HISD | Elementary Curriculum and Development

INSPIRING TEACHING, IGNITING LITERACY & LEARNING.

2019-2020 HISD @ H.O.M.E. Distance Learning
At a Glance
Science – Grade 4

Monday March 30	Tuesday March 31	Wednesday April 1	Thursday April 2	Friday April 3
Chavez/Huerta Day (Holiday)	**Objective:** Describe objects as a solid, liquid or gas and compare them based on their properties. **Overview:** Students will participate in a scavenger hunt around the home to look for examples of objects that are solids, liquids and gases.	**Objective:** Compare the properties of objects that sink and float. **Overview:** Students will find objects around that house that have different properties and test whether the objects sink or float.	**Objective:** Create and separate mixtures. **Overview:** Students will use objects available at home, create a mixture using objects, write their components and how they would separate the mixture.	**Objective:** Explore and identify the forms of energy found at home **Overview:** Students will grab a few objects from home that require batteries or an electrical connection, observe objects and describe what the kind of energy the objects need in order to work.
Monday April 6	**Tuesday April 7**	**Wednesday April 8**	**Thursday April 9**	**Friday April 10**
Objective: Design a descriptive investigation to test the effects of friction on an object. **Overview:** Students will use objects that will roll or not roll, take notes in their journal of how each object moved and how much force was needed to move the object.	**Objective:** Describe and illustrate the steps of the water cycle using models. **Overview:** Students will create model of the water cycle, put water with food coloring in Ziplock bag, tape in a window with lots of sun, and take notes of what occurs.	**Objective:** Observe and collect data to identify patterns in shadows. **Overview:** Students will go outside on a sunny day, observe the sun and the shadow it creates, and record the shadows locations for at least three different times throughout the day.	**Objective:** Identify and classify resources as renewable and nonrenewable. **Overview:** Students will use objects around the house, create a table to organize their data and write whether the objects are renewable or nonrenewable in their chart.	Spring Holiday

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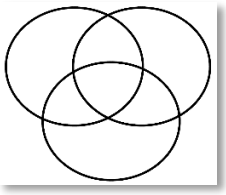
2019-2020 HISD @ H.O.M.E. – Distance Learning
Science – Grade 4
March 30 - April 10, 2020 – Week 1

Monday
Chavez/Huerta Day (Holiday)

Tuesday – 30-45 minutes	
Activity / Task	**States of Matter** **To access this as an interactive lesson, visit https://tinyurl.com/HISDScienceGrade4Day1** Objective: Describe objects as solid, liquid, or gas and compare them based on their properties Think About It! How can we determine if an object is a solid, liquid, or gas? If you can, discuss this question and share your thinking with someone in your home. Do It! What you need: • A pencil • A journal / notebook or a sheet of paper What to do: • You will go on a scavenger hunt looking for objects around your home that are examples of solids, liquids and gases. • You will record the objects you find in a table like the one below. Solid | Liquid | Gas Understand It! Objects can be classified as either a solid, liquid or gas. Read the following definitions to determine what classifies and object as a solid, liquid or gas. • A **solid** is matter that keeps its shape and volume when placed in a different container. • A **liquid** keeps its volume but takes the shape of the container that it is in. • A **gas** takes the volume and the shape of the container that it is in. Go back and review items you found in your scavenger hunt and make sure you classified them correctly based on the definitions of a solid, liquid, or gas. Apply It! Journal Entry Draw a triple Venn Diagram to compare the properties of solids, liquids, and gases. How are they alike? How are they different?  Venn Diagram by HISD Curriculum using Microsoft Office *Solids, liquids, and gases are alike because* _____. *Solids, liquids, and gases are different because* _____.
Resources	Guided activity using Google Slides

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Science – Grade 4
March 30 - April 10, 2020 – Week 1

Wednesday – 30-45 minutes

Activity / Task

Sink or Float
To access this as an interactive lesson, visit https://tinyurl.com/HISDScienceGrade4Day2

Objective: Compare the properties of objects that sink and float.

Think About It!
Why do some objects sink and some objects float?

Do It!
What you need:
- 6-8 objects that are the same size but different material
- Container filled with water
- Journal or notebook paper
- Pencil

What to do:
- Observe each object and make predictions about which objects will sink or will float
- Test your predictions by putting the objects in a container of water.
- Record your observations on a chart like the one below.

Object	Prediction	Sink or Float?

Understand It!
Size doesn't determine whether an object sinks or floats. Take a large object that floats and a small object that sinks, such as a beach ball and a marble. Test these objects to show that size doesn't determine whether an object sinks or floats.

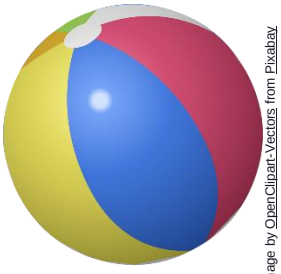

Image by OpenClipart-Vectors from Pixabay

Image by OpenClipart-Vectors from Pixabay

Apply It!
Journal Entry
Compare the objects that floated to the objects that sank. What are some common properties of the objects that floated? How are they different from the objects that sank?

