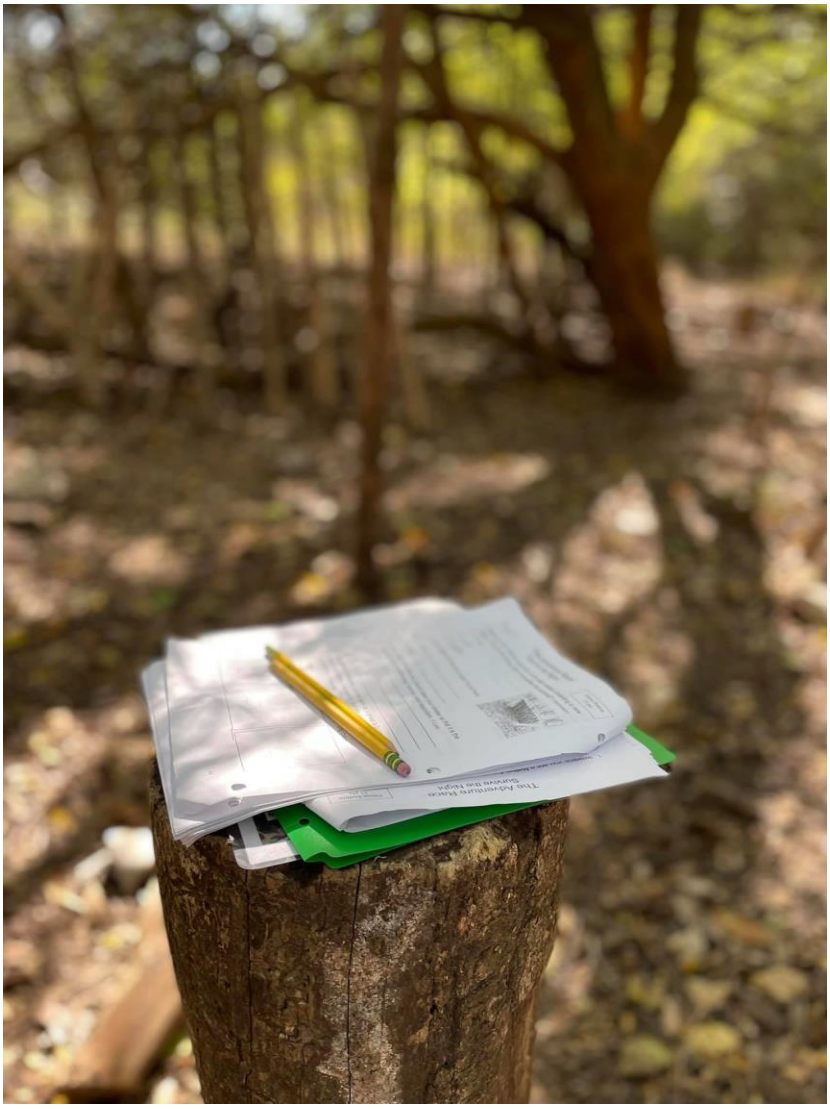
5th Grade Outdoor School Field Guide 2023 - 2024



NAME_____

SCHOOL_____

Table of Contents

Adventure BINGO

Challenge your classmates to a game of Adventure Bingo. Before you can fill in a box, you must observe that item in some way while you are at camp. List, draw, or describe what you see. Be the first to get 5 in a row (left to right, up and down, or diagonal) or all 4 corners, but the real challenge is to get them all ("Black Out"). Good luck and happy hunting! (Hint: your instructor will point many of these out during class.)

An insect's home	Produces oxygen	A pollinator	Tonight's moon phase	Evidence of erosion
An edible or medicinal plant	An aquatic animal	A seed	A renewable resource	Poison ivy
State Tree of Texas	Beginning of the flow of energy	Today's Weather	Evidence of wildlife	Layered Rock Found Here
Evidence of Life Cycle	A constellation	A decomposer	Evidence of a food chain	A coniferous tree
An animal track	Example of an adaptation	A stinging insect	Evidence of past living organism	Evidence of man's impact on the environment

