.	Lead the class in an investigation by selecting a question to investigate: Does the depth at which a seed is planted affect plant growth? Ask probing questions to develop a hypothesis: deeper the seed the longer to spout. Guide student in developing a procedure for the investigation, collecting data by observation and measurement, interpreting information, and communicating their conclusion.	Conduct an investigation, such as planting a bean seed. Guide student in making daily observations. Have student identify changes observed.	Conduct an investigation, such as planting a bean seed. Guide student in making daily observations, Pointing out the changes that have occurred.

<p>Model safety objects and procedures for use during science class. (Safety items include goggles and safety aprons, long hair tied back, long shirt sleeves secured, do not touch bottles of chemicals, and holding substance away from face when observing odors). Have student demonstrate how to use the safety objects or role play safety procedures.</p>	<p>Model safety objects and procedures for use during science class. (Safety items include goggles and safety aprons, long hair tied back, long shirt sleeves secured, do not touch bottles of chemicals, and holding substance away from face when observing odors). Provide a safety item or procedure and a distracter. Have student identify the safety item or procedure.</p>	<p>Model safety objects for use during science class. (Safety items include goggles and safety aprons). Provide a safety item and a distracter. Have student identify the safety item.</p>	<p>Model how to use safety goggles. Have student practice putting safety goggles on.</p>
<p>Have student use a hand lens and their senses to observe various science objects (e.g. insects, rocks, plants). Have student create a list of vocabulary that can be used to classify the objects (hard, soft, rough, smooth, living, and non-living). Use a graphic organizer to record observations of each object.</p>	<p>Have student use a hand lens and their senses to observe various science objects (e.g. insects, rocks, plants). Discuss the observations as a class. Create a list of common vocabulary that can be used to classify the objects (hard, soft, rough, smooth, living, and non-living). Use a graphic organizer to record observations of each object.</p>	<p>Have student use a hand lens and their senses to observe one science object (e.g. insects, rocks, plants). Discuss the observations. Guide student in creating words to describe the object.</p>	<p>Have student use their senses to observe one science object (e.g. insects, rocks, plants). Ask questions about what the object feels like or looks like.</p>
<p>Provide various tools that can be used to conduct science investigations, (e.g. scale, ruler, hand lens, magnet, microscope, thermometer, balances, graduated cylinders, etc.). Have student identify the tool(s) they would use to gather information about weight, magnetic property, temperature, size, etc. Have student demonstrate use of the various tools.</p>	<p>Provide various tools that can be used to conduct science investigations, (e.g. scale, ruler, hand lens, magnet, microscope, thermometer, balances, graduated cylinders, etc.). Have student identify the tool or tools they would use to gather information about weight, size, magnetic property, temperature, etc.</p>	<p>Provide various tools that can be used to conduct science investigations (e.g. scale, ruler, hand lens, magnet, microscope, thermometer, etc.). Have student identify the name or the use of the tool.</p>	<p>Provide various tools that can be used to conduct science investigations (e.g. scale, ruler, hand lens, magnet, microscope, thermometer, etc.). Have student explore each tool as it is named and demonstrated.</p>

<p>Provide a magnet or magnetic board and several magnetic and non-magnetic objects (paperclips, rocks, pencils, paper, nails, jewelry, thumbtacks, staples, etc.). Discuss the basic properties of magnetic objects. Have student test and sort objects into two trays labeled magnetic and nonmagnetic. Have student identify other objects in the room to test. Have student predict if the object is magnetic or not.</p>	<p>Provide a magnet or magnetic board and several magnetic and non-magnetic objects (paperclips, rocks, pencils, paper, nails, jewelry, thumbtacks, staples, etc.). Discuss the basic properties of magnetic objects. Have student test and sort objects into two trays labeled magnetic and nonmagnetic.</p>	<p>Provide a magnet or magnetic board and several magnetic and non-magnetic objects (paperclips, rocks, pencils, paper, nails, jewelry, thumbtacks, staples, etc.). Have student test objects to see which ones stick to the board and which ones do not.</p>	<p>Provide a magnetic board and several magnetic and non-magnetic objects (paperclips, rocks, pencils, paper, nails, jewelry, thumbtacks, staples, etc.). Have student explore the objects and the magnetic board.</p>
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Model Academic Standard D: Physical Science

