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 May 11	Tuesday May 12	Wednesday May 13	Thursday May 14	Friday May 15
Objective: Make informed choices in the use and conservation of natural resources. **Overview:** Students will create a chart of items used in their home, how they are used, and how they can be conserved.	**Objective:** Make informed choices in reusing and recycling of materials such as paper, aluminum, glass, cans, and plastic. **Overview:** Students will make a chart of the different products used at home and sort them into the different natural resources they are created from that can be reused.	**Objective:** Create a plan for family conservation and recycling. **Overview:** Students will think about different ways their family can conserve at home and create a plan to reduce, reuse and recycle at home.	**Objective:** Determine the roles of the Sun and producers in food chains and webs. **Overview:** Students will observe an outside area and an image of a pond ecosystem to identify the Sun as the main source of all energy in an ecosystem.	**Objective:** Determine flow of energy between consumers and producers in food chains and webs. **Overview:** Students will observe an image of a pond ecosystem to identify the consumers and if they are plant eaters, meat eaters or both.
Monday May 18	**Tuesday May 19**	**Wednesday May 20**	**Thursday May 21**	**Friday May 22**
Objective: Determine the flow of energy between consumer and consumer and investigate predator/prey relationships. **Overview:** Students will observe an image of a pond ecosystem, label each consumer, and determine which is predator and which is prey.	**Objective:** Determine the flow of energy to decomposers in a food chain and food web. **Overview:** Students will observe decomposition with a banana peel and identify the decomposers in the pond ecosystem image.	**Objective:** Connect food chains in order to make models of food webs. **Overview:** Students will observe the pond ecosystem image to identify the different food chains in the ecosystem and trace the energy flow starting with the producer.	**Objective:** Identify plant and animal adaptations in an ecosystem. **Overview:** Students will examine the water lily in the pond ecosystem image and identify the adaptations it has in order to survive in this environment.	**Objective:** Identify and describe learned behaviors of organisms. **Overview:** Students will observe the duck and the ducklings in the pond ecosystem image and identify duck behaviors as either inherited or learned.

2019-2020 HISD @ H.O.M.E. – Distance Learning
Science – Grade 4
May 11-22, 2020 – Week 1

Monday – 30-45 minutes

Activity / Task

Conservation
To access this interactive lesson, visit https://tinyurl.com/HISD-Grade-4Day29

Objective: Make informed choices in the use and conservation of natural resources.

Think About It!
What does it mean to conserve resources? If you can, discuss this question and share your thinking with someone in your home!

Do It!
What you need:
- Pencil
- Science notebook/ paper
- Variety of materials from around your home

What to do:
- Create a chart like the one to the right.
- Go on a field trip around your home to find materials you use often. Add your ideas to the table.
- Think about how you could use less of these things and record your ideas in the table. For example, we will use less water if we turn the water off while we brush (see example).
- If you can, talk about your ideas with a family member.

Material	How we use it.	Ways to use less
Ex. water	*brushing teeth*	*turn off water while brushing*

Table by HISD Curriculum using Microsoft Office

Understand It!
- Most of the things we use in our daily lives originally come from natural resources.
- Natural resources can be renewable *(made again)* or nonrenewable *(cannot be remade in our lifetime).*
- To conserve means to save or use less.
- When we conserve resources, we reduce the amount being taken from nature.
- The more we conserve natural resources, the longer we will have them in the future.

Image by Clker-Free-Vector-Images from Pixabay

Apply It!
Write a letter to Mayor Turner explaining the importance of conservation and ways everyone can contribute to conservation. Include examples from your table to support your ideas. If you can, mail your letter to –


Image by Trang Le from Pixabay

Mayor Sylvester Turner
City of Houston
P.O. Box 1562
Houston, Texas 77251

Resources

Guided Activity using Google Slides

2019-2020 HISD @ H.O.M.E. – Distance Learning
Science – Grade 4
May 11-22, 2020 – Week 1

