

# VERTEBRATES LIVE ON FARM B

Fish

Amphibians

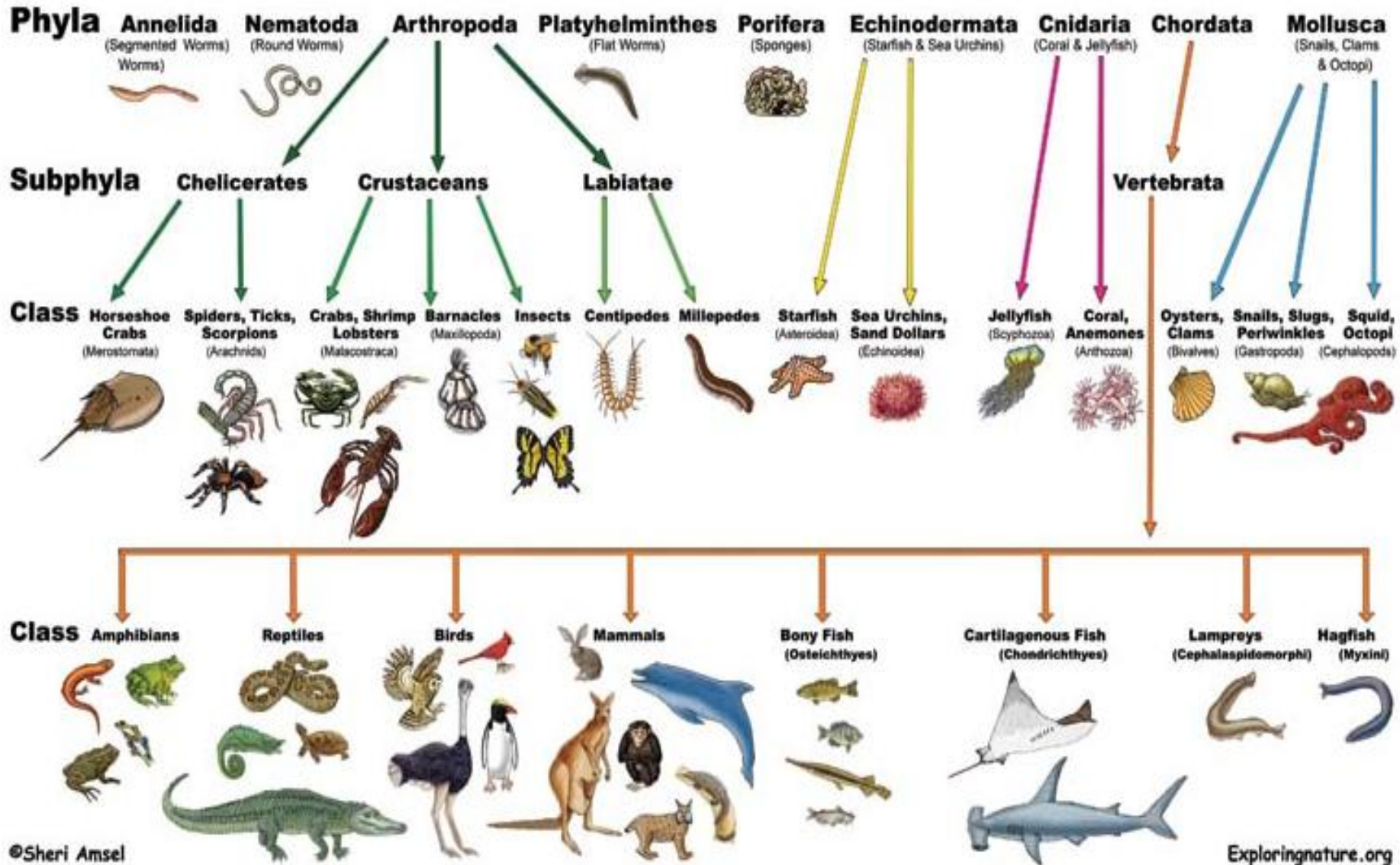
Reptiles

Mammals

Birds

# Classification of Living Things

## Animal Kingdom



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# VERTEBRATES

## Reptile and Amphibian Movies



[Alligators](#)  
[American Alligator](#)  
[Are You Afraid of SNAKES?](#)  
[Florida Turtles](#)  
[Giant Tortoise from Africa](#)  
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[Red-eared Slider Turtle](#)  
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[The Painted Turtle](#)  
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[Armadillo's are Cool!](#)  
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[Cavy - Big South American Rodent](#)  
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[How the White-tailed Deer Got its Name](#)  
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[The Sharp Adaptation of Porcupines](#)  
[Tiger Kiss](#)  
[Tiger Water Games](#)

## Mammal Movies



# VERTEBRATES



## Bird Movies

[Baby Bird on the Way](#)  
[Bluebirds and Their Nest Boxes](#)  
[California Seabirds](#)  
[Canada Goose](#)  
[Cockatoo from Africa](#)  
[Florida Birds](#)  
[Florida Woodpecker](#)  
[Great Blue Heron](#)  
[GreyLag Goose](#)  
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[Mallard Ducks](#)  
[Mom and Baby Birds](#)  
[Old Squaw Duck](#)  
[Pelican's Diving for Fish](#)  
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[The Osprey Family](#)  
[What Owls Eat... A Mouse Skeleton](#)  
[Woodpecker at Work](#)



## Ocean Creatures and Concepts

[Fish and Hammerhead Sharks \(10 seconds to load\)](#)  
[Jellyfish \(10 seconds to load\)](#)  
[Lionfish \(10 seconds to load\)](#)  
[School of Fish \(10 seconds to load\)](#)  
[Seahorse \(10 seconds to load\)](#)  
[The Tidal Zone](#)

# INVERTEBRATES



## Interesting Insects and Spiders

[A Giant Florida Spider](#)  
[Adaptations for Survival - The Spittlebug](#)  
[Praying Mantis!](#)  
[Woollybear Adaptations](#)



## Ocean Creatures and Concepts

[Jellyfish \(10 seconds to load\)](#)  
[The Tidal Zone](#)

# Reptiles

There are many groups (classes) of animals. Reptiles are in one group. There are many different groups (orders) of reptiles. All reptiles share some traits.

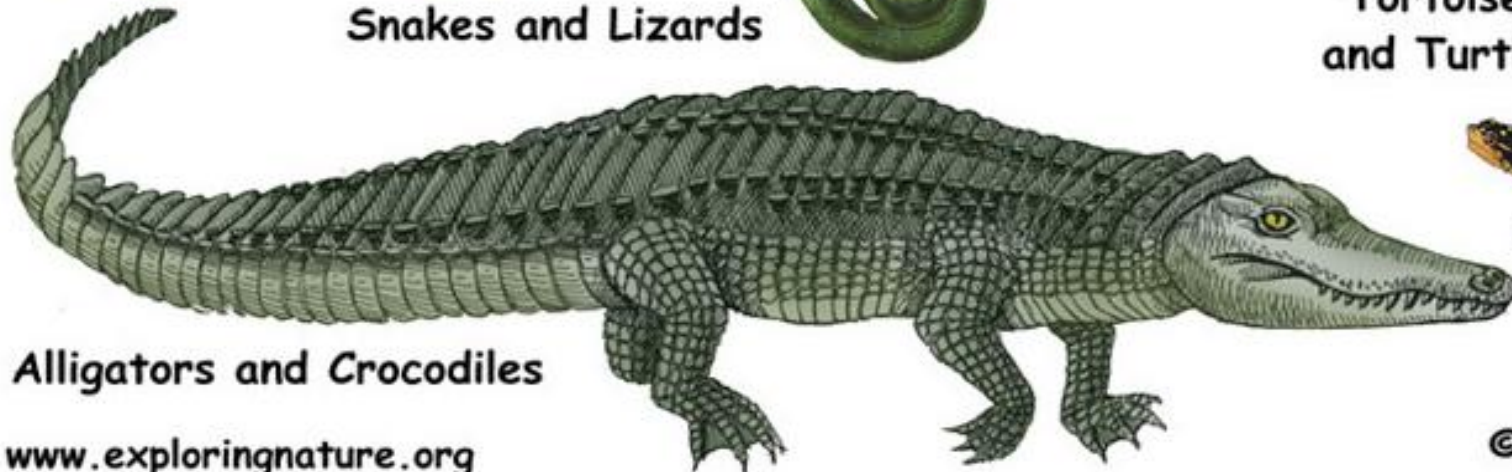
- 1) Reptiles are **cold-blooded**.
- 2) Most reptiles **lay leathery eggs** on land.
- 3) Reptiles are covered with **tough, dry skin** and **protective scales or plates**.
- 4) Reptile **teeth are usually the same shape and size** throughout their mouth.
- 5) Reptiles can **take care of themselves** very soon after hatching.



Snakes and Lizards



Tortoises  
and Turtles



Alligators and Crocodiles



# Reptiles

Reptiles are animals.

There are many different groups of reptiles.

All reptiles share some traits.

cold-blooded

lay eggs

teeth are all same shape and size

take care of themselves after hatching

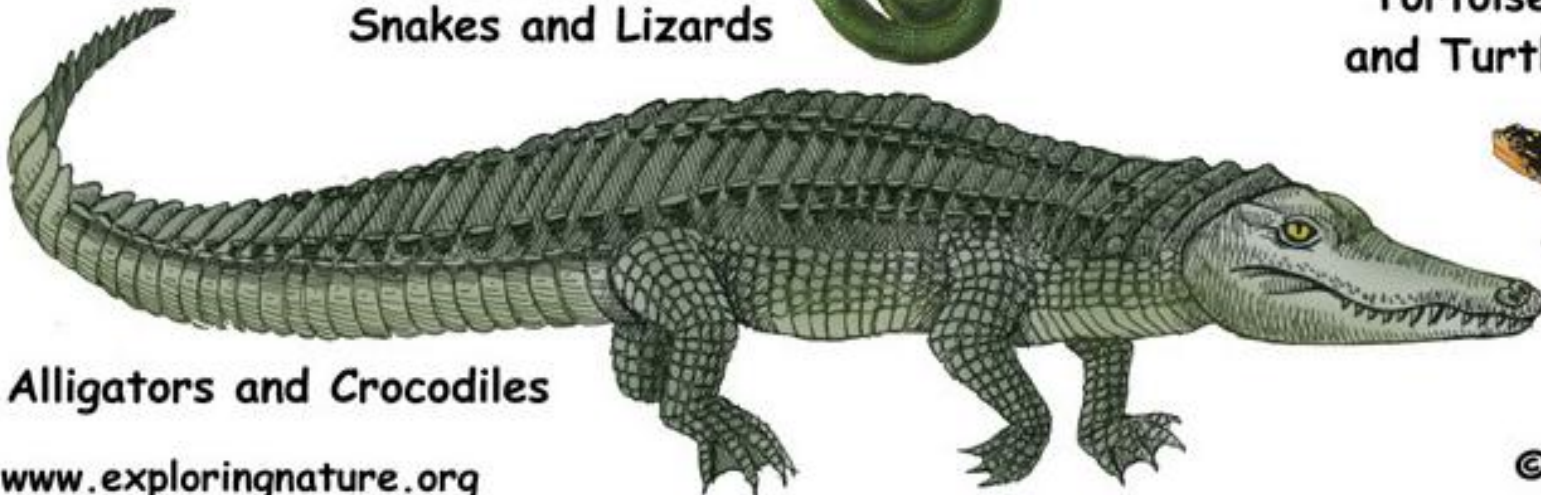
tough, dry skin protective scales or plates