Objective/Subskills: Properties of Earth Materials – Position and Motion of Objects – Light, Heat, Electricity, and Magnetism <i>EXTENDED GRADE BAND OBJECTIVE: D1a</i> Recognize Differences in Physical Characteristics of an Object			
<i>Instructional Achievement Descriptors</i>			
Advanced	Proficient	Basic	Minimal
<i>Describe changes in physical characteristics of an object</i>	<i>Recognize differences in physical characteristics of an object</i>	<i>Recognize physical characteristics of an object</i>	<i>Sort objects by color</i>
<p>Explain that electricity needs a pathway for it to flow. Demonstrate closed and open circuits by experimenting with a lamp (light bulb tight, loose, or out of the lamp, and the lamp plugged in or not). Demonstrate a similar activity using a battery operated object. Provide student with a variety of objects operated by electricity or batteries. Have student demonstrate their knowledge of open and closed circuits.</p>	<p>Explain that electricity needs a pathway for it to flow. Demonstrate closed and open circuits by experimenting with a lamp (light bulb tight, loose, or out of the lamp, and the lamp plugged in or not). Demonstrate a similar activity using a battery operated object. Repeat the activities in random order and have student identify if the circuit is open or closed.</p>	<p>Explain that electricity needs a pathway for it to flow. Demonstrate closed and open circuits (on and off) by experimenting with a lamp (light bulb tight, loose, or out of the lamp, and the lamp plugged in or not). Demonstrate a similar activity using a battery operated object. Repeat the activities in random order and have student identify if the object is on or off.</p>	<p>Have student experience the classroom darkened and lightened by observing the light switch being flipped on and off. After a few repetitions, flip the switch off to darken the room and have student activate the switch to lighten the room.</p>
<p>Have student collect a variety of objects to determine which will float in water. Have student place each object in a container of water and complete a chart labeled, “Item” and “Results.” Guide student in a discussion of the chart and determine what common properties result in flotation. Choose one object that floats and have student identify what would make the object sink.</p>	<p>Have student collect a variety of objects to determine which will float in water. Have student place each object in a container of water and complete a chart labeled, “Item” and “Results.” Guide student in a discussion of the chart and determine what common properties result in flotation.</p>	<p>Have student collect a variety of objects to determine which will float in water. Have student place each object in a container of water. Have student remove the objects that float.</p>	<p>Have student collect a variety of objects to determine which will float in water. Have student place each object in a container of water and observe what happens to the objects.</p>

Provide student with an assortment of the three main kinds of rocks, igneous, metamorphic, and sedimentary. Discuss the attributes of the rocks. Have student sort the rocks by attributes: texture, color, hardness, and shape. Have student identify the differences of each group of rocks.	Provide student with an assortment of the three main kinds of rocks, igneous, metamorphic, and sedimentary. Discuss the attributes of the rocks. Have student sort the rocks by attribute: texture, color, hardness, and shape.	Provide student with an assortment of rocks. Play Show Me Game: “Show me a smooth rock; show me the white rock...”	Provide student with an assortment of rocks of different colors. Have student sort the rocks by color.
Lead a discussion on force and provide a variety of activities to demonstrate force (e.g. rolling or kicking a ball, pulling gently on a secured rope, and lifting a book). Have student identify what changes occurred (position and motion) and whether the change was caused by a push or a pull.	Lead a discussion on force and provide a variety of activities to demonstrate force (e.g. rolling or kicking a ball, pulling gently on a secured rope, and lifting a book from the floor). Have student identify whether the object was pushed or pulled.	Using a person’s hand, have student demonstrate the understanding of push and pull when asked by the person.	Provide student with several different sizes of balls. Have student push the balls across the floor and observe how far they move when pushed.
Provide pictures of each of the main type of clouds. Using cotton balls have student make 3-4 representations of each type of cloud: cumulonimbus, cumulus, and stratus. Conduct a cloud watch for a week. For each day identify the type of cloud in the sky and place a corresponding cotton ball cloud on a line graph. Have student identify the change in the clouds during the week.	Provide pictures of each of the main type of clouds: cumulus, cumulonimbus, and stratus. Discuss the attributes of each type of cloud. Using cotton balls and pictures of various clouds have student create their own cloud pictures. Paint thunder clouds with black watercolors or paint.	Provide pictures of each of the main type of clouds: cumulus cumulonimbus and stratus. Discuss the attributes of each type of cloud. Using cotton balls have student make a cloud that represents a sunny day and one that represents a possible storm or rain.	Provide pictures of different types of clouds. Have student make a cloud using cotton balls.
Discuss the different forms of energy (heat, light, and sound). Demonstrate turning on a radio to produce sound energy, a hair dryer to produce heat energy, and a lamp to produce light energy. Have student identify additional items that represent the different forms of energy and classify them by sound, heat, or light.	Discuss the different forms of energy (heat, light, and sound). Demonstrate turning on a radio to produce sound energy, a hair dryer to produce heat energy, and a lamp to produce light energy. Provide additional items and have student classify them by sound, heat, or light.	Demonstrate two different kinds of energy such as sound and light. Provide student two cards with symbols representing an eye and an ear. Have student match the type of energy to the corresponding symbol.	Provide student with three objects, two that make sound and one that does not. Have student identify the objects that make sound.

