



# Dynamic Curriculum Science

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Jefferson County Schools

Challenging Individuals to  
Achieve Excellence  
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## 1st Grade Science

### Grade 1 : Inquiry

**Conceptual Strand** *Understandings about scientific inquiry and the ability to conduct inquiry are essential for living in the 21<sup>st</sup> century.*

**Guiding Question** *What tools, skills, knowledge, and dispositions are needed to conduct scientific inquiry?*

#### Grade Level Expectations

**GLE 0107.Inq.1** Observe the world of familiar objects using the senses and tools.

**GLE 0107.Inq.2** Ask questions, make logical predictions, plan investigations, and represent data.

**GLE 0107.Inq.3** Explain the data from an investigation.

#### Checks for Understanding

**GLE 0107.Inq.1** Use senses and simple tools to make observations.

**GLE 0107.Inq.2** Communicate interest in simple phenomena and plan for simple investigations.

**GLE 0107.Inq.3** Communicate understanding of simple data using age-appropriate vocabulary.

**GLE 0107.Inq.4** Collect, discuss, and communicate findings from a variety of investigations.

# Grade 1 : Technology & Engineering

## Grade Level Expectations

PBS Kids-[Zoom activities](#) for science...Be sure to go to **Engineering: Design It**

**GLE 0107.T/E.1** Recognize that both natural materials and human-made tools have specific characteristics that determine their uses.

**GLE 0107.T/E.2** Apply engineering design and creative thinking to solve practical problems.

## Checks for Understanding

**0107.T/E.1** Explain how simple tools are used to extend the senses, make life easier, and solve everyday problems.

**0107.T/E.2** Invent designs for simple products.

**0107.T/E.3** Use tools to measure materials and construct simple products

# Grade 1 - Life Science

## Grade 1 : Standard 1 -Cells

**Conceptual Strand 1** *All living things are made of cells that perform functions necessary for life.*

**Guiding Question 1** *How are plant and animals cells organized to carry on the processes of life?*

## Grade Level Expectations

**GLE 0107.1.1** Recognize that living things have parts that work together.

**GLE 0107.1.2** Use tools to examine major body parts and plant structures

## Checks for Understanding

**0107.1.1** Combine pictures of major body parts to assemble a complete animal.

**0107.1.2** Communicate the effect of using tools like magnifiers when examining different body parts.

**0107.1.3** Make diagrams to record and communicate observations.

## **Grade 1 : Standard 2 -Interdependence**

**Conceptual Strand 2** *All life is interdependent and interacts with the environment.*

**Guiding Question 2** *How do living things interact with one another and with the non-living elements of their environment?*

### **Grade Level Expectations**

**GLE 0107.2.1** Distinguish between living and non-living things in an environment.

### **Checks for Understanding**

**0107.2.1** Identify the basic characteristics of living things.

**0107.2.2** Record information about living or non-living objects in local environments.

**0107.2.3** Sort and classify a variety of living and non-living materials based on their characteristics.

## **Grade 1 : Standard 3 -Flow of Matter and Energy**

**Conceptual Strand 3** *Matter and energy flow through the biosphere.*

**Guiding Question 3** *What scientific information explains how matter and energy flow through the biosphere?*

### **Grade Level Expectations**

**GLE 0107.3.1** Recognize that plants and animals are living things that grow and change over time.

### **Checks for Understanding**

**0107.3.1** Conduct investigations and record data about the growth of different plants under varying conditions.

**0107.3.2** Describe what plants and animals need in order to grow and remain healthy.

## **Grade 1: Standard 4 - Heredity**

**Conceptual Strand 4** *Plants and animals reproduce and transmit hereditary information between generations.*

**Guiding Question 4** *What are the principal mechanisms by which living things reproduce and transmit information between parents and offspring?*

### **Grade Level Expectations**

**GLE 0107.4.1** Observe and illustrate the life cycle of animals.

**GLE 0107.4.2** Describe ways in which animals closely resemble their parents.

### **Checks for Understanding**

**0107.4.1** Observe, describe, and record the life cycle of a particular animal.

**0107.4.2** Match pictures of parents and related offspring by identifying common characteristics

## **Grade 1 : Standard 5 -Biodiversity and Change**

**Conceptual Strand 5** *A rich variety of complex organisms have developed in response to a continually changing environment.*

**Guiding Question 5** *How does natural selection explain how organisms have changed over time?*

### **Grade Level Expectations**

**GLE 0107.5.1** Investigate how plants and animals can be grouped according to their habitats.

**GLE 0107.5.2** Recognize that some organisms which formerly lived are no longer found on earth.

### **Checks for Understanding**

**0107.5.1** Observe plants and animals on the school grounds and group them according to where they are found.

**0107.5.2** Create a chart of different habitats and match animals to specific locations.

**0107.5.3** Sort pictures or illustrations of animals into groups that are extinct and those that still exist and offer possible explanations for extinction.