Snakes and Lizards



Tortoises  
and Turtles



Alligators and Crocodiles



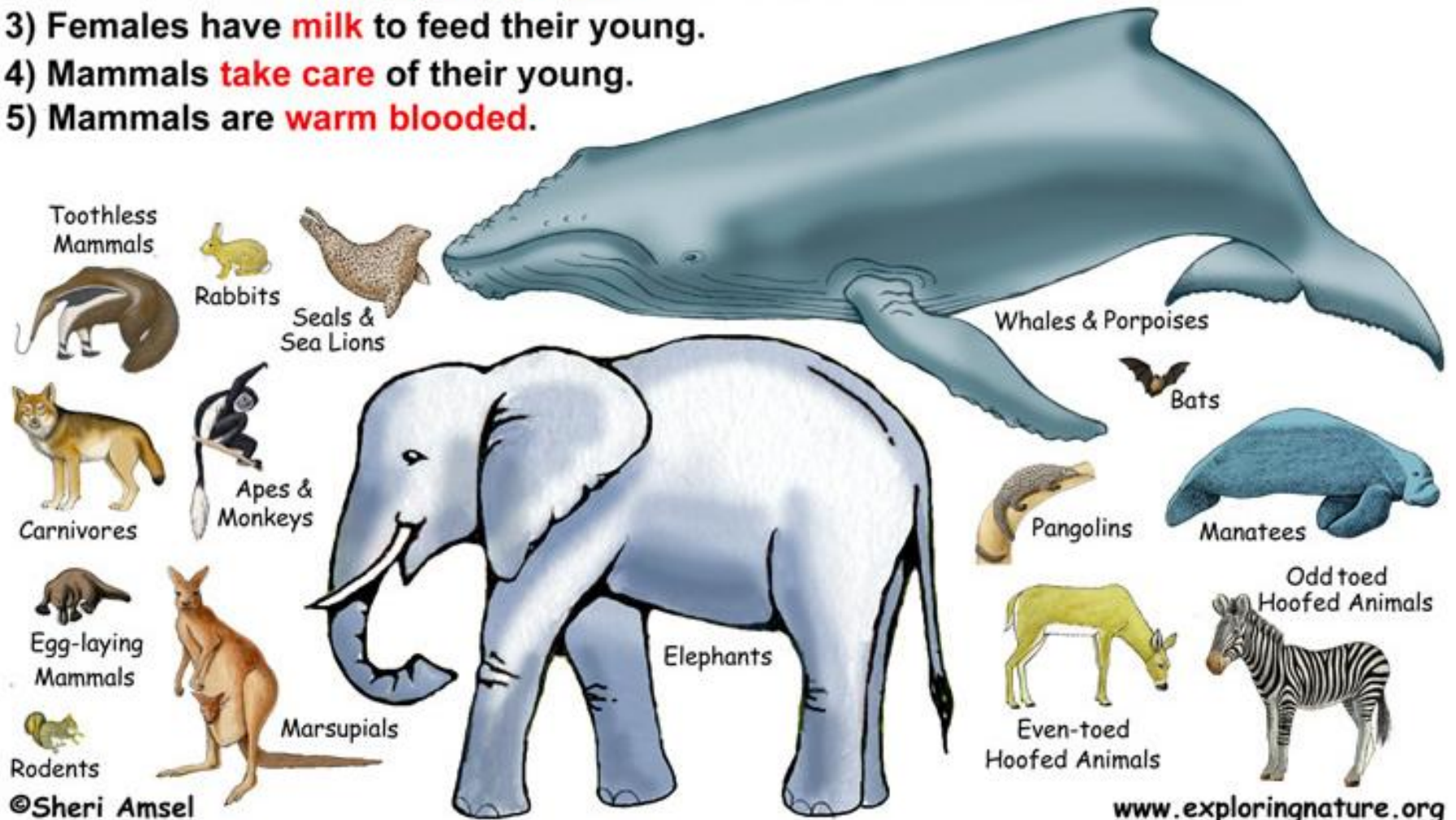
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# Mammals

There are many groups (classes) of animals. Mammals is just one group. There are many different groups (orders) of mammals. All mammals share some traits.

- 1) Mammals have **body hair** that protects them from cold or sun.
- 2) Mammals have 3 **middle ear bones** that helps give them good hearing.
- 3) Females have **milk** to feed their young.
- 4) Mammals **take care** of their young.
- 5) Mammals are **warm blooded**.



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# Mammals

Mammals are animals.  
There are many different groups of mammals.  
They share some traits.

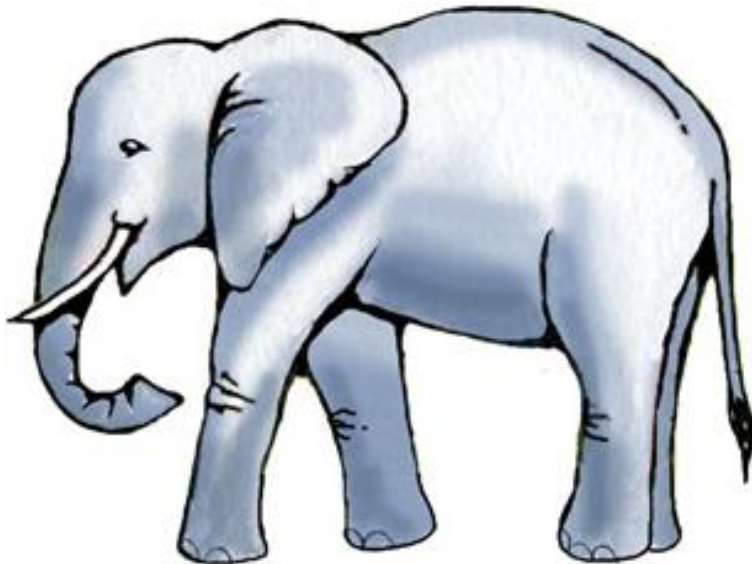
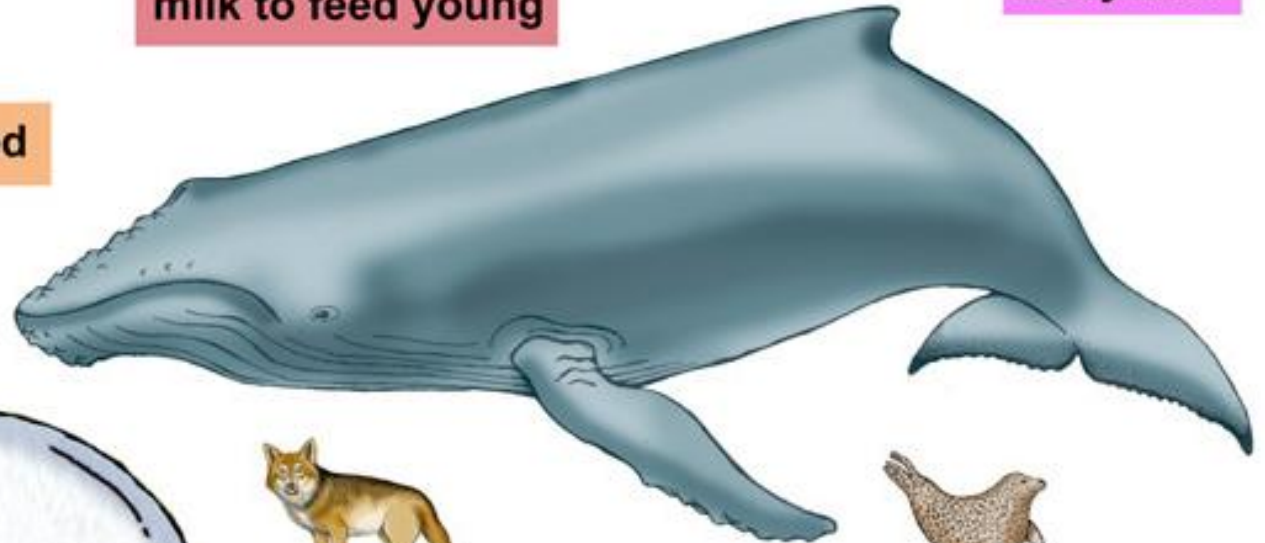
3 middle ear bones

milk to feed young

body hair

warm blooded

take care of young



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# Birds

There are many groups (classes) of animals. Birds are in one group. There are many different groups (orders) of birds. All birds share some traits.

- 1) Birds **lay eggs** and **care for their young**.
- 2) Birds have a **strong, hollow-boned skeleton**.
- 3) Birds have a **stiff beak** adapted for their eating habits.
- 4) Birds have **feathers, wings** and **most can fly**.
- 5) Birds are **warm-blooded** vertebrates.



loons

kingfishers



hummingbirds



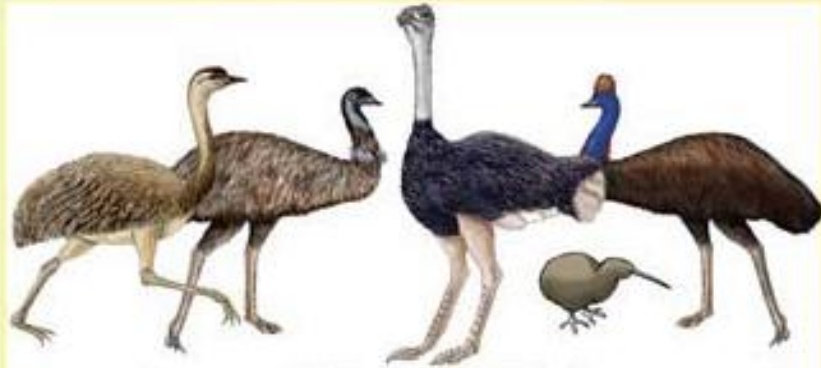
songbirds



woodpeckers



herons

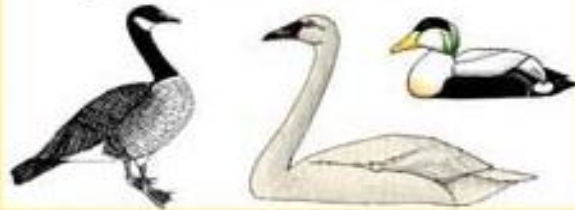


emus, rheas, ostriches, and kiwis, cassowaries



macaws and parrots

geese, swans and ducks

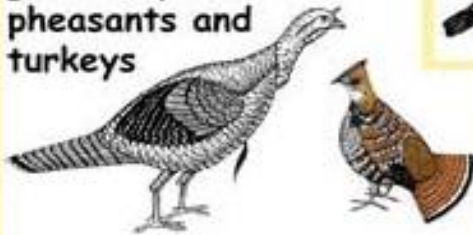


owls



hawks, eagles, and vultures

grouse, quails, pheasants and turkeys



doves and pigeons



sandpipers and seagulls



# Birds

There are many groups (classes) of animals. Birds are in one group. There are many different groups (orders) of birds. All birds share some traits.