Model Academic Standard E: Earth and Space Science

<p align="center">Objectives/Subskills: Properties of Earth Materials – Change in Earth and Sky <i>EXTENDED GRADE BAND OBJECTIVE: E1a</i> Recognize Properties of Earth Features</p>			
<p align="center"><i>Instructional Achievement Descriptors</i></p>			
<p align="center">Advanced</p>	<p align="center">Proficient</p>	<p align="center">Basic</p>	<p align="center">Minimal</p>
<p align="center"><i>Describe the properties of earth features</i></p>	<p align="center"><i>Recognize properties of earth features</i></p>	<p align="center"><i>Recognize elements of earth and sky</i></p>	<p align="center"><i>Demonstrate awareness of earth materials</i></p>
<p>Have student find three rocks around the school playground. Using magic marker, number the rocks 1, 2, & 3. Provide each student with a table of 4 rows and 5 columns. Guide students in coming up with words to describe properties of the rocks such as color, texture, size, and brilliance. Starting with rock 1, have student identify and record the properties of each rock (can use pictures on the table instead of words).</p>	<p>Have student find three rocks around the school playground. Using magic marker, number the rocks 1, 2, & 3. Provide each student with a table of 4 rows and 5 columns. Headings for the table columns: rock number; colors-few or many; bumpy or smooth; shiny or dull; big or small. Starting with rock 1, have student identify and record the properties of each rock (can use pictures on the table instead of words).</p>	<p>Have student find three rocks around the school playground. Using magic marker, number the rocks 1, 2, & 3. For each rock have student identify if the rock is one color or many colors, feels rough or smooth, is big or little.</p>	<p>Have student find three rocks around the school playground. Using magic marker, number the rocks 1, 2, & 3. For each rock have student identify if the rock feels rough or smooth, is big or little.</p>
<p>View pictures of the land and water masses. Discuss that land is made up of rocks, minerals, and soil; and oceans and lakes are bodies of water. Show pictures of land and water masses in Wisconsin (e.g. lakes, mountains, rivers, bluffs, etc.). Highlight the specific area where the student lives. Have student create a simple salt clay map of their specific area or of Wisconsin. Paint blue for water and green or brown for land. Have student give a description of the area using the map as guide.</p>	<p>View pictures of the land and water masses. Discuss that land is made up of rocks, minerals, and soil; and oceans and lakes are bodies of water. Show pictures of land and water masses in Wisconsin (e.g. lakes, mountains, rivers, bluffs, etc.). Focus on the specific area where the student lives. Have student create a simple salt clay map of their specific area or of Wisconsin. Paint blue for water and green or brown for land.</p>	<p>View pictures of the land and water masses. Discuss that land is made up of rocks, minerals, and soil; and oceans are large bodies of water. Show pictures of land and water masses in Wisconsin (e.g. lakes, mountains, rivers, bluffs, etc.). Highlight the specific area where the student lives. Have student create a simple salt clay map containing water mass and land mass. Paint blue for water and green or brown for land. Have student identify the water and the land mass.</p>	<p>View pictures of the land and water masses. Discuss that land is made up of rocks, minerals, and soil; and oceans are large bodies of water. Show pictures of land and water masses in Wisconsin (e.g. lakes, mountains, rivers, bluffs, etc.). Highlight the specific area where the student lives. Have student identify pictures that depict land masses and those that depict water masses.</p>

