



**Jupiter Inlet Lighthouse
Outstanding Natural Area (ONA)**
*Palm Beach County School District
Field Research Ranger Program*



Grades 3-5

This activity is to be completed with a partner (a collaborative effort). Working with others in a “collaboration” has the following benefits: it is safer, more fun, provides more input and helps in answering questions. In this activity, you and your partner (friend, parent or other adult) will make observations on the ONA, record those observations (data) and analyze or interpret that data to answer questions about the ONA environment and its living and non-living parts.

DO NOT TOUCH ANYTHING, THERE ARE POISONOUS AND THORNY PLANTS ON THE ONA.

Make your observations (collect data) on the South Side Loop Trail.

The “**South Side Loop Trail**” is a one-mile mulched loop trail with an elevation change of about 30 feet. The trail head is located on the south side of State Road 707 at the following coordinates: 26° 57' 07.22" N, 80° 04' 55.04" W. (see map below)



Activity Instructions:

With your partner, answer the items below then take a walk with your partner or partners to make your observations (collect data) and complete the data sheet as you walk. **Remember to stay on the trail and be careful, some plants are poisonous.**

You will need to stop in Jupiter Inlet Lighthouse and Museum after you complete this activity to get your “Field Research Ranger Passport” stamped.

Let’s get started:

Use the word bank to answer the questions below before you start your walk.

Habitat Photosynthesis species population community
pollution endangered species decomposer extinct ecosystem

_____ is the process when green plants turn sunlight into energy.

A group of closely related and very similar organisms is called a _____.

A _____ is a group of one species living in the same place.

A system that includes all living organisms and non-living factors **functioning together as a unit** is called an _____.

A _____ is a group of different species living together in a specified habitat.

Anything in the environment that is harmful or poisonous is called _____.

If a species no longer exists it is _____.

If a species is in danger of becoming extinct it is listed as an _____.

Organisms like fungi and bacteria that break down dead matter are called _____.

The natural home of a plant, animal or other organism is it’s _____.

Discuss your answers with your partner so everyone understands these words.

Now go to the trail and make your observations.

Don’t forget your “Observation Data Sheet”.

GRADES 3-5 Observation Data Sheet

Name: _____ Date: _____

Time of Observation	Location of Observation
Start time _____ End time _____	_____

Weather Observations (see on-site weather station)

Wind speed _____ mph Wind Direction _____ Temperature _____ Rain fall _____

Weather conditions above were (check one): measured _____ estimated _____ or reported _____

Locate the 9 informational trail signs on the South Loop Trail and use the information to fill in your observation sheet. In column 1, identify the organism featured on the sign and **write the name in column 1** also **check if you observed the organism or not**. In column 2, use the word bank to **identify the main characteristics** of each organism featured on the sign and **write the letter in the boxes**. In column 3, **list any adaptations** you think the organism has, to help it live in this environment. (The last box is for your choice of organism)

WORD BANK of Characteristics for use in column 2.				A-Producer	B-Consumer
C-Plant	D-Leaves	E-Stem	F-Roots	G-Cone	H-Flower
I-Animal	J-Vertebrate	K-Invertebrate	L-Herbivore	M-Carnivore	N-Omnivore

1-ID Organism	2 Characteristics	3 Adaptations
1st sign		
Observed:		
YES _____		
NO _____		
2nd sign		
Observed:		
YES _____		
NO _____		
3rd sign		
Observed:		
YES _____		
NO _____		
4th sign		
Observed:		
YES _____		
NO _____		
5th sign		
Observed:		
YES _____		
NO _____		

1-ID Organism	2 Characteristics	3 Adaptations
6th sign		
Observed:		
YES _____		
NO _____		
7th sign		
Observed:		
YES _____		
NO _____		
8th sign		
Observed:		
YES _____		
NO _____		
9th sign		
Observed:		
YES _____		
NO _____		
Your Choice		
Observed:		
YES _____		
NO _____		