strong, hollow-boned skeleton

lay eggs

beak

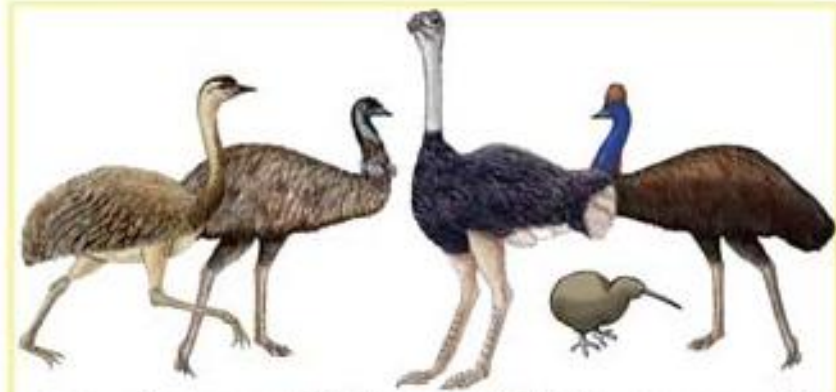
care for their young

warm-blooded

feathers

wings

most can fly

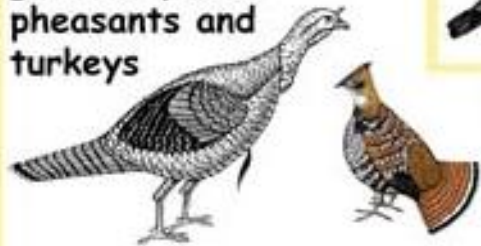


emus, rheas, ostriches, and kiwis, cassowaries

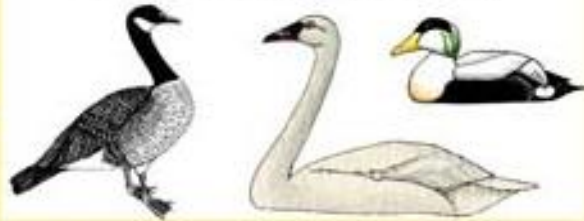


macaws and parrots

grouse, quails, pheasants and turkeys



geese, swans and ducks



doves and pigeons



woodpeckers



hummingbirds



kingfishers



songbirds

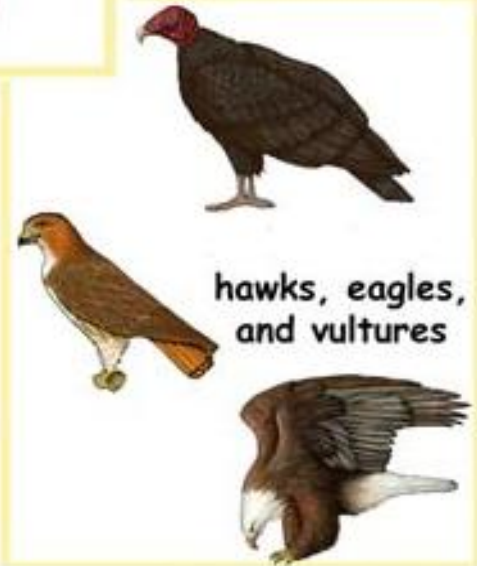


herons

owls



hawks, eagles, and vultures



sandpipers and seagulls



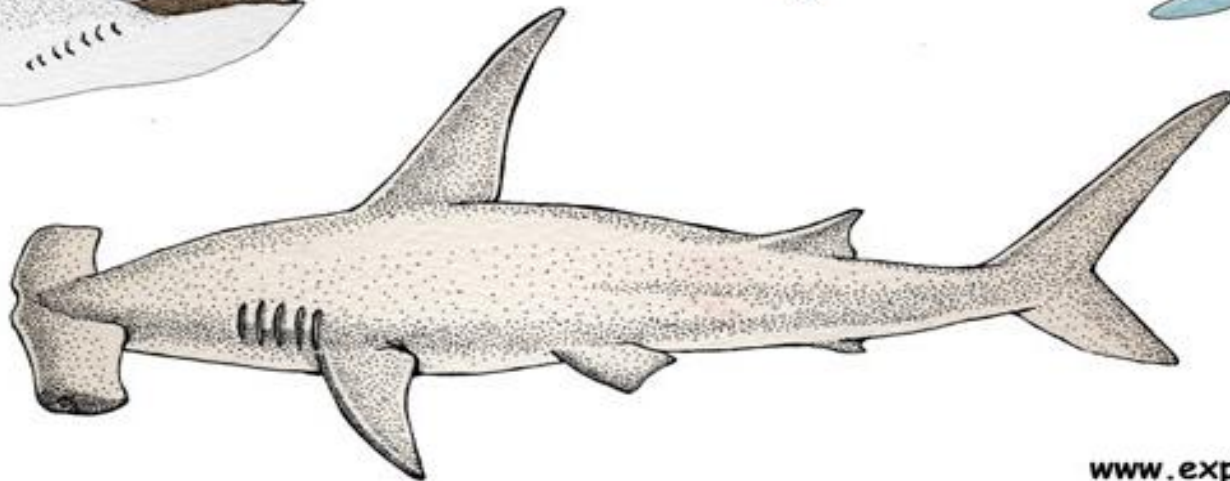
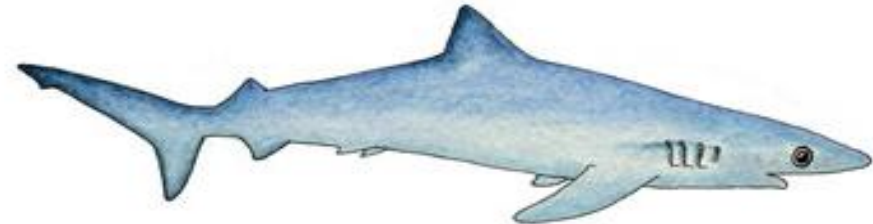
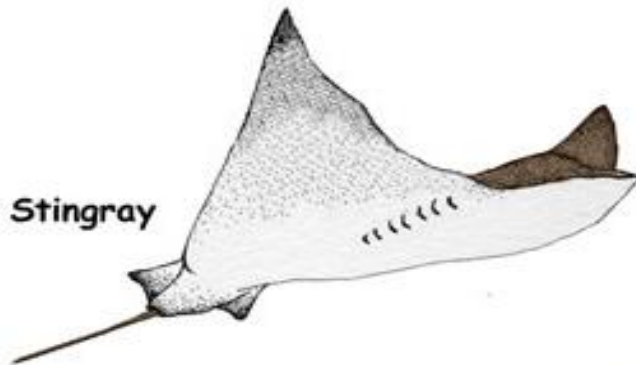
## Sharks and Stingrays

There are many groups (classes) of animals. Sharks and rays are in just one group.

There are many different groups (orders) of sharks and rays.

All sharks and rays share some traits.

- 1) Sharks and rays are **cold-blooded**.
- 2) Sharks and rays breathe through **gills**.
- 3) Sharks and rays have a **skeleton made of cartilage** instead of bone.
- 4) Sharks and rays have **very hard teeth** and when they lose them grow new ones.
- 5) Sharks and rays have **2 pairs of fins**.



## Sharks and Stingrays

There are many groups (classes) of animals. Sharks and rays are in just one group.

There are also many different groups (orders) of sharks and rays.

All sharks and rays share some traits.

cold-blooded

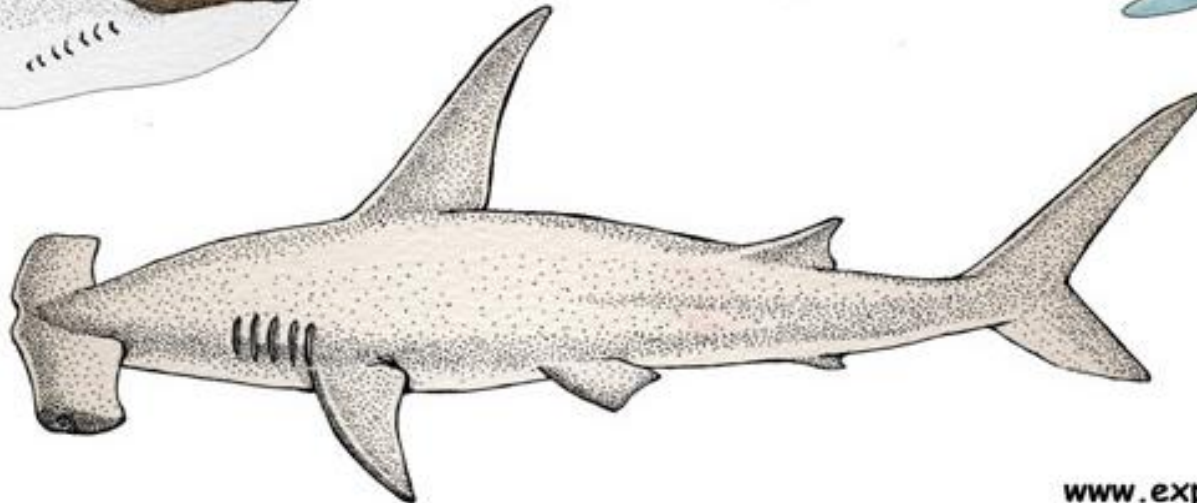
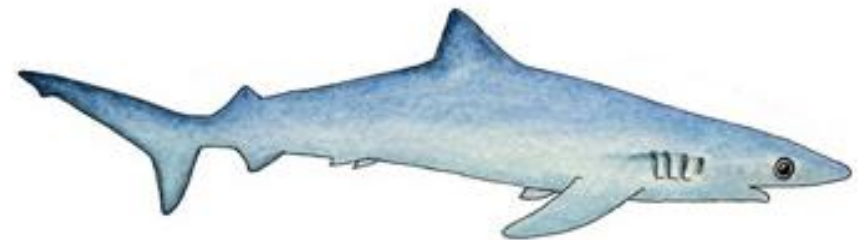
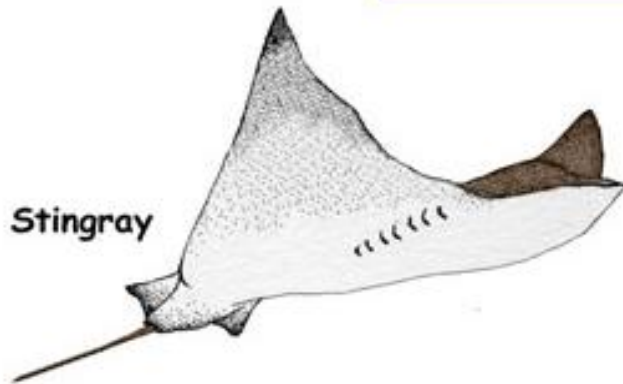
2 pairs of fins

skeleton made of cartilage

gills

regrow lost teeth

very hard teeth



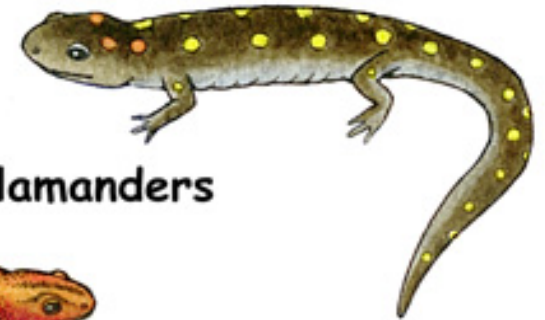
# Amphibians

There are many groups (classes) of animals. Amphibians are in one group. There are also many different groups (orders) of amphibians. All amphibians share some traits.

- 1) Amphibians **lay their eggs in the water.**
- 2) Newly hatched amphibians live in the water, **breath oxygen through gills**, and **develop lungs over time.**
- 3) As they grow, their body changes to suit life on land, though most amphibians are never far from a wetland environment. They will **return to water to mate and lay eggs.**
- 4) Amphibians are **cold blooded** and will spend the winter months in colder climates resting (in torpor), buried in the mud or leaf litter.



Frogs and Toads



Salamanders



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# Amphibians

There are many groups (classes) of animals. Amphibians are in one group.