Some of the common properties of objects that floated are _____.
The objects that floated are different from the objects that sank because _____.

Resources

Guided activity using Google Slides

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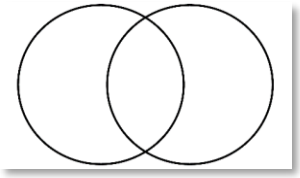
Science – Grade 4
March 30 - April 10, 2020 – Week 1

Thursday – 30-45 minutes	
Activity / Task	**Comparing Mixtures** **To access this interactive lesson, visit https://tinyurl.com/HISDScienceGrade4Day3** Objective: Create and separate mixtures Think About It! What is the difference between a mixture and a solution? On a sheet of notebook paper record your answer explaining the difference between a mixture and a solution Do It! What you need: • Toothpicks • Paper clips • Drink mix (Kool-Aid, crystal light, etc.) • Water • Separating tools (strainer, coffee filter, magnet) • Containers   Photos by HISD Curriculum using GalaxyS10+ What to do: • Combine the toothpicks and paper in a small container • Combine the drink mix and water in a container • Write out a plan on how you would separate each mixture using a separating tool. Understand It!  Image by WikimediaImages from Pixabay **Mixture**: A combination of two or more different substances; in which the substances keep their identities and are easily separated again  Image by Please, don't sell my photos at commercial stock portals ! from Pixabay **Solution:** A mixture that has the same composition throughout because its parts are mixed evenly or dissolved. Apply it! Journal Entry: Complete a Venn diagram to compare your mixture and your solution. Then, write about how mixtures and solutions are alike and how they are different.  Venn Diagram by HISD Curriculum using Microsoft Office *Mixtures and solutions are alike because* _____. *Mixtures and solutions are different because* _____.
Resources	Guided activity using Google Slides

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Friday – 30-45 minutes

Activity / Task

Exploring and Identifying Forms of Energy
To access this interactive lesson, visit https://tinyurl.com/HISDScienceGrade4Day4

Objective: Explore and identify the forms of energy found at home.

Think About It!
Can you explain how objects that need an electrical energy source work? Would the object work without batteries or a power cord? Share with your thoughts with someone in the home.

Do It!
What you need:
- Journal or notebook paper
- Pencil

What to do:
- Go on a scavenger hunt around the house
- Find objects that use mechanical, electrical, thermal, and sound energy.
- Record your findings on a chart like below

Form of Energy	Home Examples
Mechanical	
Electrical	
Light	
Thermal	
Sound	

Understand It!
Energy appears in different forms.
How are mechanical, sound, electrical, light, and thermal energy used in our homes, school, and community?

_____ *energy is used in our homes for* _____.
_____ *energy is used in our school for* _____.
_____ *energy is used in our community for* _____.

Apply It!
Journal Entry
Draw and complete the graphic organizer to show how you used energy throughout the day.

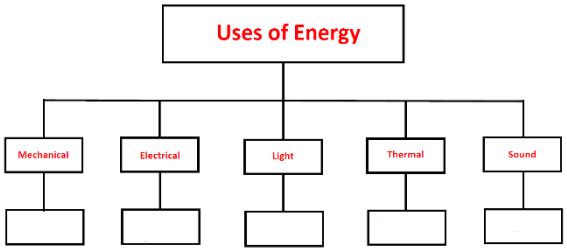

Chart by HISD Curriculum using Microsoft Office

If you have access to the internet via a smartphone, tablet, or computer, allow the student to access the interactive circuit builder at the website below.
https://phet.colorado.edu/en/simulation/circuit-construction-kit-dc

Resources

Guided activity using Google slides

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March 30 - April 10, 2020 – Week 2

