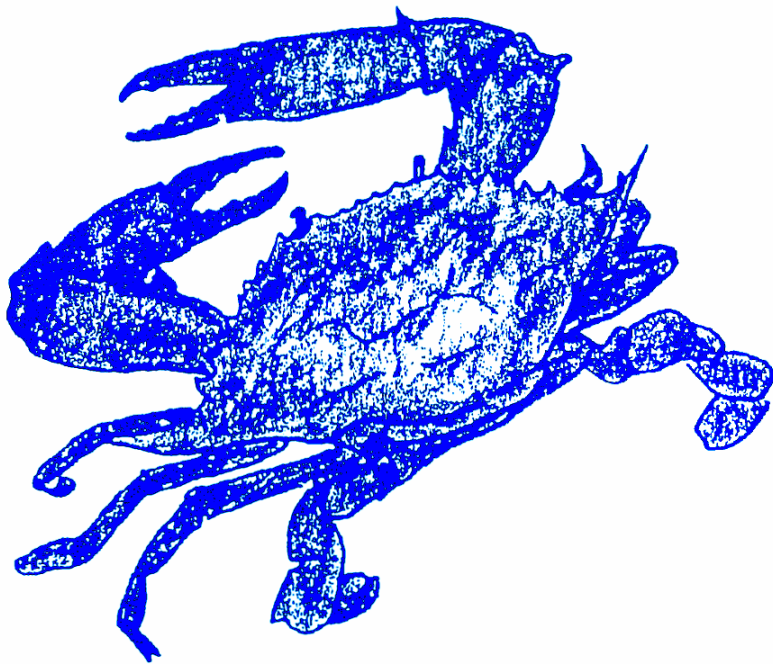


# Chesapeake Bay

# Activity Book



# The Chesapeake Bay Watershed

## ❖ What is a watershed?

The Chesapeake Bay receives about half of its water from the Atlantic Ocean. The rest drains into the Bay from an enormous 64,000 square-mile drainage basin, or watershed. Fresh water from springs, streams, small creeks and rivers flows downhill into the Bay. The Chesapeake Bay watershed stretches across six states - New York, Pennsylvania, Maryland, Delaware, Virginia, and West Virginia, as well as the District of Columbia.

## ❖ How is a watershed different from a wetland?

Watersheds are the land areas through which water flows and drains to the lowest point, in a stream, river, lake, or bay. Wetlands are the link between the water and the land. Wetlands can be marshes, swamps, or areas found between dry land and water along the edges of streams, rivers, lakes, ponds, and coastlines. Although most wetlands have standing or flowing water, many are dry for part of the year. Wetlands are important because they act as a filter and remove pollutants from the water.

## ❖ Why is the Chesapeake Bay watershed important?

The Chesapeake Bay watershed is a nursery for several important species of fish, such as white perch, striped bass, and herring. Many fish come into the Bay and into the Bay's streams and rivers to lay their eggs because it is a sheltered area. The Bay watershed also provides food for many marine species like flounder, bluefish, weakfish, menhaden, and spot that enter the Bay during the warmer months to feed on the rich food supply.

## ❖ Did you know?

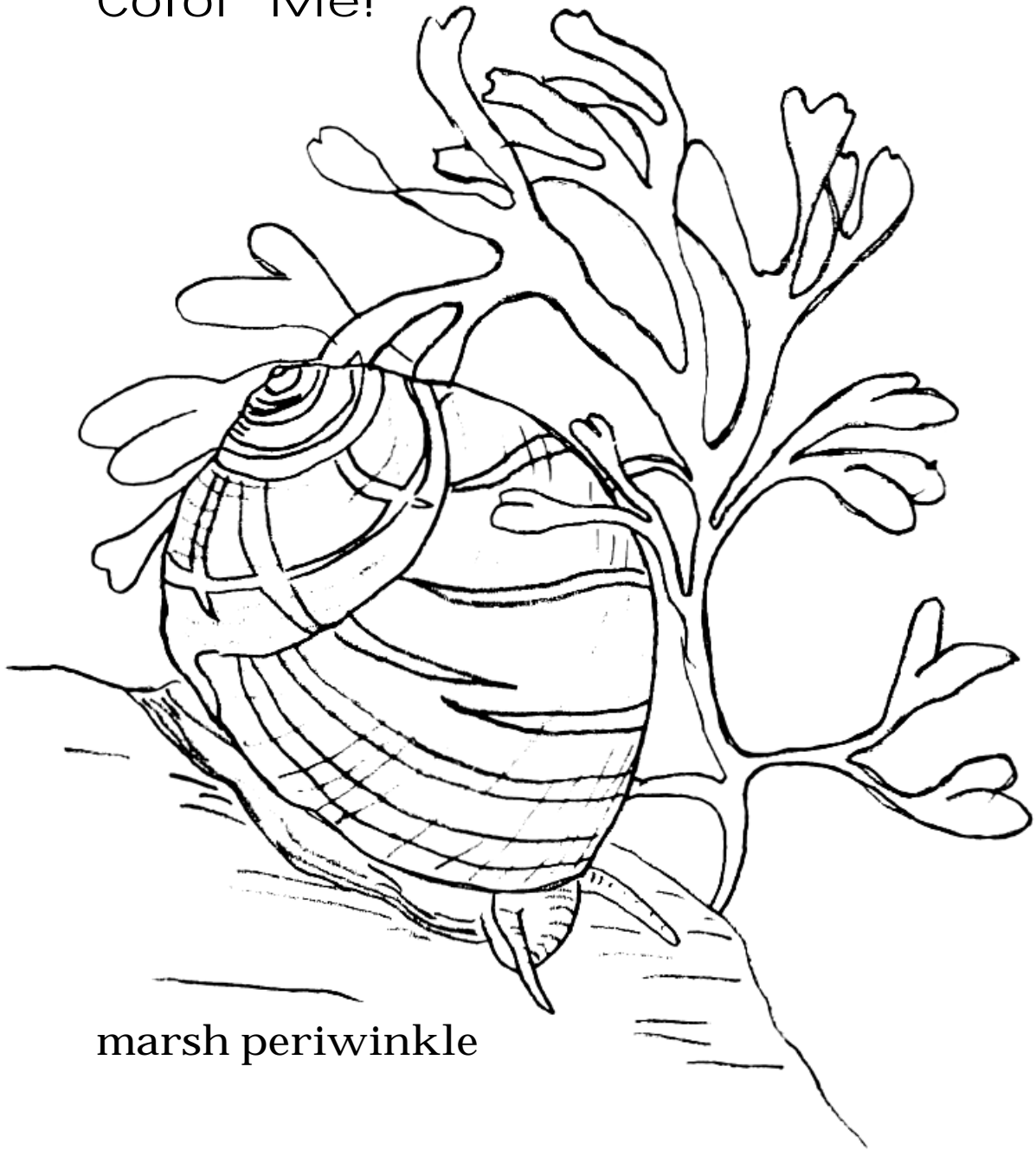
Did you know that everyone in the watershed lives just a few minutes from one or more than 100,000 streams and rivers draining into the Chesapeake Bay?

Did you know that the Chesapeake is shallow? A person six feet tall could wade over 700,000 acres of the Bay without becoming completely submerged.

Did you know that during the 1600s, wolves, cougar, elk, and buffalo still inhabited the Bay watershed?

Did you know that one drop of Bay water might contain thousands of phytoplankton?