<p>Provide one quart or larger jar with lid. Fill the jar with equal amounts of soil, gravel, and sand until the jar is about one-third full. Add water until the jar is almost full. Place lid on the jar and shake carefully. Have students observe the order in which the three materials settled to the bottom. Shake the jar again. Have student predict if the order will be the same. (Repeat as many times as necessary). Have student identify one reason why the materials may have settled in the order they did (weight, size).</p>	<p>Provide one quart or larger jar with lid. Fill the jar with equal amounts of soil, gravel, and sand until the jar is about one-third full. Add water until the jar is almost full. Place lid on the jar and shake carefully. Have student observe which material settles to the bottom of the jar first. Shake the jar again have student predict if the same material will settle first again. (Repeat as many times as necessary). Have student identify one reason why material may have settled to the bottom first (weight, size).</p>	<p>Provide one quart or larger jar with lid. Fill the jar with equal amounts of gravel and sand until the jar is about one-third full. Add water until the jar is almost full. Place lid on the jar and shake carefully. Have student observe if the sand or the gravel settled to the bottom first. Repeat the activity several times. Guide student to identify which material they think will go to the bottom first.</p>	<p>Provide student with fine sand and large rock gravel. Allow student to explore the materials. Provide student with two words to describe the material. Have student identify the word that best describes the material.</p>
<p>Have students make small cut-out bodies and attach a small headshot picture of themselves to the body. Attach the “bodies” to various parts of a large yoga ball/therapy ball. Use a flashlight to represent the sun’s light. Shine the flashlight on the ball. Turn the ball slowly to demonstrate the illumination of the earth by the sun. Discuss how this relates to portions of the day. Have student observe when his or her picture begins to illuminate, is fully illuminated, is partially illuminated and in the dark. Have student identify morning, afternoon, and night as the ball is being turned. Take turns using the flashlight and turning the ball.</p>	<p>Have students make small cut-out bodies and attach a small headshot picture of themselves to the body. Attach the “bodies” to various parts of a large yoga ball/therapy ball. Use a flashlight to represent the sun’s light. Shine the flashlight on the ball. Turn the ball slowly to demonstrate the illumination of the earth by the sun. Discuss how this simulates day and night. Have students observe when his or her picture is illuminated or dark. Have student indicate day or night when their picture/body is illuminated or in the dark as the ball is being turned. Take turns using the flashlight and turning the ball.</p>	<p>Have students make small cut-out bodies and attach a small headshot picture of themselves to the body. Attach the “bodies” to various parts of a large yoga ball/therapy ball. Use a flashlight to represent the sun’s light. Shine the flashlight on the ball. Turn the ball slowly to demonstrate the illumination of the earth by the sun. Discuss how this simulates daytime when the sun is out. Have student observe when his or her picture/body is illuminated. Have student indicate daytime when their picture is illuminated as the ball is being turned. Take turns using the flashlight and turning the ball.</p>	<p>Have students make small cut-out bodies and attach a small headshot picture of themselves to the body. Attach the “bodies” to various parts of a large yoga ball/therapy ball. Use a flashlight to represent the sun’s light. Shine the flashlight on the ball. Turn the ball slowly to demonstrate the illumination of the earth by the sun. Have student identify the object that gives light.</p>

<p>Have class create a bar graph of daytime and nighttime temperatures for a given week. Through use of the graph and questioning, guide student to identify changes and patterns in the temperature and the reason for the changes or patterns. When the sun is out the temperatures are higher and when the sun is not out the temperatures are lower. The sun gives heat.</p>	<p>Have class create a bar graph of daytime and nighttime temperatures for a given week. Have student use the graph to answer the following questions: When was the temperature the highest? (Daytime). Why? (The sun is up). When did the lowest temperatures occur? (At night). Why? (The sun is down).</p>	<p>After being outside, have student identify if it is a sunny or cloudy for a given week. Record the response on a line graph using symbols. Discuss if every day was the same or different.</p>	<p>After being outside, have student identify if it is a sunny or cloudy for a given week. Record the response on a line graph using symbols.</p>
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Model Academic Standard E: Earth and Space Science