Based on your observations, make an **inference** (an answer based on what you see and already know) on the following questions:

1. What were some things you observed that might make it harder for things to live in this area?

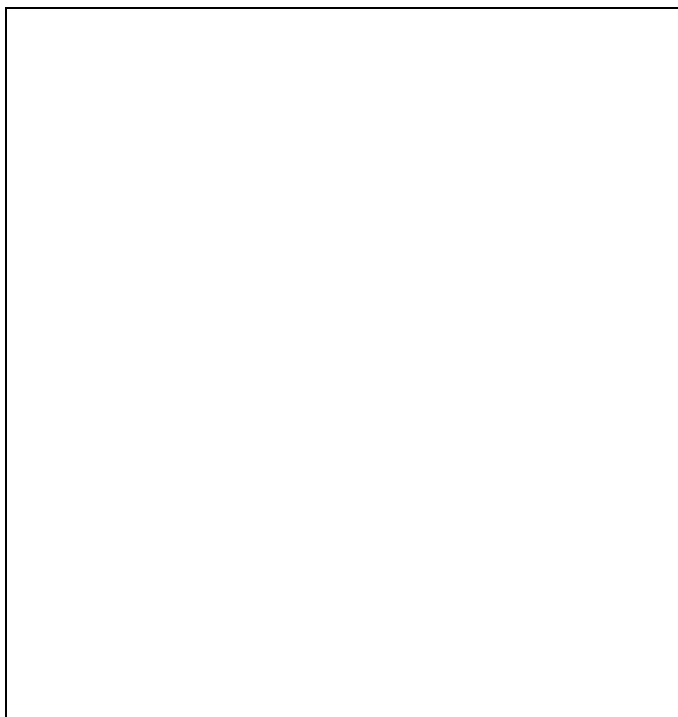
2. What kinds of things did you observe that were caused by humans and could be a problem for plants or animals?

3. You observed **producers** and **consumers**, there is a third type of organism that was not shown on the signs but was present on the trail, and these organisms break down dead matter, what are they called?

Hint: (examples include Fungi and Bacteria)

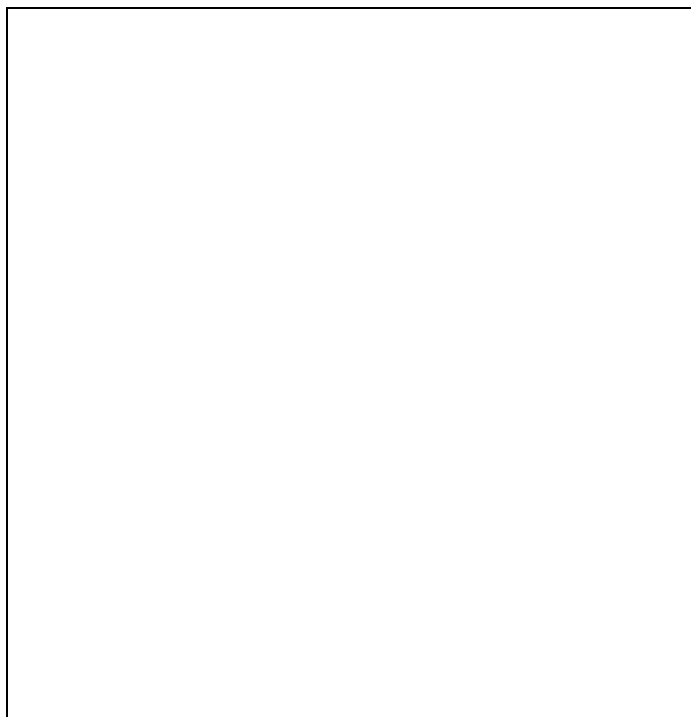
Describe or draw a simple food chain and food web, remember to place the object that provides energy to the producers for photosynthesis, in the upper left corner of each box:

Food Chain



(one thing eats something then is eaten by something else)

Food Web



(one thing may eat several things and by eaten by others)

ONA website:

<https://www.blm.gov/programs/national-conservation-lands/eastern-states/jupiter-inlet-lighthouse>

ONA Phone Number: 561-295-5953

ANSWERS:

Use the word bank to answer the questions below before you start your walk.

