

CREATE VISUAL PRODUCTS OF THE SCIENTIFIC CONCEPTS

(All six 6 weeks: Safety Poster Alert; Classification Consideration; One, Two, Three)

1st 6 Weeks – (August 24 – October 2) - Physical Science I

Week 1 – 4.2 (a-e) – **Scientific Method: Scientific Process Inquiry Method** – What about it? (Set up the Interactive **Science Journal**)

Week 1 – 4.1 (a,b), – **Safety: Rules and Measurement Tools (4.4a)** – Poster Time

Week 2 – **Recurring Themes** (Introduction 1-6) – (3, 5) Compare and Contrast

Week 3 – 4.7b -**States of Matter** - Physical Properties of Matter – Liquid Layers

Week 4 – 4.7a – **Changes in States of Matter Caused by +/- heat and conductivity** - Heat changes Matter (Chemical Properties) – Cake Walk Concept Map

Week 5 – 4.7a - **Changes in States of Matter Caused by +/- heat and conductivity** - Heat Changes Matter - Makes Sense to Me

Week 5 – 4.7a - **Changes in States of Matter Caused by +/- Heat and Conductivity** – Subtracting Heat Changes Matter – The Big Flop

Week 6 – 4.7b – **Density and Buoyancy** - Density Dots, Boy Oh Buoyancy

4.7b – Physical Properties of Matter - Alka-Seltzer Makes Gas, Jump to It

2nd 6 Weeks – (October 5 – November 6) - Physical Science II

Week 1 – 4.2 (a-e) – **Scientific Method** – Science Fair (Science Fair Information Packet)

Week 2 – 4.5a – **Non-living Systems such as Electrical Circuits** – Paper Chase, Light the Light I & II, Imagery

Week 3 – 4.5b – **Removing Parts of a System** – What if...?

Week 4 – 4.6(b,c) – **Transformations and Symmetry** – Picture Trio, Frieze It Right There!

Week 5 – **Physical Science Review and Assessment**

3rd 6 Weeks – (November 9 – December 18) - Earth Science I

Week 1 – 4.11a – **Soils** - Drips

Week 2 – 4.11a – **Soils** – Science Detective

Week 3 – **4.10a – Rock Cycle, Erosion, Weathering, Flow, dissolving, and growth** – Erosion – Water Path, Rocky Road

Week 4 – **4.10a – Rock Cycle, Erosion, Weathering, Flow, dissolving, and growth** – Matter that Dissolves – Is There a Solution?

Week 5 – 4.10b – **Fossils** – Fossils Finds

4th 6 Weeks – (January 5 – February 19) - Earth Science II

Week 1 – 4.11b – **Effects of Ocean on Land** – Coastlines I

Week 2 – 4.11b - **Effects of Ocean on Land** – Coastlines II

Week 3 – 4.11c – **Sun in Relation to Winds and Water Cycle** – Solar Power, Wind in the Air, Solar-Powered Water Cycle

Week 4 – 4.6a – **Patterns: weather and objects in the sky** – Severe Weather Alert

Week 5 – 4.6a – **Patterns: weather and objects in the sky** – Planet Report, Make a Class Book; Time Travel: Rotate and Revolve

Week 6 – **Earth Science Review and Assessment**

Week 7 – 4.5a – **Living Systems**– What a World!

2009-2010: Suggested Science Activities for the 4th Grade Scope & Sequence - 2

5th 6 Weeks – (February 22 – April 16) - Life Science I

Week 1 – 4.3c – **Writing TAKS - Models**

Week 2 – 4.11c – **Sun: Growth of plants** – Beans in a Baggie

Week 3 – **Preparation for the Science Fair I** (Introduction 1,2,3,4,6)

Week 4 – **Preparation for the Science Fair II** (Introduction 1,2,3,4,6)

Week 5 – 4.6a - **Metamorphosis** – Metamorphosis Hocus Pocus

Week 6 – 4.6a – **Metamorphosis** – Change is Good: Partial and Complete

Week 7 – 4.8a - **Survival and Reproduction** - Thumbs Down, Best Species Job Offer

6th 6 Weeks – (April 19 – June 4) - Life Science II

Week 1 – 4.8b – **Adaptations** – Adapt is a Snap

Week 2 – 4.8b – **Math and Reading TAKS - Adaptations** – Adapt: Same but Different

Week 3 – 4.9 (a,b) - **Inherited Traits and Learned Characteristics** – Traits Are Great,
Mystic Characteristic, Survive Alive Book

Week 4 – 4.8c – **Species Past and Present** – Five Alive, Spin an Offspring, Come & Gone

Week 5 – **District Science Fair – May 21 at RSE**

Week 6 – **Life Science Review and Assessment**

Week 7 – **Review Recurring Themes – Patterns, Cycles, Systems, Models, Change and Constancy Quilt**

For your information:

(a) **Introduction.** (Source: TEA website)

