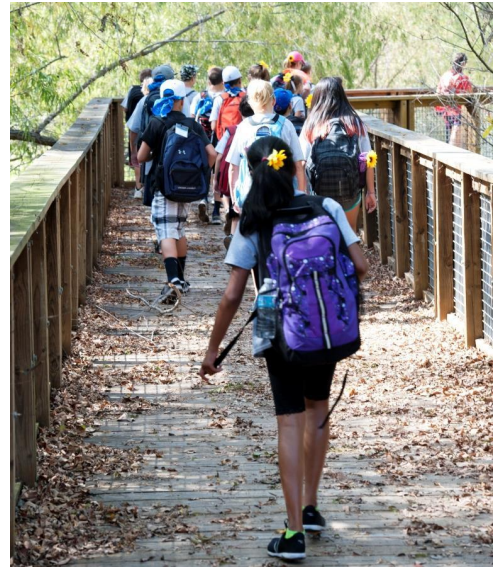


5TH GRADE OUTDOOR SCHOOL FIELD GUIDE 2018-19



NAME _____

SCHOOL _____

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Forest Adventure 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

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 how plants and animals go through orderly changes in their life cycle.
- 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. _____

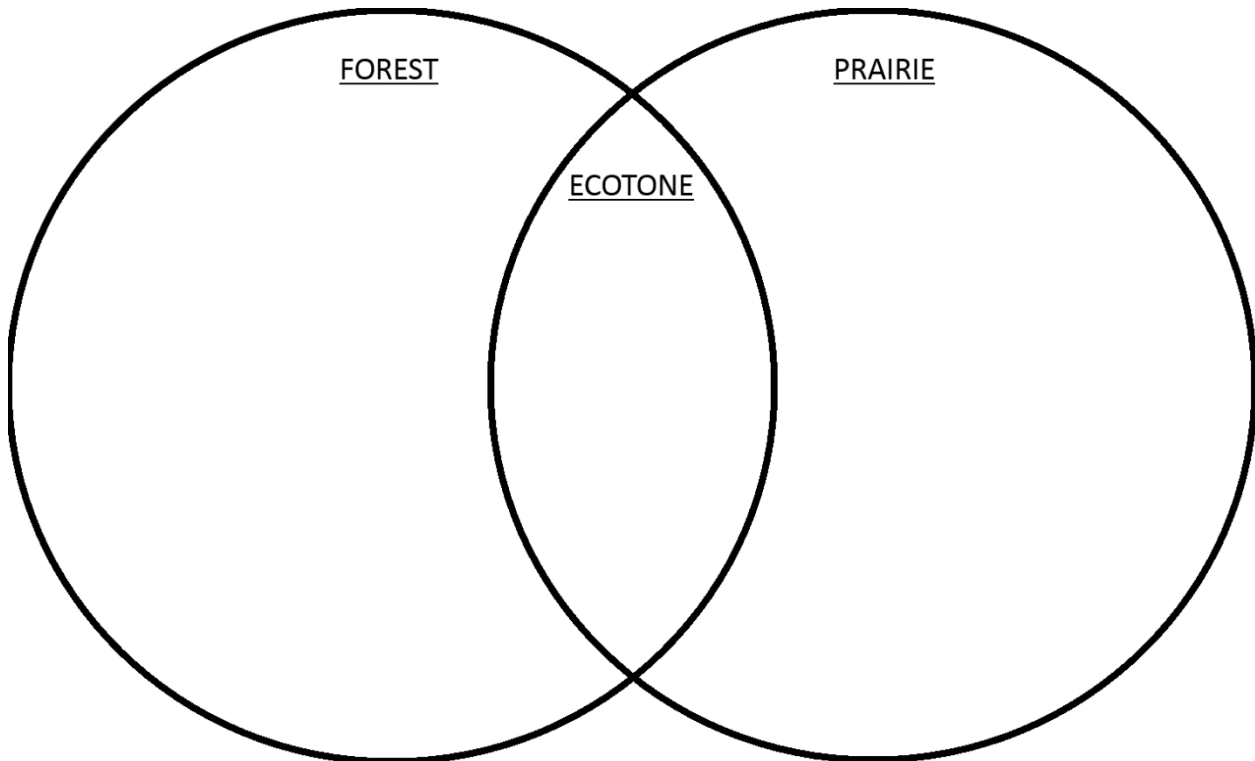
b. _____

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 web 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

Man and 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:

Forest Adventure Reflections Journal

In the space provided, journal about your experiences from today:

What did I notice?

What did I wonder?

What did I take away?

The Adventure Race

THE ADVENTURE RACE



Learning Targets:



- I can explore the layers of soil and how the composition of soil affects an ecosystem.
- I investigate the differences between renewable and non-renewable resources.
- I can use evidence and deductive reasoning to solve a crime against nature.

The Adventure Race

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?

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.

Have the instructor check your work and initial here: _____

The Adventure Race

Re-thinking Our Resources

Most great inventors were simply trying to find a better, more effective way to get things done. _____ invented the cotton gin to quickly separate cotton fibers from the seeds. _____ invented the steel plow to easily cultivate the ground for planting crops. We have some problems that we need to fix. Help us find better ways to use our resources.

