



**Gulfport School District**  
**Science Instructional Strategies**



Check Grade Level K \_\_\_ 1 X 2 \_\_\_ 3 \_\_\_ 4 \_\_\_ 5 \_\_\_ 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_ 11 \_\_\_ 12 \_\_\_

**Competency:** 1 Develop abilities necessary to conduct scientific investigations.

**Objective(s):** c Use simple tools (e.g., rulers, scales, hand lenses, thermometer, microscopes) to gather information. (DOK1)

- a) Weight, using a balance scale with and without nonstandard units
- b) Capacity, using nonstandard units

**Vocabulary:** grams, pounds, heavier, lighter

**Teaching Strategy(ies):**

1. Using a balance scale with a variety of light to heavy objects. The student will put items in each tray. First they will say “ \_\_\_ is lighter than.” or “ \_\_\_ is heavier than.” Next use grams or pounds to compare.
2. The student will use cups, spoons, jars, pails, pictures (tub, lake, etc) to tell which holds more/less. The students will then use colored water to determine whether their prediction is correct.

**Materials:** a)balance scale, variety of objects, b) variety of containers and pictures

**Competency:** 1 Develop abilities necessary to conduct scientific investigations.

**Objective(s):** d Match a simple problem to a technological solution related to the problem (e.g., dull pencil-sharpener, bright light-sunglasses, hot room-fan, cold head-hat, and heavy baby-stroller). (DOK1)

**Vocabulary:** problem, solution

**Teaching Strategy(ies):**

Divided into groups, The students will use a T-chart with problem on one side and solution on the other.

Problem	Solution
Pencil	Sharpener

The teacher will give the first few students can come up with last few.

**Materials:** T-charts, pencils



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**Competency:** 2 Develop an understanding of properties of objects and materials, position and motion of objects, and properties of heat and magnetism.

**Objective(s):** c Describe the effects of various forms of motion and forces on objects. (DOK2)

**Vocabulary:** effects, motion, forces

**Teaching Strategy(ies):**

1. The teacher will have students choose a word for motion (sliding, rolling, straight line, circular, back and forth) and demonstrate physically.
2. The students will tell what type of effect the motion can produce (spilling, breaking, bending)

**Materials:** strips of paper, bucket, students

**Competency:** 2 Develop an understanding of properties of objects and materials, position and motion of objects, and properties of heat and magnetism.

**Objective(s):** d Differentiate between interactions of two magnets and the interaction of a magnet with objects made of iron, other metal, and nonmetals. (DOK1)

**Vocabulary:** attract, repel, magnet, nonmetal

**Teaching Strategy(ies):**

1. The teacher will give the students a bag of objects and magnets to explore and experiment with.
2. The students will record on a T-chart, whether the object is magnetic or nonmagnetic.

**Materials:** magnets, iron, nonmagnetic item, T-chart



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**Competency:** 2 Develop an understanding of properties of objects and materials, position and motion of objects, and properties of heat and magnetism.

**Objective(s):** f Compare and classify solids and liquids. (DOK2)

**Vocabulary:** solids, liquids

**Teaching Strategy(ies):**

Using magazines, the student will cut out pictures of solids and liquids to paste on circle maps labeled solid or liquid.

**Materials:** two circle maps, magazines, scissors, glue

**Competency:** 3 Develop an understanding of the characteristics, structures, life cycles, interactions, and environments of organisms.

**Objective(s):** a Classify animals and plants by observable features (e.g., size, appearance, color, motion, habitat) (DOK2)

**Vocabulary:** classify, features, appearance, habitat, motion

**Teaching Strategy(ies):**

The teacher will give students bubble maps with pictures of animals and plants to describe using a tree map, classify animals into zoo, farm, home, jungle habitats. Tree map plants by size, appearance, color.

**Materials:** tree maps, bubble map with pictures on them, pencils



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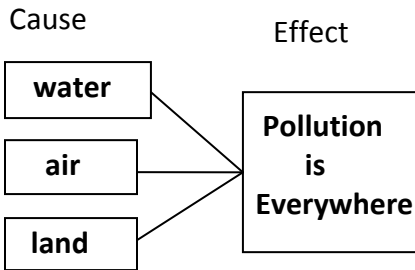
**Competency:** 4 Develop an understanding of the properties of Earth materials, objects in the sky, and changes in Earth and sky.

**Objective(s):** d Categorize types of actions that cause water, air, or land pollution. (DOK2)

**Vocabulary:** pollution, action,

**Teaching Strategy(ies):**

Use a multi-flow map, tell how an action can cause water, air, or land pollution.



**Materials:** multi-flow on poster, pencil/markers



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**Competency:** 1 Understand how to plan and carry out a simple scientific investigation.

**Objective(s):** b Compare, sort, and group objects according to their attributes. (DOK 2)

**Vocabulary:** compare, sort

**Teaching Strategy(ies):**

1. The teacher will give a group of students a bucket full of various objects. The students will sort the objects according to the attributes that they generate. The students will justify why the objects are sorted the way they grouped them. The students will give either oral or written justification.
2. Students will receive a bag of Halloween candy that is different in size, shape, and color. Students will sort the candy into groups. Students will justify their reasoning.