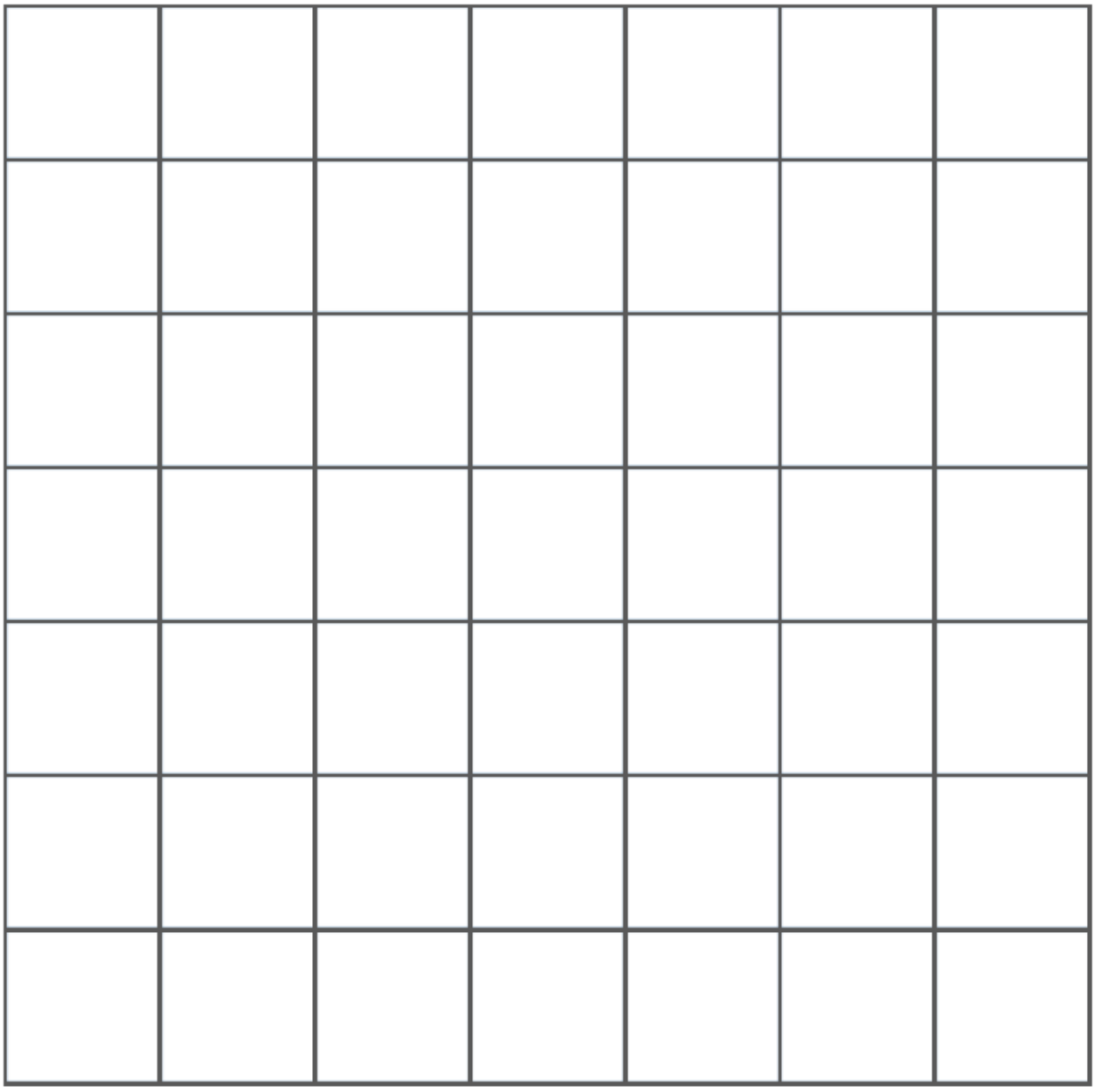
Forest Adventure

Learning Targets:

- I can describe how inherited traits, structures, and functions help organisms survive in their environment.
- I can explore an ecosystem and describe how living things interact and live within their environment.
- I can describe the flow of energy in a food web.

