HISD | 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 May 11	Tuesday May 12	Wednesday May 13	Thursday May 14	Friday May 15
Objective: Identify and demonstrate how to conserve natural resources and materials in your home. **Overview:** Students will hold a family meeting to discuss ways to conserve natural resources and create a poster using the ideas generated.	**Objective:** Identify and demonstrate how to reuse and recycle natural resources and materials such as paper, plastic, and metal at home. **Overview:** Students will collect items that can be reused and recycled to create a sculpture.	**Objective:** Identify how living things depend on nonliving things to meet their needs. **Overview:** Students will observe an outdoor space and create a chart of the living and nonliving things and their relationship.	**Objective:** Identify the relationship between living organisms and how they depend on each other. **Overview:** Students will complete a chart of that identifies how living things interact with and depend on each other.	**Objective:** Identify how producers use the Sun to make food. **Overview:** Students will identify any producers they can find outside and list their non-living support in a chart.
Monday May 18	**Tuesday May 19**	**Wednesday May 20**	**Thursday May 21**	**Friday May 22**
Objective: Identify how organisms interact with each other to transfer energy. **Overview:** Students will observe a picture of a pond ecosystem and create a chart that records seven living organisms and how they are used for food.	**Objective:** Identify the ways living organisms depend on each other and on the environments in which they live, such as food chains. **Overview:** Students will observe a picture of a Pond Ecosystem and identify a food chain in the ecosystem.	**Objective:** Observe how environmental factors such as precipitation and temperature affect the growth and behavior of plants. **Overview:** Students will observe and compare images of a lemon tree when it is dormant and non-dormant.	**Objective:** Identify and compare what changes in the environment causes animals to hibernate or become dormant. **Overview:** Students will read facts about organisms during dormancy and hibernation and determine which information represents which behavior.	**Objective:** Compare insect life cycles and identify similarities and differences. **Overview:** Students will observe and compare the life cycle of a lady beetle and a butterfly.

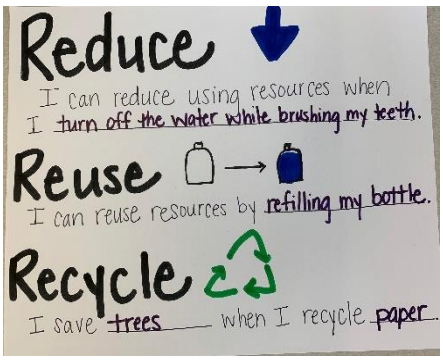
2019-2020 HISD @ H.O.M.E. – Distance Learning
Science – Grade 2
May 11-22, 2020 – Week 1

Monday – 30-45 minutes	
Activity / Task	**Conservation of Natural Resources and Materials** ***To access this interactive lesson, visit: https://tinyurl.com/HISDGrade2Day29*** Objective: Identify and demonstrate how to conserve natural resources and materials in your home. <u>Think About It!</u> Why is it important to conserve natural resources and materials in your home? If you can, discuss this question and share your thinking with someone in your home. <u>Do It!</u> What you need: • Poster board (optional) • Science notebook or sheet of paper • Pencil • Crayons, Markers What to do: • Hold a family meeting to discuss ways to conserve natural resources in your home. • Create the table shown in your notebook. • Complete the chart using the ideas from your family discussion. • Use your ideas to create a poster showing ways to conserve natural resources and materials in your home. • Make sure that your poster is colorful, easy to read, and has pictures and words. • Display your poster to remind your family of ways to conserve natural resources and materials in your home. **Ways to Conserve Natural Resources and Materials in My Home** 1. Turn off water while brushing your teeth. <u>Understand It!</u> **Conservation** is to preserve (save) and protect resources. It Is important to conserve our natural resources. To help conserve, we should learn to use less or reduce. <u>Apply It!</u> Journal Reflections: Write about why it is important to conserve natural resources in your home. *It is important to conserve natural resources because* _____. *I can conserve water in my home by* _____. *I can conserve electricity in my home by* _____.
Resources	Guided activity using Google slides