Tuesday – 30-45 minutes	
Activity / Task	**Reusing and Recycling** ***To access this interactive lesson, visit https://tinyurl.com/HISD-Grade4Day30*** Objective: Make informed choices in reusing and recycling of materials such as paper, aluminum, glass, cans, and plastic. Think About It! What natural resources can be recycled or reused? If you can, discuss this question and share your thinking with someone in your home! Do It! What you need: • Pencil • Science notebook/ paper • Recyclable material such as tin cans, juice boxes, paper towel tubes, water bottles, etc. • Art supplies you have at home such as scissors, markers, crayons, construction paper, glue or tape What to do: • Make a chart to record items around your home made from different materials we get from natural resources. • Go on a scavenger hunt around your home and find an item that you could make into something else. Be sure to get an adult's permission before you use anything! • Think about things you use every day, such as water bottles, juice boxes, writing paper, and clothing. • How could you reuse or recycle some of these products? For example, could you make a pencil holder or a crayon box? Could you make something into a bank or a planter? • Use your imagination and some art supplies to repurpose, or reuse, something you find into something else. Understand It! • Most of the things we use every day are made from natural resources. • When we are finished with the product, it often gets thrown away and goes into a landfill. • When we find ways to repurpose, or reuse, these things we reduce the amount of trash in the landfill. • If we cannot reuse the material ourselves, we can donate it to someone else or take it to a recycling center. • The more ways we find to reuse and recycle things made from natural resources the cleaner Earth will be. Apply It! Write a "how to" paragraph to explain how you recycled your item into something else. Begin with these sentence stems and describe what you did. I practiced recycling today and repurposed a _____ into a _____. First, I…
Resources	Guided Activity using Google Slides

Image from HISD Curriculum using Google phone

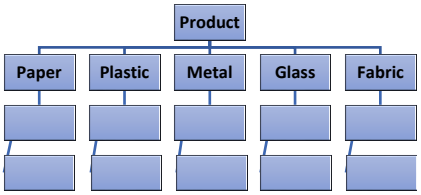
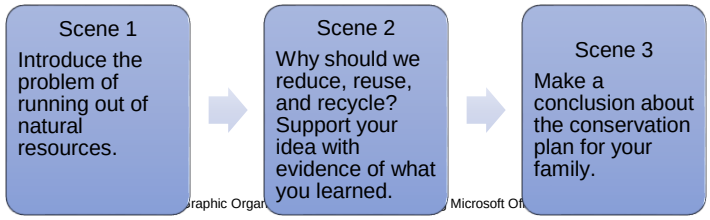
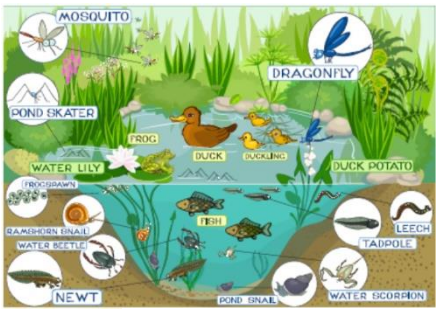


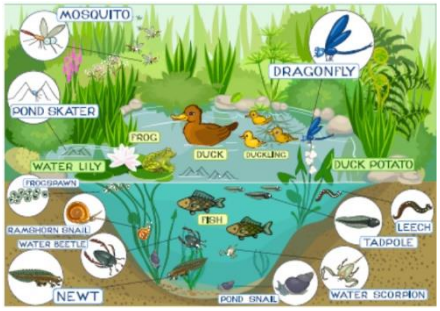
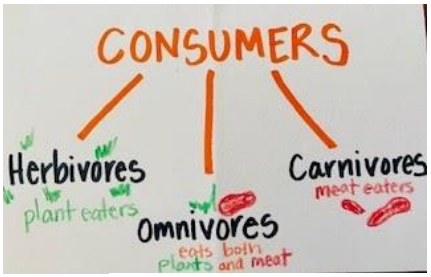

Image by Clker-Free-Vector-Images from Pixabay

2019-2020 HISD @ H.O.M.E. – Distance Learning
Science – Grade 4
May 11-22, 2020 – Week 1

