

CURRICULUM

GUIDE

Science - Grade 2

Providence
Schools

Background

Providence Schools teachers and administrators worked collaboratively with consultants from the Charles A. Dana Center at the University of Texas at Austin to develop the mathematics and science curriculum frameworks. The curriculum frameworks encompass two critical questions:

- Content Standards that establish clearly defined expectations for all students, helping to answer the question, ***What do students have to learn?***
- Performance Standards that determine performance expectations for content standards, helping to answer the question, ***How well do the students have to learn it?***

The curriculum framework provides a work plan that directs the instruction delivered in every classroom in every school in the district. Instruction—the way the curriculum is presented to students—will focus on the needs of students.

Purpose and Use of Curriculum Guides

Curriculum Guides for the curriculum for each grade and subject outline the approximate number of days that each unit in the curriculum will be taught; describe the content to be learned; and list the essential questions that students should be able to answer by the end of the unit.

Parents should become familiar with the Curriculum Guides. You should know when your child is being taught different topics. You should also know the essential questions that your child should be able to answer by the end of each unit.

It is important that you understand that you do not have to be familiar with the content that your child is learning in order to help them with their studies. There are basic questions that you can ask to determine if your child understands the content.

Ask your child what she is learning in each subject
Does she understand the topic? Is the unit exciting or boring?
What specifically does she like or dislike about the topic?
Does she understand how the topic relates to the real world?

You know your child better than anyone. You will be able to tell if she or he is benefiting from the instruction and understanding the content of the material by the way they answer you. Speak to your child's teacher if you suspect there is a problem.

Ask your child about his assignments

What is the required work? Has he finished the work on time? Is he having difficulty? If he is having difficulty, why?

Encourage your child to talk to her teachers if she is having difficulty understanding a concept or completing an assignment. If your child continues to experience difficulty, speak to the teacher yourself so that the two of you can work together to support your child.

Even if you do not understand the content that your child is learning, the fact that you are showing interest in his or her school work and believe that it is important that he or she does well sends a powerful message.

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UNIT A

Content students will be learning

Essential questions students should be able to answer by end of unit

Unit A.1 - Properties of Gases (10 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.

- » What properties of gases can be observed?
- » How does air interact with objects?

Unit A.2 - Weather (6 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.

- » What is weather?
- » What causes weather to change?
- » How are changes in weather measured?

Unit A.3 - Wind (6 days)

- Use scientific tools to gather weather data.
- Observe and record weather changes.
- Predict the direction of the motion of an object when a force is applied.

- » How is wind measured?
- » How does wind affect the weather?

Unit A.4 - Changes in Day and Night (9 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.
- Observe that the sun 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.

- » What patterns of change can be observed in the objects found in the sky?
- » What kinds of changes in weather can be predicted over time?
- » How does weather change from season to season?

UNIT B

Content students will be learning

Essential questions students should be able to answer by end of unit

Unit B.1 - Properties of Solids (4 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.

- » What properties do all solids have in common?
- » How can solids be described?

Unit B.2 - Properties of Liquids (5 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.

- » What properties do all liquids have in common?
- » How can liquids be described?
- » How do liquids differ from solids?

Unit B.3 - Properties Can Change (7 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.

- » In what ways can mixtures of solids be separated?
- » What are some common properties of solids?
- » In what ways do some solids resemble liquids?

Unit B.1 - Interactions of Solids and Liquids (8 days)

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

- » What are some ways in which solids interact with liquids?
- » What are some ways in which liquids interact with other liquids?
- » How can you determine if a substance is a solid or a liquid?