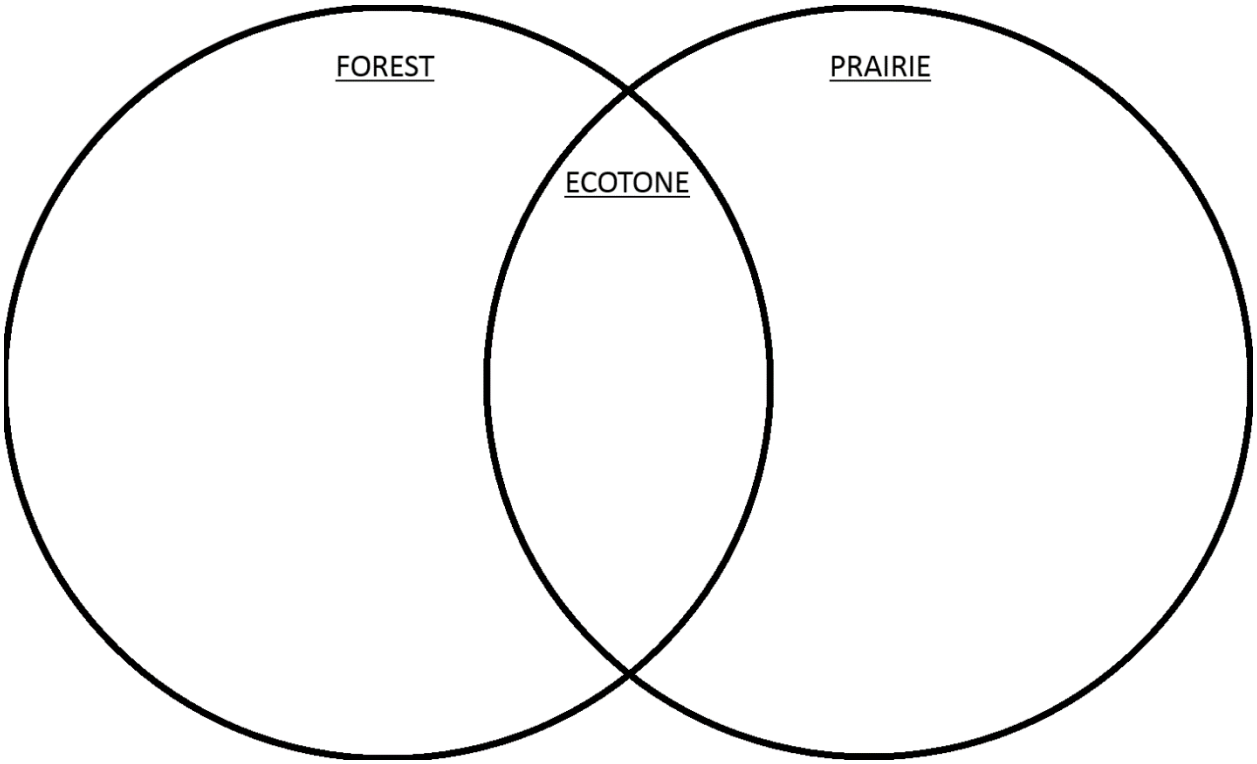
Forest Adventure
Sketch the Geography of the Land

You will need to gather basic information on the land in this class. Begin by recording the physical characteristics of the area based on what you can see. Use symbols to note things like hills, trees, grass, water, clouds, etc. Be sure to record the symbols in a legend. Also note your directions using a compass rose including cardinal directions.



Forest Adventure
Inherited Traits & Biodiversity

1. Identify and list examples of inherited traits of plants.
    a. _____
    b. _____
2. Identify and list examples of structures and functions that help an organism survive.
    a. _____
    b. _____
3. Using the Venn diagram list some plants and other living things you would find in a **Forest**, a **Prairie**, and in the **Ecotone** (an area where two ecosystems come together and overlap).



4. How is biodiversity good for an ecosystem?

Forest Adventure
Leaf Rubbing

1. My leaf is from a _____ tree.

Flow of Energy

Draw a food chain to represent the flow of energy from your producer. Include and label: producers, consumers, decomposers, herbivores, carnivores, and omnivores. The flow of energy begins with the _____, so include it too.

Forest Adventure
Sensory Map

Make observations using your senses.
What did you observe, and where would it be on this map? Be sure to include a map legend, and a compass rose with cardinal directions.

Shelter

- If you were an animal living in this forest, how could these senses help you survive?

Forest Adventure
Human Impact on the Environment

Discuss with a partner several ways that people impact the environment. If the impact is negative, come up with a positive solution or alternative.
Journal your thoughts here:

Can you think of things that have a positive impact on humans but a negative impact on another species? Explain:

The Adventure Race

Learning Targets:

- I can explore the layers of soil and how the composition of soil affects an ecosystem.
- I can identify structures of animals and determine their function.
- I can identify the flow of energy in a food web.
- I can use the design process to make a model shelter.

The Adventure Race
Scrambled Webs

Red Station

Sketch your web below. Be sure to label your producers, consumers, decomposers as well as herbivores, carnivores, and omnivores.