**Habitat Photosynthesis species population community
pollution endangered species decomposer extinct ecosystem**

Photosynthesis is the process when green plants turn **sunlight into energy**.

A group of **closely related** and **very similar** organisms is called a species.

A population is a group of **one species** living in the same place.

A system that includes **all living** organisms **and non-living** factors **functioning together as a unit** is called an ecosystem.

A community is a group of **different** species living together in a specified habitat.

Anything in the environment that is **harmful or poisonous** can be called pollution.

If a species no longer exists it is extinct.

If a species is in danger of becoming extinct it is listed as an endangered species.

Organisms, like fungi and bacteria, that break down dead matter are called decomposers.

The **natural home** of a plant, animal or other organism is its habitat.

OBSERVATION DATA SHEET:

The observations and follow-up answers will vary depending on what is seen on the trail at the time of the observation. For the weather observations, the information may be measured if you have the equipment, it can be estimated (just a guess) or the information can be taken from a weather report or the on-site weather station. Place a check mark on the line indicating which of the three ways the weather data was observed.

BE CAREFUL NOT TO TOUCH, some plants near the trail are poisonous.

The order of which the signs are observed and other things being observed on the trail at any given time may vary so the answers correspond to the information on the signs and not necessarily the sign order. Answers to data sheet are attached on additional pages.

Please understand that age, experience and ability will determine the details and completeness of both observations and recording of those observations. The goal is to have a positive interaction with young people in the field observing and learning about the world around them.

Associated SSS Benchmarks:

SC.3. L.14.1, SC.3. L.17.2, SC.4. N.1.6, SC.4. L.17.2, SC.4. L.17.3, SC.5. L.17.1

GRADES 3-5 Observation Data Sheet ANSWER SHEET

Names of Partners: _____ date: _____

Time of Observation	Location of Observation
start time <u>varies</u> end time <u>varies</u>	<u>South Side Loop Trail</u>

Weather Observations	
Wind speed <u>varies</u> mph	Wind Direction <u>varies</u> Temperature <u>varies</u> Rain fall <u>varies</u>
Weather conditions above were (check one): measured _____ or estimated <u>varies</u>	

Locate the 9 informational trail signs on the South Loop Trail and use the information to fill in your observation sheet. In column 1, identify the organism featured on the sign and **write the name in column 1** also **check if you observed the organism or not**. In column 2, use the word bank to **identify the main characteristics** of each organism featured on the sign and **write them in the boxes**. In column 3, **list any adaptations** you think the organism has, to help it live in this environment. (The last box is for your choice of organism)

WORD BANK of Characteristics for use in column 2.				Producer	Consumer
Plant	Leaves	Stem	Roots	Cone	Flower
Animal	Vertebrate	Invertebrate	Herbivore	Carnivore	Omnivore

1-ID Organism	2- Characteristics	3- Adaptations
1st sign	plant	Spines
Prickly Pear	leaves, stem	Thick covering
Observed:	roots, flower	saves water.
YES _____	Producer	
NO _____		
2nd sign	animal	Able to burrow
Gopher tortoise	vertebrate	Thick shell
Observed:	herbivore	Can pull into shell
YES _____	Consumer	
NO _____		
3rd sign	plant	Beans (seeds) float
Nicker bean	leaves, stem	Spines protect it
Observed:	roots, flower	Thorns on stem
YES _____	Producer	Looks dangerous
NO _____		
4th sign	plant	Thorns protect it.
Hercules club	leaves, stem	Small leaves
Observed:	roots, flower	Saves water.
YES _____	Producer	
NO _____		
5th sign	plant	Salt tolerant
Sea Grape	leaves, stem	Thick leaves
Observed:	roots, flower	Produce a lot of seeds
YES _____	Producer	Edible fruit
NO _____		