2019-2020 HISD @ H.O.M.E. – Distance Learning
Science – Grade 2
May 11-22, 2020 – Week 1

Tuesday – 30-45 minutes	
Activity / Task	**Reuse and Recycle** ***To access the interactive lesson, visit: https://tinyurl.com/HISDGrade2Day30*** Objective: Identify and demonstrate how to reuse and recycle natural resources and materials such as paper, plastic, and metal at home. <u>Think About It!</u> How do you reuse or recycle materials at home? If you can, discuss this question and share your thinking with someone in your home. <u>Do It!</u> What you need: • Clean empty plastic bottles, plastic bags • Clean empty milk carton, empty cans • Newspapers, paper items • Other items that you would usually throw away. • Science notebook or sheet of paper • Pencil • Tape or glue What to do: • Search your home for objects that can be reused or recycled. • Create the T-chart shown and list the objects in the chart. • Use the materials collected to create a sculpture. • Draw a picture of your sculpture in your notebook. • Display your new artwork in your home. <u>Understand It!</u> • There are ways we can protect our natural resources. • **Reduce** is to use less of a resource. • **Reuse** is to use a resource again. • **Recycle** is to use the materials in old things to make new things. <u>Apply It!</u> Journal Reflections: Write about the sculpture your created using recycled and reused objects. Use the stems below. _____ *is a **recycled** object that I used in making my sculpture.* _____ *is a **reused** object that I used in making my sculpture.* *I created a sculpture of a* _____.
Resources	Guided activity using Google slides

Recycle	Reuse



Anchor Chart created by HISD Curriculum using Marker

2019-2020 HISD @ H.O.M.E. – Distance Learning
Science – Grade 2
May 11-22, 2020 – Week 1

Wednesday – 30-45 minutes

Activity / Task

Living Things Interacting with Nonliving Things
To access this interactive lesson, visit: https://tinyurl.com/HISDGrade2Day31

Objective: Identify how living things depend on nonliving things to meet their needs.

Think About It!
How do living things depend on nonliving things to get what they need? 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
- Pencil

Living Things	Nonliving Things	Relationship

What to do:
- Go outside or look through the window.
- Create the chart in your notebook.
- Observe living and nonliving things seen in your yard and record observations in your chart.
- Discuss how the living things depend on the nonliving things to meet their needs. (relationship)
- Record the relationship observed between the living and nonliving things in the chart.

Understand It!
Ecosystems are all living and nonliving parts of a location including air, water, plants and animals. A nonliving thing does not grow, eat, breathe, excrete, move, produce offspring, or respond to stimuli. Living things have basic needs as food, water, air, and space to live and grow. A fish (living) depends on water (nonliving) for a space to live and grow.

Apply It!
Journal Reflection: Use the pond ecosystem on the last page to write about how living things depend on nonliving things to get what they need.

The _____ depends on _____ to _____.

(living thing) *(nonliving thing)*

Resources

Guided activity using Google slides

Thursday – 30-45 minutes

Activity / Task

Living to Living Interaction to Meet a Basic Need
To access this interactive lesson, visit https://tinyurl.com/HISDGrade2Day32

Objective: Identify the relationship between living organisms and how they depend on each other.

Think About It!
Why do certain organism depend on other organisms for survival? If you can, discuss this question and share your thinking with someone at your home.

Do It!
What you need:
- Science notebook or piece of paper
- Living organism chart
- Pencil

What to do:
- Draw a chart like the one to the right.
- Look at the pairs of animals that are matched together on the chart
- Describe how the two-living organism interact with each other

Living Organism	Living Organism	Relationship
Bird	Tree	
Cow	Grass	
Owl	Cactus	
Fish	Coral	

Understand It!
- **Interdependence** is how living and non-living things depend on one another.
- In this picture, both animals depend each other.
- The buffalo attracts parasites, bugs, and flies that cause trouble to the buffalo.
- The bird enjoys eating these bugs and parasites which helps the buffalo and the bird.

