



Revision Date	April 18, 2020
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Department of Curriculum & Instruction

Second Grade Science

Unit	2-7 Investigating Organisms and Environments
Time Frame	3/1-4/1
Big Ideas	<ol style="list-style-type: none"> Plants and animals depend on each other in many ways. Food chains show the flow of energy from one organism to another.
Essential Questions	<ol style="list-style-type: none"> What physical characteristics help animals meet their basic needs? What observations can we make about the physical characteristics an animal uses to meet its basic needs? How do the different parts of a plant help it meet its basic needs?

TEKS / Student Expectations	Skills	Concepts
SCI.2.1A Identify, describe, and demonstrate safe practices as outlined in Texas Education Agency-approved safety standards during classroom and outdoor investigations, including wearing safety goggles or chemical splash goggles, as appropriate, washing hands, and using materials appropriately.	Identify Describe Demonstrate	SAFE PRACTICES Including, but not limited to: <ul style="list-style-type: none"> Wearing safety goggles or chemical splash goggles, as appropriate Washing hands Using materials appropriately Follow classroom and outdoor safety guidelines, as outlined in Texas Education Agency-approved safety standards Handle organisms appropriately
SCI.2.2A Ask questions about organisms, objects, and events during observations and investigations.	Ask	QUESTIONS DURING OBSERVATIONS AND INVESTIGATIONS Including, but not limited to: <ul style="list-style-type: none"> Events
SCI.2.2B Plan and conduct descriptive investigations.	Plan Conduct	INVESTIGATIONS Including, but not limited to: Descriptive
SCI.2.2C Collect data from observations using scientific tools.	Collect	DATA FROM OBSERVATIONS USING SCIENTIFIC TOOLS Including, but not limited to: <ul style="list-style-type: none"> Use tools appropriately Possible examples may include:



TEKS / Student Expectations	Skills	Concepts
		<ul style="list-style-type: none"> ○ Thermometers
<p>SCI.2.2D Record and organize data using pictures, numbers, and words.</p>	<p>Record</p> <p>Organize</p>	<p>DATA</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> ● Pictures ● Graphs <ul style="list-style-type: none"> ○ Pictographs ○ Bar graphs ● Numbers ● Words
<p>SCI.2.2E Communicate observations and justify explanations using student-generated data from simple descriptive investigations.</p>	<p>Communicate</p> <p>Justify</p>	<p>OBSERVATIONS</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> ● Student-generated data from simple descriptive investigations <p>EXPLANATIONS</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> ● Making claims from observations ● Providing evidence from observations in order to support claims <p>Using reasoning to explain or justify the claims</p>
<p>SCI.2.2F Compare results of investigations with what students and scientists know about the world.</p>	<p>Compare</p>	<p>RESULTS OF INVESTIGATIONS</p> <p>Including but not limited to:</p> <p>What students and scientists know about the world</p>
<p>SCI.2.3A Identify and explain a problem and propose a task and solution for the problem.</p>	<p>Identify, Explain</p> <p>Propose</p>	<p>Identify, Explain</p> <p>A PROBLEM</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> ● Grade level appropriate problems <p>Propose</p> <p>A TASK AND SOLUTION FOR THE PROBLEM</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> ● Possible task <ul style="list-style-type: none"> ○ Observe and research the problem <p>Propose a solution</p>