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lay eggs in water

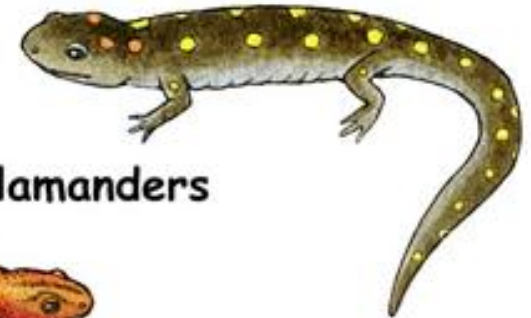
cold blooded

young live in water, breathing with gills,  
while adults use lungs

return to water to mate



Frogs and Toads



Salamanders



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# INVERTEBRATES

## MAKE

**A**rthropods

**M**ollusks

**E**chinoderms

**S**ponges

**S**egmented worms



# Ocean Invertebrates

Invertebrates are animals that have no backbone. The Animal Kingdom is broken down into groups called Phyla and all, except one, are invertebrates. Of the many invertebrate phyla, some are adapted for life in the ocean. These are called **marine invertebrates**. Each group of marine invertebrates has their own unique adaptations to survive ocean life. Here are examples from each of the invertebrate phyla that live in the ocean:

**Phylum Porifera: sponges (1)**

**Phylum Mollusca: clams (5), mussels (6) (bivalves), squid (8), octopuses (9) (cephalopods), sea slugs (7) (gastropods)**

**Phylum Echinodermata: starfish (2), sea urchins (3), sand dollars (4)**

**Phylum Cnidaria: jellyfish (10), coral (11), sea anemones (12)**

**Phylum Arthropoda: crabs (13), shrimp (14) and lobsters (15) (malacostraca), barnacles (16) (maxillopoda), horseshoe crabs (17) (merostomata)**



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# ARTHROPODS: ARACHNIDS

## ABOUT SPIDERS AND THEIR KIN

Animals of the Class Arachnida (spiders, ticks, mites, and scorpions)

ticks



spiders



scorpions

# ARTHROPODS: ARACHNIDS

## Classification

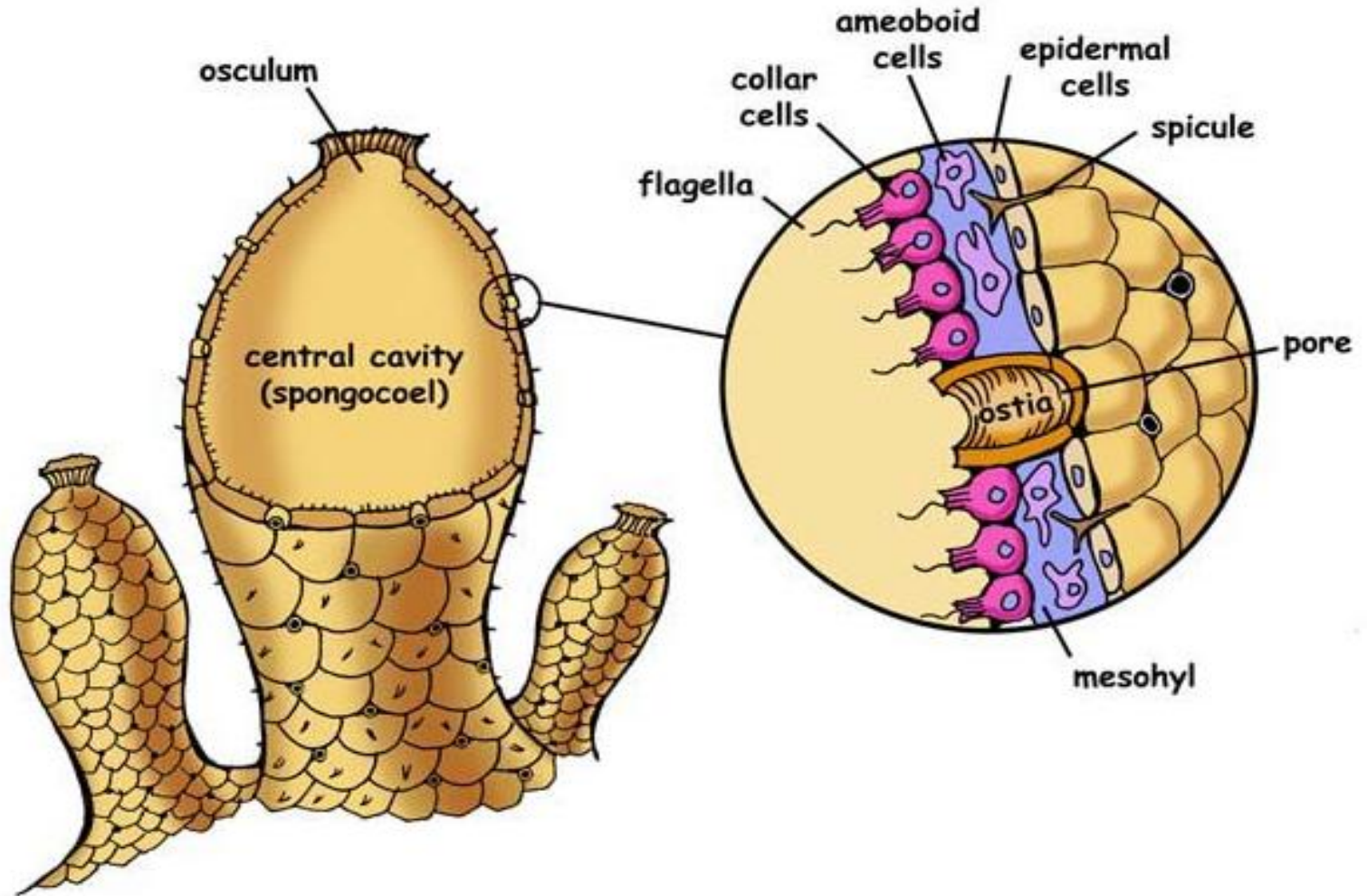
**Phylum: Arthropoda**

**Class: Arachnida**

The **Arachnids** (Class Arachnida) include *spiders, ticks, mites, and scorpions*. Most live on land. Many build elaborate webs.

- 1) They are different from insects in that they have two body parts (instead of three), no wings, and no antennae.
- 2) Generally they have 4 pairs of legs, plus two pair of pincers in the front (chelicerae and pedipalps).
- 3) These pincers are different on different species but can be poison fangs, feelers or even extra legs.
- 4) Arachnids are usually predators, which can benefit human habitats, though some are parasites (chiggers and mites).
- 5) Most bite and some are poisonous.

# Anatomy of a Sponge



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# SPONGES

There are more than 5,000 species of sponges and they come in all shapes and sizes. Most are asymmetrical (not regularly shaped), though a few form "radially symmetrical" shapes (which means they can be divided into similar halves if cut at any angle along a central axis, like a pie). They are very simple animals with no tissues, organs, or even a brain, but have special cells that carry out their needs for food, circulation and reproduction.

**Habitat:** They are mostly found attached to the ocean floor in shallow coastal waters, but some species live in freshwater habitats.

**Habits:** They are **sessile** – they do not move around but spend their lives anchored to one place. Though sponges were once thought to be completely sessile, scientists now know that some species can move very, very slowly.

**Diet:** They are filter feeders, taking in seawater and filtering out the edible matter.

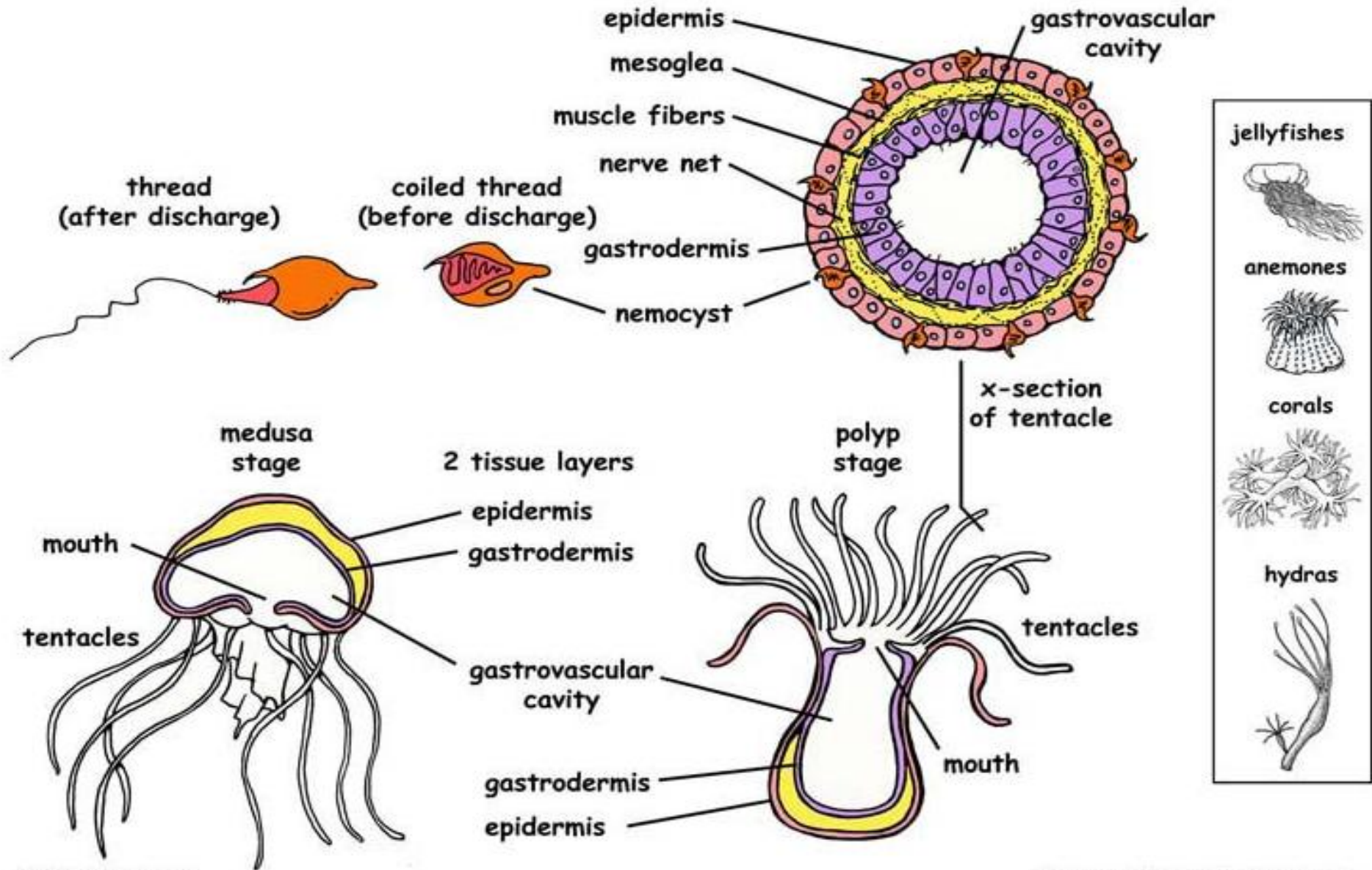
**Body Traits (Anatomy):** Sponges made up of 2 body layers – one traps food particles, while another digests the particles and transport the nutrients to other cells throughout the sponge.

The sponge body is full of holes – thousands of cells, each with a tiny pore that brings seawater in through a small channel into the sponge's central cavity. Other specialized cells line the inside of the central cavity. These cells have tiny hair-like flagella that act like propellers and draw the water in where it is filtered to remove all its organic particles.

**Reproduction:** Sponges reproduce by both sexual and asexual means. Sponges can be male or female or have both male and female sexual organs.

Asexual reproduction occurs through budding where small pieces of the sponge break off and form a new adult. This can result in massive colonies of sponges. This also accounts for the sponge's amazing regenerative abilities.

