

## Color the Kingfisher

Complete the math problems to discover how to color the kingfisher. Use a separate sheet of paper to show your work.

Color all areas with this answer black.

$$56 \times 20 =$$

Color all areas with this answer blue-gray.

$$55 \times 40 =$$

Leave all areas with this answer white.

$$73 \times 11 =$$

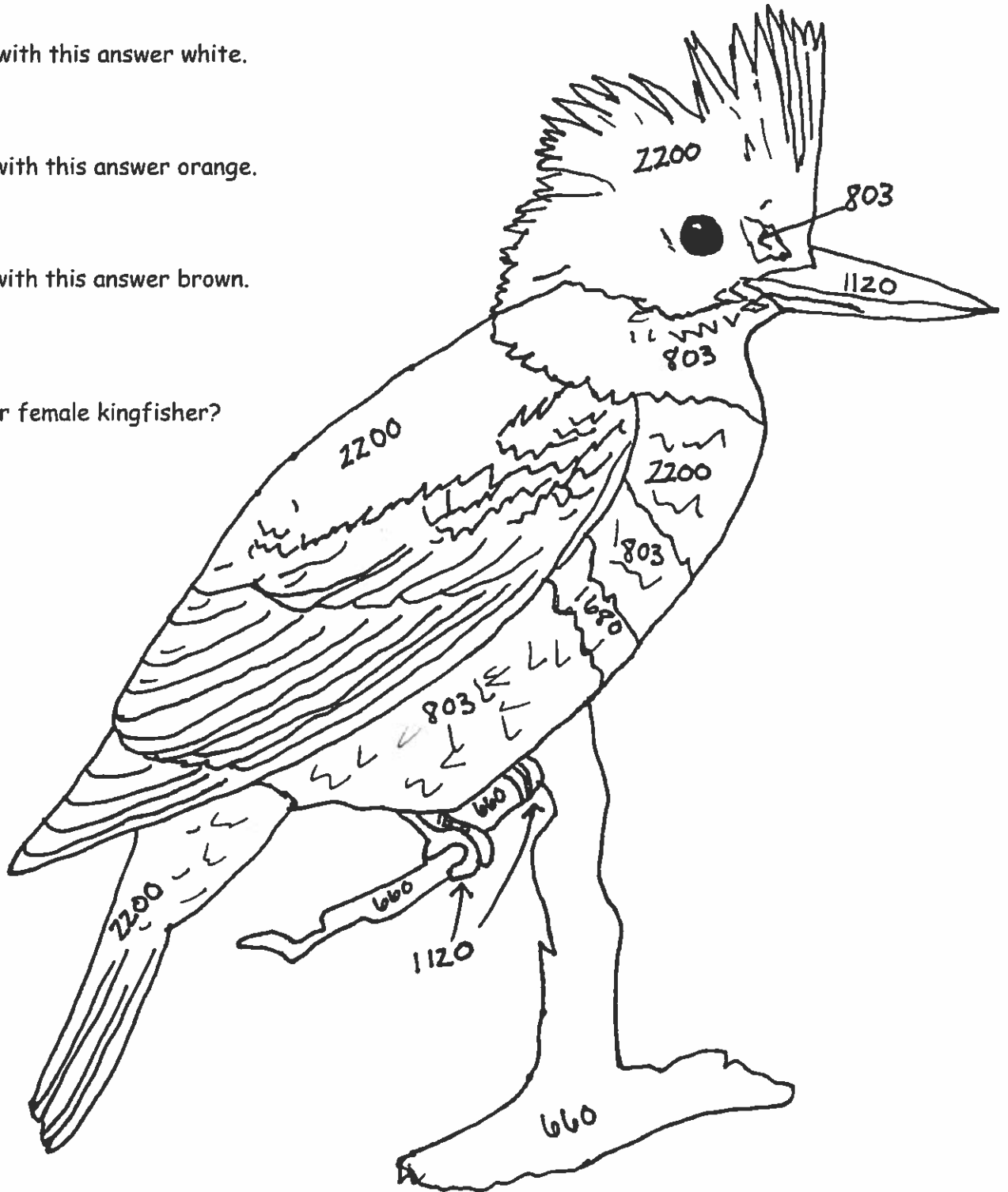
Color the area with this answer orange.

$$56 \times 30 =$$

Color all areas with this answer brown.

$$55 \times 12 =$$

Is this a male or female kingfisher?