TEKS / Student Expectations	Skills	Concepts
<p>SCI.2.3C Identify what a scientist is and explore what different scientists do.</p>	<p>Identify</p> <p>Explore</p>	<p>WHAT A SCIENTIST IS WHAT DIFFERENT SCIENTISTS DO Including, but not limited to:</p> <ul style="list-style-type: none"> • Specific disciplines scientists study (e.g., botany, zoology, geology, oceanography, meteorology, and ecology) • Scientists to consider exploring at this time: <ul style="list-style-type: none"> ○ John Muir (naturalist, conservationist) ○ Eugenie Clark (ecologist; oceanographer- sharks) ○ *Amelia Earhart (pilot) ○ *Robert Fulton (first commercially successful steamboat) <p>*Correlate with Social Studies TEKS 2.4B</p>
<p>SCI.2.4A Collect, record, and compare information using tools, including computers, hand lenses, rulers, plastic beakers, magnets, collecting nets, notebooks, and safety goggles or chemical splash goggles, as appropriate; timing devices; weather instruments such as thermometers, wind vanes, and rain gauges; and materials to support observations of habitats of organisms such as terrariums and aquariums.</p>	<p>Collect</p> <p>Record</p> <p>Compare</p>	<p>INFORMATION USING TOOLS Including, but not limited to:</p> <ul style="list-style-type: none"> • Computers • Hand lenses • Plastic beakers • Notebooks <p>Safety goggles or chemical splash goggles</p>
<p>Supporting SCI.2.9B Identify factors in the environment, including temperature and precipitation that affect growth and behavior such as migration, hibernation, and dormancy of living things.</p>	<p>Identify</p>	<p>Identify FACTORS IN THE ENVIRONMENT THAT AFFECT GROWTH AND BEHAVIOR OF LIVING THINGS Including, but not limited to:</p> <ul style="list-style-type: none"> • Factors affecting growth and behavior: <ul style="list-style-type: none"> ○ Temperature – a way of measuring how hot or cold something is; temperature is measured using either the Fahrenheit (°F) or Celsius (°C) scale <ul style="list-style-type: none"> • Effects of temperature change <ul style="list-style-type: none"> ○ Migration – to move from one place to another in search of food, water, or different temperatures ○ Hibernation – a deep sleep-like state of inactivity in animals in which body processes slow down



TEKS / Student Expectations	Skills	Concepts
		<ul style="list-style-type: none"> ○ Dormancy – a phase of minimal activity (e.g., trees in winter, frogs in winter) ○ Precipitation – water that falls to the Earth’s surface as rain, snow, sleet, hail, or fog <ul style="list-style-type: none"> ● Effects of quantity of precipitation ○ Migration <p>Dormancy</p>
<p>Readiness SCI.2.9C Compare the ways living organisms depend on each other and on their environments such as through food chains.</p>	<p>Compare</p>	<p>Compare WAYS LIVING ORGANISMS DEPEND ON EACH OTHER AND ON THEIR ENVIRONMENTS Including, but not limited to:</p> <ul style="list-style-type: none"> ● Food chain – a representation of the flow of energy from the Sun through producers to consumers in an environment ● Producer – an organism that makes its own food (e.g., plants) using energy (e.g., sunlight) and nutrients (e.g., water) from the environment <p>Consumer – an organism that eats other organisms (plants and / or animals) for food</p>

Tier I Instructional Strategies – Classroom Instruction for All Students

Misconceptions:

- Students may think that plants don’t grow in the winter, that plants hibernate like animals, and that nothing is alive in winter months, rather than understanding that although some plants are dormant during the winter many others thrive and grow.
- Students may think that all animals live on land, rather than understanding animals live in a variety of locations in their ecosystems.

There are some excellent interactive videos to go through with your students that are a part of your online textbook resources.

To access them simply follow the steps below:

- Log on to Judson ISD teacher portal
- Click on your HMH ThinkCentral SAML icon
- Under Resources, select TX Science Fusion and grade





- 2.9B
 - There are factors in the environment that affect growth and behavior of living things (This can viewed as changes to their basic needs)
 - Animal
 - Temperature- A change in temperature for an animal could change its need for shelter. If it is too hot an animal could over heat and not survive. If it is too cold an animal could freeze and not survive.
 - Precipitation- A change in precipitation for an animal could change its need for food. If there is not enough rain there could not be enough water to drink or insufficient food found in that area.
 - Migration- Animals are in search of the best way to meet their basic needs. Notable animal migrations, Monarch Butterflies of North American, Atlantic Salmon, Humpback whale, Wildebeest
 - Dormancy- The organism is waiting until their environment improves this could be a season or several years for some animals. Notable animal dormancy Ground Squirrel, Grizzly Bear , African Lungfish, Australian Desert Frog
 - Plant
 - Migration- plants can improve their basic needs by dispersing their seeds to increase the space and other resources. Notable plant migrations- Dandelions rely on wind, Sticker Burrs rely on animals to attach to and be planted elsewhere.
 - Dormancy- Plants also enter a phase of minimal activity until their environment improves. Notable plant dormancy, Deciduous trees losing leaves in winter, Rose of Jericho