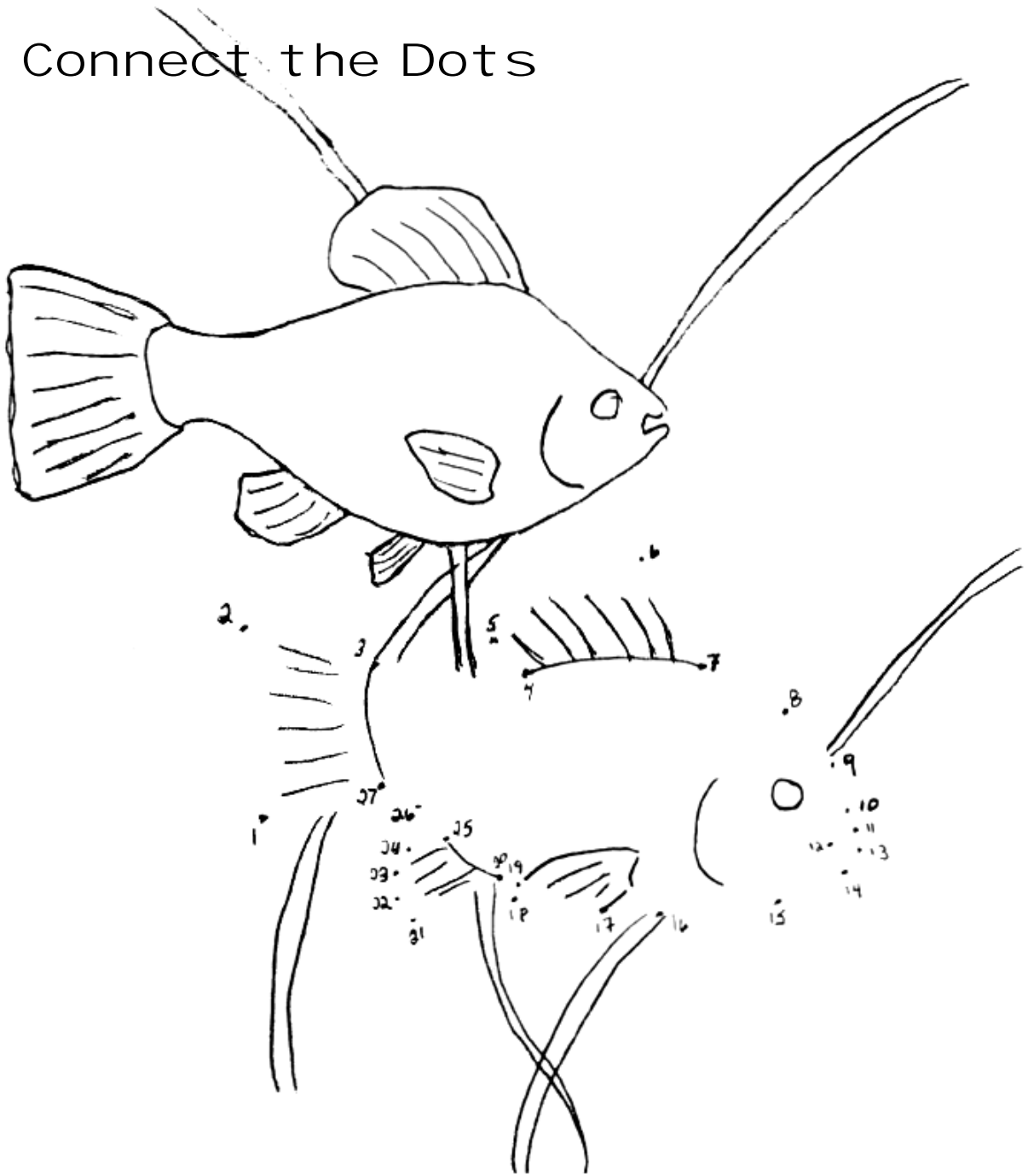
Color Me!



marsh periwinkle

Did you know that the marsh periwinkle can survive out of water for up to 42 days without being damaged, and can be placed in fresh water, which usually kills marine animals, for 11 days?

# Connect the Dots



Did you know that more than 350 species of fish are known to occur in the Chesapeake Bay region? Of these fish species, only 32 species are year-round residents of the Bay. The remaining species enter the Bay either from freshwater streams or the Atlantic Ocean to feed, reproduce, and find shelter.

# Can you find these Chesapeake Bay words?

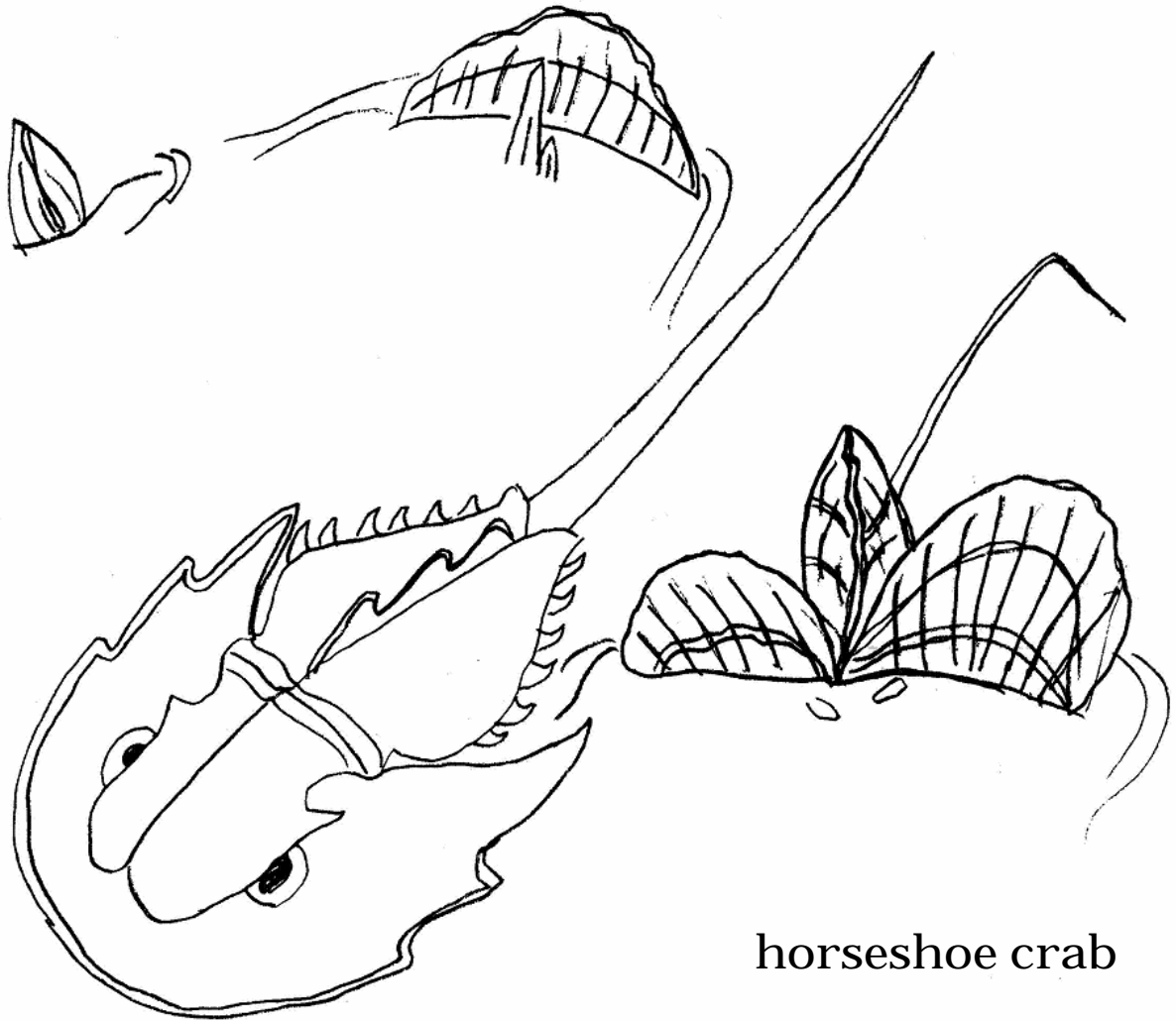
The words are found down, across, and diagonally.

