

ANIMAL PHYLA

BACKGROUND

The kingdom of animals can be divided into smaller entities called *phyla* (sing. *phylum*) based on the evolutionary history. Every phylum has certain characteristics that sets it apart from other phyla. For instance, a human being belongs to the phylum *Chordata* (chordates) distinguished by their hard, inner endoskeleton (notochord or backbone).

In this task, we take a closer look at seven animal phyla: *Porifera* (sponges), *Cnidaria* (e.g. jellyfish), *Arthropoda* (e.g. insects), *Nematoda* (roundworms), *Annelida* (ringed worms), *Echinodermata* (e.g. starfish), and *Mollusca* (e.g. snails). Look at the picture: can you find all the mentioned phyla?

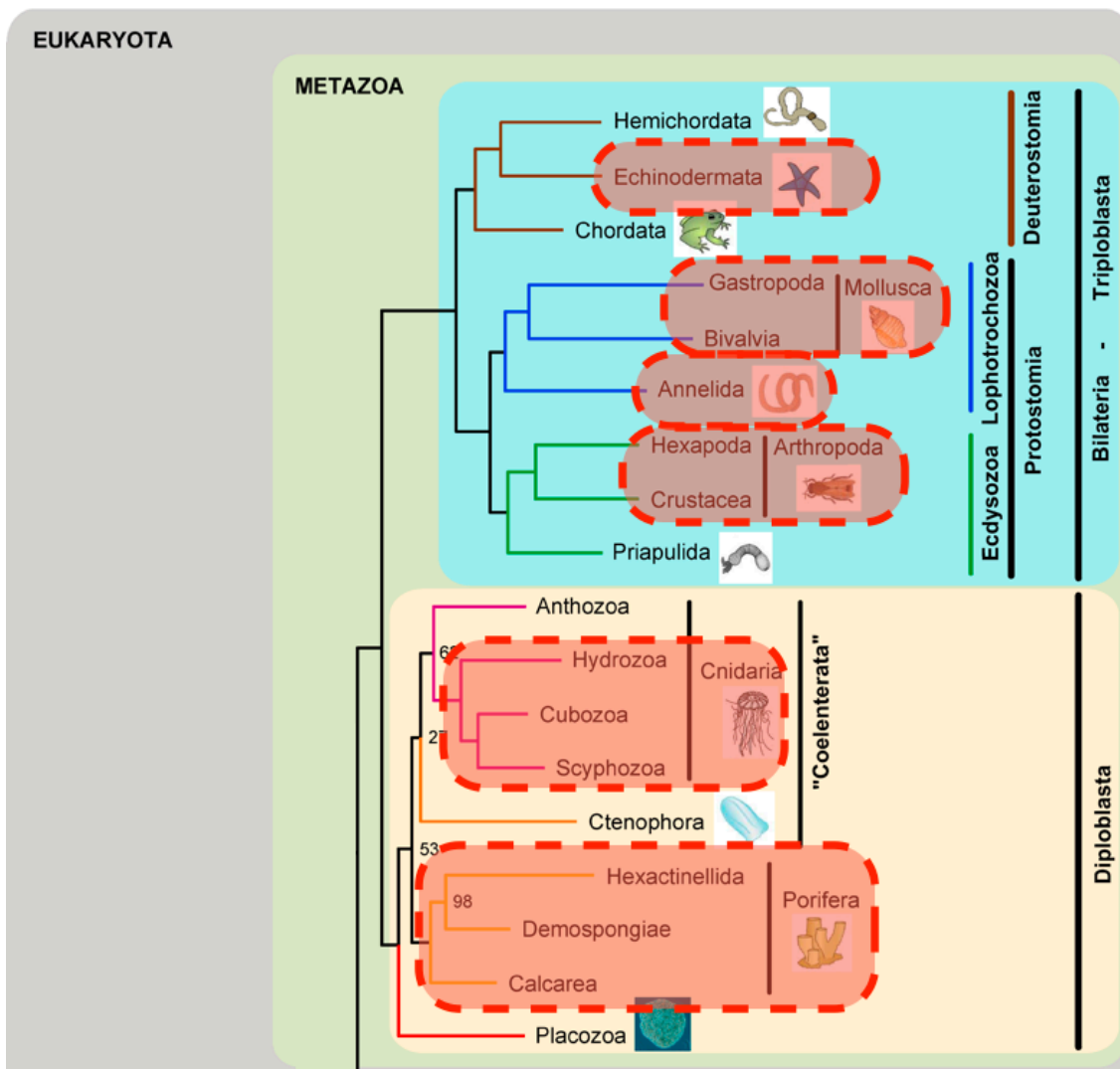


Image 1. The tree of animal phyla. There are also many other animal phyla not mentioned in this picture. Schierwater B, Eitel M, Jakob W, Osigun H-J, Hadrys H, et al., CC-BY-SA 2.5.

QUESTIONS BEFORE THE TASK

- Animals can also be classified as vertebrates and invertebrates. Do you know any invertebrates? Mention at least five of them.
- Have you eaten or tasted any invertebrates?
- Most animal phyla can be found only in seas. Which animals you can't find on dry land?



Image 2. How many phyla can you find in the picture? Field Museum, CC-BY-SA 2.0.

EQUIPMENT

- Animal specimen
- On demand: forceps, petri dishes

INSTRUCTIONS

1. CLASSIFICATION OF ANIMALS

You can find different animals on the table. Find different characteristics and fill in the table. Can you find some characteristics that distinguish a phyla from the others?

If you can't find a characteristic (such as legs), draw a dash (-).

Phylum	Species	Symmetry (radial / bilateral / no symmetry)	Composition of the body (hard, soft,...)	Type of body (uniform, consist of segments, ...)	Type of legs (simple, jointed, ...)	Number of legs
<i>Porifera</i>						
<i>Cnidaria</i>						
<i>Arthropoda</i> (crustaceans)						
<i>Arthropoda</i> (arachnids)						
<i>Arthropoda</i> (insects)						
<i>Nematoda</i>						
<i>Annelida</i>						
<i>Echinodermata</i>						
<i>Mollusca</i>						

2. AN ALIEN SPECIES

There's a mysterious alien species on the table. Investigate the alien species and fill in the table. Can you classify it into a phylum?

Phylum	Symmetry (radial / bilateral / no symmetry)	Composition of the body (hard, soft,...)	Type of body (uniform, consist of segments, ...)	Type of legs (simple, jointed, ...)	Number of legs

QUESTIONS AFTER THE TASK

- Do you know any other animal phyla?
- How did you classify the alien species? Did you find the right answer?
- Animals can be classified by their external characteristics, but there are also other means for classification. Can you find some other methods for classification?