

32.1 Animal Characteristics



Summarize main points from each video.

Video Title / topic _____

Video Title / topic _____

Video Title / topic _____

Topic Introduction



Summarize your understanding of each paragraph.

Animals can be divided into two broad groups: vertebrates (animals with a backbone) and invertebrates (animals without a backbone). Over 95% of the described animal species in the world are invertebrates.

Animals have several characteristics that set them apart from other living things. Animals are eukaryotic and multicellular, which separates them from bacteria and most protists, which are prokaryotic and unicellular.

Animals generally digest food in an internal chamber, which separates them from plants and algae. Animals lack rigid cell walls, which separates them from plants, algae, and fungi, all of which do have rigid cell walls.

All animals are motile, if only at certain life stages. Nearly all animals undergo some form of sexual reproduction, although some animals are also capable of asexual reproduction.

Read/Summarize Text



1. Read the passage.
2. Underline key expressions in each sentence.
3. Re-write each word (or expression) you underlined.
4. Summarize the passage.

Food and energy sourcing

All animals are heterotrophs, meaning that they feed directly or indirectly on other living things. They are often further subdivided into groups such as carnivores, herbivores, omnivores, and parasites.

Most animals indirectly use the energy of sunlight by eating plants or plant-eating animals.

When an animal eats plants (or eats other animals which have eaten plants), the reduced carbon compounds in the food become a source of energy and building materials for the animal.

<https://en.wikipedia.org/wiki/Animal>

Re-write words you underlined

Using a complete sentence, summarize or rephrase the passage

Read Text for Comprehension

Read this article for deeper understanding. No summary is required, although you may want to circle, underline, or mark key ideas and words.

Several animal phyla are recognized for their lack of bilateral symmetry, and are thought to have diverged from other animals early in evolution. Among these, the sponges (Porifera) were long thought to have diverged first, representing the oldest animal phylum. They lack the complex organization found in most other phyla.

The remaining animals form a monophyletic group called the Bilateria. For the most part, they are bilaterally symmetric, and often have a specialized head with feeding and sensory organs. The body is triploblastic, i.e. all three germ layers are well-developed, and tissues form distinct organs. The digestive chamber has two openings, a mouth and an anus, and there is also an internal body cavity called a coelom or pseudocoelom. There are exceptions to each of these characteristics, however—for instance adult echinoderms are radially symmetric, and certain parasitic worms have extremely simplified body structures.

Genetic studies have considerably changed our understanding of the relationships within the Bilateria. Most appear to belong to two major lineages: the deuterostomes and the protostomes, the latter of which includes the Ecdysozoa, and Lophotrochozoa. The Chaetognatha or arrow worms have been traditionally classified as deuterostomes, though recent molecular studies have identified this group as a basal protostome lineage.






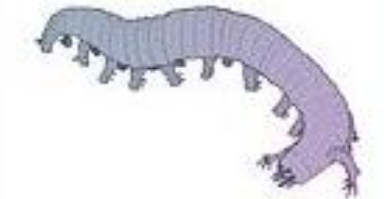

In addition, there are a few small groups of bilaterians with relatively cryptic morphology whose relationships with other animals are not well-established. For example, recent molecular studies have identified Acoelomorpha and Xenoturbella as forming a monophyletic group, but studies disagree as to whether this group evolved from within deuterostomes, or whether it represents the sister group to all other bilaterian animals (Nephrozoa). Other groups of uncertain affinity include the Rhombozoa and Orthonectida. One phyla, the Monoblastozoa, was described by a scientist in 1892, but so far there have been no evidence of its existence.

BIG TAKE AWAY ... WITH SOME EXCEPTIONS, ANIMALS ARE BILATERALLY SYMMETRICAL.

Draw Invertebrates



Copy and Label the Illustration in the Space Provided

Group	Image	Subgroup
Invertebrates		Insects
		Molluscs
		Crustaceans
		Corals
		Arachnids
		Velvet worms
		Horseshoe crabs

A large empty rectangular box provided for drawing and labeling the invertebrates.

Draw Vertebrates



Copy and Label the Illustration in the Space Provided

Group	Image	Subgroup
Vertebrates		Fishes
		Amphibians
		Reptiles
		Birds
		Mammals

Show-Off Your Smarts!



Instructions

- Complete as an individual or small group.
- Discuss your ideas/answers/responses in a small group.
- Select one person to present your responses to the class.