The following problems have natural solutions and can utilize renewable resources. Find examples of how we are currently using our natural resources to solve these problems. Offer additional solutions as well.

Problem 1:

Solutions:

We are using too much fossil fuel for electricity:

*

Problem 2:

It takes a lot of water to care for our animals and plants:

*

Problem 3:

Chemical fertilizer is getting into our water systems:

*

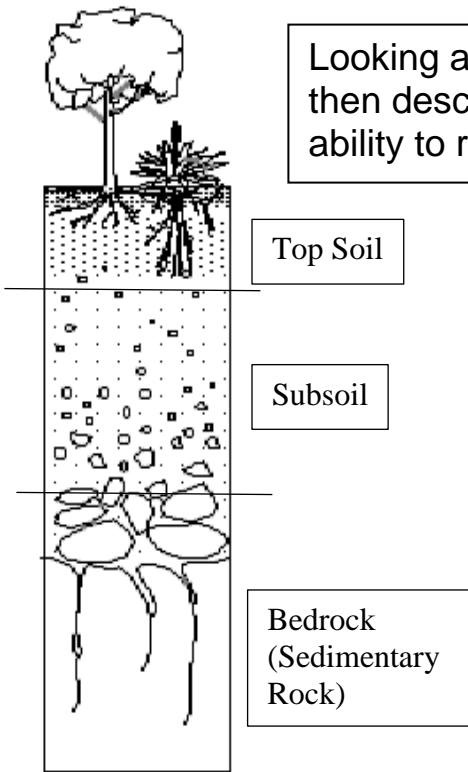
Now, we need you to invent a filtration system to help keep the water in the turtle pond clean and clear. Illustrate, label, and describe your design:

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

The Adventure Race

Subsoil Rocks!

Yellow Station



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).

Top Soil

Subsoil

Bedrock
(Sedimentary
Rock)

1. How do you think the layers of sedimentary rock found here 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

Survive the Night



1. Imagine you are a Native American or an early settler inhabiting a new location. What are the three basic necessities for survival?
 - a.
 - b.
 - c.

2. List one source of food and water found here:

a. Food: _____

b. Water: _____

3. Make a claim of where you should place your shelter so that it is the least affected by weathering, erosion, and deposition.

Using natural resources, you will work as a group to build three shelters: one teepee, one lean-to, and one cabin structure. Draw your three shelters.

Lean-to

Teepee

Log Cabin

--	--	--

Have the instructor check your shelters 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.

(Bonus time of minus 6 minutes for this page)

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? (Bonus time of minus 1 minute)

A.

B.

C.

D.

Draw a model of our solar system and label it: (Bonus time of minus 3 minutes)

Pick up litter along the way or around the stations: (Bonus time of minus 1 minute for every 10 pieces)

Have the instructor check your work and initial here: _____

The Adventure Race Reflections

What were 3 things your group did which helped you be successful?

What were 2 things your group did that slowed your decision making down?

What is the one main thing you learned from this activity that can help you work with a group in the future?