C	B	U	O	Y	S	T	E	R	S
R	H	K	Z	B	O	A	T	S	A
T	G	E	S	T	U	A	R	Y	L
W	F	I	S	H	S	H	A	D	I
O	S	V	M	A	R	S	H	L	N
S	H	H	C	W	P	M	U	D	I
P	E	E	R	A	P	E	B	Q	T
R	L	R	A	T	J	E	A	N	Y
E	L	O	B	E	J	U	Y	K	O
Y	S	N	S	R	I	T	I	D	E
L	I	G	H	T	H	O	U	S	E

Chesapeake  
Bay  
Crabs  
Tide  
Salinity  
Fish  
Oysters  
Boats  
Marsh

Osprey  
Mud  
Water  
Estuary  
Shells  
Shad  
Heron  
Lighthouse  
Buoy

Color Me!



horseshoe crab

Did you know that the horseshoe crab is one of the oldest living animals on the earth? It is called a living fossil because its appearance has not changed in 360 million years.

# Chesapeake Bay "Mad Lib"

Directions: Fill in the mad lib list, and then copy your mad libs into the blanks in the story below. Once you have filled in all the blanks, read your completed story for a fun look at how animals and habitats depend on each other for survival.

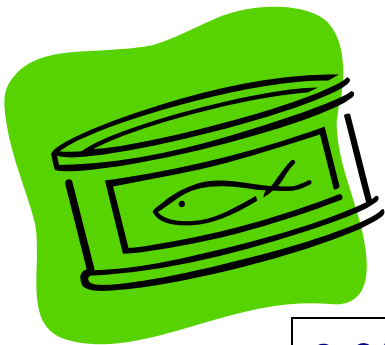
Mad Lib List:

1. Family member \_\_\_\_\_
2. Somebody's name \_\_\_\_\_
3. Animal \_\_\_\_\_
4. Color \_\_\_\_\_
5. Animal \_\_\_\_\_
6. Things \_\_\_\_\_
7. Animals \_\_\_\_\_

I was swimming down the Chesapeake Bay one autumn day with my \_\_\_\_\_ **1** and our friend \_\_\_\_\_ **2**, who is a \_\_\_\_\_ **3**, very early in morning. A large \_\_\_\_\_ **4** \_\_\_\_\_ **5** started to chase us. I think he wanted to eat us for breakfast! We ran quickly to get away from it and hid in some \_\_\_\_\_ **6** that were along the shore of the Bay. We sure were lucky they were there so we could get away. We found some \_\_\_\_\_ **7** while we were there that we ate for lunch.

# RECIPES FOR KIDS

## TUNA NUGGETS

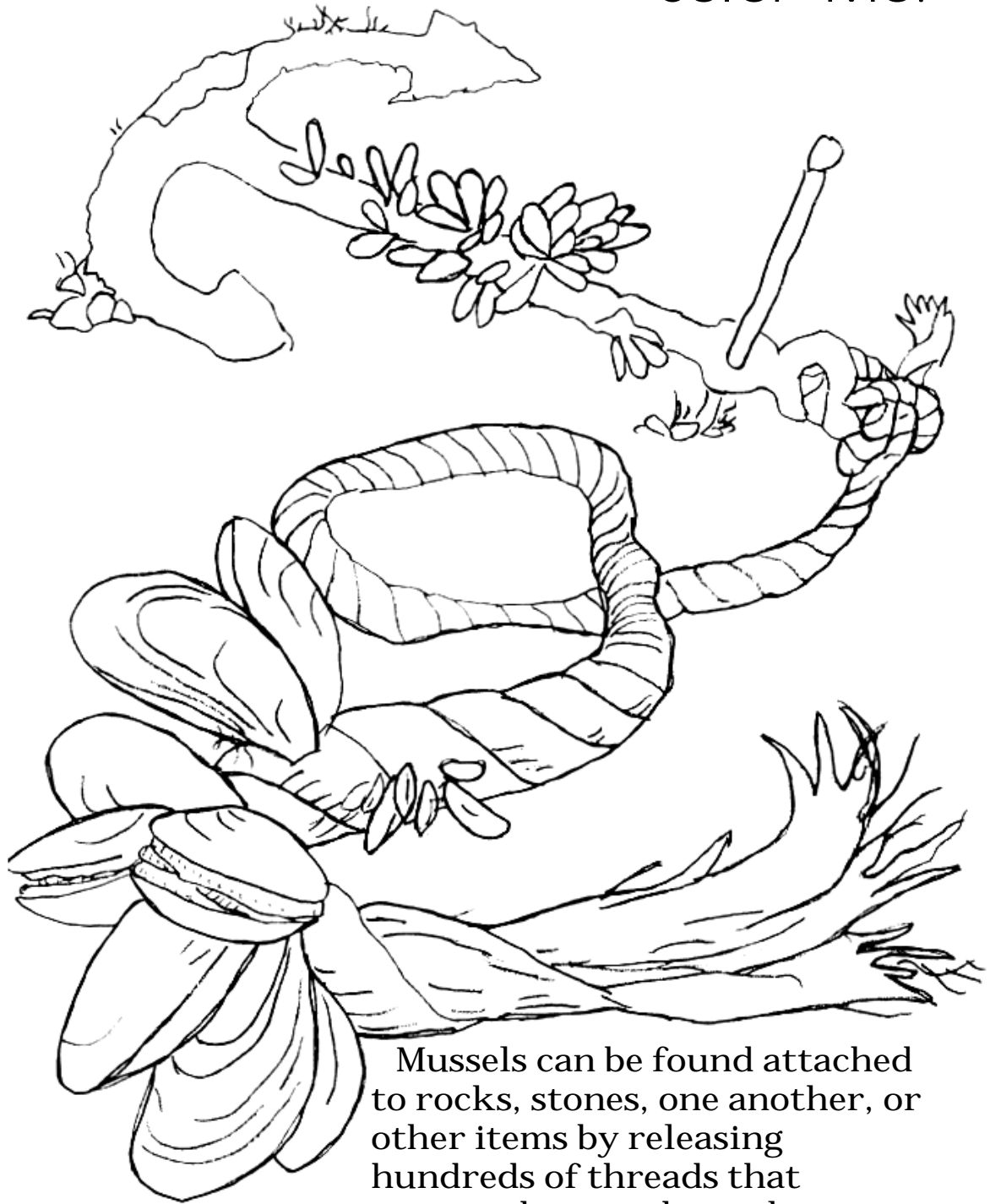


2 CANS TUNA (7 OZ)  
1 TBSP LEMON JUICE  
2 TSP HORSERADISH  
2 PACKAGES (3 OZ EA.) CREAM CHEESE  
¼ TSP LIQUID HOT PEPPER SAUCE  
1 CUP CHOPPED PARSLEY

DRAIN AND FLAKE TUNA. ADD CHEESE  
AND SEASONINGS. MIX THOROUGHLY.  
SHAPE TUNA INTO SMALL BALLS. ROLL  
IN PARSLEY AND CHILL.



Color Me!