# Anatomy of Cnidaria: Jellyfishes, Sea Anemones, Corals and Hydras



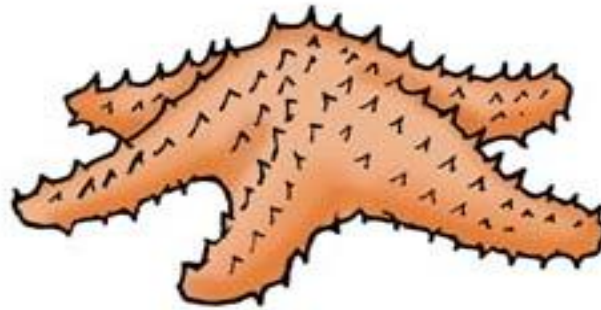
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# Phylum - Echinodermata

sea stars (starfish), brittle stars, sea cucumbers,  
sea lilies, sand dollars and sea urchins

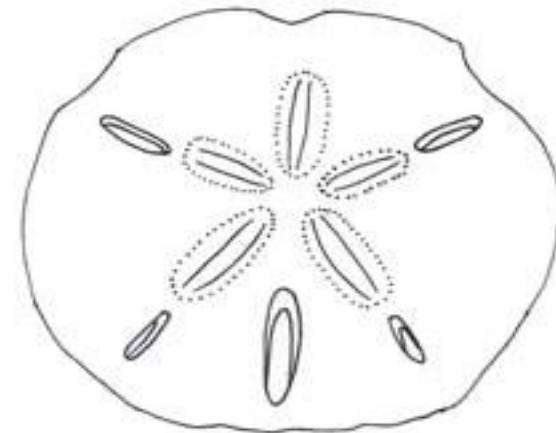
Starfish  
Class - Asterozoa



Sea Urchins  
Class - Echinozoa

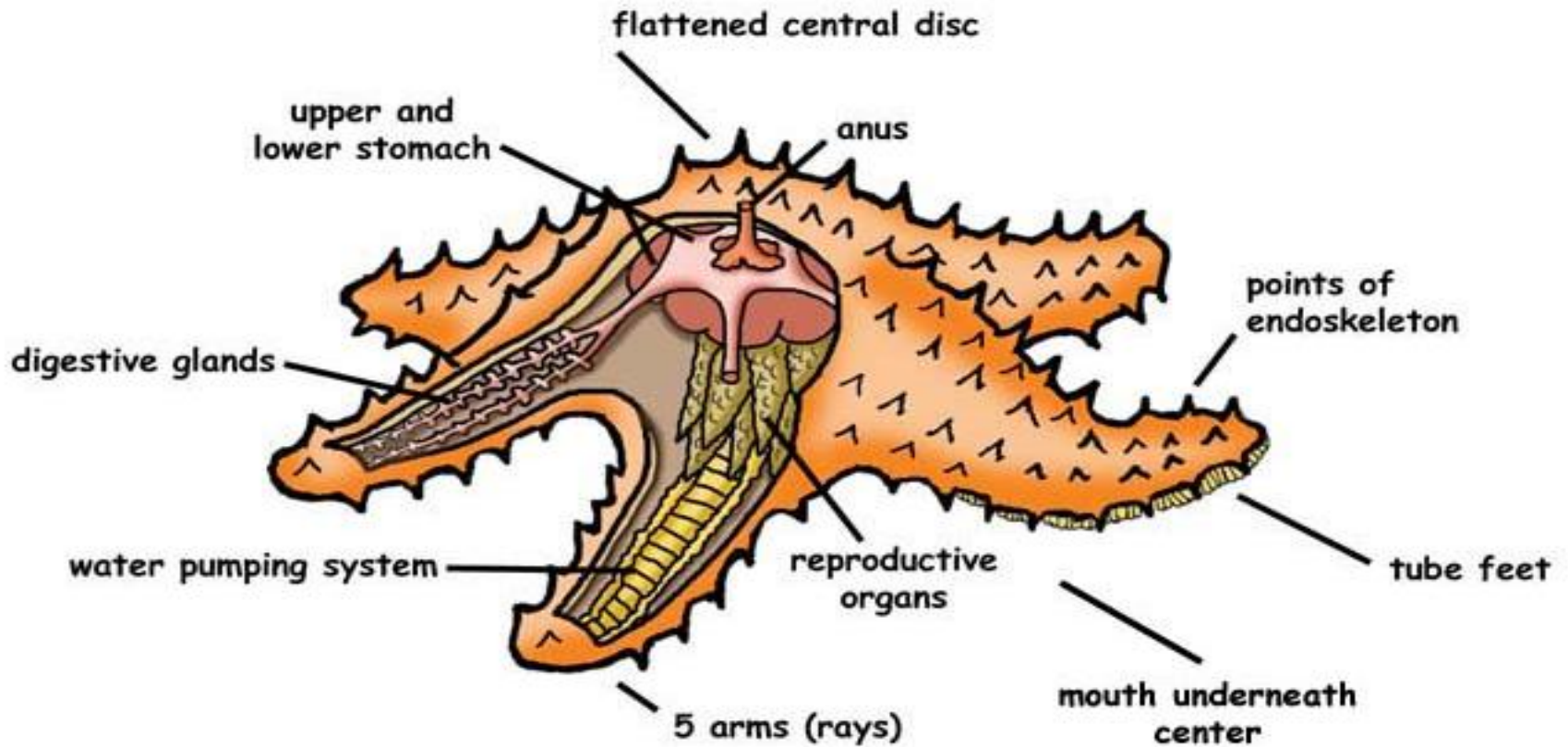


Sand Dollars  
Class - Echinozoa



# Phylum - Echinodermata

sea stars (starfish), brittle stars, sea cucumbers,  
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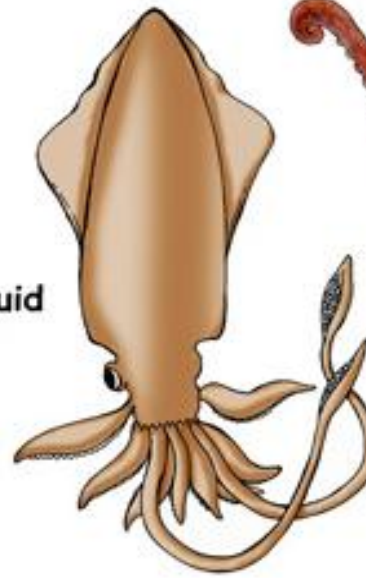




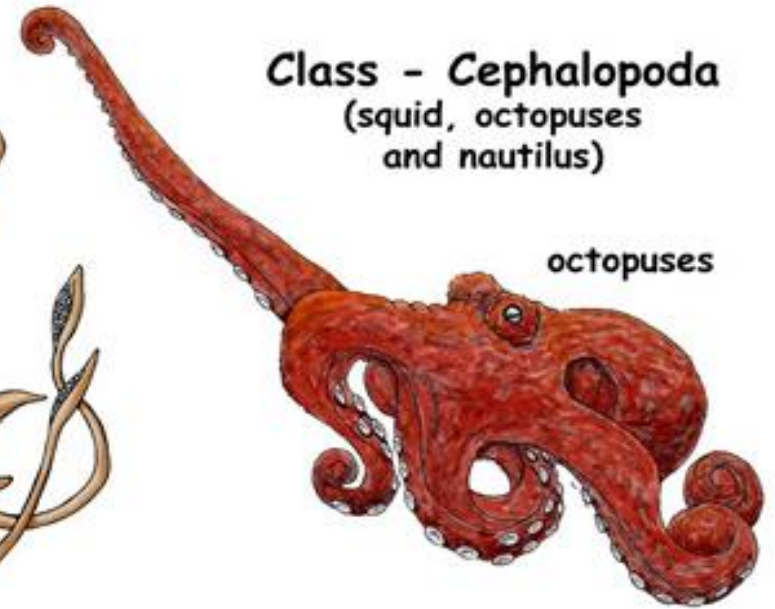
# Phylum - Mollusca (Gastropods, Bivalves and Cephalopods)

