

CURRICULUM

GUIDE

Science - Grade 3

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 - Energy (16 days)

- Explain sources of energy.
- Understand that energy can change properties of matter.
- Explain how properties have changed by collecting and organizing data.
- Explain how states of matter can be changed by adding or removing heat.
- Describe examples of how energy changes matter.

- » What are some different sources of energy?
- » What are some ways that energy can change matter?
- » What are some objects that use energy?

Unit A.2 - Light (12 days)

- Understand that light is a form of energy that travels in a straight line.
- Understand that light comes from a source.
- Describe how light can be reflected from some surfaces.
- Investigate how tools can be used to observe light.

- » What is a natural source of light?
- » What happens when light is directed to a smooth surface?
- » How can the direction of light be changed?

Unit A.3 - Matter (15 days)

- Demonstrate that most materials can be sorted into gases, liquids, or solids.
- Understand that measurement can be used to identify mass and volume.
- Summarize that properties of matter can be different.

- » What are the properties of gases, liquids, and solids?
- » What is mass?
- » What is volume?
- » How can the mass of an object be measured?
- » How can the volume of a liquid be measured?

Unit A.4 - Changing Matter (6 days)

- Understand that metric units are used to measure matter.
- Explain that some materials can change states.
- Understand the connection between heat and states of matter.
- Explain the three states of matter.

- » What are some physical properties of matter?
- » What can cause materials to change state?
- » How are gases, liquids, and solids different from each other?
- » What is the relationship between heat energy and states of matter?
- » What factors are common among all matter?

UNIT B

Content students will be learning

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

Unit B.1 - Properties of Water (5 days)

- Understand that water is a natural material of the earth.
- Understand that water can be changed into different states.
- Describe the properties of water.
- Understand how the motion of a liquid can change.

- » What are common properties of water?
- » How can the state of a liquid affect the way it moves?
- » What are some ways that water moves in a natural setting?

Unit B.2 - Heat Added and Removed (9 days)

- Understand that the properties of an object can be observed.
- Explain how liquids have properties different from those of solids and gases.
- Explain how heat can change the properties of matter.

- » What is a property?
- » What properties are different in liquids, solids, and gases?
- » How can heat change properties?

Unit B.3 - Water Cycle (10 days)

- Understand that matter can change when heat is added or removed.
- Understand that heat can change water to water vapor.
- Understand evaporation and condensation as part of the water cycle.

- » What is evaporation?
- » What is condensation?
- » How do evaporation and condensation interact in the water cycle?

Unit B.1 - Investigating Water (13 days)

- Understand that earth materials have properties.
- Understand that data about the properties of water can be collected.
- Understand how heat can change the properties of earth materials.

- » Why is water an earth material?
- » What are some uses of water?
- » What can heat do to matter such as water?