



# Elementary Curriculum and Development

INSPIRING TEACHING, IGNITING LITERACY & LEARNING.

2019-2020 HISD @ H.O.M.E. Distance Learning

At a Glance

Science – Grade 2

| Monday<br>April 27                                                                                                                                                                                                                                  | Tuesday<br>April 28                                                                                                                                                                                                                                                | Wednesday<br>April 29                                                                                                                                                                                                                                             | Thursday<br>April 30                                                                                                                                                                                                                                                 | Friday<br>May 1                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Objective:</b><br>Identify parts of systems and their functions.<br><br><b>Overview:</b><br>Students will observe a bicycle and label its parts by "Parts and Functions" in a chart.                                                             | <b>Objective:</b><br>Observe and record changes to matter caused by increasing and decreasing amounts of heat energy.<br><br><b>Overview:</b><br>Students will observe an ice cube with heat added and heat taken away and creating a chart of their observations. | <b>Objective:</b><br>Observe, record, and discuss how objects appear in different amounts of light.<br><br><b>Overview:</b><br>Students will create a chart of what they observed in a room with the lights on and then off.                                      | <b>Objective:</b><br>Investigate how objects are affected when changes in sound occur.<br><br><b>Overview:</b><br>Students will observe how sound vibrations can move objects by increasing and decreasing sound.                                                    | <b>Objective:</b><br>Observe and identify how magnets are used in everyday life.<br><br><b>Overview:</b><br>Students will explore magnetism by testing objects with a refrigerator magnet.                         |
| Monday<br>May 4                                                                                                                                                                                                                                     | Tuesday<br>May 5                                                                                                                                                                                                                                                   | Wednesday<br>May 6                                                                                                                                                                                                                                                | Thursday<br>May 7                                                                                                                                                                                                                                                    | Friday<br>May 8                                                                                                                                                                                                    |
| <b>Objective:</b><br>Trace and compare patterns of movement of objects such as sliding, rolling, and spinning over time.<br><br><b>Overview:</b><br>Students will explore the different ways objects can move and create a chart of their findings. | <b>Objective:</b><br>Identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation.<br><br><b>Overview:</b><br>Students will create a poster of the four seasons and the appropriate clothing for each.  | <b>Objective:</b><br>Identify and compare the properties of freshwater and saltwater.<br><br><b>Overview:</b><br>Students will compare freshwater to saltwater by testing and comparing its different physical properties and creating a chart of their findings. | <b>Objective:</b><br>Identify and demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water.<br><br><b>Overview:</b><br>Students will create a chart of the different ways they can conserve the water used at home. | <b>Objective:</b><br>Explore natural resources and identify how they are used and conserved.<br><br><b>Overview:</b><br>Students will find 5 different objects in the house that can be either recycled or reused. |



## Monday – 30-45 minutes

### Activity / Task

#### Combine Materials

To access this interactive lesson, visit: <https://tinyurl.com/HISDGrade2Day19>

Objective: Identify parts of systems and their functions.

#### Think About It!

What are the parts of a bicycle? What are the functions of the parts? If you can, discuss the questions and share your thinking with someone in your home.

#### Do It!

What you need:

- Bicycle or picture of a bicycle
- Science notebook or sheet of paper
- Pencil



Image by Gordon Johnson from Pixabay

What to do

- Observe the parts of a bicycle (at home) or the picture of a bicycle.
- Draw a picture of the bicycle and label its parts.
- Create the “Parts and Functions” chart shown.
- Record the name of each part and its function in the chart

| Parts and Functions |                            |
|---------------------|----------------------------|
| Part                | Function<br>(what it does) |
|                     |                            |

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#### Understand It!

A **system** is a group of parts or materials that when put together can do things that they cannot do by themselves. Some systems may not work properly if parts are missing or broken. How a system is able to function depends upon the quantity and type of parts and how those parts are assembled.

