

Structural Adaptations

Unit 6 Lesson 2

Attendance link: <http://goo.gl/forms/EUrTo4Bkzb>

EXPECTATIONS

- Required Class Connects

- Tuesday, Wednesday, & Thursday
- 1:30-2:30 pm

- Be active and participate in class.

- Be respectful to your classmates

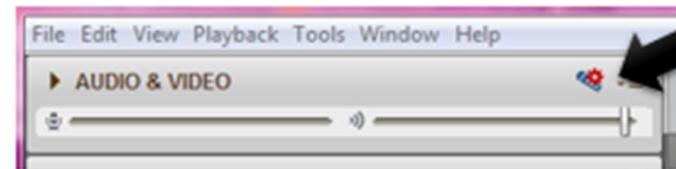
- Be positive in the chat box and use it correctly.

- Have a working microphone!

- You will need it during the lessons and break out rooms.

- If you have a question, please place it in the chat box and repost it if I don't see it.

How to set up your microphone:
Go to Tools -> Audio -> Audio set up wizard
Run the wizard.
It will set up your speakers first then your mic.
OR
Click on the blue mic with the red gear.



Objectives

- Identify and give specific examples of structural adaptations in plants.
- Identify and give specific examples of structural adaptations in animals.
- Define adaptation as a change that improves the chances of survival for a species in a specific environment.
- Describe and give examples of how diversity of animals in a population combined with selection pressures over time can change population characteristics.

CHARACTERISTICS OF LIFE

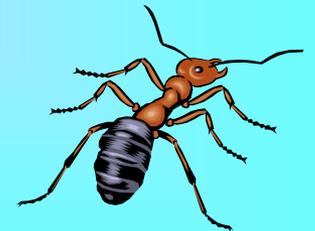
**All living things change to fit
their environment**

ADAPTATIONS!!!!!!!!!!!!

Have you ever wondered how animals are able to survive
in the wild?

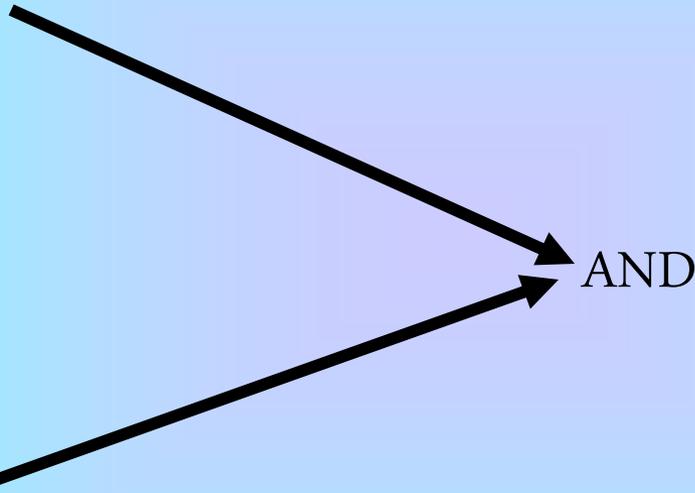


Animals have certain adaptations that help them
to survive.

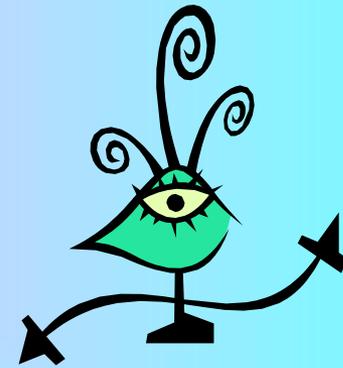


We can separate **adaptations** into two categories:

A
D
A
P
T
A
T
I
O
N
S



Structural/Physical



Behavioral

Inherited Characteristics

Why do tigers have stripes?

Why are bullfrogs green on the back and white on the belly?

Why do giraffes have such a long neck?

Why do geese fly south for the winter?