## Class - Cephalopoda (squid, octopuses and nautilus)

squid



octopuses



## Class - Gastropoda (snails, slugs, conchs, periwinkles and sea slugs)

sea slugs



slugs



snails



## Class - Bivalvia (clams, oysters, mussels and scallops)

scallops



clams

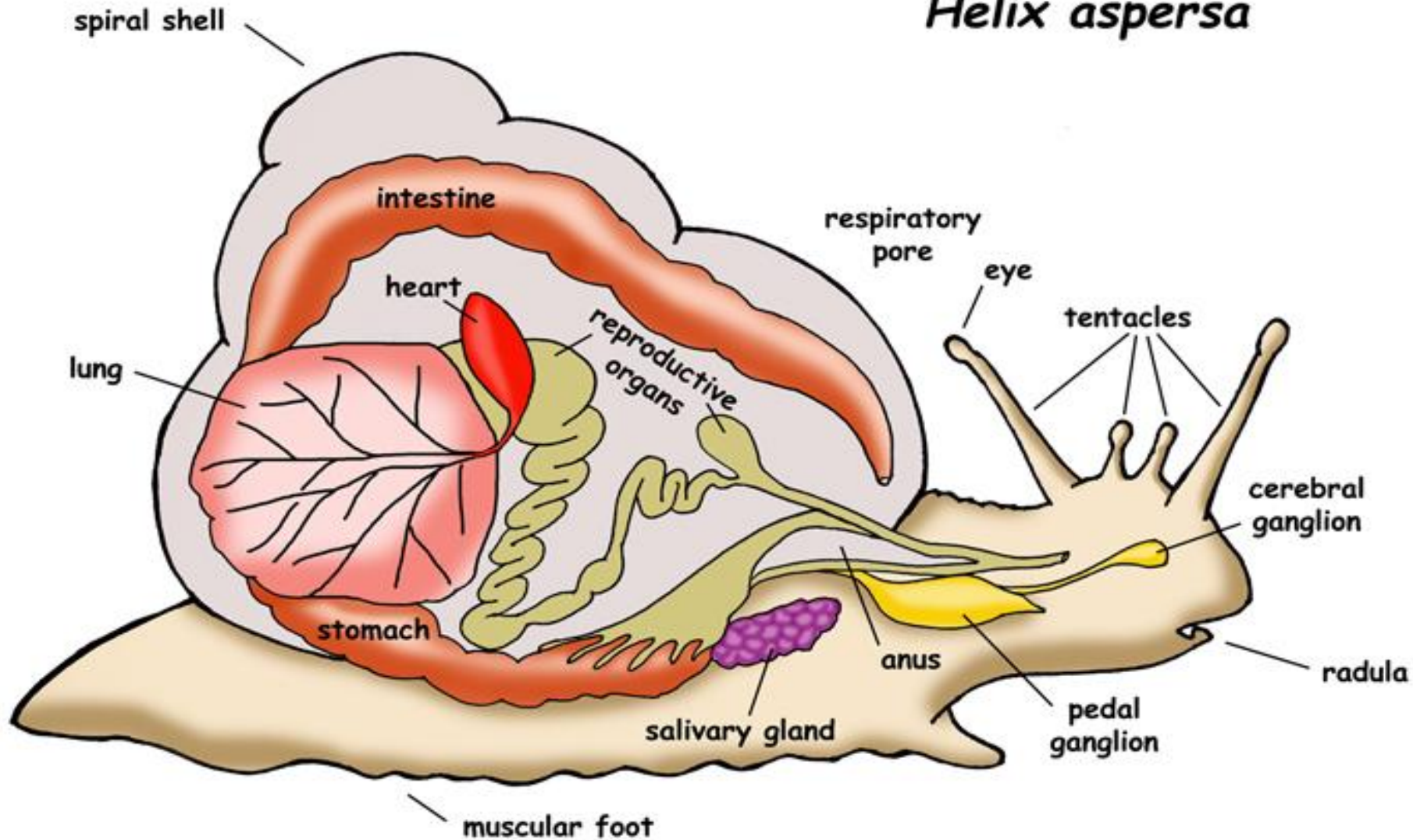


mussels



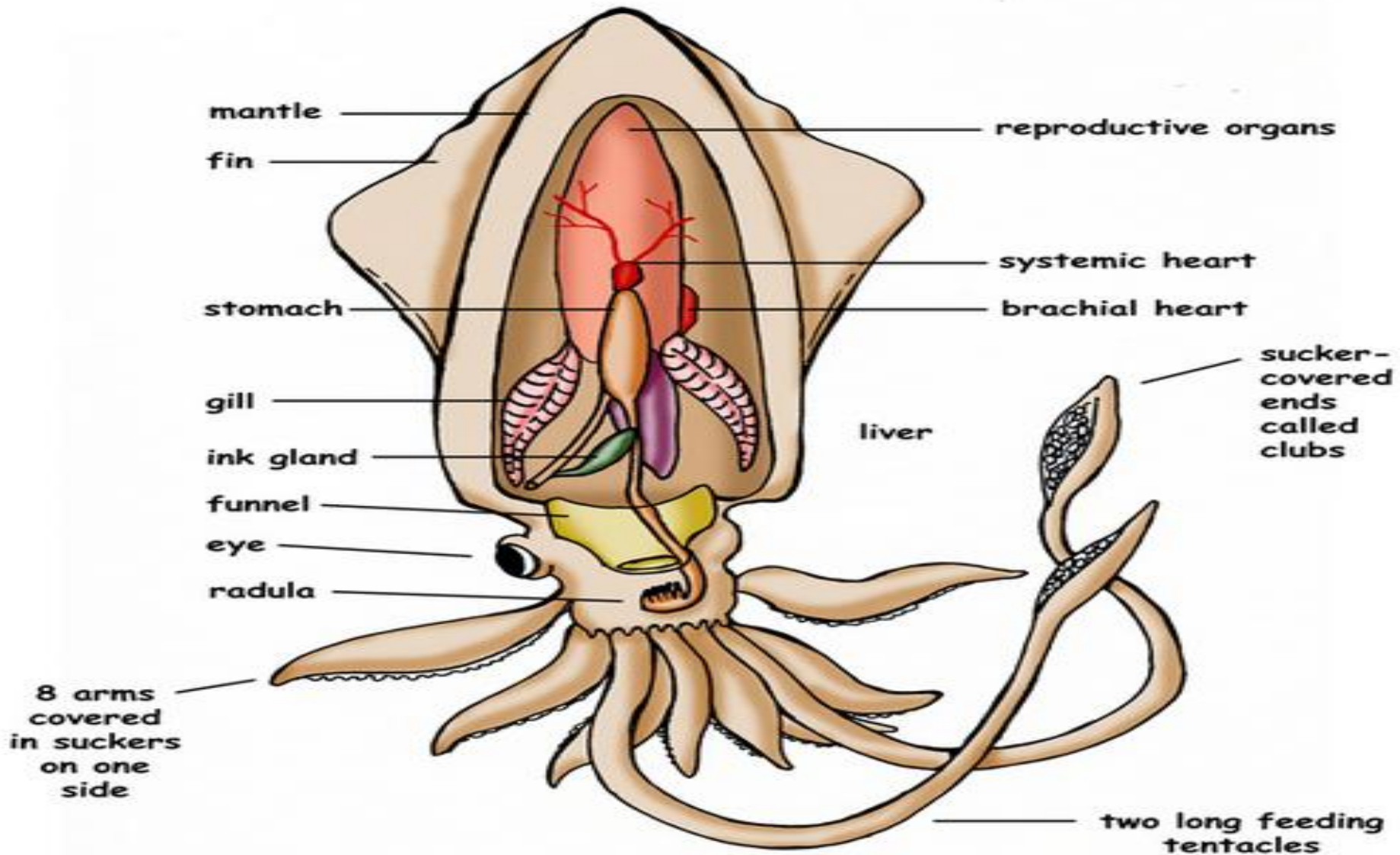
# Snail (Brown Garden)

*Helix aspersa*



# Squid (Giant)

*Architeuthis dux*

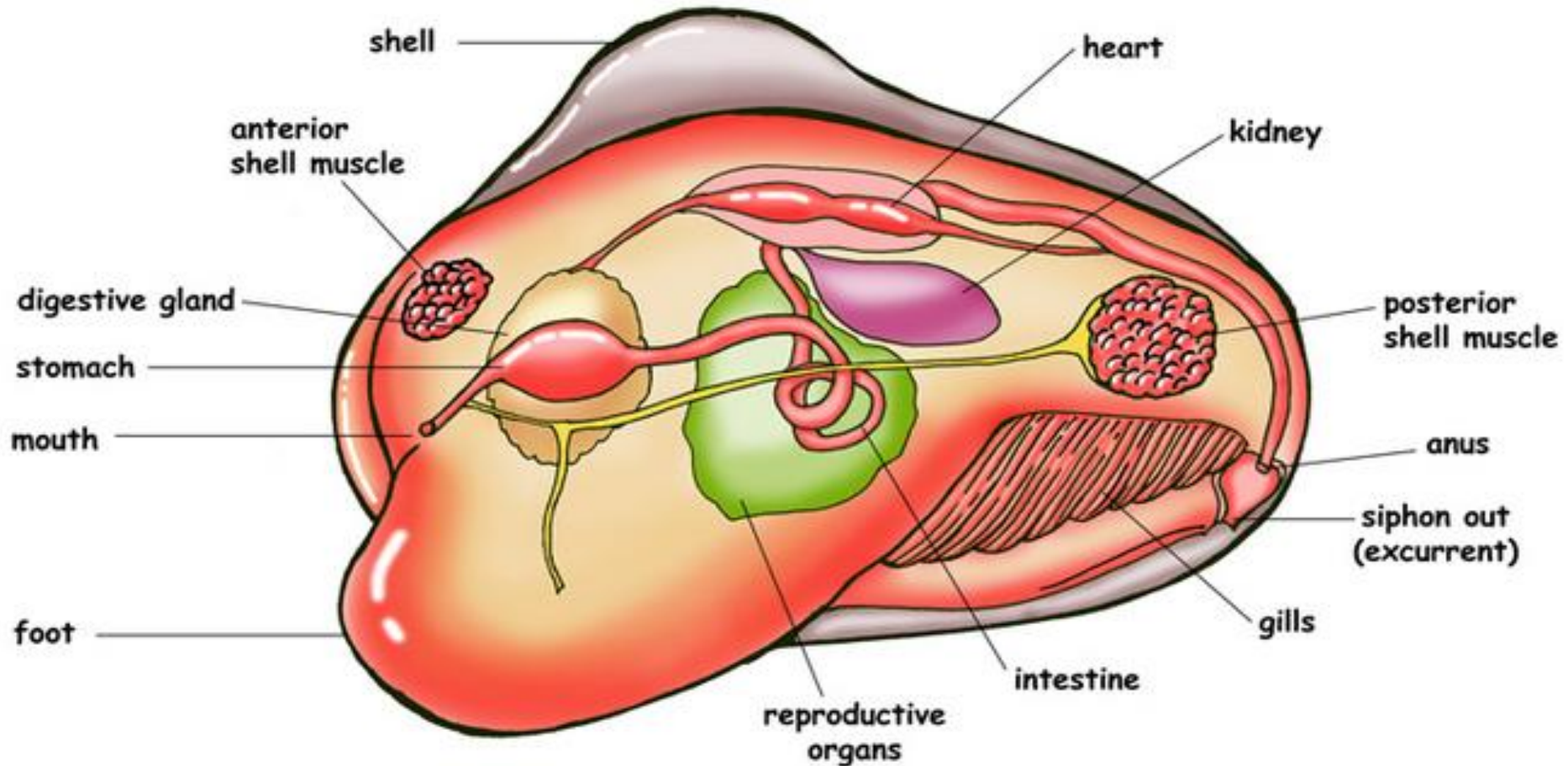


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# General Bivalve Anatomy

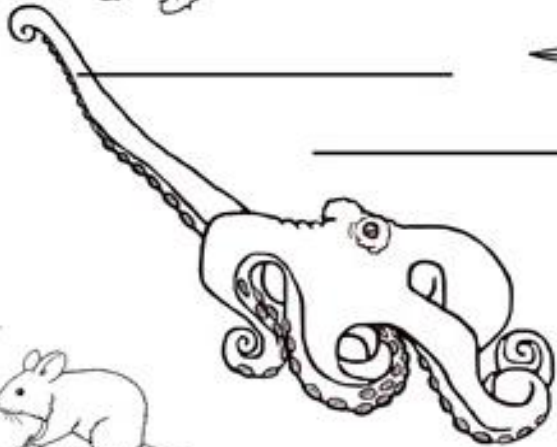
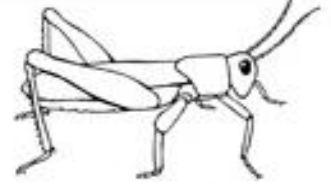
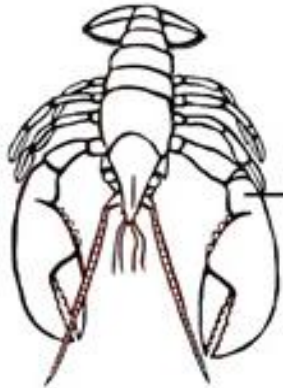
## Clams, Oysters, Scallops, mussels



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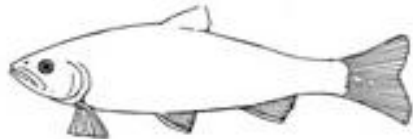
# Name the Different Classes from the Animal Kingdom



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# Color the Different Classes from the Animal Kingdom

Fish (Osteichthyes)



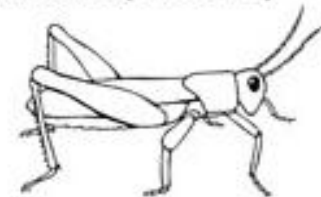
Clams & Mussels (Bivalves)



Spiders & Scorpions (Arachnids)



Insects (Insecta)



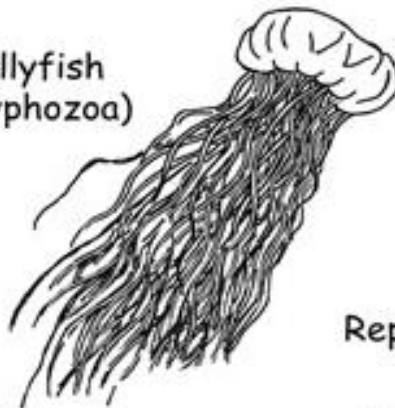
Crabs, Lobsters & Barnacles (Subphylum Crustaceans)



Sea Anemones & Coral (Anthozoa)



Jellyfish (Scyphozoa)



Sea Urchins & Sand Dollars (Echinozoa)



Snails & Slugs (Gastropods)



Starfish (Asterozoa)



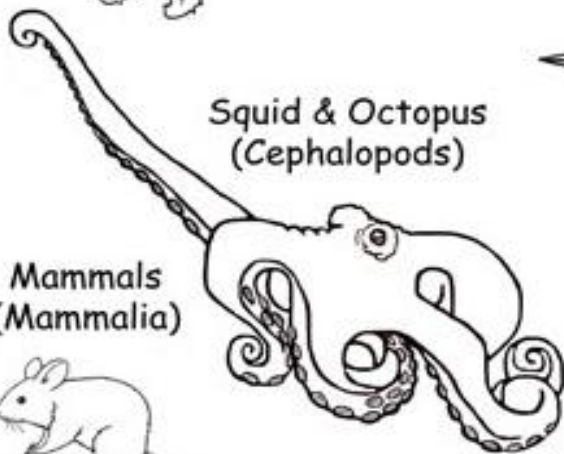
Reptiles (Reptilia)



Amphibians (Amphibia)



Squid & Octopus (Cephalopods)



Birds (Aves)



Sharks & Rays (Chondrichthyes)



Mammals (Mammalia)



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Learning about Insects Background Information: There are more insects on earth than all other kinds of creatures combined, over 900,000 known species. The study of insects is called entomology. Insects can hurt people by damaging their food crops and forests, passing along diseases, biting, and stinging. They also can help people by pollinating food crops, making products like honey, supplying animals with food (like song birds, turtles, frogs and bats) and ridding us of other pests like aphids and such. One thing is for sure they will always affect people. It is fun to collect insects and study them or to just see them outside and watch what they do. To understand insects and make watching them more interesting there are some things you should know about them.

