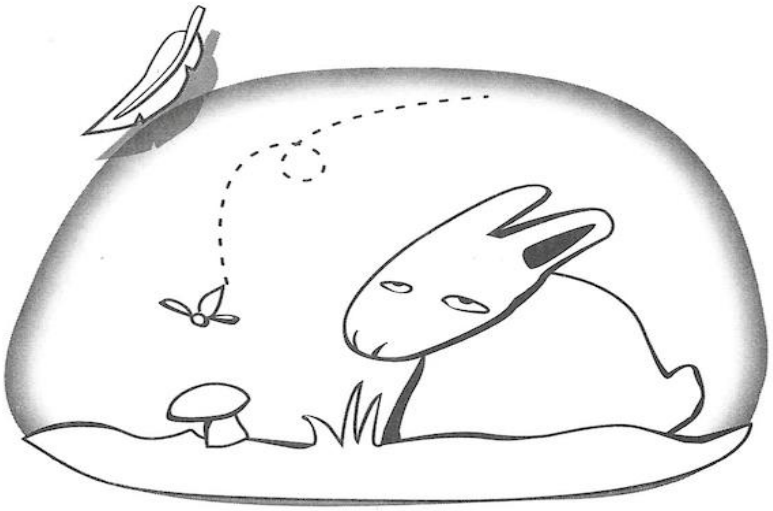
Name: _____ **Core:** _____

ANIMAL PHYLA

Prior Knowledge Questions:

Is It an Animal?

Which of the organisms listed are animals? Put an X next to each organism that is considered to be an animal.



___ cow	___ spider	
___ tree	___ snail	
___ mushroom	___ flower	
___ human	___ monkey	
___ worm	___ beetle	
___ tiger	___ whale	
___ shark	___ frog	___ mold
___ starfish	___ chicken	___ snake

Explain your thinking. Describe the "rule" or reasoning you used to decide if something is an animal.

_____

_____

_____

_____

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_____

What do Tim & Moby say about Invertebrates?

Want to watch the video again? Go to **Invertebrates Brainpop**
(*Username*: **nfmsbrain** *password*: **pop**)

Word Bank:

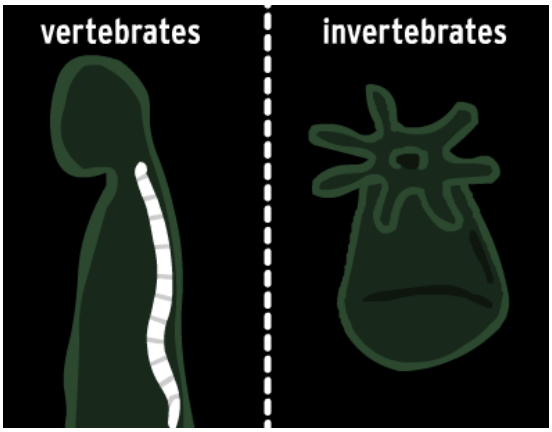
circle	invertebrate	definite	jointed	soft
phyla	tentacles	segments	spiny	gills

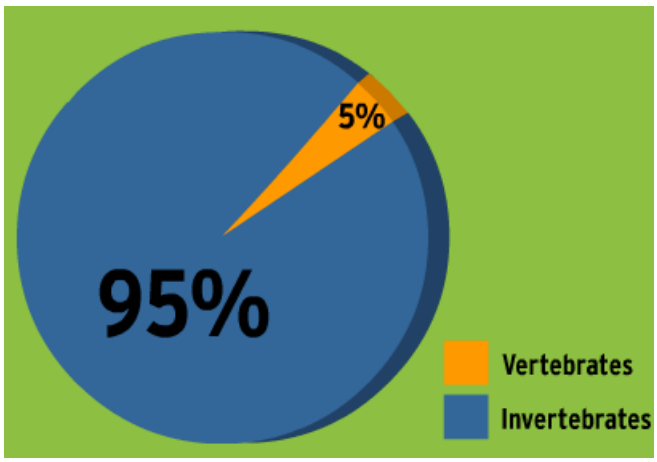
Types of symmetry (THESE WORDS WILL BE USED MORE THAN ONCE):

radial bilateral asymmetric

We can organize organisms that belong to the Kingdom Animalia into 2 general categories:

- **Vertebrates-** organisms that **have** a spinal column or backbone.
- **Invertebrate** - organisms that ***don't*** have a spinal column.