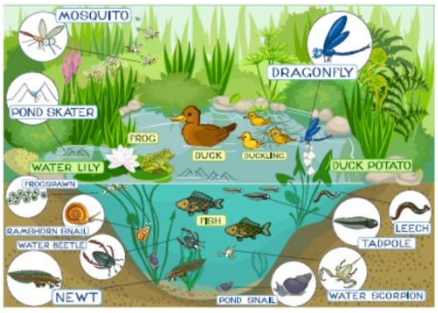
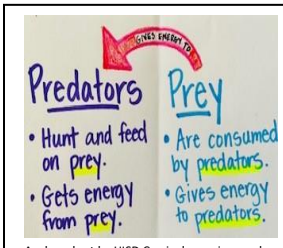
Wednesday – 30-45 minutes	
Activity / Task	**Making a Family Plan** ***To access this interactive lesson, visit https://tinyurl.com/HISDGrade4Day031*** Objective: Create a plan for family conservation and recycling. Think About It! How can you conserve and recycle natural resources in your family? If you can, discuss this question and share your thinking with someone in your home! Do It! What you need: • Pencil • Science notebook/ Paper • Art supplies you have at home such as paper, markers, crayons, etc. • Any materials around your home that could be reused or recycled • Phone with camera if you have one and your parent allows. What to do: • Think about the conservation activities from this week and what you have learned so far. • Talk to your family about ways you could reduce, reuse, and recycle at your home. • Using a storyboard like the one to the right, plan a short skit about the importance of recycling. Include siblings or other family members in the cast of your skit. • Use the art supplies and recyclable materials you found to sketch out your skit and create props. • Be sure to include the supporting information from what you have learned in your skit.  Understand It! • Conservation means to use fewer natural resources in order to save them for future generations. • Each person can do his or her part by reducing their consumption of these resources, reusing them, or recycling them. • Some items we no longer use, such as clothing or toys, can be passed on to someone else. • Some things, such as food containers or water bottles, can be made into something else. • Some things, such as paper, cans, and plastic, can be turned into a recycling center.  Image by OpenClipart-Vectors from Pixabay Apply It! Practice and perform the skit for others in your family. If your parent allows, use the camera on your phone to record a video of your skit to show others.
Resources	Guided Activity using Google Slides

Thursday – 30-45 minutes	
Activity / Task	**Sun and Producers** ***To access this interactive lesson, visit https://tinyurl.com/HISD-Grade4Day32*** Objective: Determine the roles of the Sun and producers in food chains and webs. Think About It! What are the roles of the Sun and producers in an ecosystem? If you can, discuss this question and share your thinking with someone in your home! Do It! What you need: • Pencil • Science notebook/ Paper • Pond ecosystem illustration (found at the end of these lessons) • Markers or crayons  © Kazakova Maryia — stock.adobe.com What to do: • If you can, take a nature walk. Observe the plants and animals and how they interact. • Look at the Pond Ecosystem illustration carefully. • Decide where the Sun should be and draw it in with markers. • Look for the green plants in the illustration and circle the ones that are named. • Think about how those producers get the energy they need to grow and discuss it with someone at your home. Understand It! • The Sun is the source of all energy in an ecosystem. • Rays from the Sun provide energy to producers, or plants, in every ecosystem. • Plants use the Sun's energy, along with water and carbon dioxide, to make their own food through a process called photosynthesis. • The energy in plants then moves through the ecosystem when those plants are eaten by a consumer. • Some examples of consumers are birds, fish, reptiles, and amphibians. Apply It! • Draw arrows from the Sun in your Pond Ecosystem illustration to the producers that you circled to begin a food chain. • Remember that the arrow points to the organism *receiving the energy*. • Save your illustration to use with future lessons.
Resources	Guided activity using Google Slides

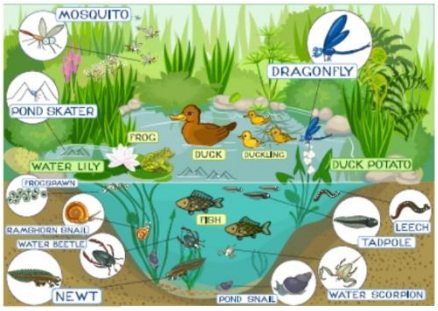
2019-2020 HISD @ H.O.M.E. – Distance Learning
Science – Grade 4
May 11-22, 2020 – Week 1

