

# South Carolina Aquarium

## 9<sup>th</sup> – 12<sup>th</sup> Grade Scavenger Hunt

Name Answer Key

The South Carolina Aquarium is designed to show you the habitats of South Carolina from the Mountains to the Sea. Head up the escalator to start your journey through our state! This information is helpful:

- Answers for **page 1** are found in no certain order.
- Answers for **pages 2-4** can be found in order by starting in the mountains and walking to the sea.

### All Galleries

Match the following terms to the correct relationship and list the Aquarium exhibit in which it was the bold animal is found.

- A **Predation** – to eat another organism  
 B **Competition** – to fight for a resource  
 C **Parasitism** – when an organism lives on or in another organism at that organisms' expense  
 D **Mutualism** – when two organisms live together and both benefit  
 E **Commensalism** – when one organism benefits from another organism and the other doesn't benefit or suffer

Place correct letter here	Description of relationship	Aquarium exhibit
D	Hermit crab anemones live on hermit crabs in order to find food and have a 'ride'. <b>Hermit crabs</b> don't mind at all because the anemone offers protection.	<i>Touch Tank</i>
A	<b>River otters</b> prey on brook trout in mountain streams.	<i>Mountain Forest</i>
E	Some <b>horseshoe crabs</b> have slipper shells living on them. It does not harm the horseshoe crab, but the slipper shells have a safe home on the hard shell of the horseshoe crab.	<i>Touch Tank</i>
B	Male <b>dollar sunfish</b> fight with fish in order to protect their gravel nest.	<i>Brownwater Swamp</i>
C	Tapeworms live inside a <b>sea turtle's</b> digestive system causing damage by stealing the turtle's nutrition.	<i>Sea Turtle Recovery</i>
D	<b>Porkfish</b> are cleaner fish. They eat old scales and debris off larger fish like a gag grouper. Gag grouper don't mind this because it keeps them healthy.	<i>Great Ocean Tank, Rocky Reef, Carolina Sea</i>
B	<b>Spiny lobsters</b> are territorial of their homes often aggressively guarding their homes from fish and other lobsters.	<i>Bottom Dwellers</i>
E	A <b>gopher tortoise</b> can dig a 30 foot burrow for shelter. Many other animals can hide in these burrows during forest fires and the tortoise will share the space.	<i>Longleaf Pine Forest</i>

## The Mountains

### **Bald Eagle Exhibit:**

In 1967 bald eagle populations had declined because of DDT. What is DDT and how did it hurt the eagles?

*DDT is a pesticide that thinned the lining of the eagle eggs causing them to crack and the babies to die. This decreased the populations over time.*

What is bioaccumulation?

*When something doesn't breakdown in an environment, but instead amplifies inside an animal's body.*

*Thinking question: What can we learn from the DDT/eagle issue?*

*We need to be very careful with the chemicals we release into our environments to make sure the living things and habitat is not negatively affected. We need to remember that we can harm the earth by our actions.*

## Piedmont

### **Reservoir Exhibit:**

Name 2 pros and 2 cons of damming a river.

**Pro:** 1) *Flood control, irrigation*  
*Fishing, recreation*  
2) *Boating*

**Con:** 1) *Disturbs river flow*  
*Disturbs animal migration*  
2) *Habitat destruction, changes landscape*

### **Shifting Shorelines Map:**

How does the rotating map help explain how marine fossils can be found in the Coastal Plain and terrestrial fossils can be found 20 miles off the coast?

*The map shows how over history the shoreline has moved because of climate change. Land once covered by water will leave behind aquatic animal fossils where as land cover by water that was once not covered by water would leave behind land animal fossils.*

*Thinking question: What could happen to South Carolina if sea level rises in the next 50 years? Will you personally be affected?*

*Large parts of SC will be underwater affecting the economy as well as the protection of the land from storms and wave action.*

## Coastal Plain

### **Swamp IQ Test:**

List 2 reasons why swamps are vital ecosystems in South Carolina.

1. *Great habitat for animals and plants*  
*Filters water to help get rid of pollutants*  
*Helps control flooding*
2. *Answers can be many. These are a few.*

### **Carolina Bay Exhibit:**

Why are carnivorous plants found in Carolina Bays and no other habitat in South Carolina?

*Carnivorous plants live in areas where the nutrient level in the soil is low. These plants get nutrients by digesting insects.*