Image by Andreas Göllner from Pixabay

Apply It!
Journal entry:
Can you think of other animals or organisms that depend on each other? If so, complete the sentence stem below:

A _____ and a/an _____ depend on each other because _____

Resources

Guided activity using Google Slides

2019-2020 HISD @ H.O.M.E. – Distance Learning
Science – Grade 2
May 11-22, 2020 – Week 1

Friday – 30-45 minutes

Activity / Task

Producers – Living to Nonliving Interaction
To access this interactive lesson, visit https://tinyurl.com/HISDGrade2Day33

Objective: Identify how producers use the sun to make food.

Think About It!
How do producers use energy from the sun to survive? 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
- Producer chart
- Pencil

Producer	Nonliving Support
1.	
2.	
3.	
4	

What to do:
- If you are able, go outside and search for all the producers around where you live
- Draw a chart like the one to the right.
- Write down all the producers you see on the Producer chart
- Identify any non-living factors helping the producer to survive.
- If you can't go outside, choose a window to locate producers around where you live

Understand It!

All grass, plants, trees, flowers, and fruits are called **Producers** because they make their own food using energy from the Sun

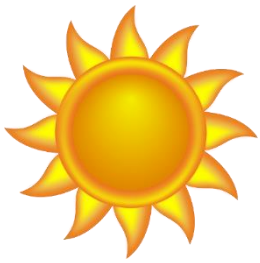


Image by Clker-Free-Vector-Images from Pixabay

Image by M. Maggs from Pixabay

Other **Nonliving** factors such as water, oxygen and soil also help **Producers** survive

Apply It!
Journal Reflection:
Look at the picture of the pond ecosystem on the last page. Find all the non-living factors that help all producers survive in this picture. Make a list in your notebook.

Resources

Guided activity using Google Slides

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

Monday – 30-45minutes

Activity / Task

Consumers- Living to living interactions for food
To access this interactive lesson, visit https://tinyurl.com/HISDGrade2Day34

Objective: Identify how organisms interact with each other to transfer energy.

Think About It!
Why is it important for animals to interact with other living organisms? 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
- Pond ecosystem picture (on last page of this document)
- Living organism food chart
- Pencil

What to do:
- Draw a chart like the one to the right.
- Record the name of 7 living organisms you see in the pond ecosystem picture.
- Under the 'Used for Food' column, list all the living organisms you think would be used for food by the living organisms on the left.

Living Organism	Used for Food
1.	
2.	
3.	
4.	
5.	
6.	
7.	

Understand It!
- All organisms require energy.
- Living organisms eat other organisms for food and energy.
- A food chain demonstrates the flow of energy from one organism to another
- The arrows on a food chain diagram show the flow of energy.

Food Chain image created by HISD Curriculum using 123 Science Fonts

Apply It!
Journal Reflection
Can you think of any other animal that uses another for food? Complete the sentence stem below with your own examples.

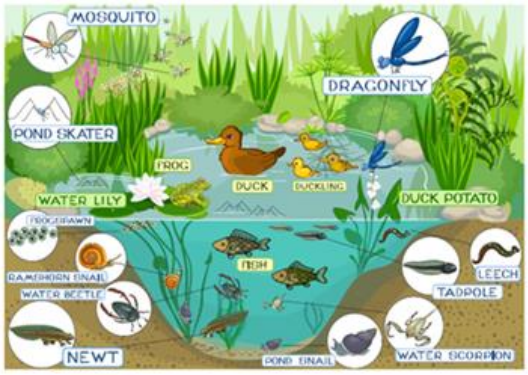
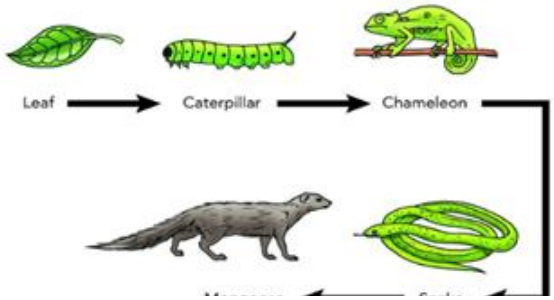
Example:
*In a **DESERT** ecosystem a **SNAKE** uses a **MOUSE** for food.*

In a _____ ecosystem a _____uses a _____ for food.