# Grade 1 - Earth and Space Science

## Grade 1 : Standard 6 -The Universe

**Conceptual Strand 6** *The cosmos is vast and explored well enough to know its basic structure and operational principles.*

**Guiding Question 6** *What big ideas guide human understanding about the origin and structure of the universe, Earth's place in the cosmos, and observable motions and patterns in the sky?*

### Grade Level Expectations

**GLE 0107.6.1** Compare and describe features of the day and night sky.

**GLE 0107.6.2** Realize that the sun can only be seen during the day, while the moon can be seen at night and sometimes during the day.

### Checks for Understanding

**0107.6.1** Create a chart of things that can be observed in the day and night sky.

**0107.6.2** Identify objects in the sky and describe their observable similarities and differences

## Grade 1 : Standard 7 – The Earth

**Conceptual Strand 7** *Major geologic events that occur over eons or brief moments in time continually shape and reshape the surface of the Earth, resulting in continuous global change.*

**Guiding Question 7** *How is the earth affected by long-term and short term geological cycles and the influence of*

### Grade Level Expectations

**GLE 0107.7.1** Realize that water, rocks, soil, living organisms, and man-made objects make up the earth's surface.

**GLE 0107.7.2** Classify earth materials according to their physical properties.

### Checks for Understanding

**0107.7.1** Create a diagram of the school grounds to identify where water, rocks, soil, living organisms, and man-made objects are found.

**0107.7.2** Sample areas of the school grounds to identify where different materials are found.

**0107.7.3** Use bagged samples of earth materials or pictures from different areas to classify materials according to their use.

## **Grade 1 : Standard 8 -The Atmosphere**

**Conceptual Strand 8** *The earth is surrounded by an active atmosphere and an energy system that controls the distribution life, local weather, climate, and global temperature.*

**Guiding Question 8** *How do the physical characteristics and the chemical makeup of the atmosphere influence surface processes and life on Earth?*

### **Grade Level Expectations**

**GLE 0107.8.1** Gather and interpret daily weather data.

### **Checks for Understanding**

**0107.8.1** Collect daily weather information to predict what conditions might occur on the following day.

**0107.8.2** Discuss what makes a weather prediction accurate or inaccurate.

# **Grade 1 - Physical Science**

## **Grade 1 : Standard 9 -Matter**

**Conceptual Strand 9** *The composition and structure of matter is known, and it behaves according to principles that are generally understood.*

**Guiding Question 9** *How does the structure of matter influence its physical and chemical behavior?*

### **Grade Level Expectations**

**GLE 0107.9.1** Classify objects according to their physical properties.

**GLE 0107.9.2** Distinguish between the properties of solids and liquids.

**GLE 0107.9.3** Predict the changes that may occur when different materials are mixed.

## Checks for Understanding

**0107.9.1** Classify solids according to their size, shape, color, texture, hardness, ability to change shape, magnetic attraction, whether they sink or float, and use.

**0107.9.2** Compare liquids according to their color, ability to flow, solubility in water, and use.

**0107.9.3** Investigate and describe the results of mixing different substances such as salt and pepper, water and sand, water and oil, and water and salt.

## Grade 1 : Standard 10 -Energy

**Conceptual Strand 10** *Various forms of energy are constantly being transformed into other types without any net loss of energy from the system.*

**Guiding Question 10** *What basic energy related ideas are essential for understanding the dependency of the natural and man-made worlds on energy?*

### Grade Level Expectations

**GLE 0107.10.1** Investigate the effect of the sun on land, water, and air.

## Checks for Understanding

**0107.10.1** Predict and determine what happens over the course of a school day when containers of sand, soil, and water with thermometers are placed in a sunny window.

**0107.10.2** Predict and determine what happens over the course of a school day when containers of sand, soil and water with thermometers are placed in a shady location. .

**0107.10.3** Compare the temperature at different places around the school such as black top driveway, lawn, concrete areas, side of the building, under a shade tree, wet area, in the ground.

## Grade 1 : Standard 11 -Motion

**Conceptual Strand 11** *Objects move in ways that can be observed, described, predicted, and measured.*

**Guiding Question 11** *What causes objects to move differently under different circumstances?*

## Grade Level Expectations

**GLE 0107.11.1** Investigate how forces (push, pull) can move an object or change its direction.

## Checks for Understanding

**0107.11.1** Use familiar objects to explore how the movement can be changed.

**0107.11.2** Investigate and explain how different surfaces affect the movement of an object

## Grade 1 : Standard 12 -Forces in Nature

**Conceptual Strand 12** *Everything in the universe exerts a gravitational force on everything else; there is an interplay between magnetic fields and electrical currents.*

**Guiding Question 12** *What are the scientific principles that explain gravity and electromagnetism?*

## Grade Level Expectations

**GLE 0107.12.1** Investigate materials that are attracted to magnets.

## Checks for Understanding

**0107.12.1** Identify and classify objects in the classroom as magnetic or non-magnetic.

**0107.12.2** Make predictions about how various objects will be affected by a magnet.

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