Objectives/Subskills: Properties of Earth Materials - Changes in Earth and Sky <i>EXTENDED GRADE BAND OBJECTIVE: E2b</i> Recognize Changes in Earth and Sky <i>Instructional Achievement Descriptors</i>			
Advanced	Proficient	Basic	Minimal
<i>Describe changes in earth and sky</i>	<i>Recognize changes in earth and sky</i>	<i>Recognize elements of earth and sky</i>	<i>Demonstrate awareness of earth materials</i>
<p>Provide pictures of different forms of precipitation: snow, rain, hail, etc. and pictures that depict changes that typically occur before precipitation occurs. Have student identify changes that occur (increasing clouds, dark sky, etc.) Have student sequence pictures from sunny sky, to increasing clouds, to dark cloudy sky, to storm or precipitation.</p>	<p>Provide pictures of different forms of precipitation: snow, rain, hail, etc. and pictures that depict changes that typically occur before precipitation occurs. Have student identify the changes that occur (increasing clouds, dark sky etc.) Have student sequence pictures from sunny sky, to increasing clouds, to dark cloudy sky, to storm or precipitation.</p>	<p>Provide student a set of pictures depicting various weather conditions windy, rainy, sunny, and snowy. In the morning and at the end of the day, have student identify the picture or pictures that represent the weather condition at the present time. Have student identify if there is a change in the weather at the end of the day from the morning.</p>	<p>Student will participate in a school tornado drill when the announcement is made or the siren goes off. He or she will go to the proper location and sit quietly and wait for further announcement.</p>
<p>Discuss the four seasons. Introduce things that change in each season (temperature, trees, clothing, activities, etc.). Provide student with sets of picture cards that align with each season. Have student arrange the pictures in sequential order for each season starting with summer.</p>	<p>Discuss the four seasons. Introduce things that change in each season (temperature, trees, clothing, activities, etc.). Provide student with sets of picture cards that align with each season. Have student match the pictures to the appropriate season.</p>	<p>Discuss the four seasons. Introduce how trees change for each season. Provide student with a set of picture cards of trees that align with each season. Have student identify the picture that shows what a tree looks like in spring, summer, fall, and winter from a choice of two.</p>	<p>Discuss the four seasons. Introduce how trees change for each season. Provide student with a set of picture cards of trees that align with each season. Have student identify the picture that shows what a tree looks like in spring, summer, fall, and winter from a choice of two.</p>

<p>Divide students into groups. Provide each group with a pan of soil. Lead the students in making changes to the soil's surface through simulations of wind (blowing), earthquakes (shaking), floods (pouring water), and movement of water (tilting the pan and pouring water), without touching the soil with their hands. Create a chart of the different ways the surface of the soil changed. Look at photographs or pictures of real examples that show evidence of changes to the earth's surface. Compare pictures to the simulations.</p>	<p>Divide students into groups. Provide each group with a pan of soil. Lead the students in making changes to the soil's surface through simulations of wind (blowing), earthquakes (shaking), floods (pouring water), and movement of water (tilting the pan and pouring water), without touching the soil with their hands. Create a chart of the different ways the surface of the soil changed. Look at photographs or pictures of real examples that show evidence of changes to the earth's surface.</p>	<p>Provide student with two pans of soil. Lead the student in making changes to soil's surface in one pan through simulations of wind (blowing), earthquakes (shaking), floods (pouring water), without touching the soil with their hands. Have student identify the soil that has been changed.</p>	<p>Provide student with a pan of soil or sand and water. Have student explore the sand or soil in a wet state and a dry state. Have student identify the changes by matching dry soil to dry soil and wet soil to wet soil.</p>
<p>Discuss effect of running water (erosion) with students. Provide students with three pots of soil and a hose with an adjustable water flow nozzle. Have students experiment with a variety of water flows, observing what happens to the soil in the pots as the water pressure is increased. Guide students in a discussion of their observations. Have student identify which flow of water conserves the most soil in the pots.</p>	<p>Discuss effect of water on soil (erosion) with students. Provide students with three pots of soil and a hose with an adjustable water flow nozzle. Have students experiment with a variety of water flows, observing what happens to the soil in the pots as the water pressure is increased. Guide students in a discussion of their observations and the changes in the soil.</p>	<p>Provide student with a sponge and water. Have student pour increasing amounts of water onto the sponge and observe the changes in size. Have student identify what happened to the sponge (got bigger).</p>	<p>Provide student with a sponge and water. Have student explore the sponge in a wet state and in a dry state. Have the student identify the changes by matching a wet sponge to a wet sponge and a dry sponge to a dry sponge.</p>