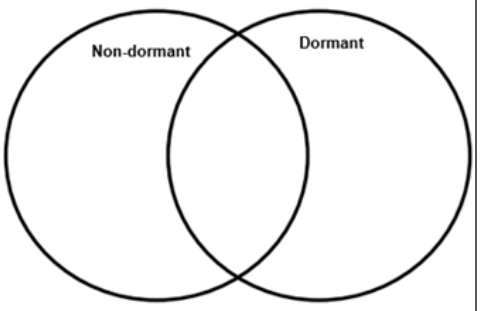
In a _____ ecosystem a _____uses a _____ for food.

Resources

Guided activity using Google Slides

Tuesday – 30-45 minutes	
Activity / Task	**Food Chains** ***To access this interactive lesson, visit https://tinyurl.com/HISDGrade2Day35*** Objective: Identify the ways living organisms depend on each other and on the environments in which they live, such as food chains. <u>Think About It!</u> What kind of food chains can be found in different environments? In what ways do plants and animals depend on each other in their environment? Where does the energy begin in the food chain? If you can, discuss these questions and share your thinking with someone at your home. <u>Do It!</u> What you need: • Pond Ecosystem picture (see last page of this document for a larger version) • Science Notebook or sheet of paper • Pencil • Crayons or colored pencils  What to do • Look closely at the pond ecosystem and make observations about the organisms. • Use the pond ecosystem pictures to create a food chain that represents the flow of energy. • Draw and label your food chain in your science notebook. <u>Understand It!</u> Remember the main source of energy in the food chain comes from the Sun. Plants change the Sun's energy into food for themselves and animals that consume plants obtain that energy. The flow of energy continues as animals eat other plants and animals. Don't forget that the arrows in a food chain diagram always show the flow of energy.  <u>Apply It!</u> Journal Reflections: Write a list of the plants that are in the pond ecosystem and describe why these plants are so important to the food chain. Try replacing the animals in your food chain with other animals, write them down and draw a new food chain in your science notebook. Explain your thinking. Example: *The **<u>GRASS</u>** is important to the **<u>GRASSHOPPER</u>** in the food chain.* The _____ plant is important to the _____ in the food chain. The _____ will not survive without the _____ plant in the food chain.
Resources	Guided activity using Google Slides

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

Wednesday – 30-45 minutes	
Activity / Task	**Dormancy** ***To access this interactive lesson, visit https://tinyurl.com/HISDGrade2Day36*** Objective: Observe how environmental factors such as precipitation and temperature affect the growth and behavior of plants. Think About It! What causes plant to become dormant? How do plants respond to changes in their environment? Do plants grow in all four seasons? Can they survive in any temperature? If you can, discuss these questions and share your thinking with someone at your home. Do It! What you need: • Lemon tree pictures (right) • Science notebook or sheet of paper • Pencil What to do: • Observe the lemon tree pictures • In your science notebook or sheet of paper, draw a Venn diagram and label one side Non-dormant and the other side as Dormant (see right) • Record the differences and similarities about each picture of the lemon tree in your Venn diagram.  Photo by Karim MANJRA on Unsplash  Photo by Chelsea Audibert on Unsplash  Created by HISD Curriculum using MS Office Understand It! **Dormancy** occurs during certain times in plant and tree life cycles when growth and development are stopped for a certain time frame. Many plants and trees go through **dormancy** in the winter to conserve energy due to the lack of resources during extreme weather conditions and they depend on their environment for their survival. Apply It! Journal Reflections: Look at your two Venn diagram and the observations you recorded about each lemon tree picture. Think about and describe the environmental factors you think caused the lemon trees to bear lemons or become dormant. Example: *I think the **COLD WEATHER** caused the apple tree to _____ and become dormant.* I think _____ caused the lemon tree to become _____ and not grow any more. I think _____ caused the lemon tree to _____ lots of lemons.
Resources	Guided activity using Google Slides

Thursday – 30-45 minutes

Activity / Task

Dormancy and Hibernation

To access this interactive lesson, visit https://tinyurl.com/HISDGrade2Day37

Objective: Identify and compare what changes in the environment causes animals to hibernate or become dormant.