**Materials:** various objects with different attributes, paper, pencils, Halloween candy, bag

**Competency:** 1 Understand how to plan and carry out a simple scientific investigation.

**Objective(s):** c Use simple tools (e.g., rulers, scales, hand lenses, thermometers, microscopes) to gather information. Length, using nonstandard units (e.g., paper clips, Unifix cubes, etc)

**Vocabulary:** measurement, length, Unifix cubes

**Teaching Strategy(ies):**

1. Teacher will have students measure various objects using nonstandard units. For example, students can measure how many pumpkins tall they are. Higher achieving students can estimate how many pumpkins tall a classmate is.
2. Students will measure how many paper clips long and how many Unifix cubes long a Halloween cats tail is.

**Materials:** various objects to measure, various nonstandard units, pumpkins on same size paper, cat with tail, paper clips, Unifix cubes

**Competency:** 1 Understand how to plan and carry out a simple scientific investigation.

**Objective(s):** c Use simple tools (e.g., rulers, scales, hand lenses, thermometers, microscopes) to gather information. Length, using nonstandard units (e.g., paper clips, Unifix cubes, etc)

**Vocabulary:** measurement, thermometer, temperature

**Teaching Strategy(ies):**

1. Teacher will place thermometer by window and record temperature.
2. Teacher will move thermometer across room and record temperature.
3. Teacher will take thermometer outside for recess and record temperature.

**Materials:** thermometer



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**Competency:** 2 Develop an understanding of properties of objects and materials, position and motion of objects, and properties of heat and magnetism.

**Objective(s):** a Recognize that most things are made of parts. (DOK 1)

**Vocabulary:** whole, parts

**Teaching Strategy(ies):**

1. Students will color, cut, and assemble a paper plate doll of themselves. Students will then use a brace map to break the “whole” person into parts.
2. Class will read The Old Lady Who Wasn’t Afraid of Anything. The students will use a brace map to break the scarecrow’s (in the book) outfit into parts (pumpkin head, shirt, gloves, pants, and boots)

**Materials:** paper plate, brads, construction paper, markers, scissors, paper, pencil, brace map on plastic place mat, die cuts of scarecrow’s outfit, paper, glue, pencil, The Old Lady Who Wasn’t Afraid of Anything, brace map

**Competency:** 2 Develop an understanding of properties of objects and materials, position and motion of objects, and properties of heat and magnetism.

**Objective(s):** g Identify vibrating objects that produce sound and classify sounds (e.g., high or low pitched, loud or soft). (DOK 1)

**Vocabulary:** vibration, sound

**Teaching Strategy(ies):**

1. Teacher will place bottles with different amounts of water out on a table.
2. Teacher will blow on each bottle to demonstrate the different sounds each makes.
3. Students will discuss what sound the bottle made.

**Materials:** bottles, water



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**Competency:** 4 Develop an understanding of the properties of Earth materials, objects in the sky, and changes in Earth and sky.

**Objective(s):** f Identify relationships between lights and shadows and illustrate how the shape of the Moon changes over time. (DOK 1)

**Vocabulary:** rotate, shadow, light

**Teaching Strategy(ies):**

1. The teacher will demonstrate how the light and shadow from the sun and Earth affect the shape of the moon. The teacher will hold a flashlight (sun) while a student holds an orange (Earth) on a pencil.
2. The student with the orange will rotate around the flashlight to illustrate how the shape of the moon changes over time.
3. Students will go outside in the morning. The teacher will use sidewalk chalk to measure the student's shadow.
4. The experiment will repeat in the afternoon.
5. The students will compare the results.

**Materials:** flashlight, orange, pencil, sidewalk, sidewalk chalk

**Competency:** 4 Develop an understanding of the properties of Earth materials, objects in the sky, and changes in Earth and sky.

**Objective(s):** b Identify Earth landforms and bodies of water (e.g., continents, islands, peninsulas, oceans, rivers, lakes, ponds, creeks). (DOK 1)

**Vocabulary:** continents, islands, peninsulas, oceans, rivers, ponds, and creek

**Teaching Strategy(ies):**

1. Students will label a map. Students will label continents, islands, peninsulas, oceans, rivers, ponds, and creeks.
2. Students will create a tree map on the given landforms. Students will list characteristics under each landform.

**Materials:** map, pencil



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**Competency:** 4 Develop an understanding of the properties of Earth materials, objects in the sky, and changes in Earth and sky.

**Objective(s):** c Observe, identify, record, and graph daily weather conditions. (DOK 3)

**Vocabulary:** weather, sunny, cloudy, rainy

**Teaching Strategy(ies):**

1. Every morning, the class will observe the weather. The class will identify and record that day's weather.
2. The teacher will graph the results on the morning meeting board.
3. The student of the day will dress weather bear accordingly. Student will justify the bear's clothing and compare it to the choice of the prior day.

**Materials:** morning meeting board, weather graph, weather bear, weather bear clothing

**Competency:** 4 Develop an understanding of the properties of Earth materials, objects in the sky, and changes in Earth and sky.

**Objective(s):** g Distinguish characteristics of each season and describe how each season merges into the next. (DOK 1)

**Vocabulary:** fall, winter, spring, summer

**Teaching Strategy(ies):**

1. Students will create a tree through each season.
2. The teacher will give students a template of a tree trunk to trace on a piece divided into fourths.
3. The students use materials provided to illustrate the changes it goes throughout each season.

**Materials:** paper, pencils, crayons, tissue paper