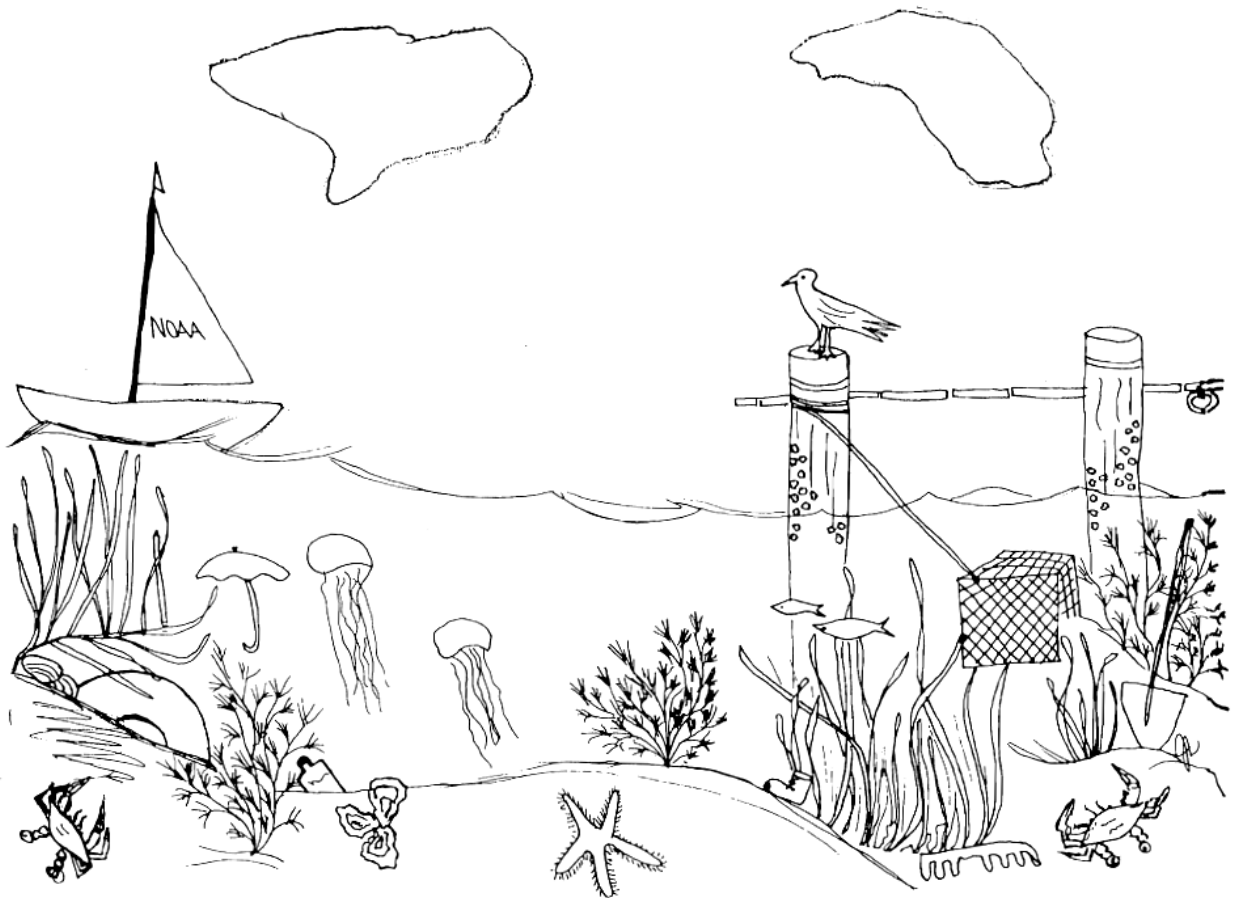


Mussels can be found attached to rocks, stones, one another, or other items by releasing hundreds of threads that cement them to the rocks. Mussels can move very slowly, by abandoning the old threads and forming new ones a short distance away.

Can you find these items in the picture?

Tire  
Fishing Rod  
Shovel  
Comb

Bottle  
Umbrella  
Pencil  
Boot



Can you help the Osprey find its nest?



Color Me!



Oysters were once so abundant in the Chesapeake Bay that the population in the late 1800s could have filtered the bay's entire water volume in just three days. Today's population would take more than a year to accomplish the same task!

# Name that Animal!

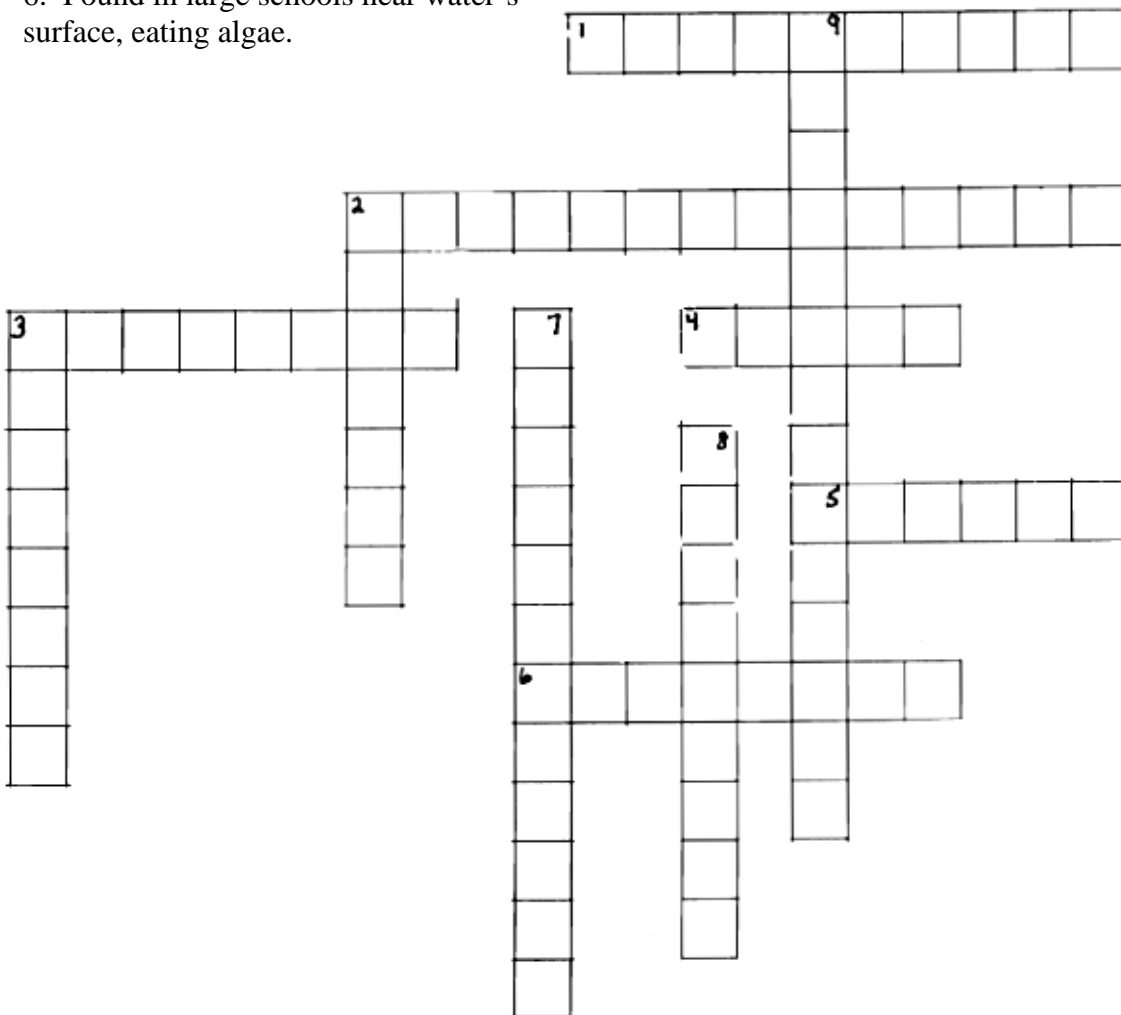
Using the hints provided, can you name that animal? Your choices are: blue crab, oyster, egret, bluefish, winter flounder, hooked mussel, periwinkle, menhaden, blue heron, seagull, snapping turtle.

