



Gulfport School District  
Science Instructional Strategies



Check Grade Level K\_\_\_ 1\_\_\_ 2 X 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, thermometers, scales, hand lenses, microscopes, balances, clocks) to gather information. (DOK 1)

**Vocabulary:** hour, half-hour, digital clock, analog clock

**Teaching Strategy(ies):**

1. Students will have their own analog clocks. The teacher will call out a time to the nearest hour and half-hour intervals. The students will show that time on their individual clocks.
2. Students will match the picture of a digital clock to the same time on an analog clock.

**Materials:** individual student analog clocks

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

**Objective(s):** d Collect and display technological products (e.g., zipper, coat hook, ceiling fan pull chain, can opener, bridge, apple peeler, wheel barrow, nut cracker, etc.) to determine their function. (DOK 1)

**Vocabulary:** zipper, coat hook, ceiling fan pull chain, can opener, bridge, apple peeler, etc.

**Teaching Strategy(ies):**

1. The teacher will place various objects at teach table.
2. Students will work as a group to investigate the objects uses.
3. Students will record predictions of the objects' uses. After a class discussion, students will verify or revise predictions.
4. Students will be put into "expert groups". One group will determine the function of a given technological product.
5. After all groups have explored, each group will demonstrate to the class their objects' function.

**Materials:** technological products (zipper, coat hook, ceiling fan pull chain, can opener, etc)



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

**Objective(s):** c Use simple tools (e.g., rulers, thermometers, scales, hand lenses, microscopes, balances, clocks) to gather information. (DOK 1)

- A. Length to the nearest INCH, FOOT, yard, centimeter, and meter (using rulers)
- B. Time to quarter-hour, half-hour intervals (using digital and analog clocks)

**Vocabulary:** inch, measurement, quarter-hour, five minute interval

**Teaching Strategy(ies):**

1. Read Diary of a Worm and have the students measure different sized gummy worms to the nearest inch.
2. Have the students measure distance from desk to door, length of door, etc. with a picture of a foot that is 1 foot long.
3. Students will be given digital times with blank analog clocks. They will draw the hour and minute hands on the analog clock to match the digital time.

**Materials:** Diary of a Worm, gummy worms, rulers, digital clock times pictures, blank analog clocks, pencils

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

**Objective(s):** b Describe the human body systems with their basic function and MAJOR ORGANS (e.g., brain-nervous, bones-skeletal, muscles-muscular). (DOK 1)

**Vocabulary:** organs

**Teaching Strategy(ies):**

1. Students will be placed into groups.
2. One student will lay on a large piece of white butcher paper while another students traces around the other's body.
3. The group will cut, color, and paste major organs in the correct spot of the body.

**Materials:** white butcher paper, pencil, crayons, scissors, glue



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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 Distinguish how actions or events related to the Earth's environment may be harmful or helpful. (DOK 2)

**Vocabulary:** pollution, harmful, helpful, hurricane, earthquake, tornado

**Teaching Strategy(ies):**

1. Students will watch The Magic School Bus Gets Swamped on pollution.
2. The class will discuss pollution's harmful effects.
3. The students will be divided into groups (hurricanes, earthquakes, tornadoes).
4. Each group will brainstorm (using a circle map) the harmful effects of hurricanes, earthquakes, and tornadoes.

**Materials:** The Magic School Bus Gets Swamped video, paper, pencils



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

**Objective(s):** f Infer that science investigations generally work the same way in different places. (DOK 2)

**Vocabulary:** solid, liquid, melting

**Teaching Strategy(ies):**

1. Two teachers will have a cup of ice in their rooms. Each hour the two different classes will document the changes of the ice. At the end of the day, the classes will compare their recordings.
2. Teacher will place bananas in various places in the classroom. Students will observe that no matter where the banana is, it still turns brown at about the same rate.

**Materials:** ice, cup, chart paper, markers, banana

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

**Objective(s):** a Categorize different types of Earth materials (e.g., rocks, minerals, soils, water, atmospheric gases).(DOK 2)

**Vocabulary:** rocks, minerals, soils, water, & gases

**Teaching Strategy(ies):**

1. Students will be given a sheet of paper with illustrations of Earth's materials.
2. Students will cut out the objects and and categorize them as rocks, minerals, soils, water, and gases on a tree map.
3. Teacher will place various Earth's materials in individual Tupperware containers. Students will investigate the different materials.
4. Students will complete a double bubble map to compare and contrast the different materials.

**Materials:** paper with illustrations of different types of Earth materials, paper, scissors, glue, Tupperware containers, Earth's materials (ex. soil, gravel, clay)



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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):** b Describe the three layers of the Earth. (DOK 1)

**Vocabulary:** core, mantle, crust

**Teaching Strategy(ies):**

1. Students will use yellow, green, and red clay to create a model of the 3 layers of the Earth.
2. Students will flatten yellow clay on a paper plate to represent the core, green will represent the mantle, and red will represent the crust.
3. Students will create a flipbook with the three layers. Each flap will contain a definition and illustration of each layer of Earth.

**Materials:** yellow, green, and red clay, paper plates, paper, pencil, crayons

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

**Objective(s):** e Model and explain the concept of Earth's rotation as it relates to day and night and infer why it is usually cooler at night than in the day. (DOK 2)

**Vocabulary:** rotation

**Teaching Strategy(ies):**

1. Students will be model the Earth's rotation by having one student stand in the center of a circle (that student will be the sun). Another student (acting as Earth) will rotate around the sun while holding an object directly in front of him.
2. The students will infer why it is usually cooler at night than in the day.
3. Students will use their bodies to demonstrate the Earth's rotation and orbit.
4. The teacher will place string on the ground in circles to represent the orbit.
5. Students will turn around to represent Earth's rotation.
6. View United Streaming Video on Day and Night

**Materials:** paper, pencil, crayons



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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 Describe characteristics and effects of objects in the universe. (DOK 1)

\*Position of the sun in relation to a fixed object on Earth at various times (day and night).

\*The major characteristics of planets (revolution and rotation periods, size, number of moons).

\* Changes in the appearance of the moon.

**Vocabulary:** phases, planet

**Teaching Strategy(ies):**

1. The teacher will read What Makes Night and Day.
2. The class will discuss how the position of the sun relates to night and day.
3. The class will watch The Magic School Bus Lost in the Solar System. Students will then fill in a tree map listing the planets, revolution and rotation periods, size, and number of moons.
4. Read The Moon Book to the class. Students will create a flip book of the phases of the moon.
5. Students will be divided into groups and each group will be given a planet. Each group will research their planet.
6. Afterwards, each group will illustrate their given planet and give facts about their planet on the poster board.

- **Materials:** What Makes Night and Day, The Magic School Bus Lost in the Solar System video, The Moon Book, paper, pencils, poster board, crayons, pencil