Q1. How can this information be applied to a young-person's life?

Q2. How does this information apply to (or impact) communities?

Q3. When do scientists need to apply this information? How?

Q4. How would a person from 100 years ago view this information?

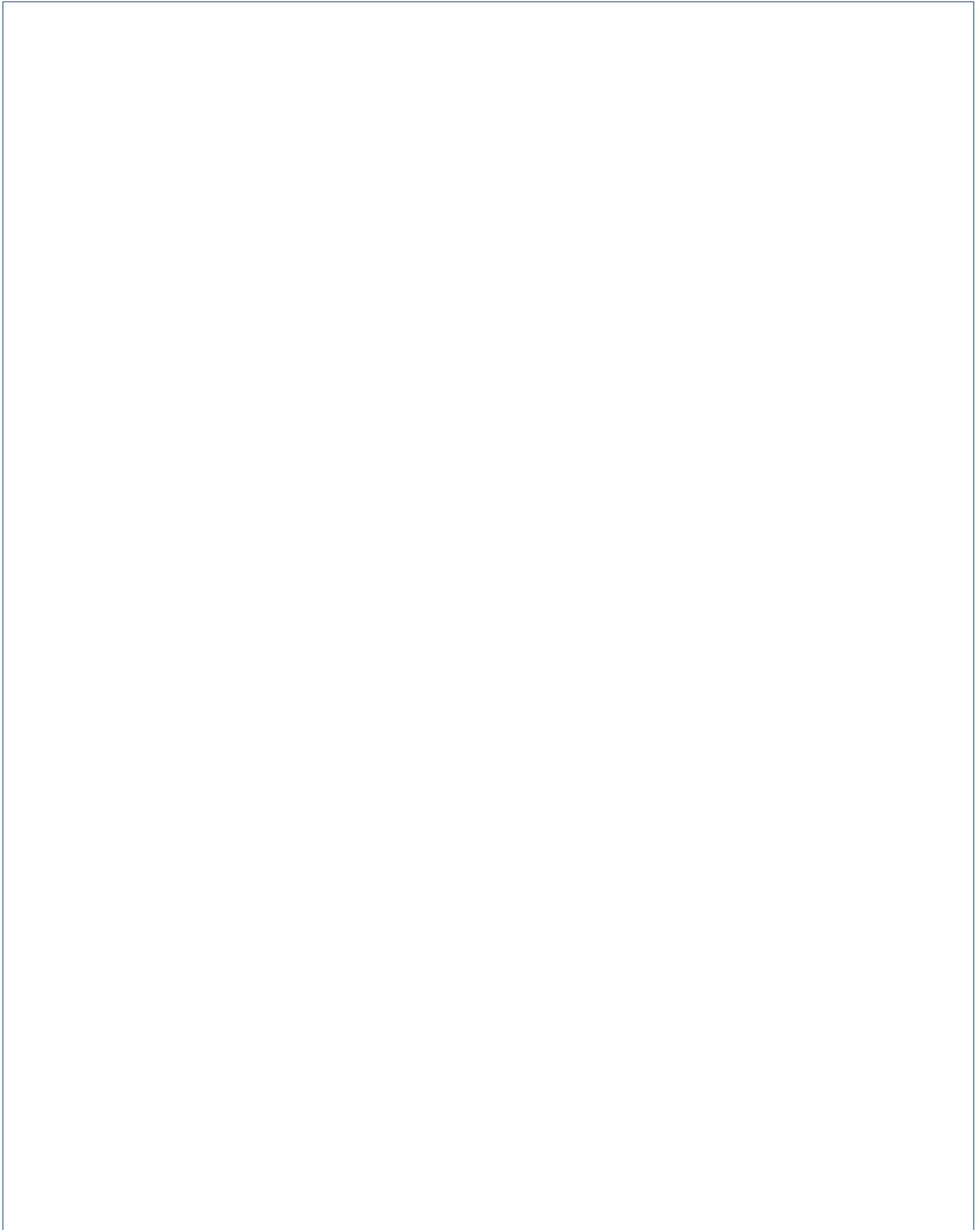
Q5. How does this topic connect to other science topics or math?

Write down at least three words introduced or covered by this topic.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Make a Poster

In the space provided here, create/draw a poster which conveys the concepts you have learned on this topic.

A large, empty rectangular box with a thin blue border, intended for the student to create a poster. The box occupies the majority of the page below the instructions.