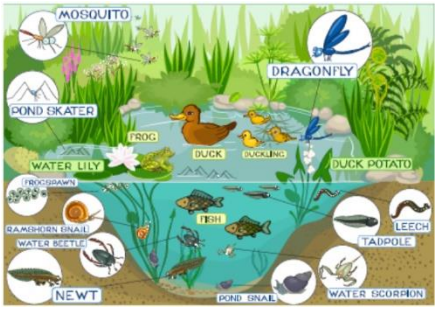
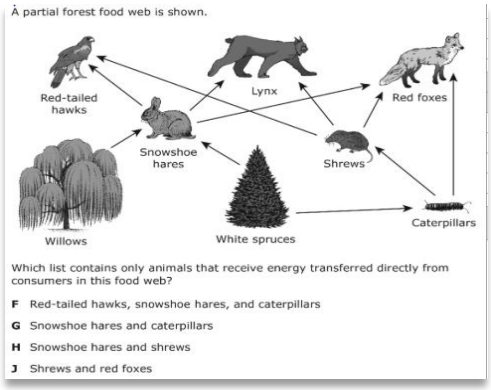
Friday – 30-45 minutes	
Activity / Task	**Producers and Consumers** ***To access this interactive lesson, visit https://tinyurl.com/HISD-Grade-4-Day-33*** Objective: Determine flow of energy between consumers and producers in food chains and webs. <u>Think About It!</u> What is the role of the consumer in an ecosystem? If you can, discuss this question and share your thinking with someone in your home! <u>Do It!</u> What you need: • Pencil • Science notebook/ Paper • Pond ecosystem illustration (found at the end of these lessons) • Markers or crayons  © Kazakova Maryia — stock.adobe.com What to do: • If you can, take a nature walk and observe any interactions that you see between plants and animals. • Look at the Pond Ecosystem illustration carefully. • Look for any animals that eat (consume) something else. • Circle the consumers you found in the illustration. • Think about how consumers get the energy they need and discuss it with someone at your home. <u>Understand It!</u> • Consumers are dependent upon producers and other consumers for survival. • Consumers must eat (consume) to gain energy. • Energy is transferred from producers to consumers. • Examples of herbivores (plant eaters) include rabbits, giraffes, and cows.  Anchor chart by HISD curriculum using marker <u>Apply It!</u> • Draw arrows from the producers in your Pond Ecosystem illustration to the consumers that you circled to show the flow of energy from producers to consumers in your food chain. • Remember that the arrow points to the organism *<u>receiving the energy</u>*. • Save the illustration to use with future lessons.
Resources	Guided activity using Google Slides

2019-2020 HISD @ H.O.M.E. – Distance Learning
Science – Grade 4
May 11-22, 2020 – Week 2

Monday – 30-45 minutes	
Activity / Task	**Predator and Prey** ***To access this interactive lesson, visit*** ***https://tinyurl.com/HISD-Grade-4-Day-34*** Objective: Determine the flow of energy between consumer and consumer and investigate predator/prey relationships. <u>Think About It!</u> What are the roles of the predator and prey in an ecosystem? If you can, discuss this question and share your thinking with someone in your home! <u>Do It!</u> What you need: • Pencil • Science notebook/ Paper • Pond ecosystem illustration (found at the end of these lessons) • Markers or crayons  © Kazakova Maryia — stock.adobe.com What to do: • If you can, take a nature walk and observe any interactions between animals to see if you can observe any organisms that would be hunt for animals or animals that would be hunted by other animals. • Look at the Pond Ecosystem illustration carefully. • Look for the consumers that you already circled in the Pond Ecosystem. Label the consumers (herbivores, carnivores, and omnivores). • Look for and label the predators in the Pond Ecosystem. • Look for and label the prey in the Pond Ecosystem. • Think about how the predators get the energy they need and discuss it with someone at your home. <u>Understand It!</u> • Predators are consumers that eat prey. • Prey are consumers that are eaten by prey • Consumers include herbivores (plant eaters), carnivores (meat eaters), and omnivores (eats both plants and meat). • Examples predator/prey relationships include lion and zebra, bear and fish, and fox and rabbit.  Anchor chart by HISD Curriculum using marker <u>Apply It!</u> • Draw arrows from the prey in your Pond Ecosystem illustration to the predators that you labeled in the food chain. • Remember that the arrow points to the organism *<u>receiving the energy</u>*. • Save the illustration to use with future lessons.
Resources	Guided activity using Google Slides