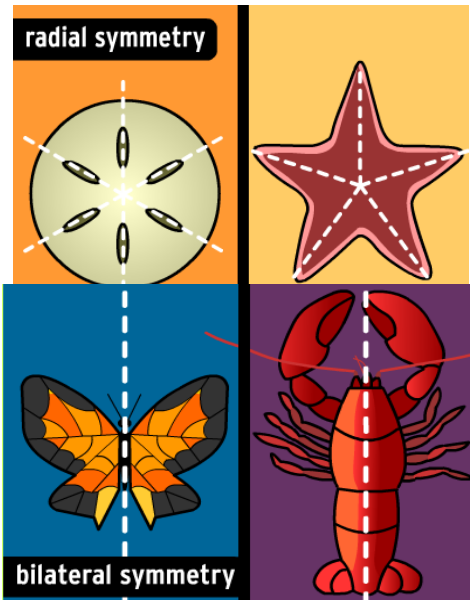




We can further classify the INVERTEBRATES into different groups, or **phyla** (*plural for Phylum*):

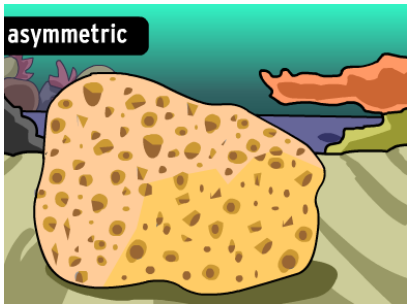
Sponges, cnidarians, flatworms, roundworms, mollusks, annelids, arthropods, and echinoderms are all examples of invertebrates.

In order to classify organisms into their appropriate phylum, scientists look at some key features to help them decide.



Body Symmetry

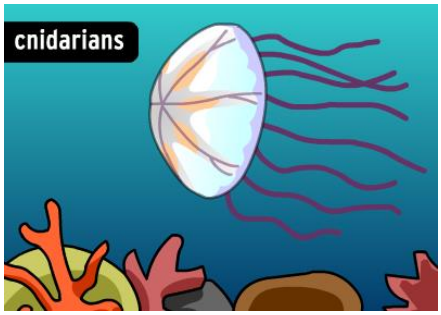
- Animals with body parts arranged in a **circle** around a central point are said to have **radial** **symmetry**.
- Animals with **bilateral** **symmetry** have 2 halves that will match (be the same) if you draw a line through the center of their body.



- Animals that are **Asymmetric** have no **definite** shape at all.

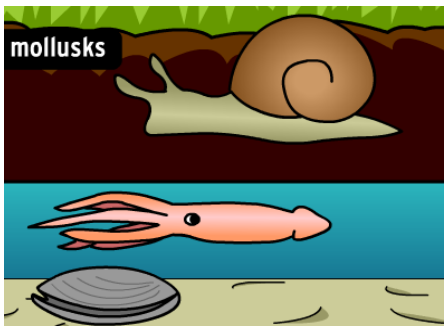
Below are the 6 major ANIMAL phyla you need to know for 7th grade. There are really between 30-40 total animal phyla that scientists recognize today! We will only talk about these 6 in class:

1. Phylum: *Cnidarians*



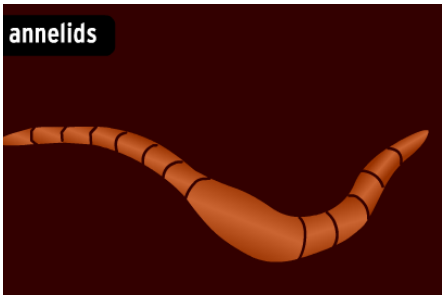
- *Examples: Jellyfish, sea anemones, hydra*
- Often have **tentacles** around their mouths that contain stinging cells so that they can stun and catch prey.
- Type of symmetry: **radial**

2. Phylum: *Mollusks*



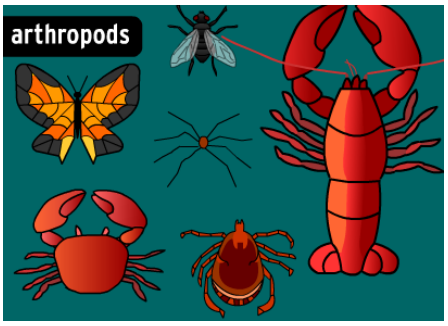
- *Examples: snails, mussels, clams, squid*
- **Soft** -bodied, protective shell, muscular foot that allows for movement
- Land mollusks have lungs, while underwater mollusks use **gills** to breathe.
- Type of symmetry: **bilateral** (*I know it's not in the video, but what do you THINK?????)*

3. Phylum: *Annelids*



- *Examples: earthworms, leeches, marine worms*
- Made up of ringed **segments**.
- Type of symmetry: **bilateral** (*I know it's not in the video, but what do you THINK?????)*

4. Phylum: *Arthropods*



- *Examples: spiders, butterflies, lobster, crabs*
- Largest and most diverse group (phylum) of animals!
- Arthropod = **jointed** foot (ex: claws, legs, antenna)
- Segmented bodies
- Type of symmetry: **bilateral**

5. Phylum: *Echinoderms*

- *Examples: starfish, sea urchins, sand dollars, sea cucumbers*
- Echinoderm = **spiny** skin
- Internal skeleton of bone-like plates and thousands of tube feet
- Filter-feeders / bottom feeders
- Type of symmetry: **radial**

But Ms. Quinn… You forgot about #6!...