The Adventure Race

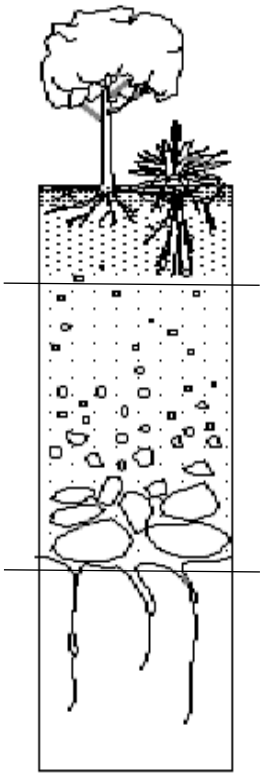
*Have the instructor check your work and initial here: _____

The Adventure Race

Yellow Station

Subsoil Rocks!

Looking at the sides of the ditch, locate each layer of soil, then describe its composition on the chart (color, texture, ability to retain water, ability to support plant growth).



1. How do you think these layers of sedimentary rock formed?

2. What natural processes may have formed this ditch?

3. Look around for a fossil. What living organism was this fossil?

4. Describe this environment when your organism was alive.

5. Sketch or make a rubbing of your fossil:

Have the instructor check your work and initial here: _____

The Adventure Race
Animal Observations

Blue Station

Visit the animals and other organisms in and around this station. As a group choose an organism to observe and interview. Brainstorm some questions that will help you determine how your organism survives. Select 3 questions and list them here. Observe your organism for several minutes and answer the questions.

Question 1: _____

Answer: _____

Question 2: _____

Answer: _____

Question 3: _____

Answer: _____

Draw a picture of your organism and label 2 **structures** that help the organism survive. Describe the **function** of each structure.

Have the instructor check your work and initial here: _____

The Adventure Race
Survival S.T.E.M.

Green Station

The Goal: Design a shelter to help you and your team survive a night in the woods.

Ask: What materials do you have to complete this task?

Imagine/Brainstorm: Work with your team to discuss and develop a plan for your shelter. 5-10mins

Plan: Draw your team's plan for the shelter in the box below. Once approved you can move to the next step and make a model of your design.

Create: It's important to communicate with your team when constructing your model. We want to make sure that all team members are being safe while you are building.

Improve: Was your design a success? What would you do differently if you had the chance to build another shelter or redesign the current one?

_____
_____
_____
_____
_____

Have the instructor check your work and initial here: _____

The Adventure Race
Bonus Challenges

1. Weather: The condition of the atmosphere at a place for a short period of time, such as a few days.

A. Describe the weather conditions that are currently happening at camp:

B. Based on the current weather conditions, predict what the weather may look like in an hour:

C. Illustrate and describe the clouds that are in the sky right now:

2. Climate: The general weather of an area over a long period of time, such as many years. The earth has 3 basic climates: Polar climate (cold and dry), Tropical climate (warm and can be wet or dry), or Temperate climate (has temperatures that change with the seasons).

Which climate do you think we have here at CCAC?

The Adventure Race

Bonus Challenges

What are the four types of precipitation?
A.

B.

C.

D.

Draw a model of our solar system and label it:

Pick up litter along the way or around the stations: _____ Pieces of Trash

Have the instructor check your work and initial here: _____

Lindberg Lake Adventure

Learning Targets:

- I can gather and interpret data to determine the health of the lake.
- I can explore how a watershed impacts its environment.
- I can communicate the effects of weathering, erosion, and deposition.

Lindberg Lake Adventure
Answering the Question:

"What is the quality of the Lindberg Lake Ecosystem?"

Research

Describe or illustrate the following and discuss how these factors may affect the lake ecosystem.

1. Watershed:

2. Weathering:

3. Erosion:

4. Deposition:

5. Weather:

6. Human impact:

Additional notes:

Lindberg Lake Adventure
Hypothesis and Experiment

My hypothesis:
"The Lindberg Lake Ecosystem is _____."

Observations that influence my hypothesis include:

Additional factors:

Describe today's weather -

Describe the water color -

Describe the odor of the water -

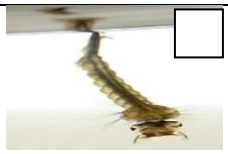
Air Temperature - _____

Water Temperature - _____

Turbidity (water clarity) - _____

Lindberg Lake Adventure
Macro Mania Data Sheet

CATEGORY 1: These organisms are **pollution tolerant**. If you find these organisms in a fresh water ecosystem it could mean **poor/low water quality**.