#### Apply It!

Journal Reflections: What are some other objects that are systems? Explain how a product, such as a flashlight system works if you remove one of its parts.

A \_\_\_\_\_ is a system.

The \_\_\_\_\_ is important to the system because \_\_\_\_\_.

If the \_\_\_\_\_ is removed it (will or will not) work.

If I remove the \_\_\_\_\_ from the flashlight, it (will or will not) work.

### Resources

[Guided activity using Google slides](#)

## Tuesday – 30-45 minutes

### Activity / Task

### Changes Caused by Heating and Cooling

To access the interactive lesson, visit: <https://tinyurl.com/HISDGrade2Day20>

Objective: Observe and record changes to matter caused by increasing and decreasing amounts of heat energy.

#### Think About It!

How can matter change when heat is added? How can matter change when heat is removed? If you can, discuss the question and share your thinking with someone in your home.

#### Do It!

What you need:

- Ice cube
- Sealable plastic bag
- Science notebook or paper
- Pencil

What to do:

- Place ice cube in plastic bag.
- Place bag outside in the sunlight for 1 hour.
- Create the chart shown in the notebook.
- Draw and explain your observations in the chart.
- Place bag in freezer for 1 hour. Remove bag from the freezer after 1 hour.
- Draw and explain your observations in the chart.

| Objects                              | Heat added (sunlight) | Heat removed (freezer) |
|--------------------------------------|-----------------------|------------------------|
| Image by Bruno /Germany from Pixabay |                       |                        |

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#### Understand It!

Heat is a form of energy. Heat energy may cause change in matter. When **heat is added** (increasing heat) to some solids they will change into a liquid through a process called **melting**. When **heat is taken away** (decreasing heat), matter may change into a solid through a process called **freezing**.

#### Apply It!

Journal Reflections: How do objects change when heat energy is increased? How do objects change when heat energy is decreased?

Heat can come from \_\_\_\_\_.

Adding or increasing heat causes objects to \_\_\_\_\_.

Taking away or decreasing heat causes objects to \_\_\_\_\_.

### Resources

[Guided activity using Google slides](#)

## Wednesday – 30-45 minutes

### Activity / Task

### Changes Caused by Increasing and Decreasing Light

To access this interactive lesson, visit: <https://tinyurl.com/HISDGrade2Day21>

Objective: Observe, record, and discuss how objects appear in different amounts of light.

#### Think About It!

What happens to an object when light is increased? What happens to an object when light is decreased? If you can, discuss the questions and share your thinking with someone in your home.

#### Do It!

What you need:

- A room in your home
- Science notebook or sheet of paper
- Pencil

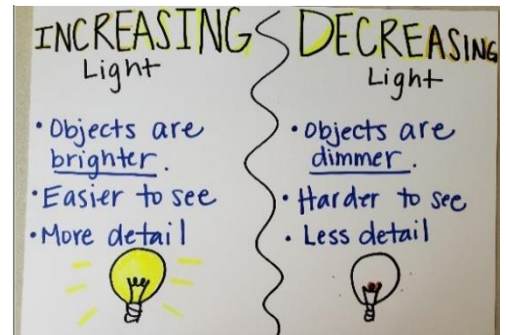
What to do:

- Create the chart shown in your notebook.
- Stand against the wall in a room with the lights off and select two objects on the opposite side of the room.
- Draw and record the details of the objects in the chart.
- Next, turn on the lights in the room, stand against the wall and observe the same two objects on the opposite side of the room.
- Draw and record the details of the objects in the chart.
- Compare the details of the objects in the “Lights Off” column to the details in the “Lights On” column.

| Objects | Lights On | Lights Off |
|---------|-----------|------------|
|         |           |            |
|         |           |            |

#### Understand It!

- Light is a form of energy that travels in straight lines.
- Light can travel through air, water, glass, and through many other materials.
- Earth's primary source of light energy comes from the Sun.
- Objects **look brighter** when we **add or increase the amount of light**.
- Objects **look dimmer** when the **amount of light is decreased**.