(1) In Grade 4, the study of science includes planning and implementing field and laboratory investigations using scientific methods, analyzing information, making informed decisions, and using tools such as compasses to collect information. Students also use computers and information technology tools to support scientific investigations. **(2)** As students learn science skills, they identify components and processes of the natural world including properties of soil, effects of the oceans on land, and the role of the Sun as our major source of energy. In addition, students identify the physical properties of matter and observe the addition or reduction of heat as an example of what can cause changes in states of matter. **(3)** Students learn the roles of living and nonliving components of simple systems and investigate differences between learned characteristics and inherited traits. They learn that adaptations of organisms that lived in the past may have increased some species' ability to survive. **(4)** Science is a way of learning about the natural world. Students should know how science has built a vast body of changing and increasing knowledge described by physical, mathematical, and conceptual models, and also should know that science may not answer all questions. **(5)** A system is a collection of cycles, structures, and processes that interact. Students should understand a whole in terms of its components and how these components relate to each other and to the whole. All systems have basic properties that can be described in terms of space, time, energy, and matter. Change and constancy occur in systems and can be observed and measured as patterns. These patterns help to predict what will happen next and can change over time. **(6)** Investigations are used to learn about the natural world. Students should understand that certain types of questions can be answered by investigations, and that methods, models, and conclusions built from these investigations change as new observations are made. Models of objects and events are tools for understanding the natural world and can show how systems work. They have limitations and based on new discoveries are constantly being modified to more closely reflect the natural world.

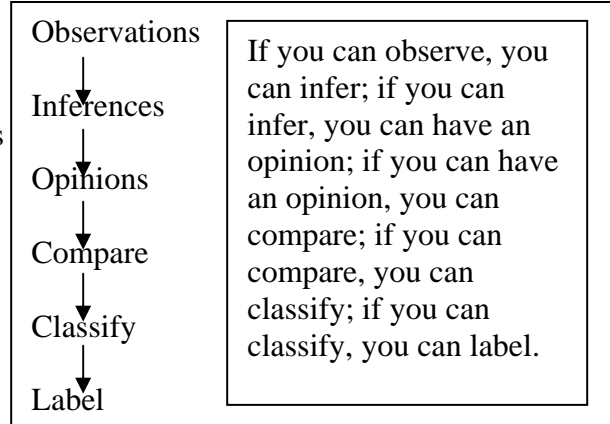
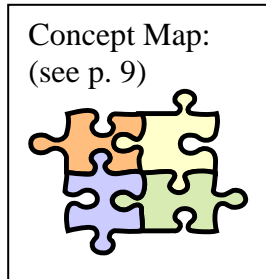
1st 6 Weeks – Physical Science I

(Safety Poster Alert; Classification Consideration: One Two Three)

Week 1 – Scientific Method - 4.2(a-e) - What about it?

Explain the progression of the Scientific Process Inquiry Method Flowchart Chart (right). Demonstrate the process by showing a transparency of a scene. The students follow the flowchart and record the data in their Interactive Science Journals.

Students learn to concept map. (see an example – 4th 6 Weeks – Week 3). Students write and illustrate a reflection.



Week 1 - 4.1a - Safety Poster Alert

Form the class into groups into three or four students. Each 6 weeks, the groups get a different safety icon and develop a safety poster (should include: tools, direct and indirect evidence, and a map, chart or graph). Follow-up: brainstorm ideas for safety features for the Science Fair Projects. Students write and illustrate a reflection.

Week 1 - 4.1a – Science Detective

#38 – Measuring Temperature, Air Pressure, and Humidity

Week 2 – Recurring Themes (Introduction 1-6): Patterns, Cycles, Systems, Models, Change, and Constancy – (3,5) Compare and Contrast

Compare and contrast several systems with regard to space, time, energy, and matter. How do they change and how do they remain the same? Elaborate on the water cycle and biomes. For example, how do they change (add/subtract) with energy (heat/storms), space (mountains/plains), matter (mudslides), and time (shower, downpour, drought)? How do they remain the same over time (years)? Students write and illustrate a reflection.

Week 3 – 4.7b – States of Matter - Physical Property of Matter – Liquid Layers

Discuss the density of liquids. Need: corn syrup, vegetable oil, water, (3) food colors, plastic spoons, and enough clear plastic cups – 4 to a group. Divide students into groups. Each group gets 4 clear plastic cups. Each group takes plastic cups and puts a little syrup, vegetable oil, and water in each cup. The group decides what color to use for each liquid, then stirs one or two drops into the liquid. The group pours each liquid into the 4th plastic cups and notes what happens each time in their science journals. Discuss why layers formed. Students write and illustrate a reflection.