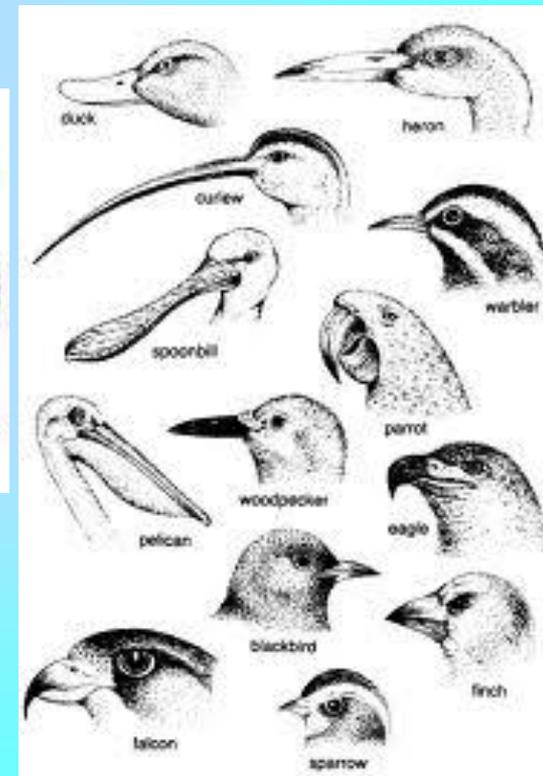
Why do waterlilies float?

Why do some plants bear fruit?

All of these questions deal with adaptations!!!

What are adaptations?

Adaptations – an inherited characteristic that helps an organism to survive long enough to reproduce more successfully in its changing environment and can either be structural or behavioral.



Structural Adaptation



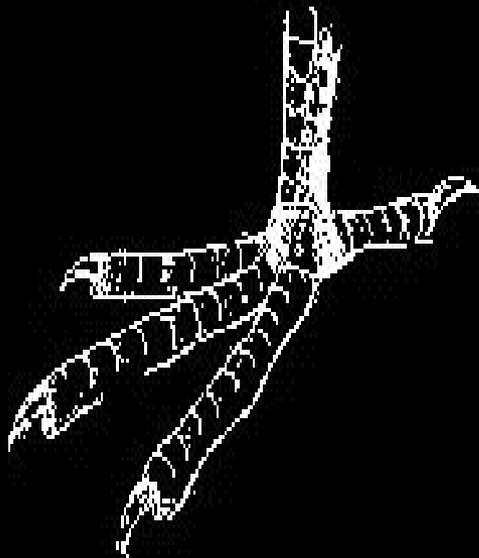
Structural Adaptation

A body part that aids in survival

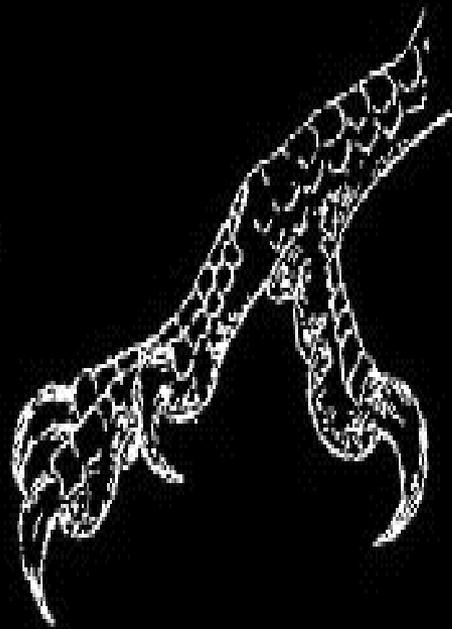
Examples:

- Fins
- Gills
- Teeth
- Streamline body
- No eye lids

How do different feet types aid in survival?