## Color the Kingfisher

Complete the math problems to discover how to color the kingfisher. Use a separate sheet of paper to show your work.

Color all areas with this answer black.

$$56 \times 20 = 1120$$

Color all areas with this answer blue-gray.

$$55 \times 40 = 2200$$

Leave all areas with this answer white.

$$73 \times 11 = 803$$

Color the area with this answer orange.

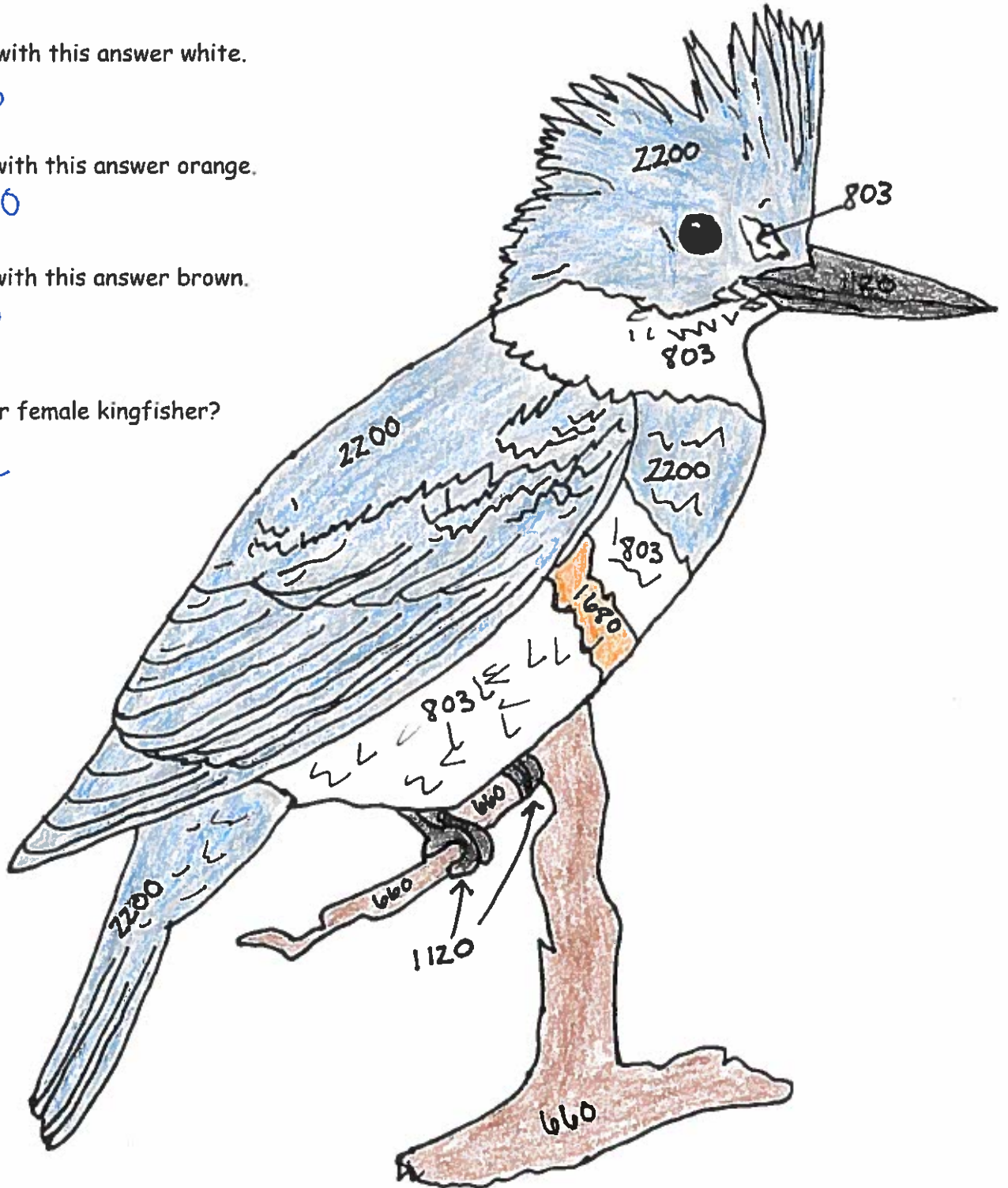
$$56 \times 30 = 1680$$

Color all areas with this answer brown.

$$55 \times 12 = 660$$

Is this a male or female kingfisher?

female



# Who's Eating What?

**Subject:** Science & Art

**Objective:** Students will be able to create collages and complete a worksheet to identify animals as herbivores, carnivores or omnivores.

**Materials:**

- Wildlife magazines to cut up
- Scissors
- Construction paper
- *Who's Eating What* worksheet



**Procedure:**

1. Review food chains with students, and discuss classification of animals as herbivores, carnivores and omnivores.
2. Give students a 12" X 18" piece of construction paper. Have them divide it into three columns. Instruct them to label a column for each of the following: herbivore, carnivore and omnivore.
3. Provide students with magazines for cutting out pictures of wild animals. Have them put pictures in the appropriate columns.
4. Handout *Who's Eating What?* worksheet for classifying animals as herbivore, carnivore, or omnivore.
5. Answer key: 1. B, 2. A, 3. C

Species	Herbivore	Carnivore	Omnivore
Moose	X		
Black Bear			X*
Gray Wolf		X	
Porcupine	X		
Mule Deer	X		
Coyote			X*
Mountain Goat	X		
Striped Skunk			X
Raccoon			X*
Painted Turtle			X
Magpie			X
Cougar		X	
Longnose Leopard Lizard		X	
Gopher Snake		X	
