Revision Date	April 18, 2020

Department of Curriculum & Instruction

Second Grade Science

Unit	2-6 Investigating Basic needs of Plants and Animals
Time Frame	2/1-2/26
Big Ideas	1. Plants and animals have basic needs that must be met in order to survive. 2. Organisms respond to factors in their environment in order to meet their basic needs. 3. Plants and animals depend on each other in many ways.
Essential Questions	1. What are the basic needs of animals? 2. What are the basic needs of plants? 3. In what ways do factors in the environment affect the growth and behavior of organisms? 4. In what ways do organisms interact with each other and their environment to meet

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: • 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: • 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:

TEKS / Student Expectations	Skills	Concepts
		• Use tools appropriately • Possible examples may include: ○ Thermometers

SCI.2.2D
Record and organize data using pictures, numbers, and words.
	Record
	
	Organize
		DATA
		Including, but not limited to:
		• Pictures
		• Graphs
		  ○ Pictographs
		  ○ Bar graphs
		• Numbers
		• Words

SCI.2.2E Communicate observations and justify explanations using student-generated data from simple descriptive investigations.	Communicate Justify	OBSERVATIONS Including, but not limited to: • Student-generated data from simple descriptive investigations EXPLANATIONS Including, but not limited to: • Making claims from observations • Providing evidence from observations in order to support claims Using reasoning to explain or justify the claims
SCI.2.2F Compare results of investigations with what students and scientists know about the world.	Compare	RESULTS OF INVESTIGATIONS Including but not limited to: What students and scientists know about the world
SCI.2.3A Identify and explain a problem and propose a task and solution for the problem.	Identify, Explain Propose	Identify, Explain A PROBLEM Including, but not limited to: • Grade level appropriate problems Propose A TASK AND SOLUTION FOR THE PROBLEM Including, but not limited to: • Possible task

TEKS / Student Expectations	Skills	Concepts
		○ Observe and research the problem Propose a solution
SCI.2.3C Identify what a scientist is and explore what different scientists do.	Identify Explore	WHAT A SCIENTIST IS WHAT DIFFERENT SCIENTISTS DO Including, but not limited to: • Specific disciplines scientists study (e.g., botany, zoology, geology, oceanography, meteorology, and ecology) • Scientists to consider exploring at this time: ○ John Muir (naturalist, conservationist) ○ Eugenie Clark (ecologist; oceanographer- sharks) ○ *Amelia Earhart (pilot) ○ *Robert Fulton (first commercially successful steamboat) *Correlate with Social Studies TEKS 2.4B
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~~.	Collect Record Compare	INFORMATION USING TOOLS Including, but not limited to: • Computers • Hand lenses • Plastic beakers • Notebooks Safety goggles or chemical splash goggles
Supporting **SCI.2.9A** Identify the basic needs of plants and animals.	Identify	Identify BASIC NEEDS Including, but not limited to: • Plants - ○ Water ○ Light ○ Air ○ Space ○ Nutrients • Animals ○ Water

TEKS / Student Expectations	Skills	Concepts
		○ Food ○ Shelter Air

Tier I Instructional Strategies – Classroom Instruction for All Students

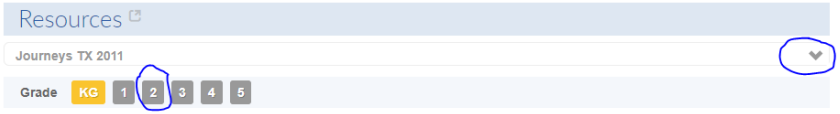
Misconceptions:

- Students may think that plants get their energy from the soil through roots and that leaves take in water, rather than understanding plants get their energy from the Sun.
- 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:

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



- 2.9A Basic needs of organisms
  - Animals
    - Water
    - Air
    - Food
    - Shelter
  - Plants
    - Water
    - Air
    - Nutrients
    - Space
    - Light
- It is helpful to point out the similarities and differences between animals and plants.
- Be sure to highlight what will happen if an organism is missing one or more of its basic needs. It will become the essential motivator for explaining 2.9BC & 2.10ABC

❖ What makes a happy plant? Experiment
- Taking seeds and having variables to their basic needs
  - Label each pot/cup/bag containing the seed/plants
  - Water/No water
  - Air/ No air (in a ziplock)
  - Nutrients / no nutrients (no soil seeds still might sprout since the seed contains enough to nutrients to sprout but not flourish)
  - Space/ Less space (too many seeds together)
  - Light/ Less light (taping into the inside of a cabinet or inside a box or bag, seeds might still sprout but not flourish and also note difference in color and size)
- Observing, measuring, and recording routinely great
- Region 20 Living Science may provide useful resoures and materials

Critical Writing Prompts

Which basic needs do you share with plants?

If one basic need was not met for an organism, what might happen?

How would you design a habitat that meets all the basic needs of a bird?

Vocabulary

Basic needs	Environment	Migration
Behavior	Food chain	Organisms
Consumer	Growth	Precipitation
Dormancy	Hibernation	Producer
	Interdependence	Temperature

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

National Park Service- What makes a happy plant? Experiment.