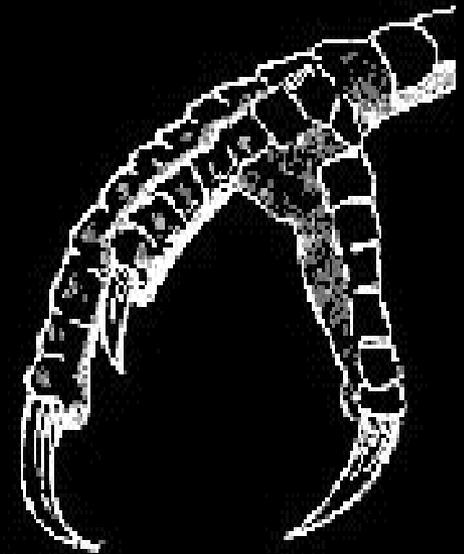
Heron



Eagle



Duck



Sparrow

Structural Adaptation

A body part that aids in survival

Examples:

Heron's feet are for wading in mud

Eagle's feet for grabbing and holding prey

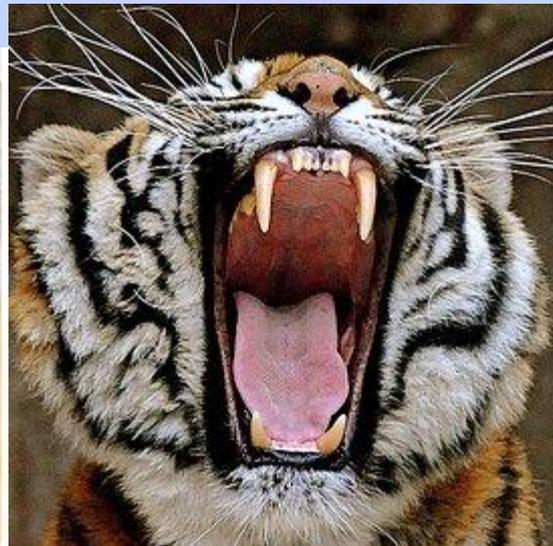
Duck's feet are for swimming

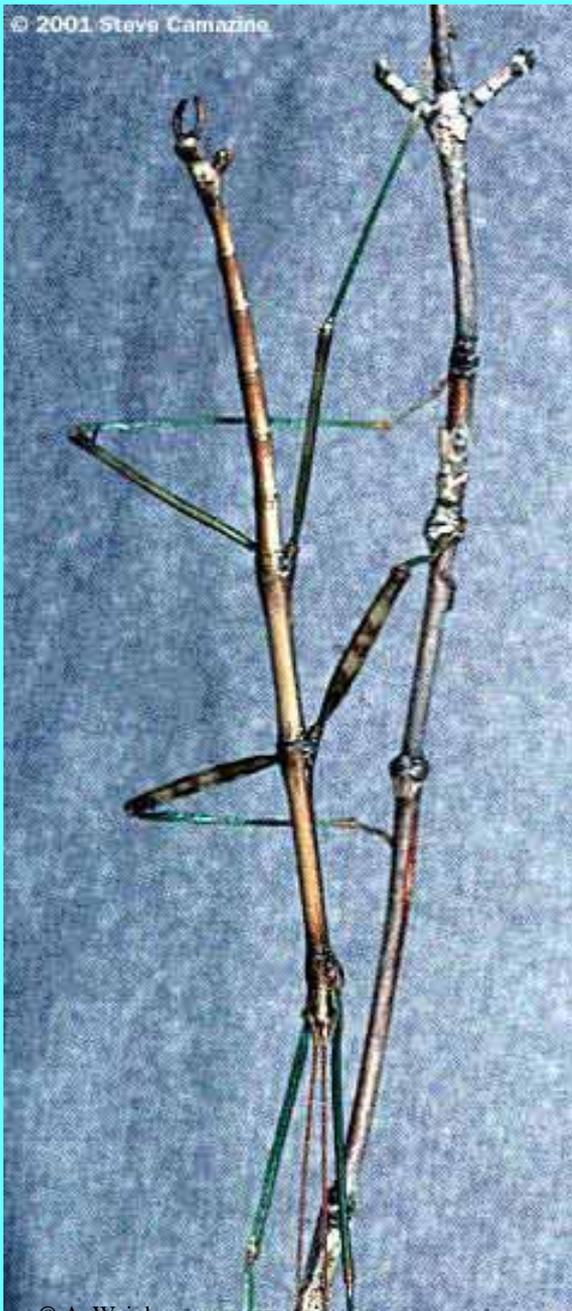
Sparrow's feet are for perching

Structural Adaptations

Definition: Actual body parts or coloration that help an organism survive in their environment.

EX: camouflage, mimicry, bent hind legs, sharp teeth and claws, body structures.





Hey! I'm a walking stick. I look just like a stick you'd find on the ground.

Structural adaptations

are body structures that allow an animal to find and consume food, defend itself, and to reproduce its species.

Structural adaptations

help an animal survive in its environment.

What is the main function of structural adaptations?

- A. They help the organism survive in its environment.
- B. They help the organism find a mate in other environments.
- C. They serve no useful purpose.