**Across:**

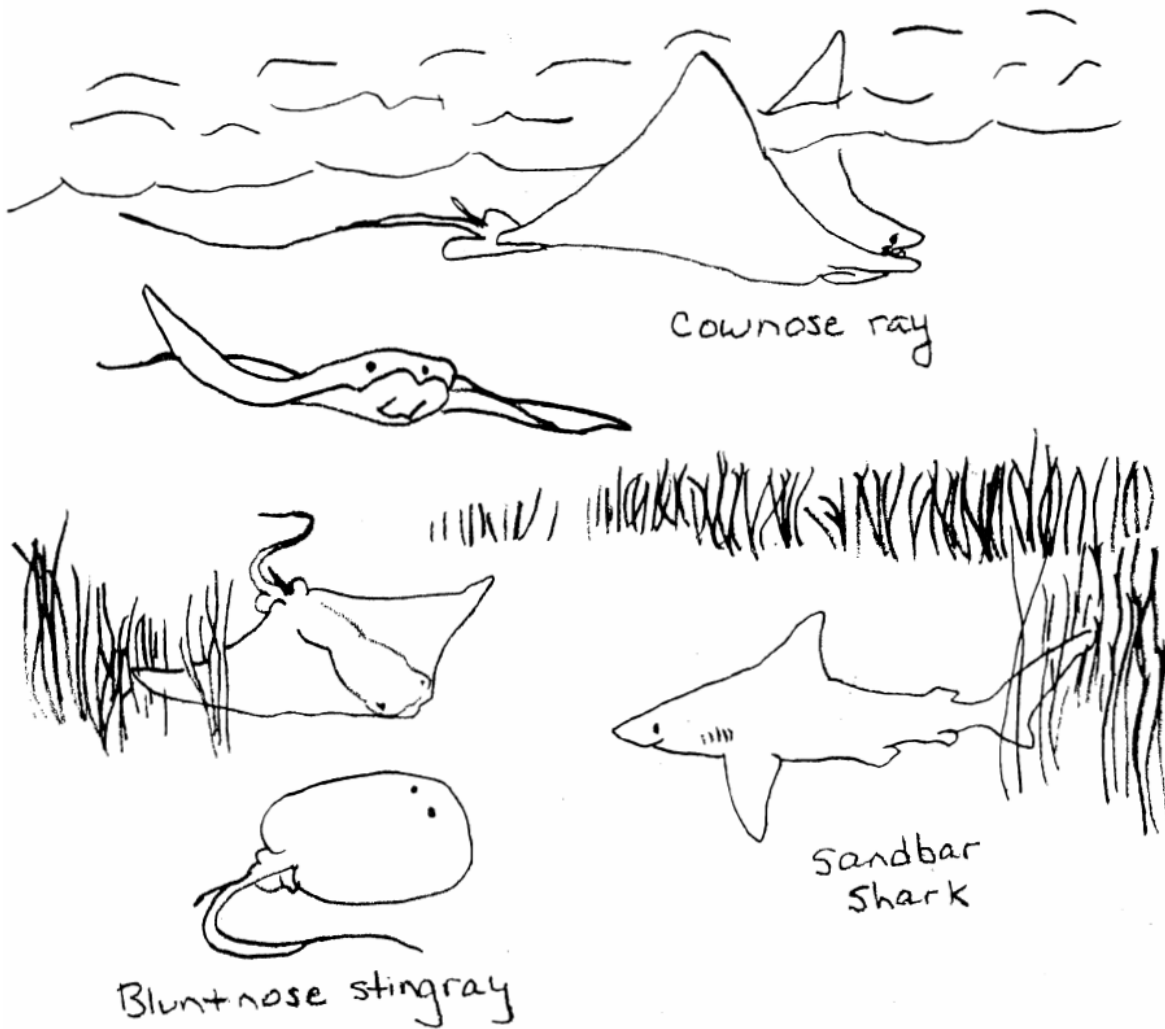
1. Crawl along rocks & seaweed, scraping off algae with their file-like tongues.
2. Bury themselves in bottom mud or sand.
3. Crustacean like its cousins the shrimp & crayfish; has 10 legs.
4. White with S shaped neck.
5. Once harvested in millions of bushels.
6. Found in large schools near water's surface, eating algae.

**Down:**

2. Found almost all over the world, nesting, hovering, & flying along shorelines.
3. Predator with a jaw full of piranha-like teeth.
7. Found attached to rocks.
8. Blue, with wingspan over 6 feet.
9. Flat, with two eyes on one side



# Color Me!

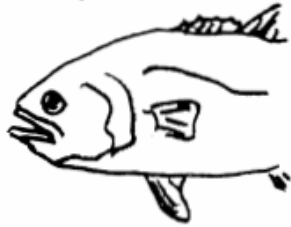


Rays, Skates, and Sharks are examples of primitive fish that do not have any bones. They have cartilage instead. Cownose rays and bluntnose stingrays are two types of rays that enter the Chesapeake Bay. Schools of young sandbar sharks enter into the Bay in the summer.

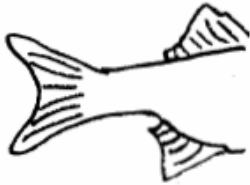
# Match the Fish

Draw a line from half a fish on the left to the other half on the right to see what Striped Bass, Eel, Flounder, and Bluefish look like.

Bluefish

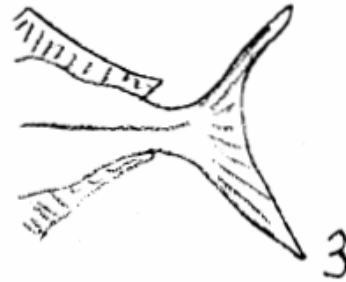


Striped Bass

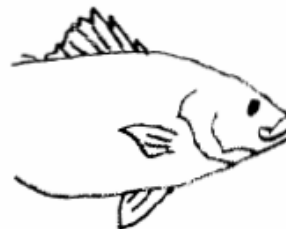
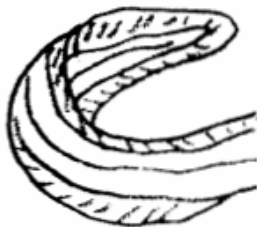