Week 3 – 4.7b – States of Matter - Classification Consideration: One, Two, Three

(For Earth Science and Life Science, students draw different objects on note cards to put in the bag/container.) Gather different objects. Each student picks one. The teacher has a surprise bag/container of objects. Explain classifications and properties. Students note data in their Science Journals. Each student writes down the name of his/her object in the journal. Each student suggests one possible classification for his/her object. The teacher picks an object out of the bag/container and holds it up. Each student writes one property in common with

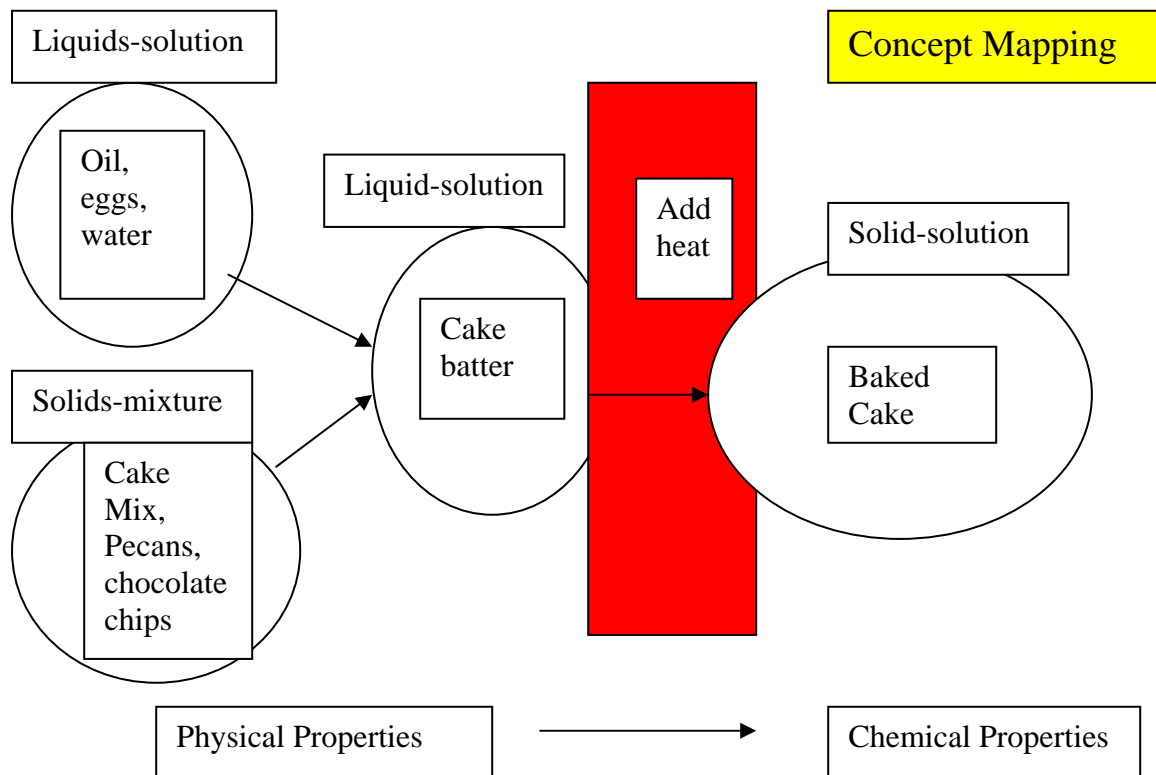
his/her object and the teacher's object. Follow-up: two and three properties. Students form groups and classify their objects, demonstrating the results with a Venn Diagram. **(Note: students can make their own Venn diagrams with a compass and a ruler. First draw a line then draw a circle with the point of the compass on the line. Next, draw the second circle with point of the compass on the point where the circumference and the line intersect.)** Students write and illustrate a reflection

Week 3– 4.7b – Science Detective

- #1 – Observable Physical Properties of Objects & Materials
- #2 – Measuring Physical Properties
- #3 – Classification of Matter
- #4 – States of Matter

Week 4 – 4.7a – Changes in States of Matter Caused by +/- Heat and Conductivity – Heat changes Matter (Chemical Properties) – Cake Walk Concept Map

Review mixture and solution and mixture changing to a solution. Add the element of heat, using the oven. What goes into the oven a mixture or a solution and comes out in the same state (ex. pizza dough)? What goes into the oven and comes out different (ex. cake batter)? In their science journals, using a cake mix recipe, students draw a Venn diagram to compare and contrast an example of a sequence of events: **(physical properties)** mixture (solids and liquids) to solution (liquid) – add heat – **(chemical properties)** to a solid. What do they have in common? How are they different? (See next page.) Students write and illustrate a reflection.



Week 5 – 4.7a – Changes in States of Matter Caused by +/- Heat and Conductivity - Heat Changes Matter - Makes Sense to Me

2009-2010: Suggested Science Activities for the 4th Grade Scope & Sequence - 5

Using their (5) senses, student describe the process of making a cake in their science journal. Using their (5) senses, students describe heat in their science journal. Students get into groups and discuss (3) other examples of how heat changes matter. Students write and illustrate a reflection.