1-ID Organism	2- Characteristics	3- Adaptations
6th sign	plant	Poison, things don't eat it.
Poisonwood	leaves, stem	
Observed:	roots, flower	Other plants grow away from it.
YES _____	Producer	
NO _____		
7th sign	plant	Hurricane resistant.
Gumbo Limbo	leaves, stem	Broken limbs grow.
Observed:	roots, flower	Shape doesn't catch wind as much.
YES _____	Producer	
NO _____		
8th sign	animal	Can fly.
Osprey	vertebrate	Strong, large bird.
Observed:	carnivore	Eats fish.
YES _____	Consumer	
NO _____		
9th sign	animal	Changes life cycles.
Zebra		Poisonous to predators
Longwing	invertebrate	
Observed:	herbivore	Contrasting colors
YES _____	Consumer	Roost together for protection
NO _____		
Your choice		
?		
Observed:		
YES _____		
NO _____		

Based on your observations, make an **inference** (an answer based on what you see and already know) on the following questions:

1. What were some things you observed that might make it harder for things to live in this area?

Examples may include sandy soil doesn't hold water, wind or storms hit hard, salty water spray, people disturbing the area, not much land area (space), litter, exotic plants and animals taking the place of native plants and animals, lack of food, soil erosion from water, wind and people, pollution (could be various types).

2. What kinds of things did you observe that were caused by humans and could be a problem for plants or animals?

May include: Litter, soil erosion, cutting plants, attaching things to trees, building, disturbing wildlife, pollution...

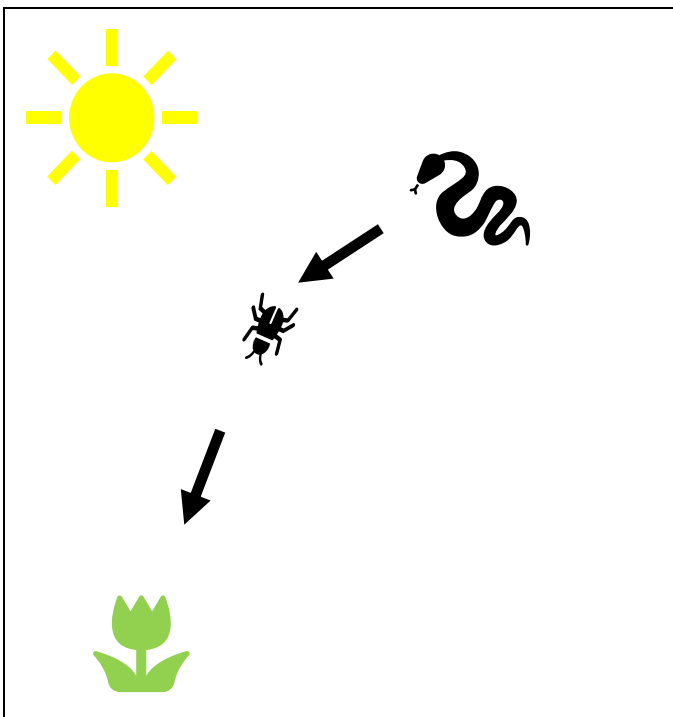
3. You observed **producers** and **consumers**, there is a third type of organism that was not shown on the signs but was present on the trail, and these organisms break down dead matter, what are they called?

Decomposer (Omnivores were not represented on the trail signs and that word was in the word bank but they don't break down dead matter, they eat both plants and animals).