2

Flounder

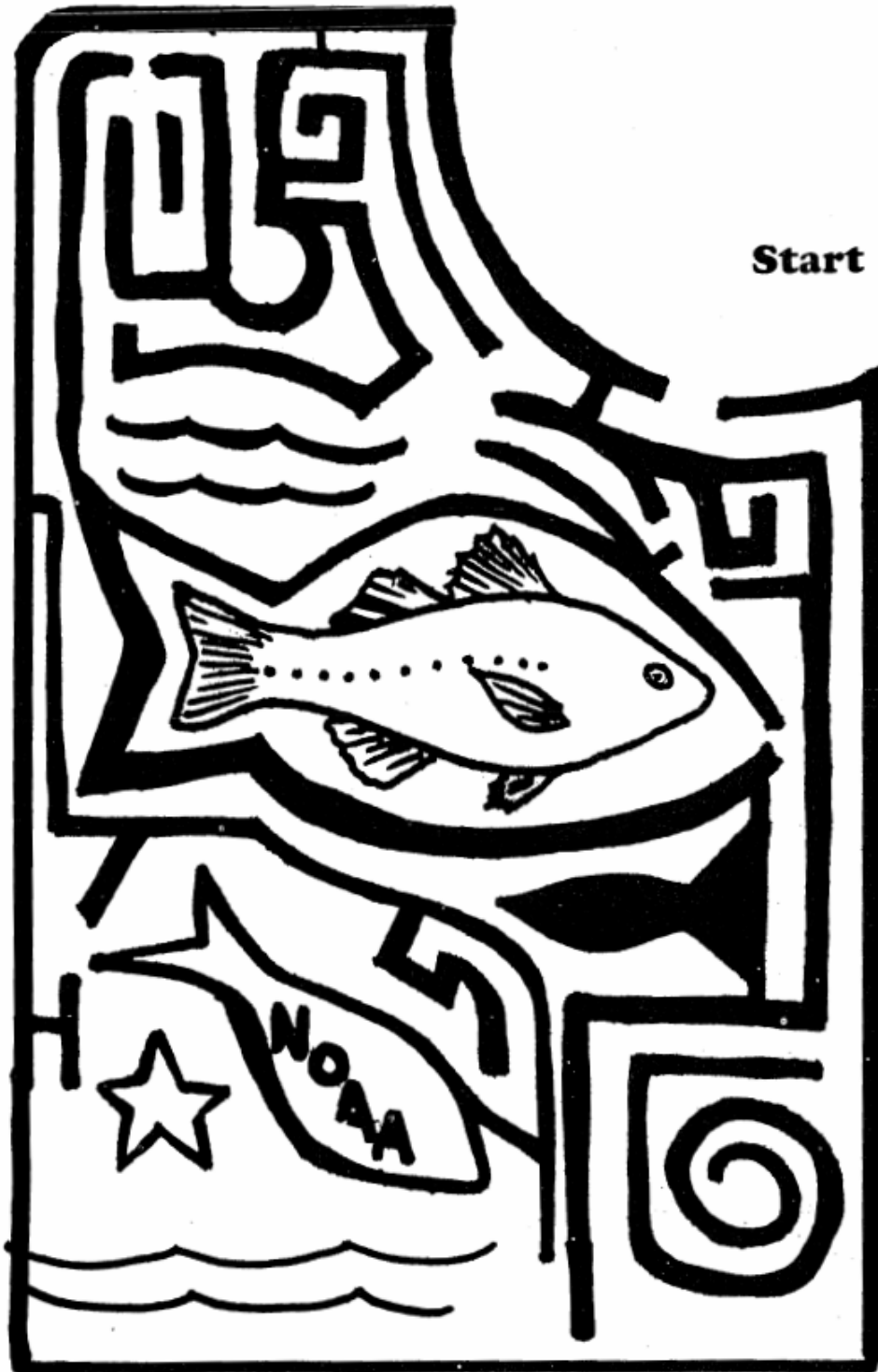


EEL



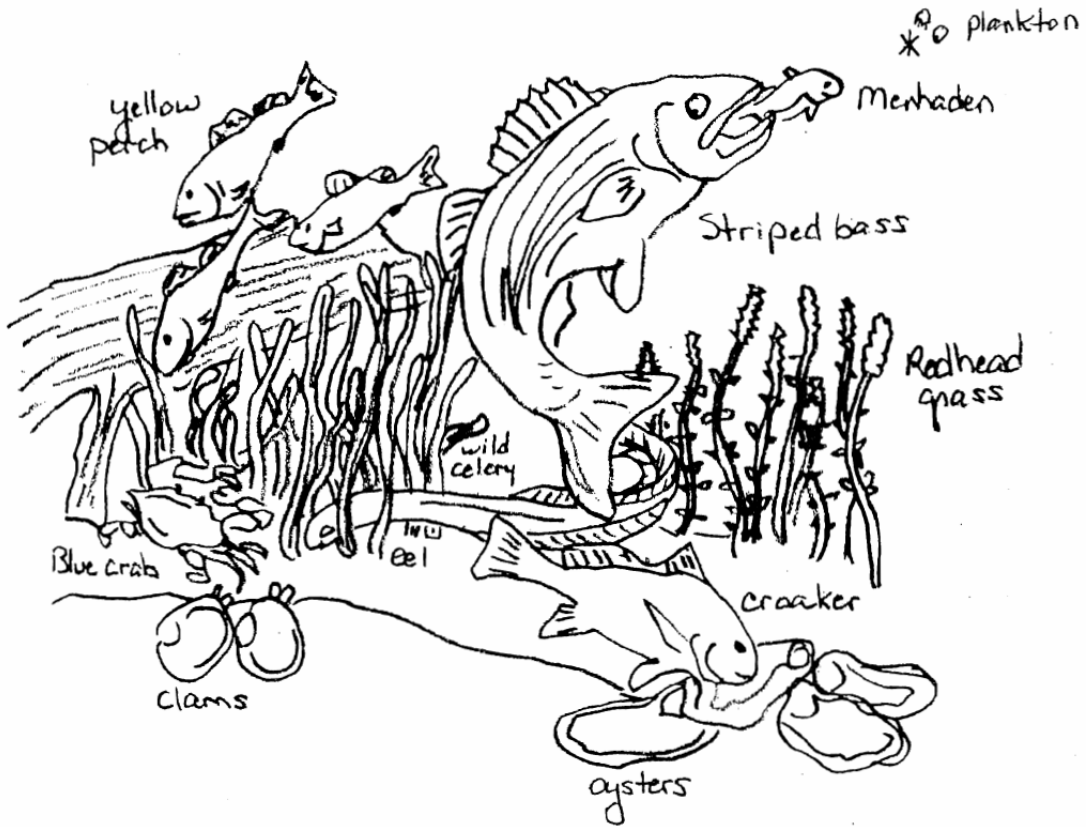
4

Can you find your way through the maze to the fish?





# Color Me!



The Chesapeake Bay serves as a home to thousands of different plants and animals that live in a variety of different places (habitats) including shallow or deep waters, sand or muddy bottoms, and seagrass or oyster beds. These habitats are all parts of the ecosystem, which provides food, protection, and shelter for animals. Each plant and animal is connected to others in the Bay. They depend on each other for survival, and even a little change can affect this system.

# RECIPES FOR KIDS

## CRAB BALL

1 LB CRAB MEAT  
2 PACKAGES (3 OZ) CREAM CHEESE  
2 OZ KETCHUP  
½ OZ HORSERADISH, OR TO TASTE

PICK CRAB MEAT, TAKE OUT ANY SHELLS

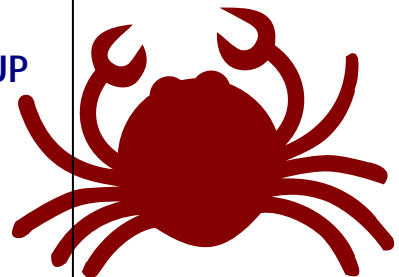
MAKE SURE CREAM CHEESE IS AT ROOM  
TEMPERATURE

MIX TOGETHER AND MAKE INTO A BALL.  
STORE IN REFRIGERATOR TIL READY TO  
EAT.

MIX KETCHUP AND HORSERADISH  
TOGETHER (HAVE MOM TASTE SO IT'S  
NOT TOO SPICY).

WHEN READY TO SERVE, POUR KETCHUP  
MIXTURE OVER THE CRAB BALL AND  
SERVE WITH CRACKERS.

MOM & DAD WILL LOVE THIS TREAT.



Which two are the same?