IKR!!!! (*That means "I know right?!" if you're not down with the lingo* ☺)

Our 6th major animal phylum belongs with the other 5% of organisms that are classified as animals… VERTEBRATES!

What do Tim & Moby say about Vertebrates?

Want to watch the video again? Go to **Vertebrates Brainpop**
(*Username*: **nfmsbrain** *password*: **pop**)

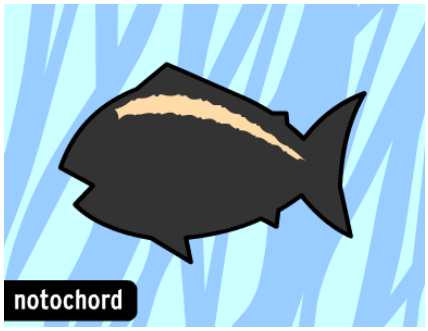
Word Bank:

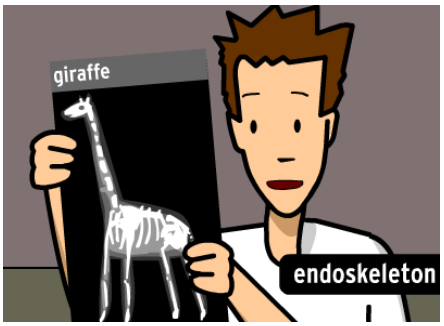
classes	reptiles	backbone	chordates
amphibians	endoskeleton	notochord	bilateral

6. Phylum: *Chordates*

- *Examples: humans, turtles, fish, elephants*
- There are about 58,000 *known* species of vertebrates!!!!!
- Type of Symmetry: **bilateral**
- Remember, vertebrates are organisms that have a spinal column or **backbone**.

- Chordates have a **notochord**, or rod of stiffened tissue that can develop into a backbone as the animal grows.
- Have an **internal skeleton** of bones called an **endoskeleton** that offers support and protects the soft parts of the animal.





- The Chordata Phylum, or **Chordates**, can be further divided into various **classes**.

(*Remember: Domain, Kingdom, Phylum, Class, Order, Family, Genus, Species?*)

The classes in the Chordata Phylum are:

- Fish
- **Amphibians**
- Birds
- **Reptiles**
- Mammals

YOUR TURN!

1. There are 6 major animal phyla. Fill in the table below with the help of your trusty brain and your table groups. *(Hint: Use the notes in this packet to help you!)*

2. When you are finished, check your answers on our class website! **Once you have checked your answers, come show me!**

Phylum	**Type of Symmetry** *(radial, bilateral, or asymmetric)*	**Distinguishing Features**	**Examples**	**Picture**
Cnidarians	**radial**	Invertebrate, Stinging tentacles	Jellyfish, sea anemones	
Mollusks	**bilateral**	Invertebrate, Soft body, hard shell, muscular foot	Snails, mussels, clams, octopi, squid	
Annelids	**bilateral**	Invertebrate, Ringed segmented body	Earthworms, leeches, marine worms	
Arthropods	**bilateral**	Invertebrate, Jointed segments	Spiders, lobsters, crabs, insects	
Echinoderms	**radial**	Invertebrate, Spiny skin	Starfish, sand dollar, sea cucumber, coral	
Chordates	**bilateral**	Vertebrate (has a backbone)	Mammals, fish, reptiles, birds, amphibians	

3. Identify the Kingdom and Phylum of each organism.

	Kingdom	Phylum
Organism #1	**Animalia**	**Annelids**
Organism #2	**Animalia**	**Cnidarians**
Organism #3	**Animalia**	**Echinoderms**
Organism #4	**Animalia**	**Chordates**
Organism #5	**Animalia**	**Mollusks**
Organism #6	**Animalia**	**Arthropods**

Organism #1

1. Heterotroph
2. Multicellular
3. Can move
4. Bilateral Symmetry
5. Body made up of ringed segments

Organism #2

1. Heterotroph
2. Multicellular
3. Can move
4. Radial Symmetry
5. Has stinging cells

Organism #3

1. Heterotroph
2. Multicellular
3. Can move
4. Radial Symmetry
5. Has spiny skin

Organism #4

1. Heterotroph
2. Multicellular
3. Can move
4. Bilateral Symmetry
5. Vertebrate/Endoskeleton

Organism #5

1. Heterotroph
2. Multicellular
3. Can move (with a muscular foot)
4. Bilateral Symmetry
5. Has a soft body and protective shell

Organism #6

1. Heterotroph
2. Multicellular
3. Can move
4. Bilateral symmetry
5. Jointed, segmented body