Diversity of Life: Animal Kingdom

Lesson 3: Invertebrates

7th Grade Science
Class Notes & Activities

QUICK LINKS:
Arthropods Chart

Lesson 3 - Read pages 148-153 to complete this section.

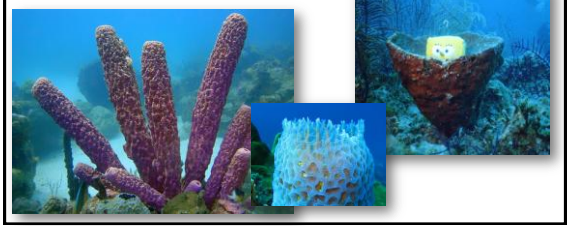
* Depends on the source – ranges from 93%-97%!

(A) What percentage of animals are invertebrates? 96%*
Where do they live? IN EVERY CLIMATE

=Pores - SB

(B) SPONGES (in the phylum ★ PORIFERA) are asymmetrical with specialized cells, but no tissues or organs. They take food into their bodies through ★ FILTER feeding to get energy.

SEA SPONGES

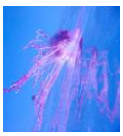


Dare u to touch

(C) Jellyfish and corals are examples of CNIDARIANS. They have stinging cells (called ★ NEMATOCYSTS) and take in food through a central body cavity. They have RADIAL symmetry with some tissues, but no ORGANS.

CNIDARIAN COLONIES

CORAL REEFS



PORTUGUESE MAN-OF-WAR

Budding = asexual

HYDRA
What is this type of reproduction called?

JELLYFISH

Add to notes → Incomplete Digestive System – 1 opening

(D) Flatworms (called ★ PLATYHELMINTHES) have flat, soft bodies with some having EYESPOTS on their heads to detect light.

→ Round house

Roundworms (called ★ NEMATODES) look like smooth, thin tubes with 2 body openings.

Add to notes

Complete Digestive System – 2 openings

Segmented worms (called ★ ANNELIDS) have bodies made up of many sections called segments and have BRAINS to help them detect food and predators.

A lid on

EARTHWORM

NEMATODES

PLANARIANS

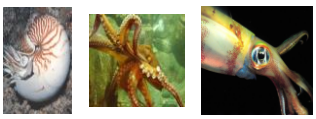
Plane = Flat

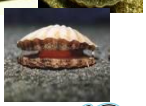
E) MOLLUSKS are invertebrates with soft, unsegmented bodies and a thin layer of tissue called a MANTLE that covers their internal organs. They also have a FOOT that might be used for crawling, DIGGING, or catching prey.

GASTROPODS, such as snails and slugs, have a single shell or no SHELL and a distinct head.

BIVALVES, such as clams and mussels, have 2 shells and a simple nervous system.

CEPHALOPODS, such as octopus and squid, have good vision and large brains. They may have an external or internal SHELL.





Octopus Adaptation

(G) Arthropods have a hard outer covering, called an EXOSKELETON, segmented BODY, and pairs of JOINTED appendages, such as legs, wings, antennae.

(H) An echinoderm has an internal skeleton, called an ENDOSKELETON, and a system of fluid-filled tubes (called a ★ WATER VASCULAR system) used to MOVE and obtain food and oxygen.

EXAMPLES – Need 3 on your notes

SEA STARS, BRITTLE STARS, SAND DOLLARS, SEA CUCUMBERS, SEA URCHINS

Shape of Life Echinoderms

World's Weirdest: Sea Cucumbers

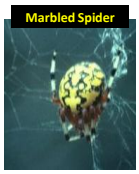
Let's take a closer look at arthropods …

Glue the chart (4 corners – sideways) on page 11 of your notebook and fill it in as we discuss the next few slides.

http://arthropoda.southernfriedscience.com/wp-content/uploads/2013/01/banner-sfs2.jpg

Common Name	Examples	# of Body Segments	# of Pairs of Legs	# of Pairs of Antenna	Characteristics
Crustaceans	Crabs Lobster Shrimp Crayfish Pillbugs	2 or 3	5 or more	2	Use GILLS to obtain oxygen

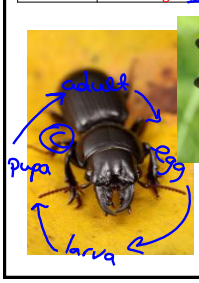
Common Name	Examples	# of Body Segments	# of Pairs of Legs	# of Pairs of Antenna	Characteristics
Arachnids	Spiders Scorpions Ticks Mites	2	4	None	TICKS and MITES are two examples of parasitic arachnids.

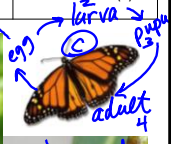


Giant Tarantula

Common Name	# of Body Segments	# of Pairs of Legs	# of Pairs of Antenna	Characteristics
Centipedes (CHILOPODA)	Many	1 per body segment	1	Are POISONOUS and inject venom into their prey
Millipedes (DIPLOPODA)	Many	2 per body segment	1	Are HERBIVORES that feed on partly decayed leaves

Common Name	Examples	# of Body Segments	# of Pairs of Legs	# of Pairs of Antenna	Characteristics
Insects	Grasshopper Butterfly June Bug Earwig Bed Bug	3	3	1	Metamorphosis may be COMPLETE (4) or INCOMPLETE (3)





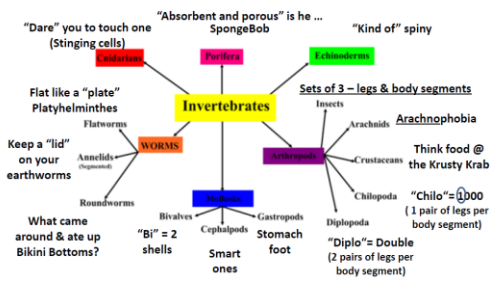
Dung Beetles

Classy Invertebrates

7th Grade Science
Mrs. Tracy Tomm

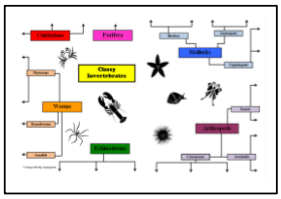
Glue the worksheet on page 12 (4C – 4 corners)

How can we remember the different classification groups for invertebrates?

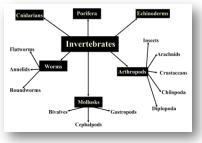


Activity Directions:

1 – Work with your partner to place each "critter card" in its correct location around the edges of the classification mat.



2 – Write the names of the organisms in the correct location on the organizer worksheet in your notebook.



3 – When you are done, have your teacher check your answers.