

Topics: Life Science,
Adaptations

Materials List

- ✓ Plastic trays
- ✓ Whole squid, frozen
(Available at Asian
markets)
- ✓ Paper towels
- ✓ Latex gloves
- ✓ Clean up station or
sink, soap, etc.
- ✓ Squid Exploration
Diagram (page 2)

This activity can be used
to teach:

- Animal Anatomy
(Systems &
Structures) (CA
Science Standards:
Grade 4: 2.a, 2.b, &
2.c)
- Structure and
Function of the Eye
(CA Science
Standards: Grade 7:
5.g, 6.d)

Squid Exploration

What makes a squid a squid and helps it to survive?



Squids' many unique adaptations allow them to effectively hunt prey and escape their predators. Students explore a squid's anatomy by dissecting inexpensive frozen squid.

To Do and Notice (Students work in small groups)

Note: Strong smell alert! Thoroughly wash hands and all containers and equipment with soap and water after the investigation. Bag and tie all trash dispose of directly into an outside dumpster.

1. Defrost the squid under running water. Place on trays.
2. Distribute squid and Squid Exploration Diagram to students groups.
3. Explore the outside structure of the squid. Which structures assist the squid to swim, catch prey, or escape from predators? Notice the shape of the squid, why might the squid have a "torpedo" shape?
4. Note the patterns of coloration; is it the same for the top and bottom? What would be the advantage to the squid of this coloration?
5. Locate the beak at the center of the arms and tentacles. Remove and examine.
6. Use scissors to carefully expose the internal structures. Cut the squid along the ventral side (bottom side) from the eyes to the fins.
7. Allow students to investigate the internal organs.
8. Remove the plastic-like support structure called the "pen."
9. Gently remove the eye's lens and place on newsprint. What do you notice?

The Science Behind the Activity

Found in oceans around the world, squid are mollusks, closely related to cuttlefish and octopuses. They are distantly related to snails, clams, oysters, and sea slugs. Squids have highly developed nervous systems and display complex behaviors that are not seen in other invertebrates.

High in protein, they are an important food source for other marine life as well as for many people. To defend themselves squids can squirt out a cloud of ink to confuse a predator. They can also change color to match their surroundings, make a jet-propelled escape, maneuver quickly, or bite with their beaks to fight off predators. They are fast swimmers and fierce predators. A squid eats shrimp and fish in an amount equal to at least 20% of its body weight every day. Squid species can range from 2½ cm (1") to over 20 m (~70 ft) long!

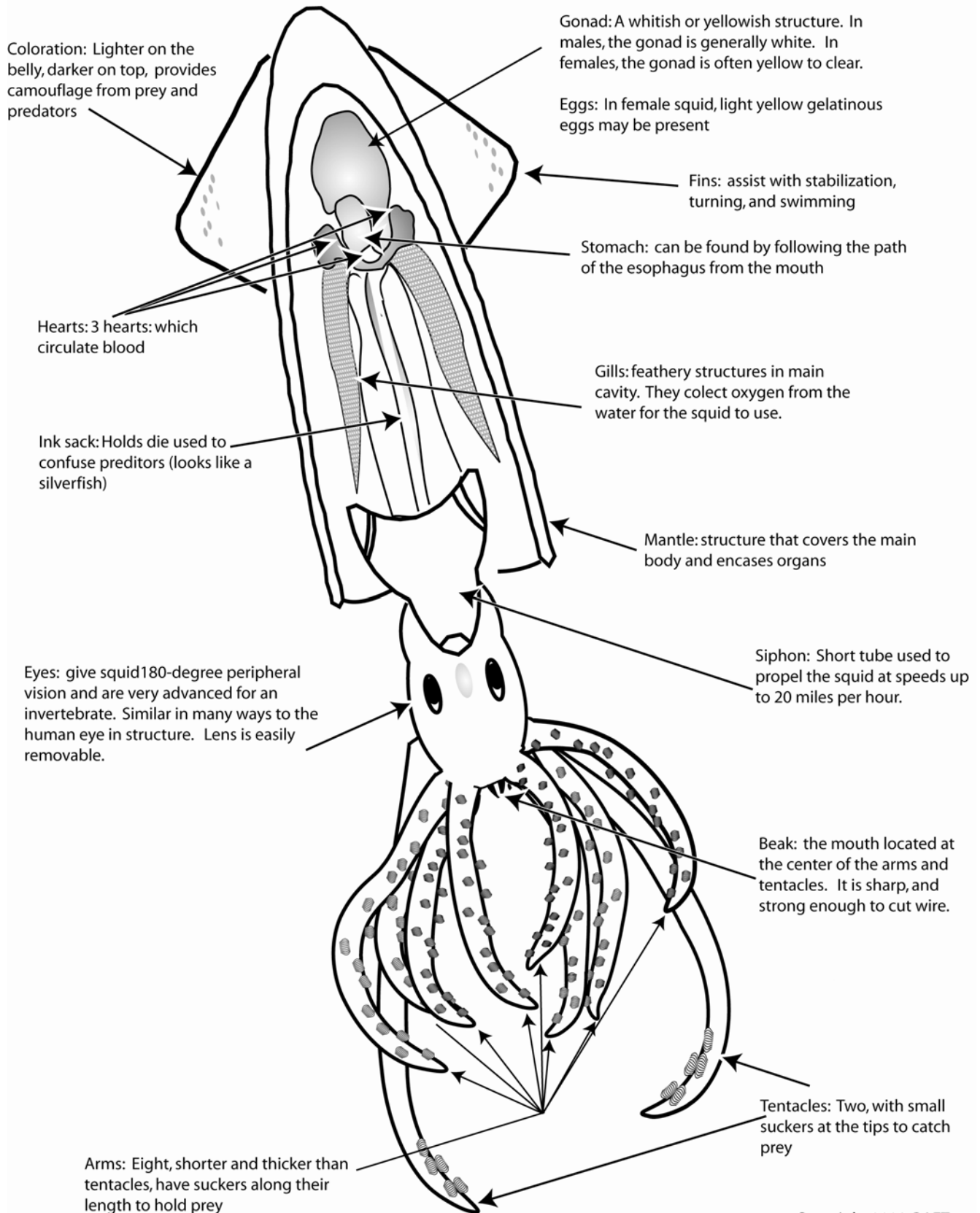
Taking it Further

- Review the life of a squid, their place in the food chain, how they move.
- Have students build a squid model using scrap materials such as fabric, rubber sheeting, foam, plastic pieces, and bubble wrap.
- The squid pen can actually be used as a writing implement using the squid's ink to write with. To do so, the ink sac (looks like a silverfish) needs to be ruptured.
- Explore how squid are utilized around the world as a protein source.

Web Resources (Visit www.raft.net/more for how-to videos and more ideas!)

- For information about reef squid - <http://marinebio.org/species.asp?id=286>

Squid Exploration Diagram



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