

**CURRICULUM**

**GUIDE**

Science – Grade 2

Providence  
Schools

## UNIT A

### Content students have to learn

### Processes students will learn and use

#### Unit A.1 – Properties of Gases

(8 days)

- Identify and describe properties of matter.
- Demonstrate that a force (wind/moving air) moves objects.
- Predict the direction in which a force (moving air) will move an object.

- » Observe and describe properties of matter.
- » Use tools to investigate properties of matter.
- » Record observations and analyze data.
- » Demonstrate safe practices during classroom investigations.
- » Use scientific thinking processes to conduct investigations and build explanations: observing, citing evidence, communicating, comparing, and organizing.

#### Unit A.2 – Weather

(8 days)

- Use scientific tools to gather weather data.
- Observe and record seasonal and weather changes over time.
- Observe, record, and summarize local weather data.
- Observe how clouds are related to forms of precipitation.
- Identify the sun as a major source of heat energy.
- Observe and describe that the sun warms the land and water on the earth.
- Observe and describe that objects change in temperature when heat is added or taken away.
- Predict the direction of the motion of an object when a force is applied.

- » Observe and describe change that occurs in earth systems.
- » Use tools to observe and measure changes in weather.
- » Record observations and analyze data.
- » Make predictions regarding the direction and motion of an object to which a force has been applied.
- » Demonstrate safe practices during classroom investigations.
- » Use scientific thinking processes to conduct investigations and build explanations: predicting, observing, citing evidence, communicating, comparing, and organizing.

#### Unit A.3 – Wind

(5 days)

- Use scientific tools to gather weather data, including wind direction, wind speed, and wind intensity.
- Observe and record weather changes.
- Predict the direction of the motion of an object when a force, such as wind, is applied.

- » Observe and describe change that occurs in earth systems.
- » Use tools to observe and measure changes in weather.
- » Record observations and analyze data.
- » Make predictions regarding the direction and motion of an object to which a force has been applied.
- » Demonstrate safe practices during classroom investigations.
- » Use scientific thinking processes to conduct investigations and build explanations: observing, citing evidence, communicating, comparing, and organizing.

## UNIT A

### Content students have to learn

### Processes students will learn and use

#### **Unit A.4 – Observing Changes in the Sky (12 days)**

- Observe and record seasonal and weather changes over time.
- Observe, record, and summarize local weather data.
- Identify the sun as a major source of heat energy for the earth.
- Understand the relationship between the earth's movement and day and night.
- Understand that the sun is a star that can be seen only during the day.
- Observe that the moon can sometimes be seen during the night and sometimes during the day.
- Observe that the sun and moon appear to move slowly across the sky.
- Observe that the moon's appearance changes in a pattern that can be observed, compared, and predicted.
- Observe that there are more stars in the sky than can easily be counted.
- Observe that the stars in the sky are unevenly scattered and not of the same brightness.

- » Observe and describe changes that occur in earth systems.
- » Use tools to observe and measure changes in weather.
- » Observe, record, and analyze data.
- » Cite evidence of changes in the sun's position in the course of a day.
- » Make predictions regarding observable changes in the night sky.
- » Demonstrate safe practices during classroom investigations.
- » Use scientific thinking processes to conduct investigations and build explanations: predicting, observing, citing evidence, communicating, comparing, and organizing.

#### **Unit A.5 – Characteristics of Living Organisms (4 days)**

- Observe that offspring closely resemble parents.
- Recognize that animals adapt to their surroundings to survive.
- Recognize that there are many ways that animals act to stay safe.
- Identify behaviors that are learned.

- » Compare physical features of animals or classmates.
- » Cite evidence of learned behaviors.
- » Describe specific behaviors of animals.
- » Use scientific thinking processes to conduct investigations and build explanations: observing, citing evidence, communicating, comparing, and analyzing.

#### **Unit A.6 – Energy Flow in Ecosystems (6 days)**

- Understand that organisms depend on their habitats to meet their basic needs.
- Recognize that a food web is made up of food chains.
- Demonstrate an understanding of how a food web functions.
- Understand that we are part of a food web.