- D. They provide a home for the organism.

Camouflage (use of color in a surrounding)



The chameleon can change its **color** to match its surroundings.
Can you do that?

Types of Structural Adaptations

CAMOUFLAGE/COLORATION: blending in with the environment for protection from predators or to help sneak up on prey.

Use: Obtaining food and protection





Types of Structural Adaptations

MIMICRY: copying a behavior or appearance.

Used for protection or obtaining food and protection.



Monarch Butterfly (poisonous)



Viceroy Butterfly (non-poisonous)

Mimicry

(looking or sounding like another living organism)

The Viceroy butterfly uses mimicry to look like the Monarch butterfly. Can you tell them apart?



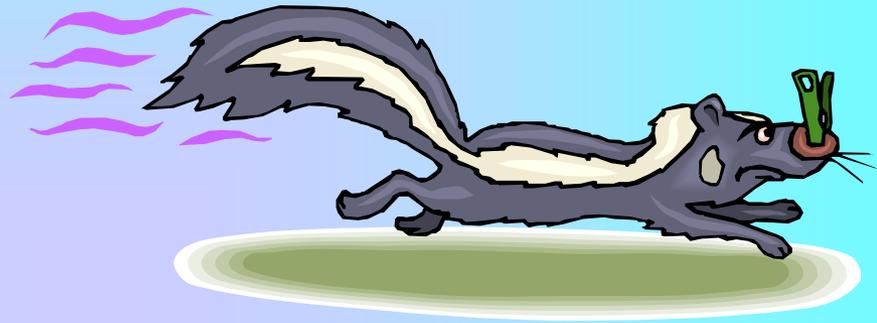
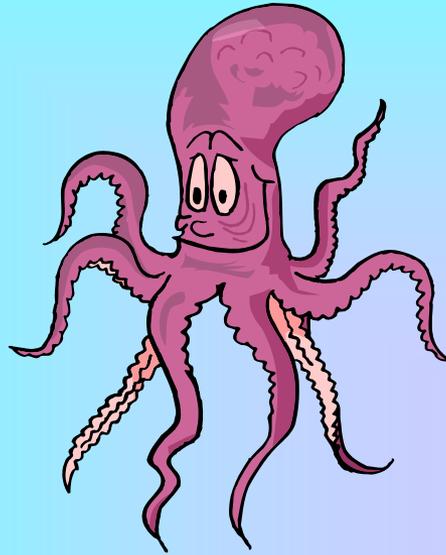
Poisonous

I'm the Monarch!

I'm the Viceroy!

Not poisonous





Chemical defenses (like venom, ink, sprays)

Body coverings & parts (claws, beaks, feet, armor plates, skulls, teeth)



The elephant's **TRUNK** is a physical adaptation that helps it to clean itself, eat, drink, and to pick things up.