Week 5 – 4.7a – Heat Changes Matter – Science Detective #11 – Heat, sources of Heat, and Heat Conduction

Week 5 - 4.7a - Changes in States of Matter Caused by +/- Heat and Conductivity – Subtracting Heat Changes Matter – The Big Flop

Create teams who discuss what happens when the heat is omitted at different stages of making a cake. What happens if the pan is made of different materials? Students write and illustrate a reflection.

Week 6 – 4.7b – Density – Density Dots

In their science journals, students draw three similar squares and draw and label molecules in the three states of matter: solid, liquid, gas. In the solid state, the molecules should be densely packed into a shape in the square (like a block). In the liquid state, the molecules should be less dense and dispersed at a certain level throughout the square (like water). In the gas state, the molecules should be lightly dispersed throughout the box (like air). Students write and illustrate a reflection.

Week 6 – 4.7b – Buoyancy – Boy Oh Buoyancy

Using the density dots, discuss the spacing of the molecules with relation to buoyancy. A button will be buoyant on a solid but has too much mass to be buoyant on a liquid or a gas. A ping pong ball will be buoyant on a solid and a liquid but not in a gas. Discuss weight dispersion in relation to mass. Discuss saturation, for example, a sponge will be buoyant on a liquid until saturated and the mass changes. Divide the class into groups. Each group designs a boat made of identical pieces of aluminum foil. Using pennies or the single unit yellow blocks (EDM), each team tests the buoyancy of their design in a tub of water. The boat that holds the most objects is the best design. Teams may continue to re-design their boats. Discuss the buoyancy of the design of the boats. Students write and illustrate a reflection.

Week 6 – 4.7b – Density and Buoyancy – Alka-Seltzer Makes Gas

Students gather around the materials: (1) empty plastic soda bottle, with about (2) inches of water in it, (1) Alka-Seltzer tablets, and a balloon. The teacher puts breaks up the Alka-Seltzer tablet and drops the pieces into the balloon. The teacher very carefully fits the balloon over the neck of the soda bottle. Students describe the states of matter and predict what will happen when the teacher lifts the balloon to let the pieces of tablet drop into the water. (The balloon will stand up and fill.) Students discuss what changes could be made and predict the results, ex. (2) tablets – remember to rinse out the soda bottle each time. Students write and illustrate a reflection.

Week 6 – 4.7b – Density and Buoyancy – Jump to It

Fill a clear container with water, add a little food coloring and $\frac{1}{4}$ cup vinegar and (3) teaspoons baking soda. Students predict what will happen when the teacher drops in objects like dried beans, buttons, pasta, rice. (The bubbles should cause the smaller objects to bob up and down in the water.) Students write and illustrate a reflection.

2nd Weeks – Physical Science II

(Safety Poster Alert; Classification Consideration: One Two Three)

Week 1 – 4.2 (a-e), 4.3a – Scientific Method - Science Fair Information Packet,

Week 2 – 4.5a – Non-living systems such as Electrical Circuits – Paper Chase

Cut up pieces of paper into eighths. Students form a circle. One student is the “switch”, the teacher is the battery. When the “switch” is on (completing the circuit), the student stands in the circle. The teacher starts handing out pieces of paper in one direction and this passed around the circle until everyone is handing a piece of paper to the next person (you can only have one piece of paper at a time). The teacher says “open circuit” and the “switch” steps outside the circle and does not pass any paper. The flow stops. The teacher says “closed circuit” and the “switch” steps back into the circle and the flow can begin again. Students write and illustrate a reflection.

Week 2 – 4.5a – Non-living systems such as Electrical Circuits – Light the Light I

Divide the class into groups of four or five. Give each group a baggie with: a D-cell battery, 2 pieces of insulated copper wire (about 15 cm long with about 1 cm of insulation stripped from each end.), flashlight bulb (bulb holder optional). Ask the groups to open the baggies and light the lights. Students write and illustrate a reflection.

Week 2 – 4.5a – Non-living systems such as Electrical Circuits – Light the Light II

Have a second baggie ready with different object like paperclips nails, pieces of paper (paper towels), erasers wooden pencils, buttons, pieces of aluminum, cloth, Styrofoam, and other objects that the students want to try gathered from the group. In their science journals, draw two columns, labeled “Conductor” and “Insulator”. Have the students identify each objects as a conductor or an insulator and write the object in the correct column. Students write and illustrate a reflection.

Week 2 – 4.5a – Non-living systems such as Electrical Circuits – Imagery

Ask the students to imagine that they are running around the classroom; but, in order to run, they must keep touching the wall. When the door is “closed”, it is a “closed” circuit” and they can complete the circuit. When the door is “open”, the circuit is incomplete (broken), and they are stuck at the door. Demonstrate with “open” circuit is lights off (turn off the lights), current cannot flow. “Closed” circuit is lights on (turn on the lights), current can flow. Students write and illustrate a reflection.