Wolverine			X*
American Crow			X
Grasshopper	X		
Beaver	X		
Kingfisher		X	
River Otter		X	

\*Note to teacher: Animals with an asterisk may be classified in science books as carnivores, but technically they will eat both plants and animals.

# Who's Eating What?

Match the following term with the proper definition. Write the correct letter in the blank.

- A. Herbivore                      B. Omnivore                      C. Carnivore

- \_\_\_\_\_ 1. An animal that eats both plants and animals.  
 \_\_\_\_\_ 2. An animal that eats only plants.  
 \_\_\_\_\_ 3. An animal that only eats other animals.



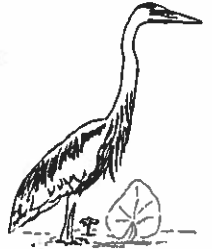
Place an X in the appropriate column.

Species	Herbivore	Carnivore	Omnivore
Moose			
Black Bear			
Gray Wolf			
Porcupine			
Mule Deer			
Coyote			
Mountain Goat			
Striped Skunk			
Raccoon			
Painted Turtle			
Magpie			
Cougar			
Longnose Leopard Lizard			
Gopher Snake			
Wolverine			
American Crow			
Grasshopper			
Beaver			
Kingfisher			
River Otter			

# Food to Fit the Bill

**Subject:** Science

**Objectives:** Students will investigate the diversity in bird beaks.



**Materials:**

- slotted spoon
- nutcracker
- medicine dropper
- sponge
- 4 sets of tongs
- 3 sets of tweezers
- potato peeler
- chopsticks
- straw
- strainer
- tablespoon
- scissors
- ladle
- turkey baster
- envelope
- Food to Fit the Bill Worksheet
- whole walnuts
- 5 pans or dishes
- Styrofoam cubes or peanuts
- tall, thin vase
- potting soil
- gummy worms
- food coloring for colored water
- popped corn
- loose-leaf tea or herbs
- rice grains
- bark or piece of Styrofoam
- molding clay
- stick or pencil
- bunch of grapes
- string
- illustrations of bird beaks