2019-2020 HISD @ H.O.M.E. – Distance Learning
Science – Grade 4
May 11-22, 2020 – Week 2

Tuesday – 30-45 minutes	
Activity / Task	**Decomposers** ***To access this interactive lesson, visit*** ***https://tinyurl.com/HISD-Grade-4-Day-35*** Objective: Determine the flow of energy to decomposers in a food chain and food web. <u>Think About It!</u> What is the role of decomposers in an ecosystem? If you can, discuss this question and share your thinking with someone in your home! <u>Do It!</u> What you need: • Pencil • Science notebook/ Paper • Pond ecosystem illustration (found at the end of these lessons) • Markers or crayons  © Kazakova Maryia — stock.adobe.com What to do: • If you can, leave a banana peel outside for a few days and observe the changes in the banana peel as it decomposes. • Look at the Pond Ecosystem illustration carefully. Reflect on how the banana decomposed. • Look for the decomposers in the Pond Ecosystem and label them. • Think about how the decomposers get the energy they need and discuss it with someone at your home. <u>Understand It!</u> • Decomposers can get energy from any of the organisms in the ecosystem. • When an organism dies, it leaves behind nutrients (waste) that are locked tightly together. • Decomposers break down the waste and return raw nutrients back to the environment. • Examples of decomposers include snails, beetles, fungi, bacteria, leech, and worms.  Anchor Chart by HISD Curriculum using marker <u>Apply It!</u> • Draw arrows from the consumers and producers in your Pond Ecosystem illustration to the decomposers that you labeled in the food chain. • Remember that the arrow points to the organism *<u>receiving the energy</u>*. • Save the illustration to use with future lessons.
Resources	Guided activity using Google Slides

Wednesday – 30-45 minutes	
Activity / Task	**Food Webs** ***To access this interactive lesson, visit https://tinyurl.com/HISDGrade4Day36*** Objective: Connect food chains in order to make models of food webs. <u>Think About It!</u> What do you call many food chains linked together? If you can, discuss this question and share your thinking with someone in your home! <u>Do It!</u> What you need: • Pencil • Science notebook/Paper • Pond ecosystem illustration (found at the end of these lessons) • Markers or crayons  © Kazakova Maryia — stock.adobe.com What to do: • If you can, go on a nature walk and observe a food chain (partial and full). If a partial food chain what is missing to make the chain complete? • Review the pond ecosystem from the previous day's lesson. • Create as many food chains as you can (remember to always start with a producer). • Use a different color marker/crayon to represent each food chain. • Label each organism (producer, consumer or decomposer) and draw arrows representing the flow of energy. <u>Understand It!</u> • Food webs are composed of both producers and consumers that are interdependent. • Organisms obtain their primary source of energy from the Sun and then it is transferred from one organism to another. • The arrows in a food web point in the direction that energy moves. <u>Apply It!</u> Journal Entry: Answer the following question and explain your answer.  Which list contains only animals that receive energy transferred directly from consumers in this food web? F Red-tailed hawks, snowshoe hares, and caterpillars G Snowshoe hares and caterpillars H Snowshoe hares and shrews J Shrews and red foxes Released question from ©TEA release test with permission.
Resources	Guided activity using Google Slides

Thursday – 30-45 minutes

Activity / Task

Adaptations

To access this interactive lesson, visit https://tinyurl.com/HISDGrade4Day37

Objective: Identify plant and animal adaptations in an ecosystem.

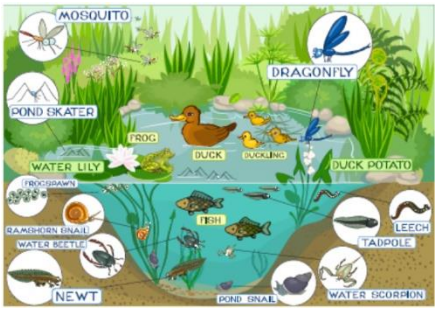
Think About It!