Week 2 – 4.5a – Science Detective

#12 – Electricity, Electrical Circuits, and Energy

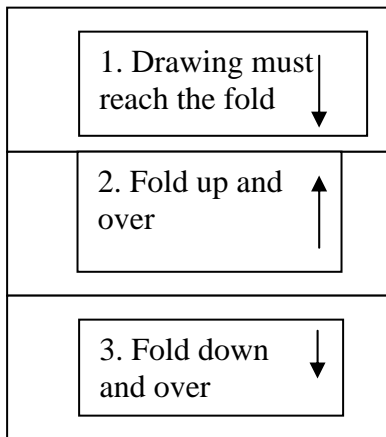
#13 – Symbols and Electrical Circuits

#14 – Magnets, Magnetism, and Electromagnetism

Week 3 - 4.5b – Removing Parts of a System – What if...?

Students design a system in their interactive journals, then remove each part separately and re-design the system for each missing part. Students write and illustrate a reflection on the impact of the missing parts.

Week 4 – 4.6 (b,c) – Transformation and Symmetry – Picture Trio



Students draw an object, which must reach the fold. Then the students fold the paper over the drawing from the bottom, so that the drawing is at the bottom with the rest covering it and extending above it. Trace the image on the paper, reaching the fold. Then fold the top third over the second image and the student traces the second image (liked and accordion). When unfolded, the image is reflected and transformed. Students will observe and recognize the symmetry and line of symmetry in the reflection. Students write and illustrate a reflection.

Week 4 – 4.6(b,c) - Transformation and Symmetry – Frieze It Right There!

Students each create a shape and draw it on cardstock or cardboard. Cut the shape out and make a frieze by tracing and changing the position of the shape: translation, rotation, reflection, and tessellation. Color the pattern. Students write and illustrate a reflection.

Week 5 – Physical Science Review and Assessment

3rd 6 Weeks – Earth Science I

(Safety Poster Alert, Classification Consideration: One Two Three)

Week 1 - 4.11a – Soils – Drips (Safety Poster Alert, Classification Consideration: One Two Three)

Clear plastic cups and plastic spoons. Have the students bring a paper cup full of a soil sample from their yard or area. Students predict how many spoonfuls of water their soil sample will hold. Cut a small hole in the paper cup and place the paper cup over the clear plastic cup. (Make sure the students have a similar amount of soil.) Make a chart of the results of the class. Students create a bar graph from the chart in their science journal. Discuss how this soil property impacts growth (ex. food production, flooding). Students write and illustrate a reflection.

Week 2 – 4.11a – Soils – Science Detective

#29 – Earth Science and Earth Materials

#30 – Earth Materials and their Uses

#31 – Minerals

#32 – Rocks and the Rock Cycle

#33 - Soils

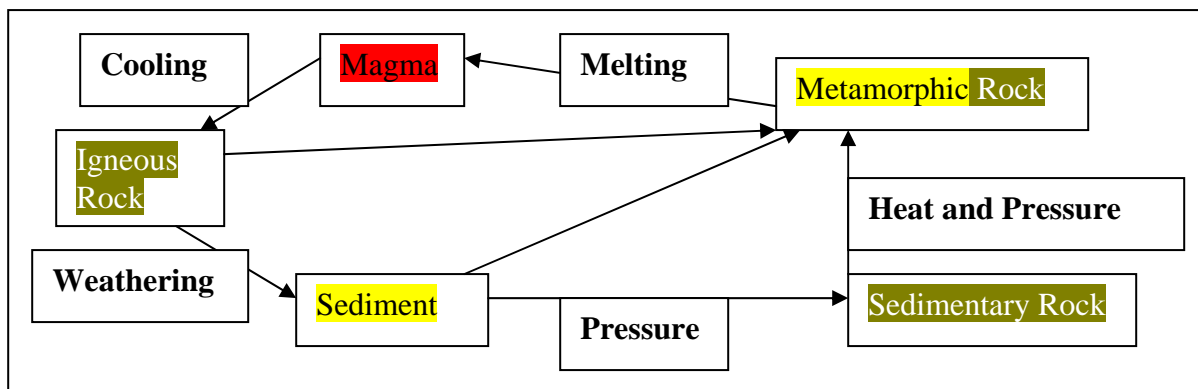
Week 3 – 4.10a – Rock Cycle, Erosion, Weathering, Flow, dissolving, and growth - Erosion – Water Path

Students bring a plastic tray from home and create a waterway from materials brought from home (use the soil sample from Drips) or from around the school. Students go outside to test their water paths by pouring small quantities of water and observe what the water does, noting data in their science journals. Students write and illustrate a reflection.

