Mollusks

By Cindy Grigg

[1] Mollusks are invertebrates (animals without a backbone) with soft bodies. Their bodies are not divided into different segments or parts. Mollusks often have a hard outer shell to protect their bodies. All mollusks have a thin layer of tissue called a mantle which covers their internal organs. The mantle produces the mollusk's shell. Clams, oysters, snails, and octopuses are all mollusks.

[2] Mollusks live nearly everywhere on Earth. Most live in water, but some live on land, usually in damp places. Most mollusks move with a muscular structure called a foot. The feet of different kinds of mollusks are adapted for different uses, like crawling, digging, or catching prey. Many mollusks have an organ called a radula (RAD you lah), which is a flexible ribbon of tiny teeth. The tiny teeth scrape food from a surface, such as the surface of a leaf. A radula may have as many as a quarter-million teeth!

[3] Biologists classify mollusks into groups based on physical characteristics. Some of these characteristics are the presence of a shell, the type of shell, the type of foot, the arrangement of teeth in the radula, and the complexity of the nervous system. The three major groups of mollusks are gastropods, bivalves, and cephalopods (SEF ul o pods).

[4] The largest group is the gastropods. These are mollusks like snails and slugs that have just one shell or no shell at all. Gastropods creep along on their broad foot. The word "gastropod" means "stomach foot" because most of them have their foot on the same side of their body as their stomach. Gastropods live in oceans, on rocky shores, in fresh water, and on dry land. Some snails even live in tree tops. Some are herbivores, eating only plant materials, while others are scavengers that feed on decaying material. Some are carnivores. The oyster drill is a snail that feeds on oysters. It makes a hole in the oyster's shell by releasing acid, and then it bores a hole with its radula. Then the oyster drill scrapes away the oyster's soft body.

[5] Bivalves are mollusks that have two shells hinged together, held by strong muscles. Clams, oysters, scallops, and mussels are bivalves. This type of mollusk does not have a radula. They are mostly filter-feeders. They strain their food from

the surrounding water. Bivalves use their gills to capture food as they breathe. Food particles stick to mucus that covers the gills. The cilia on the gills then move the food particles into the bivalve's mouth. Sometimes sand or grit gets between the bivalve's mantle and shell. The sand irritates the soft tissue of the mantle. The bivalve's mantle makes a smooth, pearly coating to cover the irritating object. Over time, a pearl forms around the grain of sand or grit. Some oysters make beautiful pearls that are used in jewelry.

[6] The last group of mollusks is the cephalopods (SEF ul o pods). This word means "feet on head." The name comes from the fact that all cephalopods have a crown of tentacles around the head. Octopuses, cuttlefish, nautiluses, and squids are all cephalopods. These mollusks capture food with their flexible, muscular tentacles. Sensitive suckers on the tentacles have the senses of taste and touch. A cephalopod doesn't have to touch something to taste it. The suckers can "taste" chemicals in the water. For example, when an octopus feels beneath a rock, its tentacle may find a crab by taste before it touches it.

[7] Cephalopods have the most complex nervous system of any invertebrate. They have a large brain, and they can remember things they have learned. In a lab, octopuses quickly learn when feeding time will be and how to escape from their tanks. They swim by jet propulsion. They squeeze a current of water out of the mantle cavity through a tube called a siphon. The water shooting out propels them in the opposite direction. By turning the tube, they can steer in any direction.

[8] Native Americans in the Northeast used the hard shells of clams to carve beads they called wampum. They wove these beads into belts and strings like necklaces. When warring groups made peace, they would exchange weavings made of wampum. Native American women would honor a new chief by giving him a gift of wampum. The clams' soft bodies were a major source of food for Native Americans. Today, clams and other mollusks are still valuable sources of food for people in many parts of the world.

Name _____ Science Pd:_____

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1. Mollusks are classified as: (A) Cephalopods (B) Invertebrates (C) Vertebrates	2. All mollusks live in water. (A) False (B) True
3. All mollusks have shells. (A) False (B) True	4. A flexible ribbon of tiny teeth that some mollusks have is called a: (A) Foot (B) Mantle (C) Radula
5. A thin layer of tissue covering the internal organs of a mollusk is called a: (A) Radula (B) Foot (C) Mantle	6. Which group has the most complex nervous system of any invertebrate? (A) Gastropods (B) Cephalopods (C) Bivalves
7. Which group does not have a radula? (A) Gastropods (B) Cephalopods (C) Bivalves	8. How does a cephalopod taste something? (A) With its tentacles (B) With its suckers (C) With its tongue