Mosquito Larva


Water Strider

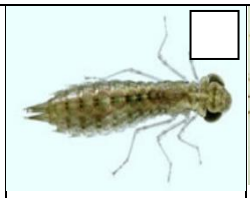

Water Mite


Midge Larva

Others: Giant water bug, aquatic worm, lunged snail, blackfly larva

CATEGORY 2: These organisms are **moderately pollution intolerant**. If you find these organisms in a fresh water ecosystem it could indicate **medium/moderate water quality**.


Whirligig Beetle


Dragonfly Nymph


Damselfly Nymph


Creeping Water Bug


Predaceous Diving Beetle


Water Boatmen


Orb Snail


Horsefly Larvae

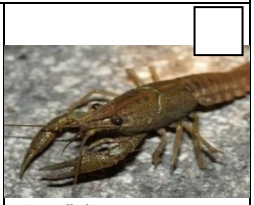
Others: Scud, riffle beetle larva, aquatic caterpillar

CATEGORY 3: These organisms are **pollution intolerant**. If you find these organisms in a fresh water ecosystem it signifies **high/excellent water quality**.


Caddisfly Larva


Water Scorpion


Fishing Spider


Crayfish


Southern Leopard Frog


Minnows


Water Penny


Dobsonfly Larva

Others: Mayfly nymph, freshwater shrimp, tadpoles, stonefly nymph, crane fly

Lindberg Lake Adventure
Analysis and Conclusion

Design a frequency table to show the number of different organisms your group found in the following categories: Category 1: Pollution Tolerant, Category 2: Moderately Pollution Intolerant, Category 3: Pollution Intolerant. **Use your table to create a graph that reflects your data**.

Results:
Based on the observations and findings of your group, is this ecosystem healthy or unhealthy? Write a conclusion to either accept or reject your original hypothesis from page 20.

What factors might change the outcome of your experiment? List and describe at least 2 possible factors and how they could affect the outcome.

Adventure Challenge

Learning Targets:

- I can communicate and use teamwork to accomplish a goal.
- I can exhibit the characteristics of a good leader.
- I can demonstrate how to safely shoot a bow and arrow.

Adventure Challenge
Reflections Journal

Think about the activities you participated in. What did you notice about yourself? What did you wonder? What did the activities remind you of?

Archery in Action

Draw a diagram of the safest way to shoot a bow and arrow. Bonus: Label the forces and types of energy in your diagram.

Night Time Adventure

- Students will go on a guided hike to observe the environment around camp at night.
- Students will solve a series of crimes against nature.

Night Adventures
NSI- Nature Scene Investigation

Carefully study the crime scene. Based on what you observe write a scientific argument that answers the question: What role did humans play in this animal's death?

1. Type of animal: _____

A) Sketch and label the crime scene:

B) Claim: Write a sentence describing the role humans played in this animal's death.

C) Evidence: Provide scientific data to support your claim.

D) Reasoning: Explain why your evidence supports your claim.

2. Type of animal: _____

A) Sketch and label the crime scene:

B) Claim: Write a sentence describing the role humans played in this animal's death.

C) Evidence: Provide scientific data to support your claim.

D) Reasoning: Explain why your evidence supports your claim.

Night Adventures
NSI- Nature Scene Investigation

Carefully study the crime scene. Based on what you observe write a scientific argument that answers the question: What role did humans play in this animal's death?

3. Type of animal: _____

A) Sketch and label the crime scene:

B) Claim: Write a sentence describing the role humans played in this animal's death.

C) Evidence: Provide scientific data to support your claim.

D) Reasoning: Explain why your evidence supports your claim.

4. Type of animal: _____

A) Sketch and label the crime scene:

B) Claim: Write a sentence describing the role humans played in this animal's death.

C) Evidence: Provide scientific data to support your claim.

D) Reasoning: Explain why your evidence supports your claim.

Night Adventures
NSI- Nature Scene Investigation

Carefully study the crime scene. Based on what you observe write a scientific argument that answers the question: What role did humans play in this animal's death?

5. Type of animal: _____

A) Sketch and label the crime scene:

B) Claim: Write a sentence describing the role humans played in this animal's death.

C) Evidence: Provide scientific data to support your claim.

D) Reasoning: Explain why your evidence supports your claim.

6. Type of animal: _____

A) Sketch and label the crime scene:

B) Claim: Write a sentence describing the role humans played in this animal's death.

C) Evidence: Provide scientific data to support your claim.