**Procedure:**

1. Prior to the lesson set up the following stations:
  - o Station One: A tall, thin vase filled with colored water, medicine dropper and sponge.
  - o Station Two: A dish of potting soil with gummy worms buried throughout, tongs and straw.
  - o Station Three: Whole walnuts or other nuts spread throughout a pan, tweezers and nutcracker.
  - o Station Four: A dish of water with one-inch Styrofoam cubes floating in shallow water, chopsticks and tongs.
  - o Station Five: A dish of water with loose-leaf tea or herbs, strainer and slotted spoon.
  - o Station Six: Popped popcorn, tongs and an envelope.
  - o Station Seven: Rice grains tucked into the bark of a log (or Styrofoam), tweezers and tongs.
  - o Station Eight: Molding clay wrapped around a stick, kids' scissors and a potato peeler.
  - o Station Nine: A dish of water with one-inch Styrofoam cubes floating in shallow water, ladle and turkey baster.

- o Station Ten: Bunch of grapes hanging from a string, tweezers and tablespoon.
2. Ask students to close their eyes and picture a bird. Go around the room and have students tell what bird they were visualizing. When all students have had the opportunity to share their bird, discuss diversity. There are so many types of birds, perhaps one student was thinking of a bird of prey, and another student was thinking of a hummingbird.
  3. Bring adaptations into the discussion. Why are there so many different kinds of birds? What makes the birds so different?
  4. Share some illustrations of different birds and discuss beaks and bills. Why are they so diverse? What purpose does the beak serve?
  5. Refer to the different stations around the classroom.
  6. Tell students that each station has items that represent a type of food eaten by various birds. Ask students if they can guess what each bird would have to do in order to reach their food supply. Does the shape of a bird's beak limit their food supply?
    - 1) Nectar (colored water) needs to be sucked out. (hummingbird)
    - 2) Worms (gummy worms) need to be dug and pulled out. (snipe & shore birds)
    - 3) Seeds (walnuts) need to be cracked open. (sparrows & finches)
    - 4) Fish (Styrofoam pieces) will probably need to be picked out of the water. (heron)
    - 5) Fine bits of vegetation (tea or herbs) need to be strained out of the water. (ducks, geese and swans)
    - 6) Flying insects (popcorn) need to be caught in wide openings. (swallows)
    - 7) Small insects (rice) need to be picked and pried out of small crevices. (woodpeckers)
    - 8) Meat (molding clay) needs to be pulled off of bones. (owls & hawks)
    - 9) Fish (Styrofoam cubes) need to be scooped out of the water. (pelicans)
    - 10) Fruit (grapes) need to be pulled off branches. (robin & cedar waxwing)
  7. Pass out Food to Fit the Bill worksheet. Divide the students into ten equally numbered groups. Each group is sent to a station. Have students predict which "beak" will be the most efficient at picking up or getting at the "food" provided. Then allow a few minutes for the students to try the "beaks" and write down their answers. Have students guess a species of bird whose beak works like the demonstration. Rotate students around to each station.
  8. After lab work is done, discuss with students their predictions, results and chosen bird species for each beak type.

# Food to Fit the Bill

At each station, first predict which "beak" will work best to retrieve the "food" provided. Try each "beak" and write down which beak was most effective. Write the name of a bird that has that type of beak.

Station	Food	Prediction	Best "Beak"	Bird with this Type of Beak
1	Nectar (colored water in vase)			
2	Worms (gummy worms)			
3	Seeds (nuts)			
4	Fish (Styrofoam pieces)			
5	Fine bits of plants (tea or herbs)			
6	Flying insects (popcorn)			
7	Insects in wood (rice)			
8	Meat on bone (clay on stick)			
9	Fish (Styrofoam pieces)			
10	Fruit on a tree branch (bunch of grapes)			