Which of the following structural adaptations helps the organism obtain food?

- A. Dandelion seeds that can float in the wind
- B. The bright-colored skin of a poison dart frog
- C. The long neck of a giraffe
- D. The spines on a cactus

C



If red touches yellow, deadly fellow. If red touches black, friendly jack.



Types of Structural Adaptations

Bent hind legs – prey run fast to escape & predators
run fast to catch prey

Used for: protection,
locomotion



Types of Structural Adaptations

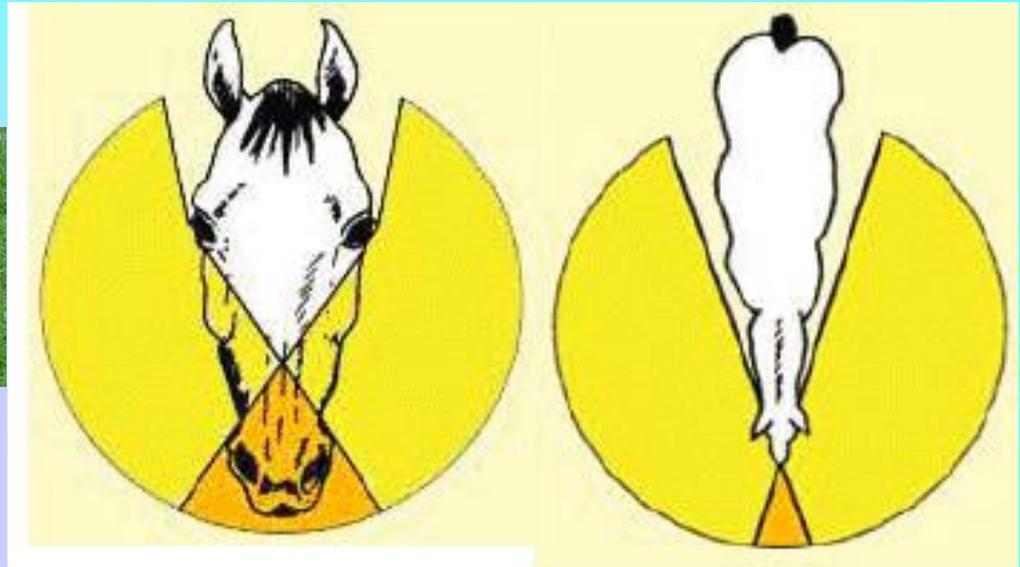
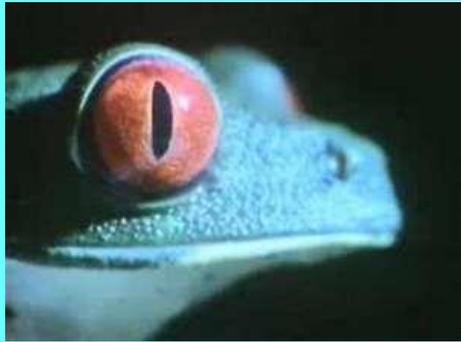
Teeth – flat teeth grinding for
plant eaters