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#### Apply It!

Journal Reflections: Write about what happens to an object when light is increased. What happens to an object when light is decreased?

When light energy is increased, an object appears \_\_\_\_\_ (brighter/dimmer).

When light energy is decreased, an object appears \_\_\_\_\_ (brighter/dimmer).

### Resources

[Guided activity using Google slides](#)

## Thursday – 30-45 minutes

### Activity / Task

### Increasing and Decreasing Sound

To access this interactive lesson, visit: <https://tinyurl.com/HISDGrade2Day22>

Objective: Investigate how objects are affected when changes in sound occur.

#### Think About It!

How are motion and sound energy connected? If you can, discuss this question and share your thinking with someone in your home.

#### Do It!

What you need:

- Paper plate or paper towel
- Music device with speakers
- Science notebook or sheet of paper
- Uncooked beans (any kind)

If you don't have any beans you can try buttons, pasta, or small pieces of rolled up tissue paper instead.



Image by Free- Photos from Pixabay



Image by Olya Adamovich from Pixabay

What to do:

- Place some uncooked beans in the middle of a paper plate.
- Place the plate of beans above the speakers of a music device.
- Increase the volume of the music. Observe what happens.
- Decrease the volume of the music. Observe what happens.

#### Understand It!

- Sound is a form of energy.
- It is produced by the vibration of the object as it moves through the air
- The louder the sound the bigger the vibration



Image by OpenClipart-Vectors from Pixabay



Image by OpenClipart-Vectors from

#### Apply It!!

Journal Reflections:

Complete the following sentence stems:

1. When I increased the sound, the beans \_\_\_\_\_.
2. When I decreased the sound, the beans \_\_\_\_\_.

### Resources

[Guided activity using Google Slides](#)

## Friday – 30-45 minutes

### Activity / Task

### Magnets in Everyday Life

To access this interactive lesson, visit <https://tinyurl.com/HISDGrade2Day23>

Objective: Observe and identify how magnets are used in everyday life.

#### Think About It!

What are some objects around your home that can be considered magnetic? If you can, discuss this question and share your thinking with someone in your home.

#### Do It!

What you need:

- Science notebook or sheet of paper
- Refrigerator magnet
- Non-Magnetic/Magnetic chart
- Magnetic object such as a paperclip or nail

What to do:

- Look on your refrigerator to see if you have a magnet
- If you do, use the magnet to test various objects and items around your home
- Use the Non/Magnetic chart and list all the items you discovered in the correct column.
- If you do not have a refrigerator magnet, use your magnetic item (paperclip) and search your home for an object the paperclip will stick to.

| Magnetic | Non-Magnetic |
|----------|--------------|
|          |              |
|          |              |
|          |              |

#### Understand It!

- Magnets attract materials that are made of **IRON, STEEL** or **NICKEL**.
- A magnet has two sides or ends called poles. (**North Pole** and **South Pole**)
- With magnets, the opposite poles are attracted to each other
- When magnets have the same side close to each other they push away, or **Repel**



Image by Ctker-Free-Vector-Images from Pixabay



Image by Ctker-Free-Vector-Images from Pixabay

#### Apply It!

Journal Reflections: List all the items you were surprised to learn were magnetic. List all the items you were surprised that were not magnetic. Use the sentence stems below.

1. I was surprised to learn \_\_\_\_\_ was magnetic because I thought \_\_\_\_\_.
2. I was surprised to learn \_\_\_\_\_ was NOT magnetic because I thought \_\_\_\_\_.

### Resources

[Guided activity using Google Slides](#)

## Monday – 30-45 minutes

### Activity / Task

**Trace and compare patterns of movement.**

To access this interactive lesson, visit: <https://tinyurl.com/HISDGrade2Day24>

Objective: Trace and compare patterns of movement of objects such as sliding, rolling, and spinning over time.