1



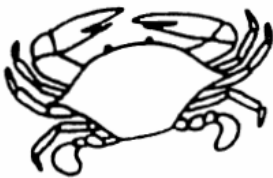
2



3



4



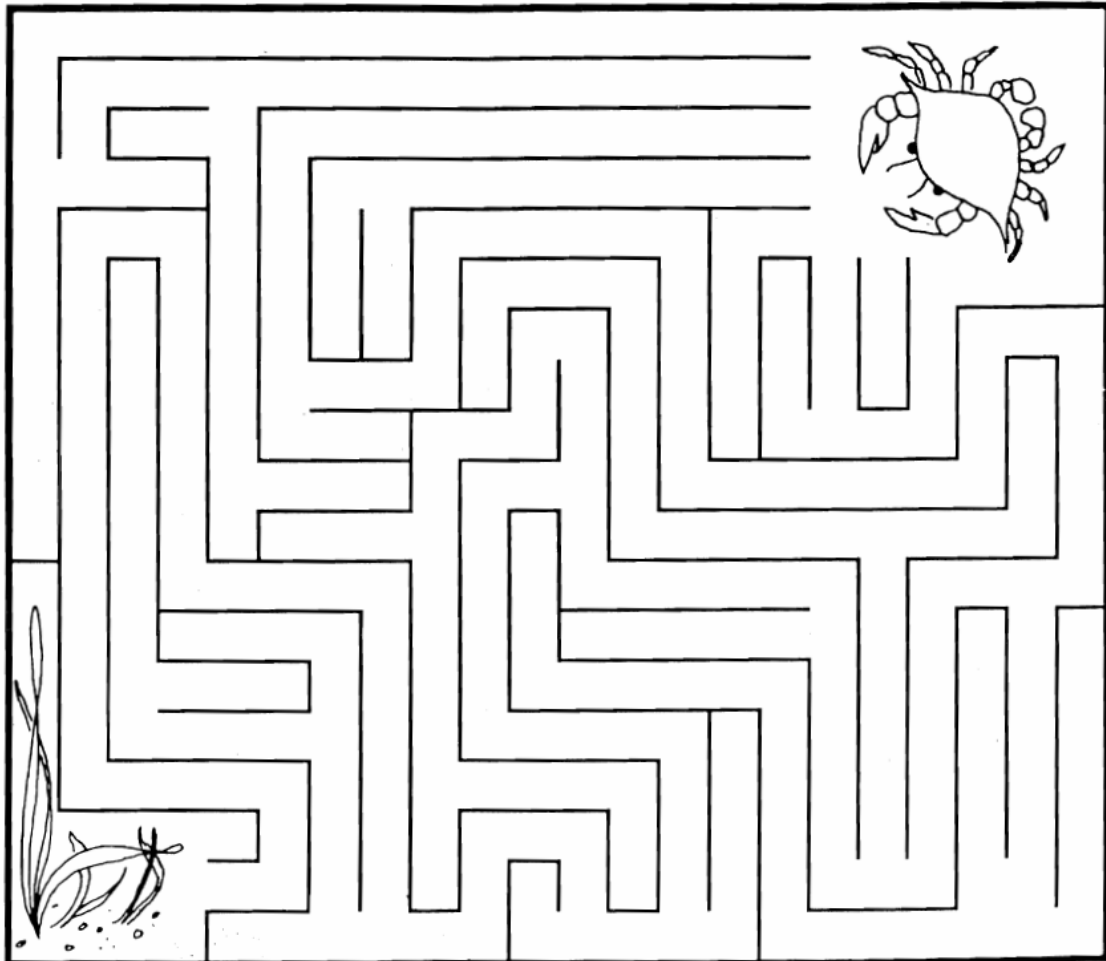
5



6

Courtesy of the Magothy River Association  
(<http://www.magothyriver.org/>)

Help Crabby find his home in the seagrasses!



Courtesy of the Magothy River Association  
(<http://www.magothyriver.org>)

# Word Search

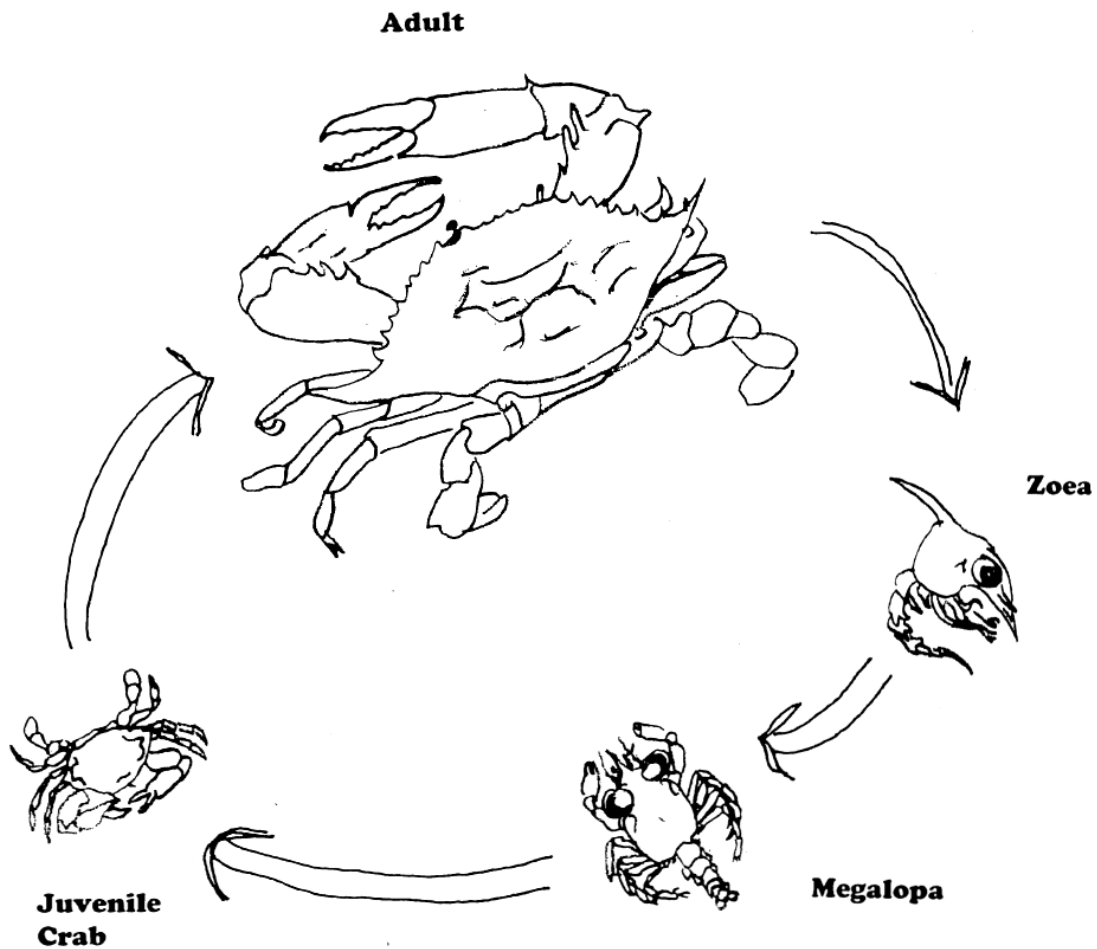
Can you find the following words?

Anemone  
Blenny  
Crab  
Eel  
Goby  
Magothy  
Mudworm

Mussel  
Oyster  
Pearl  
Reef  
Sea Squirt  
Skilletfish  
Toadfish

C	R	A	B	O	C	Y	L	S	A	T
S	J	V	M	W	B	I	K	E	S	F
O	K	G	C	O	N	L	R	A	E	P
U	E	I	G	D	R	A	S	S	N	T
Q	E	E	L	S	A	B	X	Q	T	G
A	M	P	S	L	N	T	G	U	O	O
M	D	Y	N	N	E	L	B	I	A	B
R	Y	S	O	N	M	T	H	R	D	L
O	H	Z	A	W	O	U	F	T	F	E
W	T	H	D	V	N	X	J	I	I	R
D	O	Y	S	T	E	R	H	W	S	B
U	G	C	N	M	Z	E	G	O	H	H
M	A	V	Q	R	L	E	S	S	U	M
P	M	F	H	D	A	F	R	B	Z	A