Sharp teeth cutting for meat
eaters

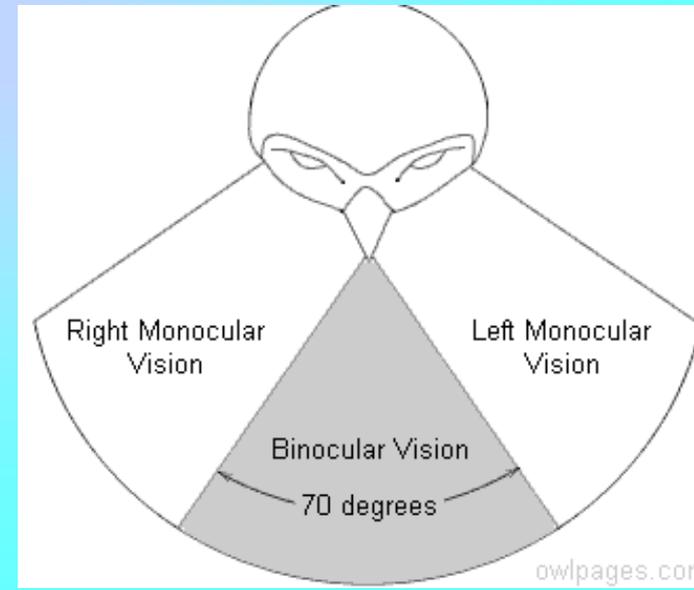


Types of Structural Adaptations: Body Structures

Prey – Eyes on the side of the head



Predator – Eyes facing forward to find prey.





flippers



wings



Bent legs



Which sentence does not describe a structural adaptation?

- A. An elephant has a long trunk that it uses to reach leaves high in a tree.
- B. A dog walks to a stream and drinks when it gets thirsty.
- C. A hummingbird has a long, thin beak to sip nectar from flowers.
- D. A rosebush has thorns to protect it from animals that might eat it.

B

PLANT ADAPTATIONS

All living things adapt is a characteristic of life.
All 6 kingdoms adapt. Animals are not the only organisms to adapt.

Structural Plant Adaptations

1. Structures - adaptations on the body:

holdfasts, empty space for water storage, catch animals for minerals, tallness, heartiness, thorns, flexibility, floatation devices

2. Seeds – all seeds have adaptation to better enable it to survive long enough to plant itself and grow.

Plant Adaptations

Protection – thorns, bad taste, poison, coloration, spikes

Obtaining Food – All plants do photosynthesis and make glucose in their leaves. The larger the leaves the more Sun they can capture.

Plant Adaptations





Which structural adaptation do some plants have to attract pollinators?

- A. Hard bark
- B. Deep roots
- C. Small leaves
- D. Colorful flowers



D

SEEDS

Seeds are the baby plants!!! They are formed when the pollen fertilizes the egg. Fruit protects the seed.



PLANT STRUCTURE ADAPTATIONS

Below are pictures of plants. Pick out their adaptations.



SEED ADAPTATIONS

For plants to survive, seeds have to be dispersed away from the parent plant.

How Seeds Travel

by the wind



milkweed



dandelion



maple

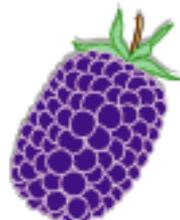
by animals



beggar-ticks



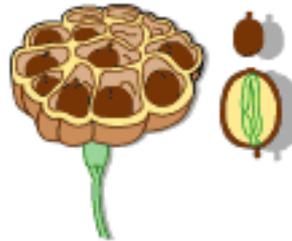
sandbur



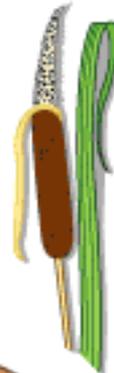
blackberry

by water

lotus



cattail



coconut

by bursting

violet



jewelweed



witch hazel

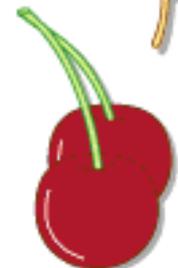
by humans



bean



wheat



cherry

Types of seed dispersal:



1. Carried by wind (parachutes, wings)
2. Carried on animal's fur or feathers
3. Carried by water (float)
4. Eaten by animals – Eat the seed and comes out in the feces. (fruit)
5. Mechanically propelled-The plant throws the seed. (shoot the seeds)



Which structural adaptation would help a plant survive better in a shady environment?

- A. Thorns
- B. Small leaves
- C. Large leaves
- D. Brightly colored flowers

C



Assignment

- OLS
 - Part 1 – online – 5 questions
 - Part 2 – offline – 1 question
- Study Island
 - Be responsible and double check yourself to make sure you have at least 10 questions in each of the 13 pathways.