#### Think About It!

What happens to an object when it is pushed or pulled? If you can, discuss this question and share your thinking with someone in your home.

#### Do It!

What you need:

- Science Notebook or piece of paper
- Color pencils or crayons
- Small bags
- Random objects around the house that can roll, spin or slide (toy car, spinner top, marbles, dice, ball, eraser)

| Type of Movement | Draw the movement                                                                   | Name the object |
|------------------|-------------------------------------------------------------------------------------|-----------------|
| Roll             |  | Ball            |

What to do:

- Place all objects inside a plastic or brown paper bag.
- Without looking, pull a random object out of the bag and observe how it moves.
- Describe your object and how it moves in your journal using the graphic organizer.
- Repeat steps 2–3 for different objects.

#### Understand It!

A **FORCE** is what makes an object move.

- Force can be either a push or a pull.
- Gravity pulls all objects towards Earth.
- Force can start or stop motion, speed up or slow down motion or change the direction of motion.

#### Apply It!

Journal Reflections: Thinking about this activity, what are some words that came to mind when your object moved? What do you think would happen if more force is applied to the objects?

### Resources

[Guided activity using Google Slides](#)

## Tuesday – 30-45 minutes

### Activity / Task

#### Weather – Making Choices

To access this interactive lesson, visit: <https://tinyurl.com/HISDGrade2Day25>

Objective: Identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation.

#### Think About It!

How does weather help us make daily decisions? How should you dress on the cold days? What would you wear on the hot days? What might you need to be prepared for rainy days? If you can, discuss these questions and share your thinking with someone in your home.

#### Do It!

What you need:

- Images of the four seasons (see below)
- Science Notebook
- Pencil
- Small segment of a weather forecast (if available)

What to do:

- Observe the pictures of each season.
- Brainstorm how you would dress and which activities you would do during each season, using the pictures as a guide.
- Draw a line down the middle and across the middle of your notebook page to make four squares. Label the squares Fall, Winter, Spring and Summer.
- Draw and label pictures of clothing you would wear, activities you would do, and transportation you would take during each season.



Created by HISD Curriculum using Pencil

#### Understand It!

- Daily decisions about clothing, activities, and transportation can be made based on what the weather will be like during a certain season. See images below.

Images by Valiphotos from Pixabay



Image by Henning Serby from Pixabay

Image by lumix2004 from Pixabay

#### Apply It!

Journal Reflections: Create a survey and ask someone in your home or a classmate how the weather and changing seasons affect how they dress, travel, and play.

### Resources

[Guided activity using Google Slides](#)

## Wednesday – 30-45 minutes

### Activity / Task

#### Properties of Water

To access this interactive lesson, visit: <https://tinyurl.com/HISDGrade2Day26>

Objective: Students identify and compare the properties of freshwater and saltwater.

#### Think About It!

How are freshwater and saltwater alike? How are they different?

If you can, discuss this question and share your thinking with someone in your home.

#### Do It!

What you need:

- Cup of saltwater (1cup freshwater with 1 teaspoon salt)
- Cup of freshwater
- Science Notebook or sheet of paper
- Pencil

| Freshwater | Saltwater |
|------------|-----------|
|            |           |

What to do:

- Compare the saltwater to the freshwater by tasting it.
- Discuss where saltwater is found naturally with someone in your home.
- After exploring the properties of saltwater and freshwater, place both water samples in the freezer.
- Check on the water samples throughout the day.
- Create a chart to record your observations.