Week 3 – 4.10a – Rock Cycle, Erosion, Weathering, Flow, dissolving, and growth – Science Detective #35 – Slow Changes to the Earth’s Surface

Week 3 – 4.10e – Rock Cycle, Erosion, Weathering, Flow, dissolving, and growth – Rocky Road

Students bring rocks from home. Students discuss the **Rock Cycle** (see below) and identify the different kinds of rocks and their formation within the Rock Cycle. Students classify their rocks. Students write and illustrate a reflection.



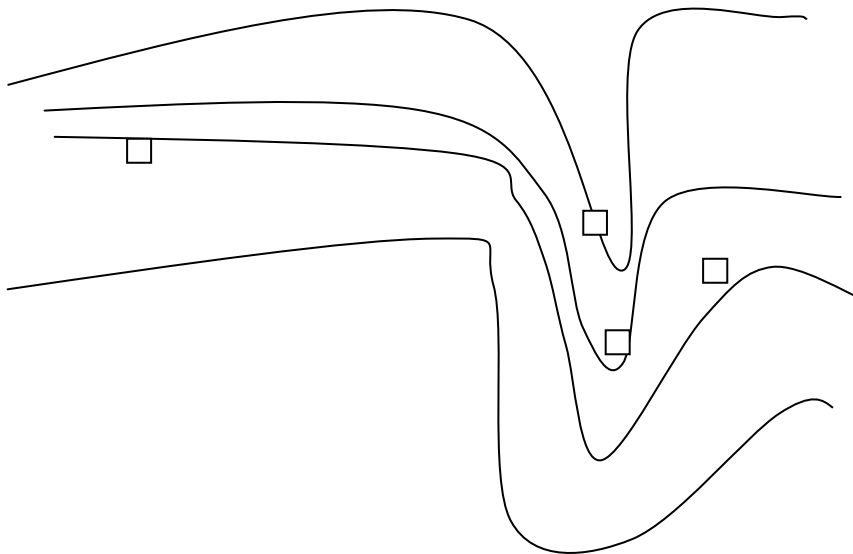
Week 4 – 4.10a – Rock Cycle, Erosion, Weathering, Flow, dissolving, and growth - Matter that Dissolves – Is There a Solution?

Discuss mixtures and solution, ex. a bowl of cereal is a mixture, add milk and it becomes a solution over time. Form class into groups. Need: sand, salt, sugar, lemonade or Kool-Aid powder, clear plastic cups and plastic spoons. Groups predict what will happen and note the data in their science journals. Each group gets (4) cups ½ full with some water. The group adds 1/2 spoonful of a solid to each cup of water. The groups will decide how many times to stir the liquid (ex. between 5-10 times) and predict what will happen when the water stops moving. Mixture or solution? Why? Students write and illustrate a reflection.

Week 5 – 4.10a - Fossils – Fossils Finds

Draw a series of undulating layers representing the layers of rock/soil. Draw fossil in the layers, making sure that their location is misleading (ex. draw a fossil in the uppermost part of the oldest rock layer and another fossil in the lowest part of a younger rock. The younger fossil will seem older due to the depth placement in the rock structure.) The students will have to follow the layers one by one to understand how the fossils relate to each other in terms of age. Draw at least (4) fossils and ask the students to identify the fossils in order from oldest to youngest. Students write and illustrate a reflection.

Fossil Finds



**Week 5 – 4.10a – Science Detective
#4 – Fossils**

4th 6 Weeks – Earth Science II

(Safety Poster Alert; Classification Consideration: One Two Three)

Week 1 – 4.11b – Effect of the Ocean on Land – Coastlines I

Using the plastic trays from the Water Path activity, students reconfigure the material to form a coastline taking up about 1/3 of the tray. Students pour small amounts of water to cover the remaining 2/3 of the surface of the tray to represent the ocean. Students carefully tip the tray in a side-to-side motion to imitate waves (storm or tides). The students write their observations in their science journal. Students write and illustrate a reflection.

Week 2 – 4.11b – Effect of the Ocean on Land – Coastlines II

Students research a coastline on a map and describe how the coastline was formed and predict changes due to a river, ocean currents or a storm. The students write their observations in their science journal and draw and label their maps, before and after. Students write and illustrate a reflection.

Week 2 – 4.11b – Effects of the Ocean on Land – Science Detective

#35 – Fast Changes to the Earth’s Surface (Discuss what happens when these changes occur in the ocean. Students write and illustrate a reflection.)

Week 3 – 4.11c – The Sun – Solar Power

Students discuss the impact of the sun on their lives. In their science journals, students list as many ways as possible that they are affected by the sun (ex. heat, light/color, energy). Students write and illustrate a reflection.

Week 3 – 4.11c – The Sun - Wind in the Air

Hang long strips of paper on the top of the door frame with the door closed. Discuss differences in temperature and how it affects air flow (wind). Discuss the temperature on either side of the door. Will they be different? How? Predict which way the strips of papers will go when the door is opened. Open the door. Students note data in their Science Journals. Students write and illustrate a reflection.