<p>Identify common natural resources and discuss how natural resources are used to make manufactured goods that we use every day. Use magazines and the internet to gather pictures of natural resources and the products manufactured from each resource (wood - building materials, soil/plants - food, natural trail-highway, rocks/gems – plastic/synthetic). Use the collected pictures to create poster depicting the connection between natural resources and man-made products.</p>	<p>Identify common natural resources and discuss how natural resources are used to make manufactured goods that we use every day. Use magazines and the internet to gather pictures of natural resources and the products manufactured from each resource (wood – building materials, soil/plants – food, natural trail - highway, rocks/gems - plastic/synthetic). Have students match pictures of resources to pictures of manufactured goods.</p>	<p>Identify common natural resources and discuss how natural resources are used to make manufactured goods that we use every day. Have student look through magazines or use the internet to find pictures of natural resources. Have student identify from a choice of two pictures the item that is made from each natural resources.</p>	<p>Identify common natural resources. Have student look through magazines or use the internet to find pictures of natural resources.</p>
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Model Academic Standard F: Life and Environmental Science

<p align="center">Objectives/Subskills: Characteristics of Organisms – Life Cycles of Organisms – Organisms and Their Environment <i>EXTENDED GRADE BAND OBJECTIVE: F1a</i> Recognize What Plants and Animals Need to Live and Grow</p>			
<p align="center"><i>Instructional Achievement Descriptors</i></p>			
<p align="center">Advanced</p>	<p align="center">Proficient</p>	<p align="center">Basic</p>	<p align="center">Minimal</p>
<p align="center"><i>Describe what plants and animals need to live and grow</i></p>	<p align="center"><i>Recognize what plants and animals need to live and grow</i></p>	<p align="center"><i>Recognize one of their own basic needs</i></p>	<p align="center"><i>Recognize edible versus nonedible items</i></p>
<p>Explain that organisms depend on their environment and other organisms for basic needs. Begin by asking student to identify what they need to survive. Record on a graphic organizer. Complete the organizer of their basic needs versus their wants. Provide student with a graphic organizer. Have student list the basic needs and wants of a pet using the already completed organizer as a guide. Compare human needs to animal needs.</p>	<p>Explain that organisms depend on their environment and other organisms for basic needs. Begin by asking student to identify what they need to survive. Record on a graphic organizer. Complete the organizer of their basic needs versus their wants. Provide student with a graphic organizer. Have student list the basic needs and wants of a pet using the already completed organizer as a guide.</p>	<p>Explain that organisms depend on each other organisms and their environment for basic needs. Begin by asking student to identify what they need to survive. Record on a graphic organizer. Complete the organizer of their basic needs. Have student identify one basic need.</p>	<p>Discuss the basic need for food and water. Have student identify a representation of what he or she needs when hungry or thirsty.</p>
<p>Discuss organisms and their habitats or shelter. Provide several examples of organisms and their habitat using pictures or real objects. Have student match organisms with their habitat (birds-nest, humans-their home, bees-beehive, etc.). Discuss relationship between habitats and organisms needs. Put a picture of an animal on students' back. Ask each other questions to help identify the animal. May work best if done with peers from a regular classroom.</p>	<p>Discuss organisms and their habitats or shelter. Provide several examples of organisms and their habitat using pictures or real objects. Have student match organisms with their habitat (birds-nest, humans-their home, bees-beehive, etc.). Where Do I Live Guessing Game? I live in a tree. Who am I? I live in a pond. Who am I?</p>	<p>Discuss organisms and their habitats or shelter. Provide several examples of organisms and their habitat using pictures or real objects. Have student match organisms with their habitat (birds-nest, humans-their home, bees-beehive, etc.) when given a choice of two or three.</p>	<p>Discuss organisms and their habitats or shelter. Provide several examples of organisms and their habitat using pictures or real objects. Have student identify a picture of their home and picture of where an animal might live when given a choice of two.</p>