Think About It!

What changes in the environment cause animals to hibernate? What causes some organisms to become dormant? If you can, discuss these questions and share your thinking with someone at your home.

Do It!

What you need:

- Hibernation vs Dormancy Chart (to the right)
- Science notebook or sheet of paper
- Pencil
- Crayons (red and yellow)

What to do:

- Read the different descriptions in the "Hibernation vs Dormancy" table.
- Draw the "Hibernation vs Dormancy" table in your science notebook.
- If you think it describes hibernation, color the square **red**, and **yellow** if it describes dormancy.
- Explain your thinking about the differences between hibernation and dormancy.

Hibernation vs. Dormancy	
Bears sleeping during the Winter	An extended period of sleep
When animal use very little energy	The slowing down of normal physical function
This happens when plants are no longer growing	To remain inactive in a sleep like state
Alive, but not actively growing	Frogs during the Winter

Understand It!

Dormancy and hibernation are instinctive behaviors that helps animals survive in their environments. Hibernation means a deep sleeplike state when an animal's body processes slow down. Dormancy means to remain inactive. When an animal is dormant, they do not grow. Organisms depend on their environment for their survival. Which of the animals to the right is hibernating and which one is dormant?

Photo by Daniele Levis Pelusi on Unsplash

Photo by Nika Akin on Unsplash

Apply It!

Using the "Hibernation vs Dormancy" table choose one hibernation description and one dormancy description, write them down in your science notebook, and explain your thinking about why you think this happens with plants or animals.

Example:

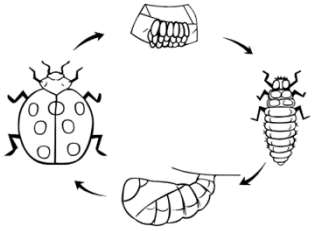
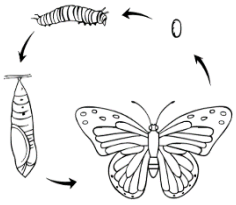
*I think that **RACOONS** hibernate because the **WINTER MONTHS ARE TOO COLD.***

I think that _____ hibernate because _____.

