Student Activity Sheets
Mollusks

A mollusk is an animal that moves on a big foot. Usually the body is protected by a hard shell. These are mollusks.
Mollusk (mollusca)
An animal with a soft body often protected by a hard shell.

Univalve — This mollusk has only one shell.

Bivalve — This mollusk has two shells.

Chiton — A mollusk with 8 parts to its shell.
Coat of Arms
Bivalve vocabulary

A bivalve is an animal that lives inside a shell. The shell has two parts. The parts are called valves.

Adductor Muscle This muscle opens and closes the shells.

Byssus These look like threads. They fasten a bivalve to rocks and other things.

Foot This part helps the bivalve move and dig.
**Bivalve vocabulary**

**Hinge Ligament**  This ligament helps the hinge teeth hold the two shells together.

**Hinge Teeth**  These stick out from both sides of the shell and fit together to join the two shells.

**Neck**  This part of the bivalve sticks out and has the siphons in it.

**Siphons**  These are soft tubes that the bivalve uses to take in and let out water.

**Valve**  This is one part of a bivalve shell.
Bivalve shells

Color the hinge ligament white.
Color the muscle scars blue.
Color the hinge teeth yellow.
Color the rest of the shell brown.
Bivalves have no head

Color the stomach and intestines blue.
Color the heart red.
Color the siphons green.
Color the foot and mantle yellow.
Put a black X on the adductor muscles.
Color the gills orange.
Bivalve Parts

Make a line from the word to its picture.

1. valve
2. hinge teeth
3. hinge ligament
4. adductor muscle
5. siphon
6. neck
7. foot
8. byssus
Clams

Clams live in the sand or mud. They can dig deep with a strong foot.

**How do bivalves eat?**

Bivalves use a long siphon that is like two straws to get their food. Tiny plants and animals that live in the water are a clam's food.

Water carrying these plants and animals is sucked into one part of the siphon.

Then the bivalves collect the plants and animals and push the water out the other part of the siphon.
Scallops

A scallop swims by clapping its two valves together. A scallop has wings or ears.

It has many tiny blue eyes and tentacles.
Cockles

Cockles are heart shaped when viewed from the side. Cockles use their foot to dig into the sand.

They can also use their foot to flip over and over to get away from sea stars. Some sea stars like to eat cockles.
The umbo is the oldest part of the shell. Growth lines are very easy to see on a cockle.

When you look at an umbo, you will see what looks like a little cockle.
Mussel Food

Blue mussels live on the beach. They are bivalves. The outside of their shells is brown or blue.

Byssal threads hold mussels tightly to rocks.

Mussels use their siphons to strain microscopic plants and animals from the water. These plants and animals are the mussel's food.
WHO AM I?

I dwell in a shell,
   But I'm not a clam.
My name sounds like I'm strong.
   Can you guess who I am?

Clues:  I live on rocks.
        I am a bivalve.
        I am blue and black.
My name starts with "M".

I am a ____________________.

Draw me:
Univalve Vocabulary

A univalve is a mollusk. It has one shell.

Aperture  This is the opening in the univalve shell.

Operculum  This is the hard round plate that seals the shell opening of the univalve.

Radula  This is a long ribbon that has many hooks. A univalve may use it to scrape tiny plants off rocks. Some univalves use the radula to drill holes into other animals’ shells.

Spire  This is the top of the univalve shell.
**Whelk**
*(Nucella lamellosa)*

This whelk is a snail with a long scientific name.

Nucella lamellosa.
(no-o-cell-a lam-el-o-sa)
Can you say this name?

This snail lives on beaches in Alaska.
Each individual snail called Nucella lamellosa looks a little different from all others.
Some may be all one color. Some may have bands of white or purple or yellow.

Color the Nucella lamellosa on this page to look like the ones on the beach.
A moon snail has a hard "door". This door is called an operculum. The operculum is pulled into the shell opening to shut the moon snail in its shell.

A moon snail lays its eggs in a sand collar. If you are lucky, you may find a sand collar on the beach. Leave the sand collar on the beach. Then the eggs will hatch.
Hairy Triton
(Fusitron oregonensis)

The live hairy triton is covered with a layer of brown bristles called a periostracum. The shell under the periostracum is pink and very easy to break.

The triton lays eggs in egg cases on rocks. The cases are almost clear and are shaped like kernels of corn.
Limpet

A limpet is a special kind of univalve.

Limpet shells look like pointed caps.