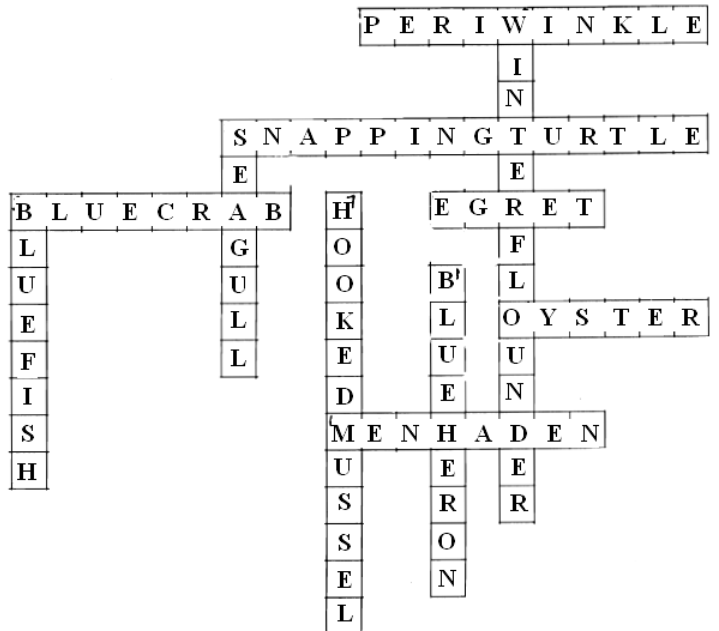
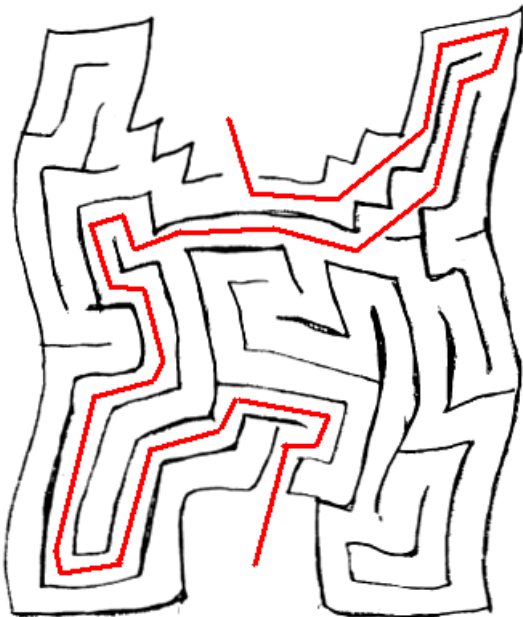
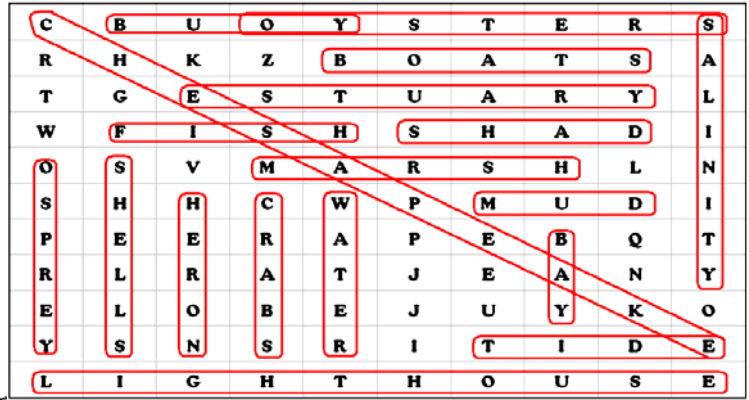
Courtesy of Magothy River Association  
(<http://www.magothyriver.org>)



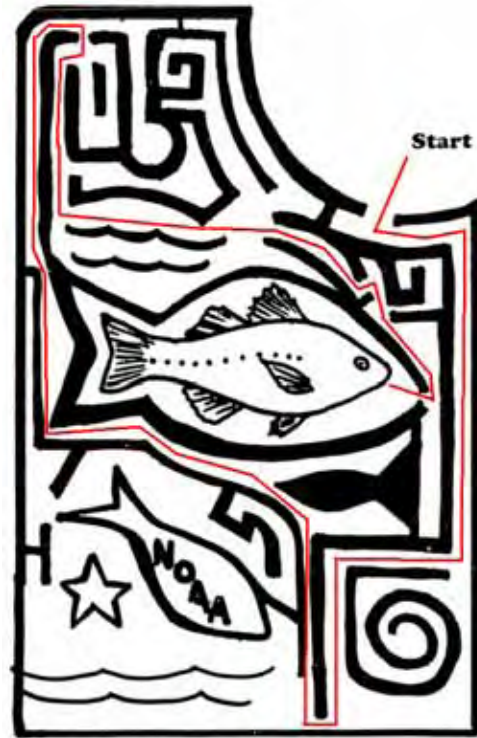
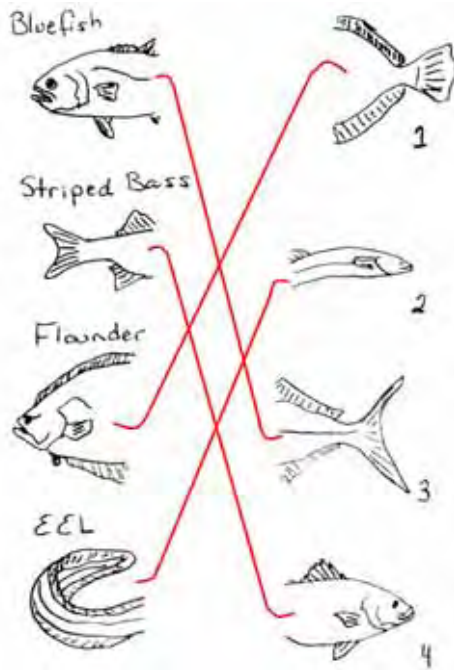
## Blue Crab Life Cycle

Did you know that a single female blue crab can produce up to eight million eggs in one mating season? Of the many eggs that hatch, as few as two may live to reproduce, therefore it is very important to minimize capture of the female blue crab.

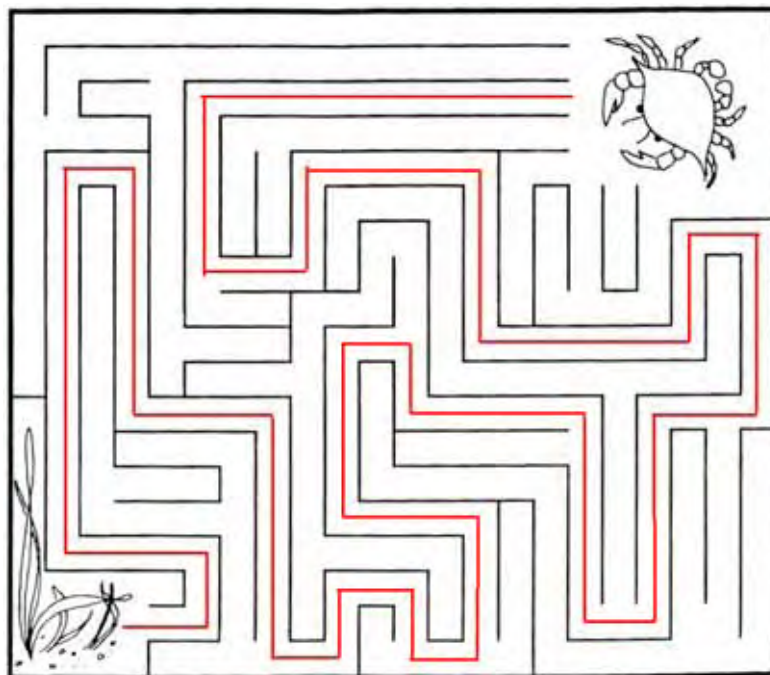
# Answers



# More Answers



Crabs 2 and 5 are the same





# Even more answers

C	R	A	B	O	C	Y	L	S	A	T
S	J	V	M	W	B	I	K	E	S	F
O	K	G	C	O	N	L	R	A	E	P
U	E	I	G	D	R	A	S	S	N	T
Q	E	E	L	S	A	B	X	Q	T	G
A	M	P	S	L	N	T	G	U	O	O
M	D	Y	N	N	E	L	B	I	A	B
R	Y	S	O	N	M	T	H	R	D	L
O	H	Z	A	W	O	U	F	T	F	E
W	T	H	D	V	N	X	J	I	I	R
D	O	Y	S	T	E	R	H	W	S	B
U	G	C	N	M	Z	E	G	O	H	H
M	A	V	Q	R	L	E	S	S	U	M
P	M	F	H	D	A	F	R	B	Z	A

**Regional Activity Books series:**

1. **Coastal North Carolina Activity Book** – <http://www.coastalscience.noaa.gov/education/ncbook.pdf>
2. **Salish Sea Activity Book** – <http://www.coastalscience.noaa.gov/education/ssbook.pdf>
3. **Mobile Bay Activity Book** – <http://www.coastalscience.noaa.gov/education/mbbook.pdf>
4. **Why Is Hawaii's Ocean Important? A Keiki Activity Book** – <http://www.coastalscience.noaa.gov/education/hibook.pdf>
5. **Coastal Louisiana Activity Book** – <http://www.coastalscience.noaa.gov/education/labook.pdf>

Copies of this material can be downloaded from:  
<http://www.coastalscience.noaa.gov/education/cbbook.pdf>

Produced by:  
Dr. Susan Baker, NOAA National Centers for Coastal Ocean Science  
Seaberry Nachbar, NOAA Chesapeake Bay Office  
Joyce Lowman, NOAA Chesapeake Bay Office  
<http://www.noaa.gov>

2002