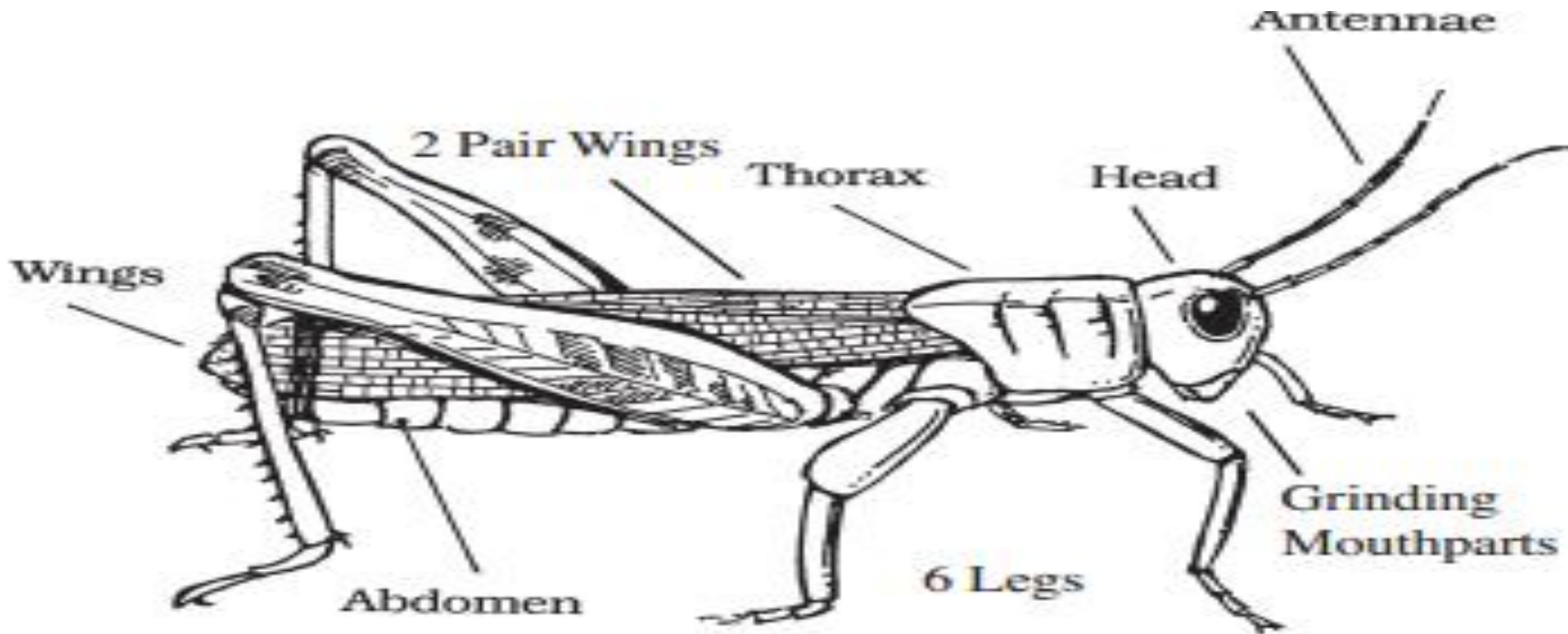
### **What makes a bug an insect?**

- **Three body parts; a head, thorax and abdomen**
- **2 pairs of wings attached to the thorax**
- **3 pairs of legs attached to the thorax**
- **A pair of antennae attached to the head**
- **Mouth parts that bite, suck, pierce, lap, sip or rasp.**

\*Things that are considered bugs but are not true insects include spiders and centipedes, who are really in a group with crabs and lobsters, and slugs and snails who are really in a group with clams and oysters. Look for the traits you learned to decide whether a bug is really an insect or not.

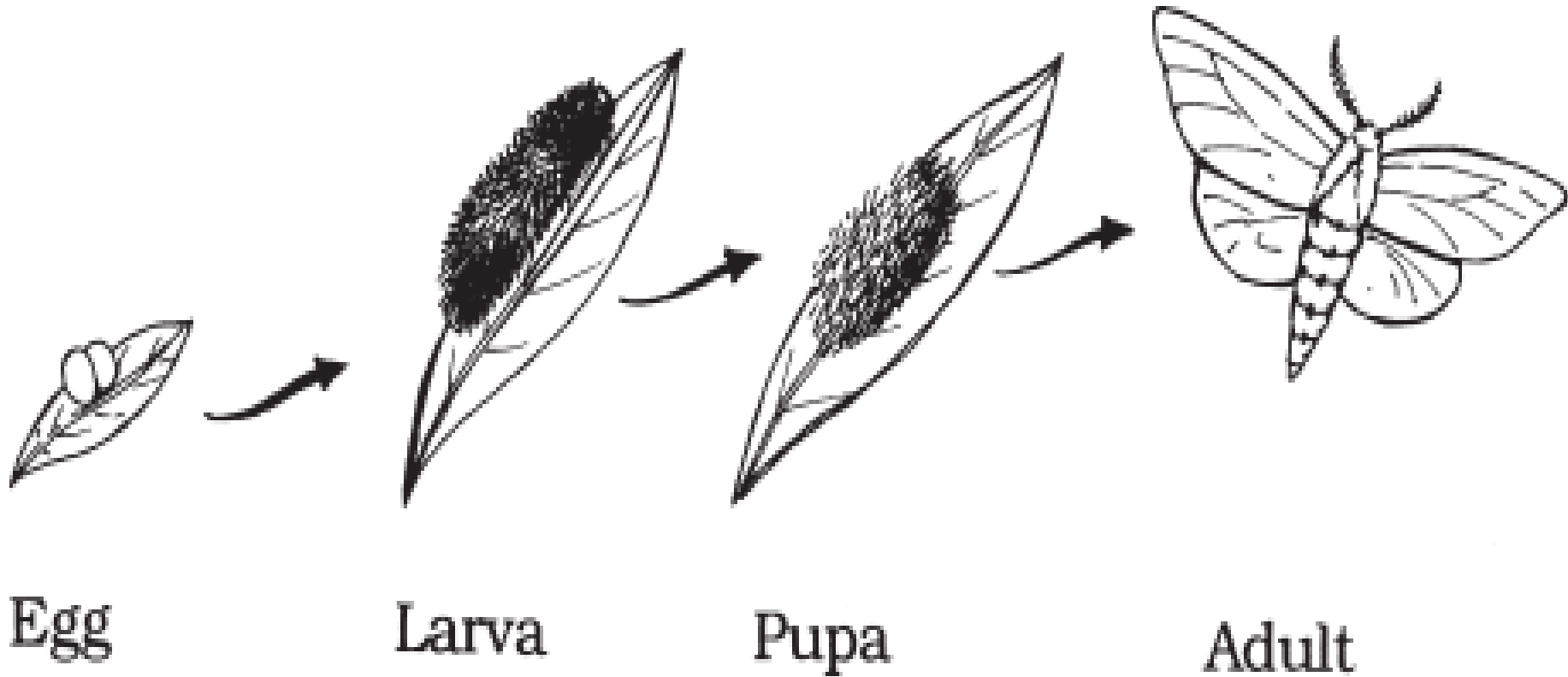
A good sample insect is the grasshopper. It has all the traits of a typical insect plus some other interesting features.

- The grasshopper listens with a type of eardrum on its sides.
- It has grinding mouthparts for eating grass and a grinding gizzard to further breakdown its food.
- It has small openings all over its body called spiracles through which it breathes.
- They go through what is called “incomplete metamorphosis” which means that it hatches looking somewhat like an adult but smaller and gradually grows into its adult size and form.



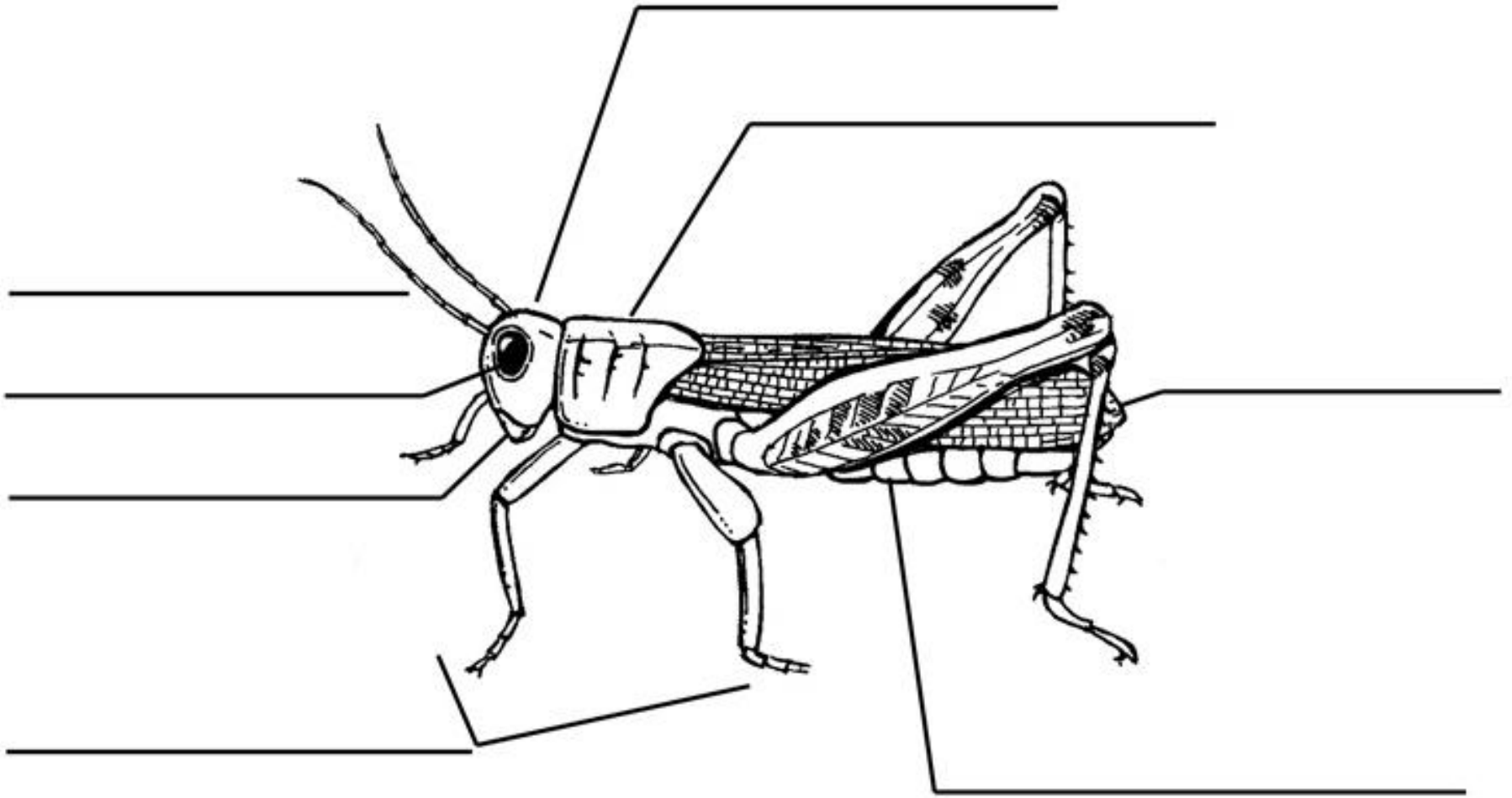


Complete metamorphosis” as in butterflies and moths is where the insect goes through a complete change from birth to adulthood. It hatched as a wormlike larvae with mouthparts built for eating. It then cocoons itself up to form a pupa, where it goes through a complete physical change. Then it emerges from the cocoon as an adult insect. One purpose of this change allows the insect to use several food sources. Early on as a caterpillar it can eat leaves. Then by the time the adult butterfly emerges, the plants have flowered and they can collect nectar. They can also survive the winter in their pupal phase and try again next summer.