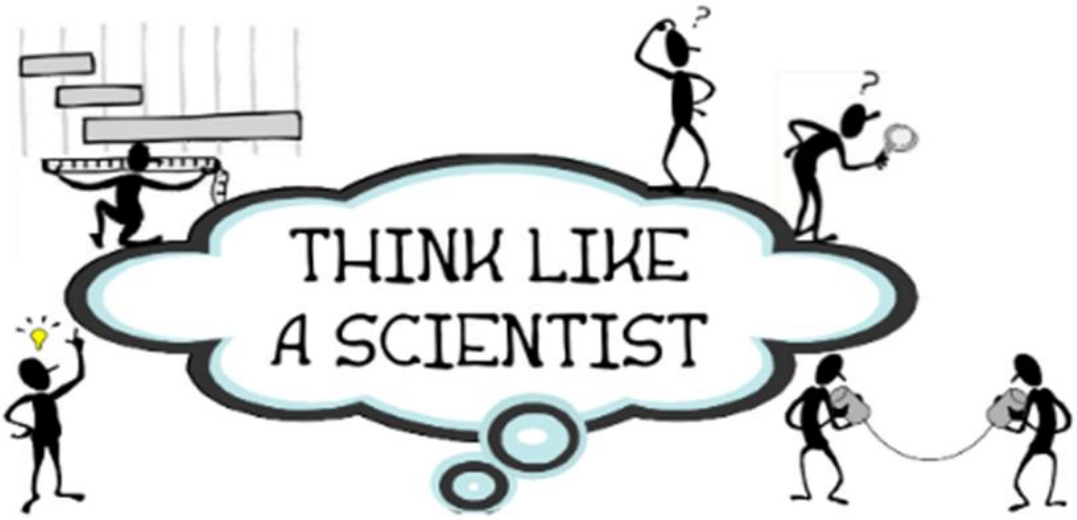
D) Reasoning: Explain why your evidence supports your claim.

Notes

Glossary / Vocabulary

Adaptation	Structure or behaviors that help an organism survive in its surroundings.
Biodiversity	The variety of different species living in an area.
Carnivore	Animal that gets its energy from eating meat.
****Climate**	The general weather of an area over a long period of time.
Consumer	Organisms that need to eat food in order to obtain energy.
Deciduous	Trees that allow their leaves to die in the Fall and grow new leaves in the Spring. For example: Texas Red Oak
Decomposition	Disintegration of organisms or other substances into simpler forms of matter; can happen by the action of fungi or bacteria.
Deposition	The process by which weathered and eroded material is dropped at a new location
Ecosystem	All the living and nonliving things that interact with each other in an environment.
Ecotone	An area where two ecosystems come together and overlap.
Erosion	The movement of weathered materials by water, wind, or ice.
Evergreen	A type of coniferous tree. Evergreens stay green all year long.
****Fossil fuels**	Fuels formed over millions of years from the remains of ancient plants and animals; EX: coal petroleum (oil), and natural gas
Food Web	Overlapping food chains with different pathways for the flow of food energy in an ecosystem.
Function	The "job" that a body part does in an organism.
Herbivore	Animal that gets its energy from eating plants.
Human Impact	The actions and behaviors of humans that affect the environment.
Inherited Trait	Characteristics passed from parents to offspring through DNA.
Invasive Species	Non-native to the ecosystem, likely to cause environmental harm.
Learned Behavior	A behavior that an animal develops by observing other animals or by being taught.
Omnivore	Animal that eat both plants and meats.
Nonrenewable resources	Resource that nature cannot replace quickly enough to meet people's needs.
Phloem	The tubular structure in plants that carry food for the plant's use.
Producer	Organism that produces its own energy from the sun.
Renewable Resource	Resources that nature can produce over and over in a person's lifetime.
****Sedimentary Rock**	Rock that formed when sediments were pressed and cemented together.
Structure	A body part that does a certain "job" for an organism.
Transpiration	The passage of water through a plant from the roots to the atmosphere.
Watershed	An area of land that feeds all the water running off of it and under it into a body of water.
Weather	The condition of the atmosphere at a place for a short period of time.
Weathering	Process by which exposed rock and other surfaces are broken down; may be caused by elements of weather (water, ice, wind) or other mechanisms (fire, chemicals)

****** Critical Vocabulary first introduced in 5th grade



Predict Hypothesize

COMMUNICATE

Interpret OBSERVE

Question

PLAN & INVESTIGATE

WISH YOU COULD COME BACK TO CAMP?

YOU CAN!

SUMMER CAMP 2024

DAY CAMP
OVERNIGHT CAMP

www.collincountyadventurecamp.org