<p>Discuss life cycles of organisms. Have student observe an organism's life cycle, such as a radish, a bean plant, a frog, a butterfly, or a chicken. Have class observe and record the changes in the organism as it moves through the life cycle. Compare the life cycle stages. Have student create and present a poster illustrating the stages in the organism's life cycle.</p>	<p>Discuss life cycles of organisms. Have student observe an organism's life cycle, such as a radish, a bean plant, a frog, a butterfly, or a chicken. Have class observe and record the changes in the organism as it moves through the life cycle. Compare the stages in the life cycle. Have student create a poster illustrating the stages in the organism's life cycle.</p>	<p>Provide student with a sweet potato. Have student plant the sweet potato in a clear container of water and observe the changes in the organism as it moves through the life cycle. Have student identify the changes.</p>	<p>Discuss living and non-living things. Have student identify living things when shown pictures of a living and a non-living thing.</p>
<p>Supply classroom with a butterfly kit from the Einstein or Foss kit. Have student observe the metamorphosis of a caterpillar to a butterfly. Observe daily and record any changes. Take photographs of the changes. After the butterfly has emerged, have student arrange the photos in the correct sequence.</p>	<p>Supply classroom with a butterfly kit from the Einstein or Foss kit. Have student observe the metamorphosis of a caterpillar to a butterfly. Observe daily and record any changes. Take photographs of the changes. After the butterfly has emerged, have student identify the changes from the pictures.</p>	<p>Provide the student with photographs representing different stages of human life, such as an infant, a child, and an adult. Have student identify the photograph corresponding to a described given stage.</p>	<p>Provide the student with photographs representing adult and baby of human and animals. Have student match the adult to corresponding baby.</p>
<p>Plant seeds in three different cups of soil. Water one, but place it in a dark closet. Provide sun and water to the second. Provide only sun to the third. Observe and record observations each day. Compare changes in the three plants growth, color and other physical characteristics. Have student identify what is necessary for plants to grow.</p>	<p>Plant seeds in three different cups of soil. Water one, but place it in a dark closet. Provide sun and water to the second. Provide only sun to the third. Observe and record observations each day. After the experiment, have student identify the seeds that grew or grew best and why (water and light).</p>	<p>Plant seeds on a cup of soil. Discuss the need to place the seeds in the light. Have student touch the soil to determine if it is dry or wet. Have student water the seeds as needed. Have student observe and identify when they see a plant come through the soil. Continue to observe as the plant grows.</p>	<p>Plant seeds on a cup of soil. Discuss the need to place the seeds in the light. Have student water the plant and discuss the need for food and water.</p>

<p>Present pictures of different types of bird feet, such as webbed feet and claws. Have student compare the different types of feet and identify their various uses, such as webbed feet to move in water and claws to perch in a tree, Sort like animals according to types of feet. Have student identify other parts of the body that might help the animal move. Play Who Am I Guessing Game. I am an animal that needs gills to breathe. Who am I? (Present 3 pictures to choose from).</p>	<p>Present pictures of different types of bird feet, such as webbed feet and claws. Have student compare the different types of feet and identify their various uses, e.g., webbed feet to move in water and claws to perch in a tree. Sort like animals according to types of feet. Play Who Am I Guessing Game. I am an animal that needs gills to breathe. Who am I? (Present 3 pictures to choose from).</p>	<p>Provide student with photographs or pictures of various animals. Have student identify what parts of the body the animal uses to eat and to move.</p>	<p>Provide student with photographs or pictures of various animals. Have student identify what parts of the body the animal uses to eat.</p>
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Model Academic Standard G: Science Applications
Standard H: Science in Social and Personal Perspectives

Note: Extended Grade Objectives for **G: Science Applications** and **H: Science in Social and Personal Perspectives** are combined into a single Extended Grade Objective, consistent with the combined reporting in the general education assessments.