Hint: (examples include Fungi and Bacteria)

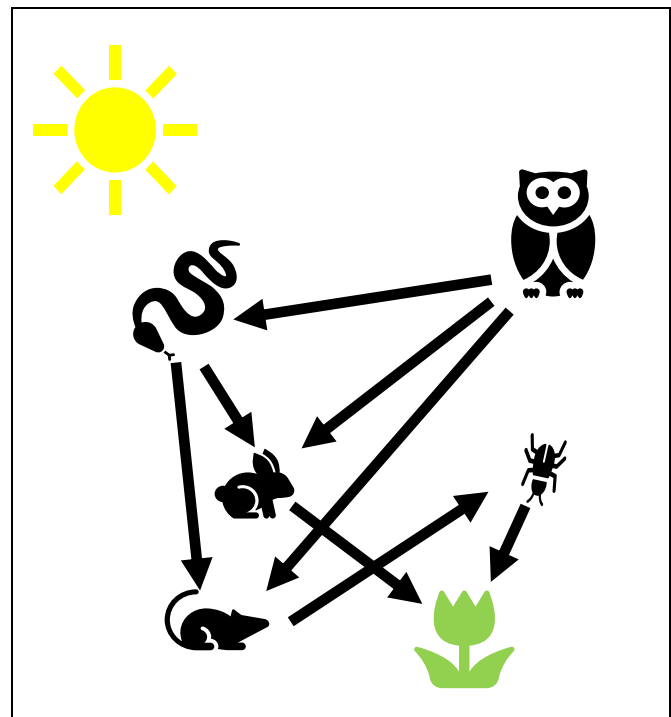
Describe or draw a simple food chain and food web, remember to place the object that provides the producers energy for photosynthesis, in the upper left corner of each box:

Food Chain



(one thing eats something then is eaten by something else)

Food Web



(one thing may eat several things and by eaten by others)

Many different organisms may be used to show both a food chain and a food web. The main difference is that a food web shows many relationships and a food chain shows a one to one relationship. Both exist in the ecosystem.

Glossary of terms for Grades K-8 Field Research Ranger Program

air/vapor	The parts of the atmosphere that the prefix "Atmo" represents.
autotrophs	Organisms that can make their own food.
basic needs	Water, Air, space and shelter, things that all living things need to survive.
chlorophyll	Basically, the green compound in plants that together with sunlight allow plants to make their own food.
community	A group of different species living together in a specific habitat.
Decomposers	An organism that breaks down dead matter.
Ecosystem	A system that includes all living and non-living factors functioning together as a unit.
endangered species	Any species that is in danger of becoming extinct.
energy	Useable power transferred between parts of a system in the production of a physical change.
environment	The general place where plants and animals live.
extinct	No longer existing, gone.
feathers	Characteristic covering on the skin of birds.
flower	Characteristic reproductive part of a plant, usually bright in color.
fruit	Characteristic fleshy product of a plant that contains seeds.
fur	Characteristic hairy covering on the skin of mammals.
Habitat	The natural home of a plant, animal or other living organism.
heterotrophs	An organism that requires organic compounds for its principal source of food, cannot make their own food.
icy/frost	The parts represented by the prefix "Cryo" in the term Cryosphere.
investigation	The systematic examination or research of something.
leaf	Characteristic, flattened, blade-like part of a plant, usually green in color.
life/living things	Components that the prefix "Bio" in the word Biology represents.
nonliving	Inorganic objects that do not need the basic needs of live (food, water, space, shelter) to exist.
Photosynthesis	The process by which green plants turn sunlight into energy.
pollution	Anything in the environment that is harmful or poisonous.
population	A group of one species living in the same area.
scales	Characteristic thin plates covering the skin of fish and reptiles.
seeds	The part of the plant that, under appropriate conditions, grows into a new plant.
senses	One of the faculties of sight, smell, hearing, taste or touch.
species	A group living organisms of similar individuals. A basic unit of biological classification and taxonomic rank.
survive	Continue to live or exist.
the Earth	The solid parts of the planet, represented by the prefix "Geo" in the term Geosphere.
trophic levels	Levels in an ecosystem, comprised of organisms that share the same function in the food chain.
water	A basic need of living things represented by the prefix "Hydro" in the term Hydrosphere.