What does the terms structure and function of a plant or animal mean? If you can, discuss this question and share your thinking with someone in your home!

Do It!

What you need:

- Pencil
- Science notebook/ Paper
- Pond ecosystem illustration (found at the end of these lessons)
- Markers or crayons



What to do:

- Review the pond ecosystem food web from the previous day's lesson.
- Examine the Water Lily in the diagram.
- Identify and an adaption that allows it to survive in its ecosystem.
- Explain how the adaptions help the Water Lily survive in its ecosystem.

Understand It!

- An adaptation is an inherited trait that helps an organism meet its needs.
- Adaptations are special features that allow a plant or animal to live in a particular place or habitat.

Image by Thomas B. from Pixabay

Examples of adaptations:

- Female mosquitoes use their straw-like mouthparts to suck blood.
- Some plants have small leaves to prevent water loss.
- Fish have gills that they use to take oxygen from the water in which they live.
- Plants use flower coloration to attract insects.

Apply It!

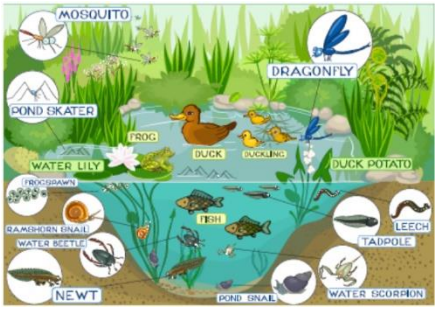
Journal Entry: Select a producer and two consumers from the pond ecosystem. Identify an adaption for each that helps it survive in the pond ecosystem. Create a chart like the one shown.