Week 3 – 4.11c – The Sun - Solar-Powered Water Cycle

Students discuss the components of the water cycle and the role of the sun. Students draw and color the water cycle in their science journals and indicate air flow and temperature (cold, cool, warm, hot; hot air rises and cool air descends). Discuss what would happen if different parts were removed or changed. Students write and illustrate a reflection.

Week 3 – 4.11c – Science Detective

#40 – The Sun

#39 – Objects in the Sky

#41 – The Motion of Objects in the Universe

Week 4 – 4.6a – Patterns: weather and objects in the sky – Severe Weather Alert

Using the “Solar-Powered Water Cycle” and the “Wind in the Air”, discuss the formation of weather (ex. cold air moving into an area with moist air, cooling the clouds, stopping evaporation, creating heavier clouds closer to the surface) to make storms: rain, snow, hail. Students write and illustrate a reflection.

Week 5 – 4.6a – Patterns: weather and objects in the sky - The Solar System – Planet Report and Make a Class Book

Students pick a planet and research a report with an illustration. Reports should include, for example, physical dimensions and characteristics, position in the Solar System, moons, rotation and revolutions travel time and a description of what we would need in order to visit. Make a book. Students write and illustrate a reflection.

Week 6 – Earth Science Review and Assessment

Week 7 – 4.5a – Living Systems – What a World!

Class discusses the elements of an ecosystem. Divide the class into groups. Each group develops and draws an ecosystem, labeling the parts. Present and defend viability of the system, including predictions on what would happen if a part was removed. Students write and illustrate a reflection.

5th 6 Weeks – Life Science I

(Safety Poster Alert; Classification Consideration: One Two Three)

Week 1 – 4.1a – Writing TAKS Models

Discuss how the Scientific Process compares to the Writing Process. Discuss how the students can use the Scientific Process to improve their writing, ex. observation and detail. Review thinking progression in ‘**What about it?**’ (1st 6 Weeks – Week 1). Students write and illustrate a reflection.

TAKS WRITING TEST

Week 2 – 4.5a - Science Detective

#16 – Environments, Ecosystem, and Organisms

#22 – The Five Senses and Survival

#27 – Organisms Change Environments

#28 – People Change Environments

Week 2 – 4.11c – Sun: Growth of Plants - Beans in a Baggie

Form the class into groups and assign each group materials. Students create a growing environment for the bean or seed with a baggie, a paper towel or Kleenex, a bean or seed, and water. (Note: leave a small opening for ventilation.) Put one group in the sunlight and one group in artificial light, use a coin toss to decide. Ensure that the bean or seed has enough water (damp). Students draw a picture of the progress in their science journals. Discuss the difference between artificial light and sunlight (energy). Students draw a picture of the connections between plants and the sun in their Science Journals. Students write and illustrate a reflection.

Week 2 – 4.11c - Science Detective

#15 – Animal and Plant Needs and the Environment

#20 – Plants, Animals, and Energy

#23 – Life Cycle of a Plant

#26 – Food Chains and Food Webs

Week 3 – Preparation for Science Fair I

Week 4 – Preparation for Science Fair II

Week 5 – 4.6a – Metamorphosis – Metamorphosis Hocus Pocus

Class discusses complete (four stage) and partial (three stage) metamorphoses (butterfly/frog and fly). Students draw the butterfly/frog and fly cycles in their science journals. Color, label and show the correct order of development. Color and draw in the habitat. Create a Venn diagram to compare and contrast the metamorphoses. Students write and illustrate a reflection.

Week 5 – 4.8a – Survival and Reproduction - Thumbs Down

Tape (masking tape) the thumbs to the hand (cannot use thumbs). Gather different objects in the class. Ask the students to predict how adaptations are important for survival. Then ask the students to (with thumbs taped): draw and color a picture of machine or animal, build a cube or geometric shape with the blocks, cut a circle from a piece of paper, sharpen a pencil, draw a 4” line with a ruler. After untaping the thumbs, students write a reflection on their experience with regards to adaptations for survival. Students write and illustrate a reflection.

Week 6 - 4.8a – Survival and Reproduction – Best Species Job Offer

Each student researches a species and creates a poster “resume” advertising the unique survival features of his/her species for the imaginary job offer. Students write and illustrate a reflection.

Week 6 – 4.8a - Science Detective

#19 – Plant Structure, Function, and Survival

Week 6 – 4.8 – Characteristics for Survival – Science Detective

#17 – Instincts, behavior, and Survival

#19 – Plant Structure, Function, and Survival

#21 – Animal Needs and Animal Survival

6th 6 Weeks – Life Science II

(Safety Poster Alert; Classification Consideration: One Two Three)

Week 1 – 4.8a – Adaptations - Adapt is a Snap

Divide the class into groups to discuss adaptations. Students create a set of (10) cards (use half a note card) with the names of animals (different species) written on them. Students brainstorm and create a second set of cards of possible adaptations to animals (ex. furrier, bigger wings, smaller feet, longer tail, longer beak, spots.). The groups trade sets of cards and place each set face down. Each student draws one card from each pile. In the science journal, the student draws the animal with the adaptation and draws and colors the habitat that caused the adaptations. Students write and illustrate a reflection.