# Label the Parts of an Insect

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# Insect Camouflage

## Structure and Function in Insects

Animals use camouflage or cryptic coloration in many different ways. When an animal's body color matches its surroundings, it's called **blending camouflage**. When an animal has stripes, spots or other markings, these make the outline of their body hard to see and are called **pattern camouflage**. When an animal hides by looking like the plants it eats (or the plant its prey eats), it's called **disguise camouflage**.

Match each insect to the *type* of camouflage it uses (some use more than one).

sphinx moth



walking stick



praying mantis



katydid



swallowtail caterpillar



twig caterpillar



**blending camouflage**  
(color matching)

**pattern camouflage**  
(distracting patterns)

**disguise camouflage**  
(plant mimics)

# Camouflage Matching

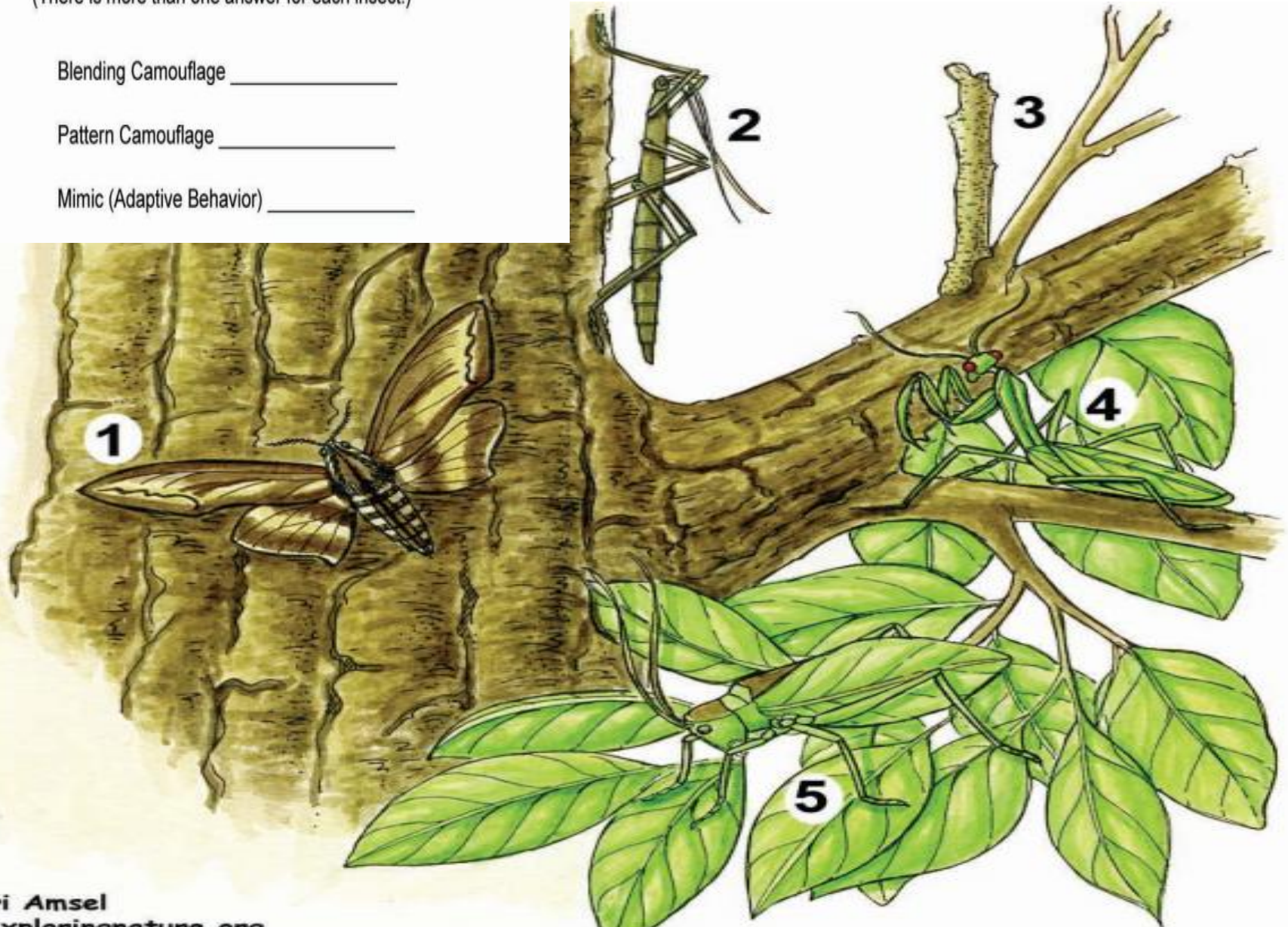
Match the camouflaged insects below to the type of adaptive trait they are displaying.

(There is more than one answer for each insect.)

Blending Camouflage \_\_\_\_\_

Pattern Camouflage \_\_\_\_\_

Mimic (Adaptive Behavior) \_\_\_\_\_



## Grouping Animals by Class - Multiple Choice Test

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Class: \_\_\_\_\_

<b>1</b>	A frog belongs to which animal group? <b>A</b> bird <b>B</b> reptile <b>C</b> amphibian <b>D</b> mammal <b>E</b> fish
<b>2</b>	An eagle belongs to which animal group? <b>A</b> bird <b>B</b> reptile <b>C</b> amphibian <b>D</b> mammal <b>E</b> fish
<b>3</b>	A seahorse belongs to which animal group? <b>A</b> bird <b>B</b> reptile <b>C</b> amphibian <b>D</b> mammal <b>E</b> fish
<b>4</b>	A bat belongs to which animal group? <b>A</b> bird <b>B</b> reptile <b>C</b> amphibian <b>D</b> mammal <b>E</b> fish
<b>5</b>	An alligator belongs to which group? <b>A</b> bird <b>B</b> reptile <b>C</b> amphibian <b>D</b> mammal <b>E</b> fish

<b>6</b>	A salamander belongs to which animal group? <b>A</b> bird <b>B</b> reptile <b>C</b> amphibian <b>D</b> mammal <b>E</b> fish
<b>7</b>	A turtle belongs to which animal group? <b>A</b> bird <b>B</b> reptile <b>C</b> amphibian <b>D</b> mammal <b>E</b> fish
<b>8</b>	A dolphin belongs to which animal group? <b>A</b> bird <b>B</b> reptile <b>C</b> amphibian <b>D</b> mammal <b>E</b> fish
<b>9</b>	A pelican belongs to which animal group? <b>A</b> bird <b>B</b> reptile <b>C</b> amphibian <b>D</b> mammal <b>E</b> fish
<b>10</b>	A trout belongs to which animal group? <b>A</b> bird <b>B</b> reptile <b>C</b> amphibian <b>D</b> mammal <b>E</b> fish

# Mammal Traits 1 – Multiple Choice Test

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Name: \_\_\_\_\_ Date: \_\_\_\_\_ Class: \_\_\_\_\_

<b>1</b>	Which of the following animals is a mammal? <b>A</b> duck <b>B</b> rabbit <b>C</b> frog <b>D</b> fish <b>E</b> shark
<b>2</b>	Which of the following mammals is not covered with fur/hair? <b>A</b> whale <b>B</b> horse <b>C</b> mouse <b>D</b> monkey <b>E</b> squirrel
<b>3</b>	Which of the following mammals is a marsupial? <b>A</b> rabbit. <b>B</b> kangaroo. <b>C</b> elephant. <b>D</b> human. <b>E</b> beaver.
<b>4</b>	Which of the following animals is the one <u>mammal</u> that lays eggs? <b>A</b> penguin. <b>B</b> alligator. <b>C</b> duck-billed platypus. <b>D</b> monkey.

<b>5</b>	Why do mammals have fur/hair? <b>A</b> To stay warm. <b>B</b> To protect them from sunburn. <b>C</b> To protect them from scratches. <b>D</b> To help them blend in. <b>E</b> All of the above.
<b>6</b>	Which of the following mammals has hairs adapted for defending against predators? <b>A</b> horse <b>B</b> fur seal <b>C</b> mouse <b>D</b> porcupine
<b>7</b>	Mammals have all the following traits, <b>EXCEPT</b> : <b>A</b> warm blooded. <b>B</b> backbone. <b>C</b> hair or fur. <b>D</b> scales.
<b>8</b>	Which of the following is not a mammal? <b>A</b> person <b>B</b> ape <b>C</b> elephant <b>D</b> duck <b>E</b> armadillo

## Mammals Traits 2 – Multiple Choice Test

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Name: \_\_\_\_\_ Date: \_\_\_\_\_ Class: \_\_\_\_\_

1	<p>Mammals have all the following traits, EXCEPT:</p> <p><b>A</b> They are covered in body hair/fur (land mammals). <b>B</b> The females have mammary glands. <b>C</b> The females feed their young milk. <b>D</b> They are cold blooded.</p>
2	<p>Which of the following animals is the largest <u>mammal</u>?</p> <p><b>A</b> ostrich <b>B</b> horse <b>C</b> mouse <b>D</b> great white shark <b>E</b> squirrel</p>
3	<p>Which of the following mammals is a marsupial?</p> <p><b>A</b> rabbit. <b>B</b> kangaroo. <b>C</b> elephant. <b>D</b> human. <b>E</b> beaver.</p>
4	<p>Which of the animals below is the one <u>mammal</u> that lays eggs?</p> <p><b>A</b> penguin. <b>B</b> alligator. <b>C</b> duck-billed platypus. <b>D</b> monkey.</p>

5	<p>Some mammals have hair:</p> <p><b>A</b> to help them stay warm. <b>B</b> to protect them from scratches or sunburn. <b>C</b> to warn off others – dog raising its "hackles". <b>D</b> adapted into a protective tool (porcupine). <b>E</b> all of the above.</p>
6	<p>Some mammals' hair can be used for:</p> <p><b>A</b> tasting things - like tastebuds. <b>B</b> making noise - like vocal chords. <b>C</b> feeling things - like whiskers. <b>D</b> None of the above</p>
7	<p>Mammals have all the following traits, EXCEPT:</p> <p><b>A</b> three ear bones for better hearing. <b>B</b> a backbone. <b>C</b> specialized teeth. <b>D</b> feathers.</p>
8	<p>Which of the following animals is not a mammal?</p> <p><b>A</b> person <b>B</b> ape <b>C</b> elephant <b>D</b> duck <b>E</b> armadillo</p>