Monday – 30-45 minutes	
Activity / Task	**Designing an Investigation-Friction** **To access this interactive lesson, visit https://tinyurl.com/HISDScienceGrade4Day5** Objective: Design a descriptive investigation to test the effects of friction on an object. Think About It! What makes an object slow down or stop? If you can, discuss this question and share your thinking with someone in your home. Do It! What you need: • An object that will roll on a surface when pushed (ex. Toy car) • Chalk or other marking objects • A ruler or tape measure • A variety of surfaces (concrete, grass, carpet and tile)  Image by S. Hermann & F. Richter from Pixabay What to do: • You will design an investigation using the materials listed investigating the effects of friction on an object. • Remember to include a data table to show the distance that the object traveled on different surfaces. Understand It! **Friction** is a force that resists (slows down or stops) the motion of two surfaces sliding across one another. *How did your investigation test friction?* Apply It! Journal Entry: What were the results of your investigation? Have someone in your house repeat your investigation. Did they get similar results? *The results of my investigation were _____.* *When someone else repeated my investigation, the results were _____.*
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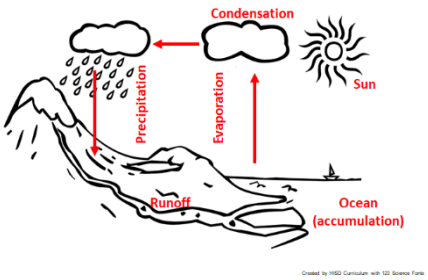
Tuesday – 30-45 minutes	
Activity / Task	**Modeling the Water Cycle** **To access this interactive lesson, visit https://tinyurl.com/HISDScienceGrade4Day6** Objective: Describe and illustrate the steps of the water cycle using models. Think About It! Can you model an example of the water cycle and label evaporation, condensation, and evaporation? *If you can, discuss this question and share your thinking with someone in your home!* Do It! What you need: • zip-lock plastic bag (or a cup with a lid or covering) • water • food coloring (optional) • tape • ice cube • journal or notebook paper • pencil  Photo by HISD Curriculum using iPhone What to do: • Pour one cup of water in the zip-lock bag. • Add two drops of food coloring to the water. (optional, but helps show evaporation later) • Seal the zip-lock bag. • Tape the zip-lock bag onto a sunny window. • Take note of the changes that occur in the zip-lock bag and label the bag with precipitation, evaporation, condensation, as well as labeling the Sun. • Draw arrows showing how the water moves through the water cycle. • If food coloring was used, observe the water sitting in the bottom of the bag and compare it to the water on top of the bag. • Are they the same color? Why not? • Place a piece of ice against the condensed water in the bag and observe what happens. • Put the bag in a location without the Sun and make a comparison. Understand It! Water evaporates from the surface of the Earth, rises and cools, condenses into clouds, and then precipitates as rain or snow and falls again to the surface. The water falling on land collects in rivers and lakes, soil, and porous layers of rock, and much of it flows back into the oceans.  How does your model represent the water cycle? Apply It! Journal Entry: Explain what happened in your water cycle model. Draw an example of the water cycle and label evaporation, condensation, and evaporation.
Resources	Guided activity using Google Slides

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Science – Grade 4
March 30 - April 10, 2020 – Week 2

Wednesday – 30-45 minutes	
Activity / Task	**Shadows** **To access this interactive lesson, visit https://tinyurl.com/HISDScienceGrade4Day7** Objective: Observe and collect data to identify patterns in shadows **Think About It!** What are shadows? Do they change size, shape, and location throughout the day? *If you can, discuss these questions and share your thinking with someone in your home.* Do it! What you need: • Chalk • A family member/someone in your home • Journal / notebook paper  Image by John R Perry from Pixabay What to do: • Find a location that you can visit three times during the day (9:00am, 12:00pm, 3:00pm). • Pick a surface that is relatively flat so you can trace an outline with chalk. • Have the family member pick a spot to stand and mark it with an X (they will be stand in this same spot throughout the day). • Take the chalk and trace their shadow on the flat surface and mark the time of day. • Repeat this every few hours throughout the day (You must use the same person for readings to be accurate). • At the end of the day record the tracings and times in your notebook or sheet of paper. Understand It! Shadows change positions throughout the day because of Earth's rotation. The sun appears to move because of Earth's rotation. Also, your shadows should have changed in size. The closer to noon, the shorter the shadow and vice versa.  Image by Albrecht Fietz from Pixabay How did your shadows change throughout the day? *At _____ my shadow was _____.* Apply It! Describe how and why shadows change throughout the day. When are shadows the longest? When are they the shortest? *Shadows are the shortest at _____ and _____.* *Shadows are the longest at _____.*
Resources	Guided activity using Google Slides

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Science – Grade 4
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Thursday – 30-45 minutes

Activity / Task

Natural Resources
To access this interactive lesson, visit https://tinyurl.com/HISDScienceGrade4Day8

Objective: Identify and classify resources as renewable and nonrenewable.

Think About It!
How can you conserve the natural resources around you? *If you can, discuss this question and share your thinking with someone in your home!*

Do It!
What you need:
- Journal or notebook paper
- Pencil
- (digital camera optional)

What to do:
- Go on a field investigation outside of your home to take digital pictures (or make diagrams) of familiar objects.
- Draw a table to organize the different natural resources like the one below.

Natural Resources and Their Use		
Object	Natural Resource	Kind of Natural Resource (renewable or nonrenewable)

Understand It!
Natural resources can be categorized into renewable and nonrenewable resources.
Water, animals, and air are considered renewable resources.
Fossil fuels such as coal, oil, and natural gas are nonrenewable resources.

Apply It!
Journal Entry
Describe the different kinds of resources you saw during your field investigation. Were there more renewable or nonrenewable resources? How can you conserve the natural resources around you?

Resources

Guided activity using Google Slides

Friday

Spring Holiday

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