Week 2 – 4.8a – Adaptations – Adapt: Same but Different

Compare and contrast how plants and animals adapt differently to the same condition. Pick four animals and show how they adapt to eating, staying warm, reproduce (nest/den and how they feed and protect their young). Start to draw each animal with an oval (body) and draw in all the adaptations. Draw the background as the home environment. Label the adaptations. Students write and illustrate a reflection.

MATH/READING TAKS TESTS

Week 3 – 4.9(a,b) – Inherited Traits and Learned Characteristics - Traits are Great

Human Trait	Inherited	Learned

Class discusses the difference between what is learned (dancing, cooking, biking – **activities**) and what is inherited/transferred (long fingers, black hair, small feet – **characteristics**). Each student creates a table in his/her science journal and develops a list of his/her traits. The student identifies if the trait is inherited or learned. Students write and illustrate a reflection.

Week 3 – 4.9(a,b) – Inherited Traits and Learned Characteristics - Mystic Characteristic

Students fold a paper into quarters and cut into four pieces. Draw one plant (roots, stem, leaves, and flower) on each of the four pieces of paper. Turn the papers over and write 1,2,3,4 on the back of the papers (one number per paper). Turn papers over again to the plant side. Draw a table with two columns “D” (dominant) and “R” (recessive) beside each plant. Decide which of the traits is “D” or “R” and write the part under the letter. Students write and illustrate a reflection.

(D)ominant	(R)ecessive
petals	leaves
stem	roots
center of flower	

Group the students into four groups. Group “1” gets the flowers/tables with the number “1” on the back, group “2” gets the ones labeled “2”, and so on. Each group must formulate the appearance of the offspring plants and draw a poster of the plants in a garden habitat. (Note: If a choice has to be made, do a coin toss.) Follow-up: instead of flowers: animals, birds, bugs, and monsters.

**Week 3 – 4.9(a,b) - Inherited Traits and Learned Characteristics - Science Detective
#25 – Heredity**

Week 3 – 4.9b – Inherited Traits and Learned Characteristics - Learned Behavior – Survive Alive Book

Class discusses habitats and resulting successful animal behavior. Students create three sets of cards, animals, insects, habitats, with enough for each student to get one of each. In the science journal, draw a picture of the habitat with the animal and insect. Label (5) successful behaviors which the animal and insect might exhibit (do not have to be the same behaviors). Students write and illustrate a reflection.

Week 4 - 4.8c – Species – Past and Present – Five Alive

Create a game. Brainstorm factors that contribute to adaptation. Make cards and write the factors on the cards, enough for (5) each. Place the cards face down and the students pick (5) cards. Make a stick drawing of a generic animal (herbivore). The students copy the animal in their science journals. Each student get (5) cards and draws the adaptations on his/her animal, according to the cards. Duplicate cards may be exchanged or changed. Students write and illustrate a reflection.

Week 4 – 4.8c – Species – Past and Present – Spin an Offspring

Students work in pairs. They draw an animal (one parent) and make a simple spinner with changes like smaller, bigger, thinner, and thicker. Students take turns: one student points at a part of the animal, and the other student spins the spinner. The students write down the (6) changes and draw the new animal (offspring). Then, based on the original parent and the offspring, the students draw the other parent, based on the spinner changes. Students write and illustrate a reflection.

Week 4 – 4.8c – Species – Past and Present - Come & Gone

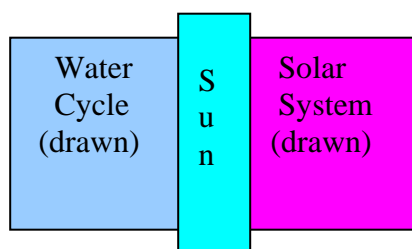
Each student selects an animal and researches an ancestor (ex – mammoth/elephant, tiger/saber-tooth, some will be bigger or smaller. In their science journals, students develop Venn diagrams to show results over time (record the amount of years, ex – 10,000 years). Students write and illustrate a reflection.

Week 5 – District Science Fair

Week 6 – Life Science Review and Assessment

Week 7 – Review Recurring Themes: Patterns, Systems, Models, Change, and Constancy – The Big Picture

Reviewing the year, create teams to draw the concepts covered on square pieces of colored paper. Use the basal as a reference. Create a science quilt by finding similarities to interconnect the pieces. Write the similarities on strips of contrasting colored paper. Glue each strip to the two pieces; all sides should have a 'link', connecting the concepts into a large quilt or mural. Students write and illustrate a reflection.



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Thank You

**to the teachers and students,
past and present, who,
knowingly and unknowingly,
contributed to this project.**

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