## Saltmarsh

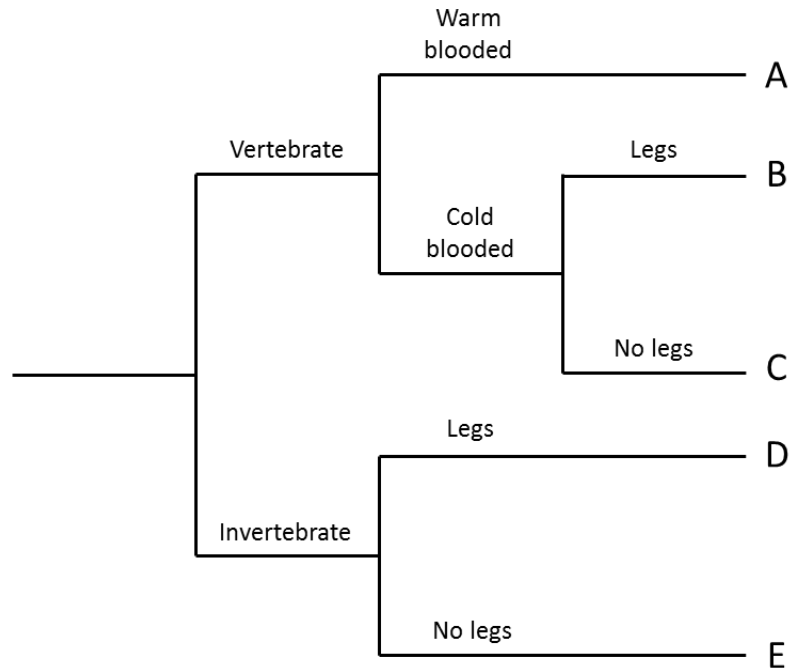
Name 2 functions of a saltmarsh.

1. *Sponge to absorb water and prevent flooding*  
*Filters pollutants from water and land*
2. *Shields the land from wave action and storms*

*Thinking question: What would happen to South Carolina’s coast if our saltmarshes were destroyed?  
The coastline would not be protected during hurricanes and storms, causing habitat destruction.*

A phylogenetic tree shows the relationships between biological species based on their similarities and differences. Place the correct letter from the tree next to each saltmarsh animal.

- B Diamondback terrapin
- E Oyster
- A White ibis
- D Blue crab
- C Mullet



## Coast

### **Aquatic Invaders Exhibit**

Lionfish are invaders. Even though they are beautiful, they should not be in the waters of South Carolina. Explain why they are such a problem.

*Lionfish has no natural predators in South Carolina. They compete for space and food and without predators their populations grow out of control.*

What can be done to help the problem?

*Many restaurants are serving them on their menu. Many divers are capturing them while diving to rid them from our area. People are asked to not release pets into the wild.*

### **Balanced Ocean Exhibit**

Why should you “Ask Before You Order?”

*To support local seafood and to know where you seafood is coming from and how it’s being caught. This makes for an informed consumer and may help with the overfishing problem.*

## Ocean

### **Phytoplankton**

Using the phytoplankton touch screen, describe one phytoplankton that is harmful to humans and one that is helpful.

#### **Harmful:**

*Pseudonitzschia sp. – Can cause toxin blooms which can kill animals and make us sick.*

**Helpful:** *Emiliana huxley – scientists studying them to understand sea temperatures and water quality.*

*Prochlorococcus sp. – Produce much of the oxygen we breathe.*

*Thalassiosira sp. – Could be used for biofuel.*

### Great Ocean Tank

The IUCN (International Union for Conservation of Nature) lists animals based on their conservation status. Use the touch screens at the Great Ocean Tank to find three animals for each of these conservation statuses:

#### Near Threatened (NT):

1. *Queen triggerfish*
2. *Red grouper*
3. *Blacktip shark*

#### Vulnerable (VU):

1. *Loggerhead sea turtle, Sandbar shark*
2. *Vermilion snapper, Sand tiger shark*
3. *Tarpon, Grey triggerfish*

*Thinking question:* How is this information helpful to humans?

*Policies on overfishing and habitat protection can be decided on based on this information. We can be better equipped to make decisions about wildlife protection.*

### Lower Ocean Gallery

In South Carolina, the ocean floor gets deeper from Blackfish Banks to the Coral Mounds. Fill out the table below by looking in all the tanks and reading the signs of the Lower Ocean Gallery.

Habitat Name	Ocean Depth (feet)	List one fish
Blackfish Banks	60 ft	<i>Lots of answers</i>
Snapper Banks	<i>120 ft</i>	<i>Lots of answers</i>
Rocky Reef	<i>300 ft</i>	<i>Lots of answers</i>
Muddy Ooze	<i>600 ft</i>	Short bigeye
Coral Mounds	3,000 ft	<i>Goliath grouper</i>

### Zucker Family Sea Turtle Recovery

There are 7 sea turtle species in the world. 4 of those 7 live off the coast of South Carolina. Match the sea turtle species to the correct fact.

#### Sea Turtle Species

- Green Sea Turtle
- Kemp's Ridley Sea Turtle
- Leatherback Sea Turtle
- Loggerhead Sea Turtle

#### Sea Turtle Fact

- Most endangered sea turtle in the world
- Most common nesting sea turtle in SC
- Only sea turtle that eats sea grasses
- Largest sea turtle in the world

List 2 ways humans can harm sea turtle populations	List 2 things humans can do to protect sea turtles
<ol style="list-style-type: none"> <li>1. <i>Boat strike</i> <i>Pollution (chemicals, litter)</i> <i>Fishery entanglements (ropes, fishing line)</i></li> <li>2. <i>Fishing hooks</i></li> </ol>	<ol style="list-style-type: none"> <li>1. <i>Don't litter</i> <i>Pick up trash, recycle</i> <i>Use a circle hook when fishing in ocean</i></li> <li>2. <i>Use canvas bags instead of plastic</i> <i>Reduce single use plastics (forks, straws, lids)</i> <i>Be careful on boats and when fishing</i></li> </ol>