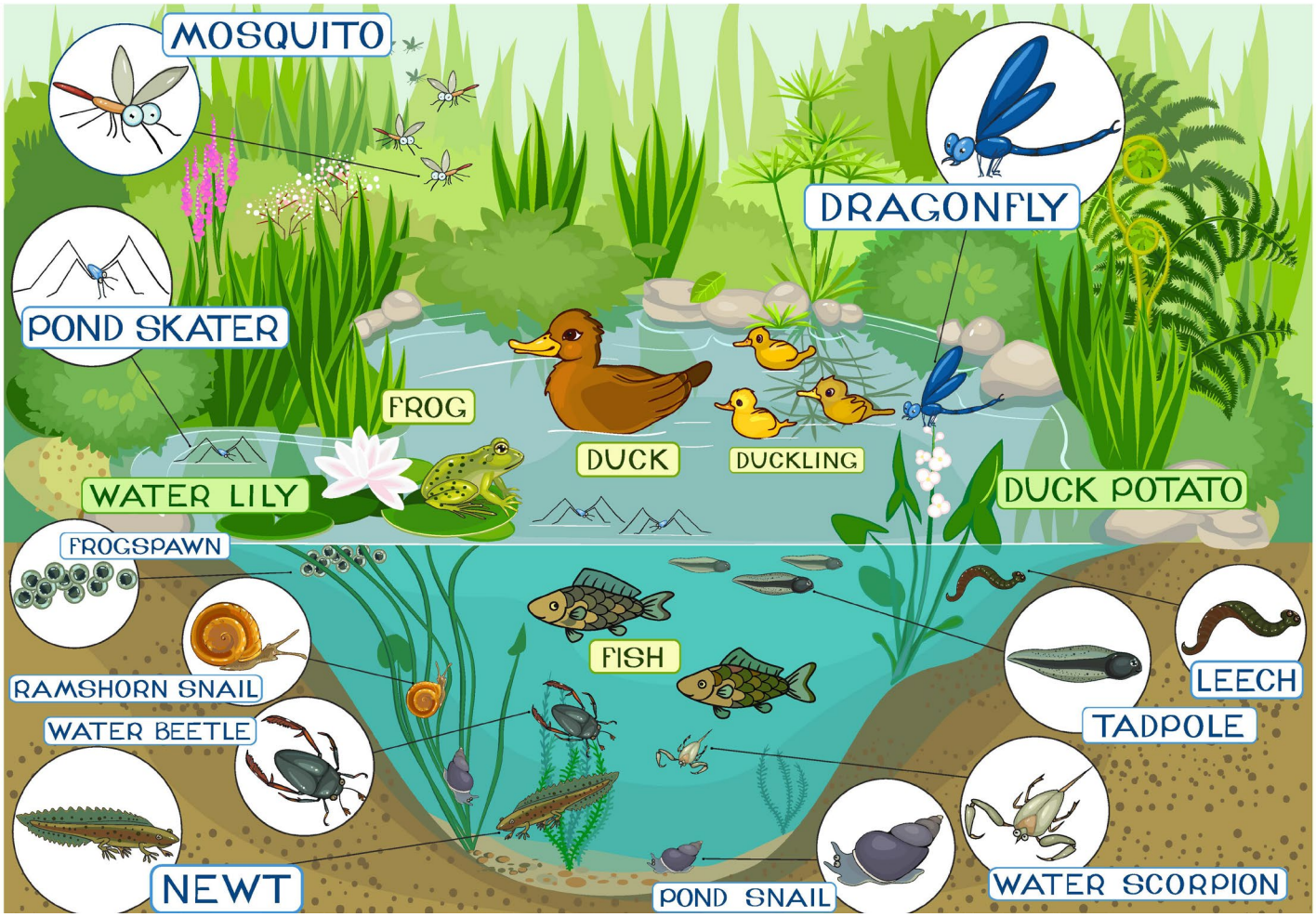
I think that _____ becomes dormant because _____.

Resources

Guided activity using Google Slides

Friday – 30-45 minutes	
Activity / Task	**Life Cycles of Insects** ***To access this interactive lesson, visit: https://tinyurl.com/HISDGrade2Day38*** Objective: Compare insect life cycles and identify similarities and differences. <u>Think About It!</u> How are the life cycles of insects similar and different? If you can, discuss this question and share your thinking with someone in your home. <u>Do It!</u> What you need: • Science notebook or sheet of paper • Pencil What to do: • Observe the images of the life cycle of the lady beetle and life cycle of the butterfly. • Draw a picture of each life cycle in your notebook and label each stage. (**egg**, **larva**, **pupa**, **adult**) • Describe how the life cycle of the lady beetle is **similar** and **different** from the life cycle of the butterfly.  Life Cycle Image by HISD Curriculum using 123 Science Fonts  Life Cycle Image by HISD Curriculum using 123 Science Fonts <u>Understand It!</u> The changes an animal goes through during its life make up its **life cycle**. During the different stages of life, physical changes can be observed in insects. Most insects go through four stages which include the **egg, larva**, **pupa,** and **adult**. This is called complete metamorphosis. A small percentage of insects undergo incomplete metamorphosis, which means they go through three stages. These stages include the **egg, nymph**, and **adult**. <u>Apply It!</u> Journal Reflections: Write and describe the **similarities** and **differences** between the life cycle of the lady beetle and the life cycle of the butterfly. *A **similarity** between the life cycle of the butterfly and the life cycle of the lady beetle is_____.* *A **difference** between the life cycle of the butterfly and the life cycle of the lady beetle is _____.*
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