- 2.9C
 - Organisms depend on each other. These are from the Science Fusion book Unit 9



The bird uses plants to build a nest.



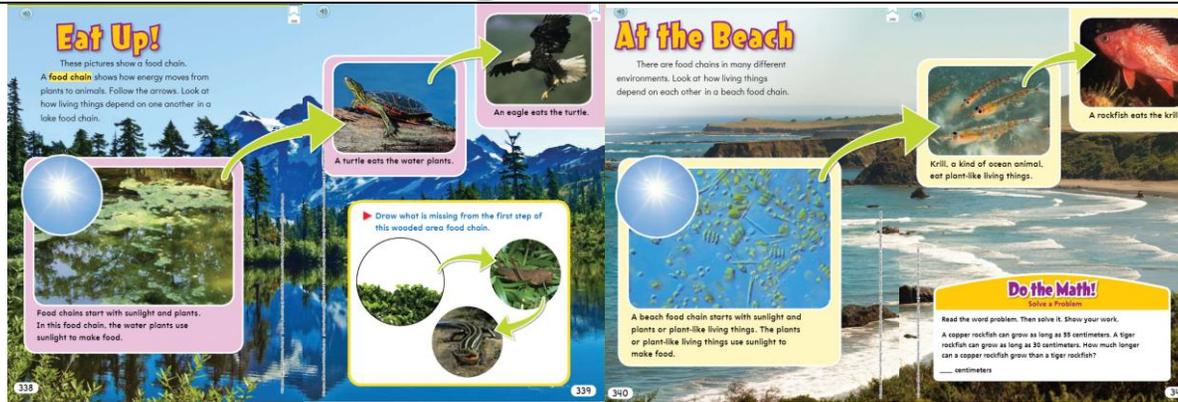
A beetle carries pollen on its body.



A panda eats bamboo.



The dog spreads seeds that are inside the burrs on its fur.



- Food chain tag game where students tag each other depending on the transfer of energy
- Create a paper food chain
- Food chain graphic organizer
- Rabbit/Coyote game played outdoors. Assign students to be either rabbits or coyotes. Section off a square area of your choice to play the game. Using cones set up boundaries that the students cannot cross. On one side will be the rabbit's home, and on the other side is the area with their food. Played similar to tag, the rabbits try to run across the grassy area to go get their food (plastic Easter eggs or another small object) on the other side of the grassy area. The coyotes chase the rabbits to catch them while they are out gathering food. Using 4 hula hoops as burrows (spread out over the grassy area) the rabbits can hide in the burrow for a short time to keep from being hunted by the coyotes. Once the rabbit is tagged he or she is no longer in play. The rabbits must bring their food back to the starting point in order to survive. After the game is over have ask probing questions regarding food chains.

Critical Writing Prompts

In what ways do plants and animals depend on each other?
What is a food chain?

Vocabulary

Behavior
Consumer
Dormancy
Environment

Food chain
Function
Hibernation
Migration
Producer

Structure

Sample STAAR or STAAR-Like Assessment Items

[Assessment Link](#)



Resources

*The suggested resources are one of many ways to address the TEKS student expectation.

[ThinkCentral](#)

[Lead4ward Instructional Strategies Playlist](#)

[Animal Migrations](#)

[Monarch Migrations- USDA Forest Service](#)

[Food Chain Graphic Organizer](#)

[Food Chain Powerpoint](#)

[Food Chain Tag](#)

[Paper Food Chain](#)