Lindberg Lake Adventure

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 -

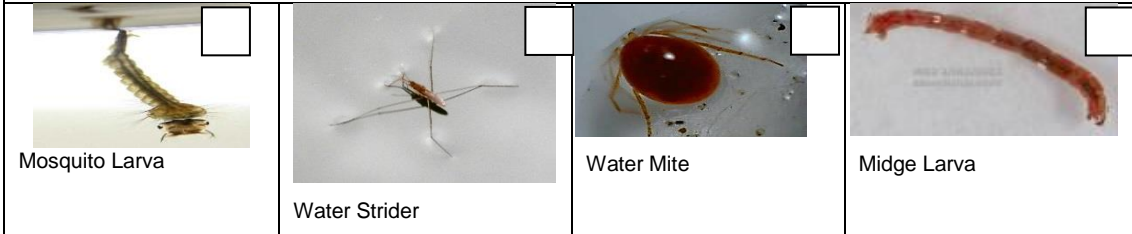
Air Temperature - _____

Water Temperature - _____

Turbidity (water clarity) - _____

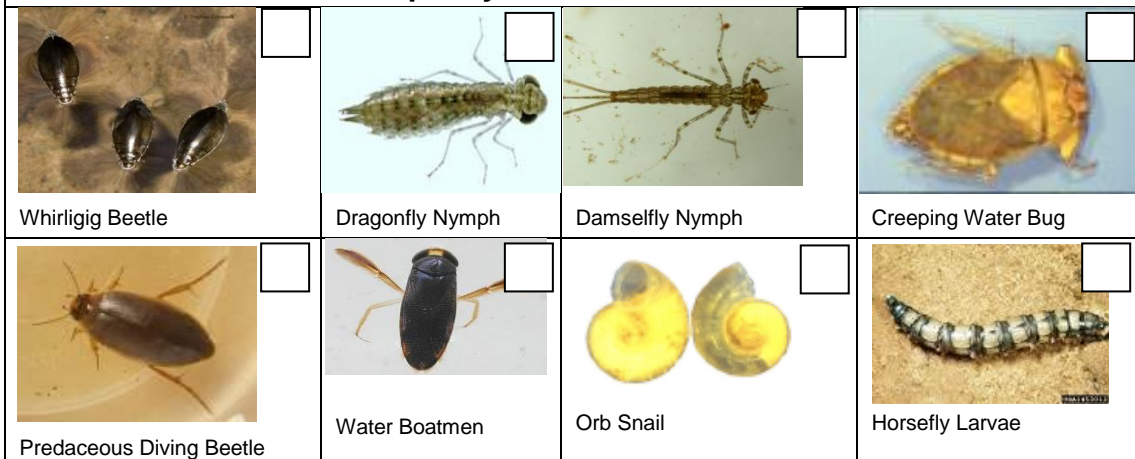
Lindberg Lake Adventure Macro Mania Data Sheet

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



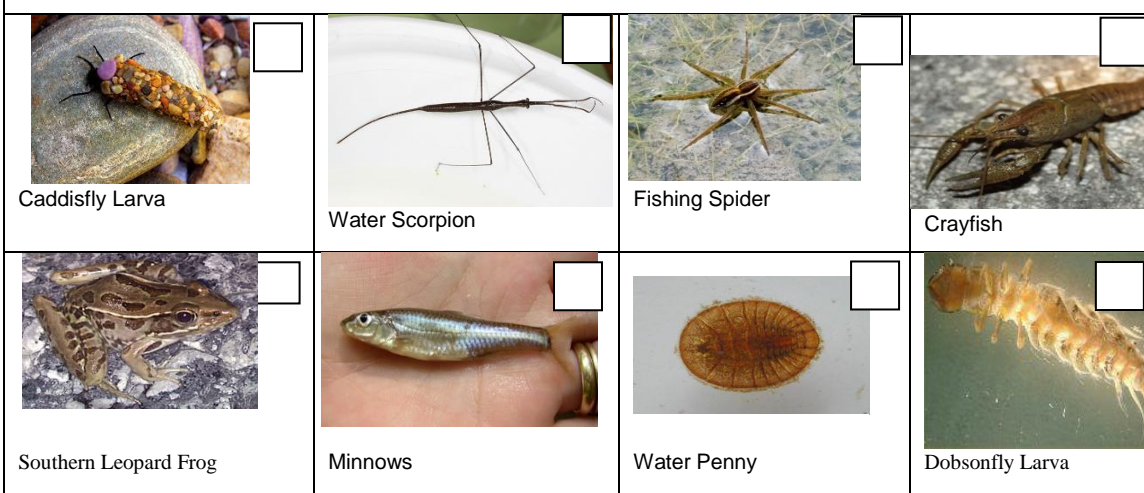
Others: Giant water bug, aquatic worm, lunged snail, blackfly larva

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**.



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**.



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? Explain your answer:

Write a conclusion to either accept or reject your original hypothesis (pg 20)

Lindberg Lake Adventure Reflections Journal

In the space provided journal about your experiences from today:

What did I notice?

What did I wonder?

What did I take away?

Adventure Challenge

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.

Additional Resources Vocabulary

Adaptation	Structure or behaviors that help an organism survive in its surroundings.
Biodiversity	The variety of different species living in an area.
**Climate	The general weather of an area over a long period of time.
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.
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.
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.
**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.
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**

Additional Resources

LEAVE

BLANK

Back of
Blackland Prairie Race:
Time Sheet

Additional Resources

Blackland Prairie Adventure Race – TIME SHEET

Procedures for the Class

- Divide into teams consisting of your chaperone and the students that he/she is responsible for supervising (family group).
- Start at the red station. Everyone will have the same start time. Once you complete the activities you will receive an end time and a map directing the navigator to the next station.
- You will be timed. The time starts once you begin the activities at a station and stops once the activities are completed. The instructor will give you your times. You will add the time at all 4 stations to get your total time.
- All 4 stations must be complete to win. Answering the bonus questions will help.
- You are NOT timed for travel. You can acquire bonus time and penalty time.

Team Name _____ End of Class BACK AT RED: _____

Time Keeper _____ (Complete this page, tear it out, and turn in to Y staff @ red station)

Navigator _____ (AFTER red station get map; lead group to other stations)

Red Station Leader _____ (Red pages checked by instructor)

Yellow Station Leader _____ (Yellow pages checked by instructor)

Blue Station Leader _____ (Blue pages checked by instructor)

Green Station Leader _____ (green pages checked by instructor)

<u>TIME</u>	<u>Start</u>	<u>Finish</u>	<u>Total</u>
Red Station	_____	_____	_____
Yellow Station	_____	_____	_____
Blue Station	_____	_____	_____
Green Station	_____	_____	_____

Sub Total _____

Bonus Time: __:__ + __:__ + __:__ + __:__ + __:__ + __:__ = minus _____

Penalty Time: __:__ + __:__ + __:__ + __:__ + __:__ + __:__ = plus _____

Total Time -----