Organism	Adaption
Female Mosquito	Straw-like mouthparts to suck blood

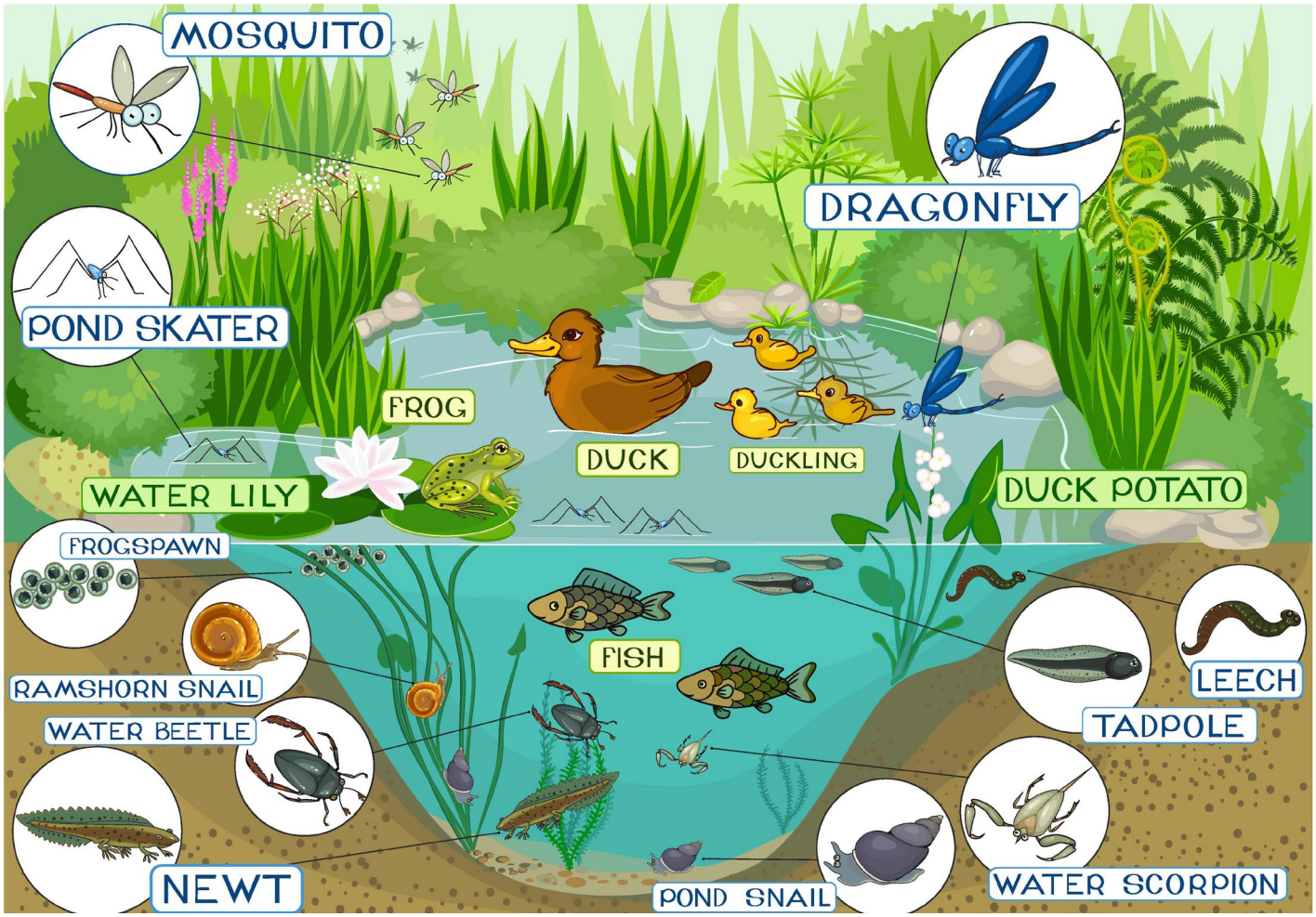
Resources

Guided activity using Google Slides

2019-2020 HISD @ H.O.M.E. – Distance Learning
Science – Grade 4
May 11-22, 2020 – Week 2

Friday – 30-45 minutes	
Activity / Task	**Instinct and Learned Behaviors** ***To access this interactive lesson, visit: https://tinyurl.com/HISDGrade4Day38*** Objective: Identify and describe learned behaviors of organisms. <u>Think About It!</u> What would be some evidence that a trait is not inherited? If you can, discuss this question and share your thinking with someone in your home! <u>Do It!</u> What you need: • Pencil • Science notebook/ Paper • Pond ecosystem illustration (found at the end of these lessons)  © Kazakova Maryia — stock.adobe.com What to do: • Review the pond ecosystem food web from the previous day's lesson. • Look at the duck and the ducklings in the pond. • Explain whether the ducklings swimming in the pond is a learned behavior, instinct, or an inherited trait? • Write down your evidence to support your theory. <u>Understand It!</u> • Behavior is the way an organism acts or what it does. Inherited behaviors are sometimes called instincts. Animals don't have to learn instinctive behaviors. For example, no one must teach a spider how to spin a web. • Animals also have learned behaviors. If a blue jay eats a monarch butterfly, the blue jay will get sick. Young blue jays don't know this. They must learn it by experience.  <u>Apply It!</u> Journal Entry: Select three consumers in the pond ecosystem. Identify a behavior for each organism that is either learned or instinctual. Create and complete a chart like the one shown: **Consumer** | **Behavior** | **Learned** | **Instinct** Spider | Spinning a Web | | X | | | | | | | | | | | |
Resources	Guided activity using Google Slides

Pond Ecosystem Image



Organism	Gets its energy from —
Male mosquito	Flower nectar
Female mosquito	Blood of mammals, reptiles, birds, and fish
Pond skater	Other insects
Dragonfly	Other flying insects, midges, and mosquitos
Ramshorn snail	Algae, dead or dying plants
Water beetle	Algae and other aquatic plants
Newt	Worms, slugs, amphibian eggs, and other insects
Pond snail	Aquatic plants
Water scorpion	Tadpoles, water fleas, lice, insect larvae
Tadpole	Dead insects, small fish, pieces of vegetation
Leech	Blood of mammals, reptiles, birds, and fish
Frog	Moths, insects, mosquitos, and dragonflies
Duck	Snails, worms, slugs, algae, and aquatic plants
Fish	Algae, aquatic plants, plankton, blood worms