Limpets live on rocks or other hard objects. They eat algae or sea weed. They scrape the sea weed off rocks with their radula.
Abalone (Haliotis kamschatkana) is a marine snail with an oval shell that has 4 to 6 open holes. The inside of the shell is mother of pearl. With its foot the abalone can hold on tightly to the rocks over which it moves.

Abalone was used by Tlingit Indians for decoration and for trading as money.
Chiton

A chiton is a mollusk that can curve over a rock. It can hold on very tightly.

It has eight parts to its shell.

Giant Pacific Chiton

color the giant chiton dark red.

One of the largest chitons in Alaska, it has been used for a long time as food by the southeast Alaska Indians.

Katy Chiton

Color the Katy Chiton black with white valves.

This chiton is used for food too.
Octopus

An octopus swims by "jet propulsion". It can squirt black ink to confuse an enemy and change color in an instant.

The octopus lives in holes or cracks.
It is an intelligent animal.
Color these octopi to match their locations.
**Squid**

A squid has eight arms and two "tentacles". It eats small fish and shrimps. A squid can change its color and can swim by "jet propulsion".
The Hungry Octopus

When you hear the tap, tap, tap, of their beak-ie,
when you see those eight long arms charg-in for you,
don't let them drill a hole in your shell,
you'd better hide and roll with the tide.

They love to crunch and munch on you for lunch,
cause when you see those eight arms chargin for you,
so don't let them drill a hole in your shell.
It will be crunch, munch, you'll be served for lunch.
Ounce of Prevention Game

Directions

1. Move markers along trails according to the number of footprints on one die.

2. Shuffle cards before the game begins, and place them on the 1-Ounce box.

3. Game continues along choice of trails, collecting special treasures and escaping from hazards.

4. Special treasures are in circles on trails. Player collects them by landing on circle.

5. Escape from hazards by drawing one card per turn until the needed card is drawn.

6. Game ends when one player collects all 10 treasures.

7. No two markers can occupy the same treasure at one time. However, as many as are trapped can remain in one hazard.

8. Mark Treasure Tally cards with washable pen or crayon as each is "collected."

Game Preparation

1. To prepare this game, tape two sheets of the game board together and laminate or cover with contact paper.

2. Make six copies of the cards. Glue to cardboard, then laminate or cover with contact paper. Cut out the "Ounce of Prevention" cards.

3. Use pebbles, driftwood, fish vertebrae, sand-frosted beach glass for game markers.

4. Copy enough Treasure Tally cards for each player. Laminate or cover with contact paper.

5. Use one die for the game.
You missed the bus.

You came upon a jellyfish on the beach.

You ate a beach plant and feel sick to your stomach. You could be poisoned.

You are separated from the rest of the class.

After eating some clams you collected, your lips tingle. Do you have PSP?
You stepped in a tidepool, are your feet wet?

Ounce of Prevention

Slip on seaweed.

The wind dies down and you are enveloped in a swarm of mosquitoes and no-see-ums.

It's begun to rain.

The tide has come up and covered some lunches.

The wind has picked up and the temperature dropped. You zip up your jacket, but are losing your body heat through your head.
<table>
<thead>
<tr>
<th>You remembered to wear your PFD.</th>
<th>You remembered to bring your raincoat.</th>
</tr>
</thead>
<tbody>
<tr>
<td>You collected clams on a beach OK for PSP.</td>
<td>You are wearing insect repellent.</td>
</tr>
<tr>
<td>You positively identified the plant before you ate it.</td>
<td>You are with your &quot;buddy&quot; and did not wander off by yourself.</td>
</tr>
<tr>
<td>You were attentive to your teachers return signal.</td>
<td>You remember to put all your belongings above the high tide line.</td>
</tr>
<tr>
<td>You wore a wool hat or scarf.</td>
<td>You have on your rubber boots.</td>
</tr>
<tr>
<td>You didn't step on living animals.</td>
<td><strong>Ounce of Prevention Cards</strong></td>
</tr>
</tbody>
</table>
Treasure Tally
Cards

- Japanese Float
- Spouting Whale
- Driftwood
- Ivory Point
- Fish skeleton
- Pretty pebble
- Shell
- Bird feather
- Bird footprint
- Bird catching fish
barnacles

how many?

six-rayed sea star

how many?

cockle

how many?
octopus
how many?

whelk
how many?

brittle star
how many?

sea star
how many?
jellyfish

how many?

sponge

how many?

sea weed

how many?

sea anemone

how many?
clam shell

how many?

sunflower sea star

how many?

sea urchin

how many?

limpet

how many?
sea cucumber

how many?

chiton

how many?

crab

how many?

live clam

how many?