<i>EXTENDED GRADE BAND OBJECTIVE: G-H1</i>			
Recognize How Science Helps Your Life			
<i>Instructional Achievement Descriptors</i>			
Advanced	Proficient	Basic	Minimal
<i>Describe the benefits of science on their life</i>	<i>Recognize how science helps our life</i>	<i>Access technology in their lives</i>	<i>Use simple (one-step) assistive technology</i>
Provide pictures of simple machines (screw, lever, pulley, inclined plane, wheel and axle, and wedge). Demonstrate completing a basic task with and without the use of a simple machine. Have student complete one of the demonstrated activities. Have student identify the machine used and if the task was easier to complete with or without the use of the machine. Guide student in identifying a real-life example of the simple machine	Provide pictures of simple machines (screw, lever, pulley, inclined plane, wheel and axle, and wedge). Demonstrate completing a basic task with and without the use of a simple machine. Have student complete one of the demonstrated activities. Have student identify if the task was easier to complete with or without the use of the machine. Guide student to identify the name of the simple machine.	Have student interact with a variety of simple machines, such as: screw and screwdriver, toy car (wheel and axle, pulleys, etc.). Look for examples that help to complete a daily task, such as pulling up blinds, screwing on a lid, etc.	Use a Go-Talk to ask for help.
Discuss how science has provided us with information about healthy foods and benefits of exercise. Read text on benefits of exercise and nutritional value of common foods from each food group. Provide student with picture cards of various foods (healthy and unhealthy) and various activities (active and non-active). Have student sort healthy vs. unhealthy foods and active and non-active activities. Explain the benefits of exercise.	Discuss how science has provided us with information about healthy foods and benefits of exercise. Read text on benefits of exercise and nutritional value of common foods from each food group. Provide student with picture cards of various foods (healthy and unhealthy) and various activities (active and non-active). Have student sort healthy vs. unhealthy foods and active vs. non-active activities.	Discuss how science has provided us with information about healthy food. Provide student with picture cards of various foods (healthy and unhealthy). Have students sort healthy vs. unhealthy foods	Discuss how science has provided us with information about healthy food. Identify 2-3 healthy foods and 2-3 unhealthy foods. Given a choice of two foods, one healthy and one unhealthy, have the student identify the healthy food.

<p>Have student identify the change technology has had on how we perform everyday activities: What we use to call someone. What we use to play music. What we use to heat up soup. What we use to perform basic computations. What we use to type a note or letter. How we communicate with friends. Identify the benefit of the technology.</p>	<p>Have student identify the change technology has had on how we perform everyday activities. What we use to call someone. What we use to play music. What we use to heat up soup. What we use to perform basic computations. What we use to type a note or letter. How we communicate with friends.</p>	<p>Have student identify the change technology has had on how we perform everyday activities. Show student examples of some present-day technologies (e.g.MP3, cell phone, computer etc.) and older technology (phonograph, dial phone, typewriter, etc.). Have student identify the technology we use today.</p>	<p>Have student identify the change technology has had on how we perform everyday activities. Have student play a song on a phonograph and on an MP3 player. Have student identify the technology that was easier to activate.</p>
<p>Discuss how technology helps professionals complete their jobs. Have student identify tools professionals use to complete jobs. Doctor - Stethoscope, MRI, Digital thermometers Dentist - x-rays, high speed drills Movie Director - video camera, computers Cook - microwave, stove, convection Electrician - digital meters Identify how the technology has made the job easier.</p>	<p>Discuss how technology helps professionals complete their jobs. Have student identify tools professionals use to complete jobs. Doctor - Stethoscope, MRI, Digital thermometers Dentist - x-rays, high speed drills Movie Director - video camera, computers Cook - microwave, stove, convection Electrician-digital meters</p>	<p>Discuss how technology helps everyday professionals complete their jobs. Use magazines or the internet to collect pictures of everyday professionals and the tools they use to complete their jobs. Make posters using the pictures.</p>	<p>Discuss how technology helps professionals complete their jobs. Use magazines to collect pictures of everyday professionals and a tool they are associated with.</p>
<p>Discuss how technology has made it easier to complete everyday tasks. Provide sets of electric/battery and hand tools (e.g., toothbrush and electric toothbrush, hand beater and electric beater, sandpaper and electric sander, wheel chair and power chair, etc.) Demonstrate completing task using the manual tool and the electric tool. Have student explore the sets of tools. Have student identify other task that are easier to do because of advances in technology.</p>	<p>Discuss how technology has made it easier to complete everyday tasks. Provide sets of electric/battery and hand tools (e.g., toothbrush and electric toothbrush, hand beater and electric beater, sandpaper and electric sander, wheel chair and power chair, etc.) Demonstrate completing task using the manual tool and the electric tool. Have student explore the sets of tools. Identify which is easier to use.</p>	<p>Discuss how technology has made it easier to complete everyday tasks. Provide student with a manual toothbrush and a battery-operated toothbrush. Have student brush teeth with the manual first and then the battery operated. Have student identify which tool made it easier to brush his or her teeth.</p>	<p>Discuss how technology has made it easier to complete everyday tasks. Have student demonstrate how to activate or use a technological device (Go Talk, switch, computer, power chair, calculator, or coin counter, etc.).</p>