SeaWorld Teacher’s Guide

Just Squidding Around

OBJECTIVE
Given directions and a squid, the student will be able to identify the squid’s external anatomy and internal body parts.

MATERIALS
per student pair:
- fresh or frozen and thawed whole squid (not bait squid)
- scissors
- tweezers
- paper towels
- photocopy of Just Squidding Around funsheet on page 15

BACKGROUND
Squids are an important food item for many pinnipeds. To avoid being eaten, squids have many adaptations. Squids can change color by expanding or contracting pigmented skin cells. They can confuse predators by shooting a jet of ink that forms a dark cloud in the water. To capture prey, a squid uses its two long front tentacles and eight arms. Its jawlike beak bites prey.

ACTION
1. Rinse and dry squids. Distribute materials and squids.
2. Begin with external anatomy by having students extend and straighten the arms, tentacles, and body. Use the Just Squidding Around funsheet to identify these parts and the mantle, pen, siphon, fins, and chromatophores.
3. Have students prepare the squid for cutting by positioning the squid siphon-side up with the fins placed against the table.
4. For best results, students should lift, then cut the mantle from the base near the head to the tip between the fins. Place mantle flaps to the side.
5. Use the funsheet illustration to identify internal body parts: gills, heart, ink sac, stomach, liver, and gonads.
6. After identifying the internal body parts, students can remove the pen by firmly grasping it at the tip (near the squid’s head) with the tweezers and pulling it straight out. Also, they can gently remove the two beak halves for a closer look.
Make a check next to the name as you identify different parts of the squid.

- arms — seize prey.
- beak — cuts prey into bite-sized pieces.
- brain — controls movement. A squid’s brain is highly developed for an invertebrate. The brain appears as a small white ball just behind the beak.
- chromatophores — pigment-bearing cells that expand or contract to change the skin color (dark spots on mantle).
- esophagus — carries food from the mouth to the stomach.
- eyes — form an image, detect changes in light.
- fins — stabilize squid while swimming.
- gills — absorb oxygen from the water.
- gonad — the male gonad (testis) is a white filamentous mass that produces sperm. The female gonad (ovary) is an opaque mass that produces eggs.
- hearts — circulate blood.
- ink sac — holds thick, black ink that the squid releases to confuse predators.
- liver — secretes digestive enzymes. The liver is salmon colored and is often found under the ink sac.
- mantle — body, holds internal organs.
- nidamental gland — females only; secretes a gelatinous mass that surrounds the eggs in the mantle cavity.
- pen — remnant of shell.
- siphon — squirts water to propel squid.
- stomach — digests food.
- tentacles — seize prey.