#### Understand It!

According to USGS, only 2.5% of Earth's water is freshwater and 97.5% is saltwater. Use the chart below to record your comparisons of saltwater to freshwater. Below are a few examples of things that you should have noticed about saltwater and freshwater.

| Properties of Water           |                                         |
|-------------------------------|-----------------------------------------|
| Freshwater                    | Saltwater                               |
| Freezes faster than saltwater | Saltwater is more dense than freshwater |
| Clear                         | Looks Cloudy                            |
| No taste                      | Salty taste                             |

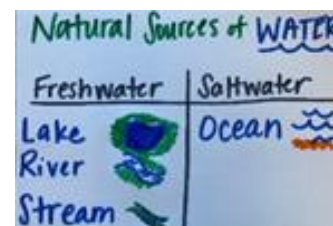
#### Apply It!

Journal Reflections: Give an example of a natural source of freshwater and a natural source of saltwater. Compare how they are alike and different.

Use the following sentence stems.

My water sources are similar because \_\_\_\_\_.

My water sources are different because \_\_\_\_\_.



Created by HISD Curriculum using Marker

### Resources

[Guided activity using Google Slides](#)

## Thursday – 30-45 minutes

### Activity / Task

### Conservation of Water

To access this interactive lesson, visit: <https://tinyurl.com/HISDGrade2Day27>

Objective: Identify and demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water.

#### Think About It!

How can we conserve water? What natural resources can be recycled and reused? Why is it important to conserve natural resources? What are some earth materials we can recycle around our homes? If you can, discuss this question and share your thinking with someone in your home.

#### Do It!

What you need:

- Science notebook or piece of paper
- Pencil

#### What to do:

- Think about ways that you use water in your home.
- Think about ways that we use water in the world outside of the home.
- In your Science notebook, create a chart titled “Conservation of Water.”  
Label one column *Ways We Use Water* and the other column as *How Can Conserve the Water?*

| Conservation of Water |                            |
|-----------------------|----------------------------|
| Ways We Use Water     | How Can We Conserve Water? |
|                       |                            |

#### Understand It!

It is important that we learn how much water you use every day. Not just the water that comes out of the tap, but also the water it takes to make the food you eat, the energy you use and the products you buy.

#### Apply It!

Journal Reflections:

#### Conservation of Water Challenge!

Choose 3 of the ways to conserve water from your list and challenge yourself to practice those strategies for conserving water for an entire week. Write about the ways you conserved water each day in your science notebook.

#### Use the following sentence stems.

I conserved water when I \_\_\_\_\_.

I was able to reduce the use of water by \_\_\_\_\_ and \_\_\_\_\_.

Tomorrow I will conserve water by \_\_\_\_\_.

### Resources

[Guided activity using Google Slides](#)

Friday – 30-45 minutes

Activity / Task

**Reuse/Recycle paper, plastic and metal**

To access this interactive lesson, visit <https://tinyurl.com/HISDGrade2Day28>

Objective: Explore natural resources and identify how they are used and conserved.

Think About It!

What natural resources can be recycled and reused? Why is it important to conserve natural resources? If you can, discuss this question and share your thinking with someone in your home

Do It!

What you need:

- Science Notebook or piece of paper
- Pencil

What to do:

- Draw the Recycle/Reuse T-Chart in your science notebook.
- Search your home for 5 old random objects that can be either recycled or reused. (Examples: Cans, newspaper, old furniture, clothes, toys, crayons, etc.).
- Decide if these items need to be recycled or can be reused.
- List the item on the T-Chart as either recycled or reused.
- Make a list of things around the house that you usually throw away. Identify which of these items can be recycled and/or reused.

| Recycle                                                                           | Reuse                                                                               |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |
| <small>Image by Clker-Free-Vector-Images from Pixabay</small>                     | <small>Image by Clker-Free-Vector-Images from Pixabay</small>                       |

Understand It!

To reuse is to use a resource again.

To reduce is to use less of a resource.

To recycle is to use the materials in old things to make new things.

To conserve is to preserve (save) and protect resources



Image by Clker-Free-Vector-Images from Pixabay

Image by OpenClipart-Vectors from Pixabay

Apply It!

Journal Reflections: How can natural resources be conserved? What are some materials in your home that can be recycled?

Resources

[Guided activity using Google Slides](#)