- » Diagram food chains and food webs.
- » Research a habitat and an organism within the habitat.
- » Demonstrate safe practices during classroom investigations.
- » Use scientific thinking processes to conduct investigations and build explanations: observing, citing evidence, communicating, comparing, and analyzing.

## UNIT B

### Content students have to learn

### Processes students will learn and use

#### Unit B.1 – Properties of Solids (5 days)

- Describe, compare, and sort objects using physical properties.
- Record observations about physical properties of objects.
- Use attributes to classify objects.
- Describe properties of solids.
- Identify and compare solids.

- » Observe, describe, and sort objects using physical properties.
- » Use tools, including the senses, to observe properties of objects.
- » Cite evidence to justify classification of objects.
- » Record observations and analyze data about physical properties.
- » Demonstrate safe practices during classroom investigations.
- » Use scientific thinking processes to conduct investigations and build explanations: observing, citing evidence, communicating, comparing, and organizing.

#### Unit B.2 – Properties of Liquids (6 days)

- Describe, compare, and sort objects using physical properties.
- Record observations about physical properties of objects.
- Describe properties of liquids.
- Identify and compare liquids.
- Understand that solids and liquids are two states of matter with distinct properties.

- » Observe, describe, and sort objects using physical properties.
- » Use tools, including the senses, to observe properties of objects.
- » Record observations about physical properties.
- » Demonstrate safe practices during classroom investigations.
- » Use scientific thinking processes to conduct investigations and build explanations: observing, citing evidence, communicating, comparing, and organizing.

#### Unit B.3 – Properties Can Change (8 days)

- Describe, compare, and sort objects using physical properties.
- Record observations about physical properties of objects.
- Describe properties of solids.
- Identify and compare solids.
- Compare properties of solids to those of liquids.

- » Observe, describe, and sort objects using physical properties.
- » Use tools, including the senses, to observe and sort objects.
- » Cite evidence to justify classification of objects.
- » Record observations and analyze data about physical properties.
- » Demonstrate safe practices during classroom investigations.
- » Use scientific thinking processes to conduct investigations and build explanations: observing, citing evidence, communicating, comparing, and organizing.

## UNIT B

### Content students have to learn

### Processes students will learn and use

#### Unit B.4 – Interactions of Solids and Liquids (4 days)

- Describe and compare solids and liquids using physical properties.
- Record observations about physical properties of solids and liquids as they interact.

- » Observe and describe solids and liquids using physical properties.
- » Observe and record interactions between solids and liquids.
- » Cite evidence to justify conclusions.
- » Demonstrate safe practices during classroom investigations.
- » Use scientific thinking processes to conduct investigations and build explanations: observing, citing evidence, communicating, comparing, organizing, and drawing conclusions.

#### Unit B.5 – Heat Energy (5 days)

- Recognize that heat can change matter.
- Recognize that the addition or removal of heat can change water.
- Recognize that a change in an object may or may not affect the mass of the object.
- Recognize that changes in matter can be measured.

- » Use tools to investigate matter, including weight.
- » Predict what changes will occur in matter when heat is added or removed.
- » Observe and record changes in matter when heat is added or removed.
- » Record, analyze, and interpret data.
- » Demonstrate safe practices during classroom investigations.

#### Unit B.6 – Light Energy (5 days)

- Recognize that light has properties.
- Recognize that light can bend.
- Understand what causes shadows.
- Understand that the sun is the source of heat and light.

- » Identify the composition and properties of light.
- » Use a variety of light sources to determine and describe the effect of light.
- » Observe and predict how light interacts with objects.
- » Demonstrate safe practices during classroom investigations.

#### Unit B.7 – Force and Motion (5 days)

- Recognize that a force is a push or a pull.
- Understand that a force may or may not cause an object to move.
- Recognize that a force can change the way an object moves.
- Understand that gravity is a force that pulls objects to earth.

- » Cite evidence regarding the existence of forces that cannot be seen.
- » Observe and record changes in the position of objects and/or in the direction of their movement.
- » Use data to investigate forces, including friction and gravity, and their effect on objects.
- » Compare the relative speed of objects.
- » Demonstrate safe practices during classroom investigations.

Providence  
Schools

797 Westminster Street  
Providence, RI 02903

[www.providenceschools.org/guides](http://www.providenceschools.org/guides)