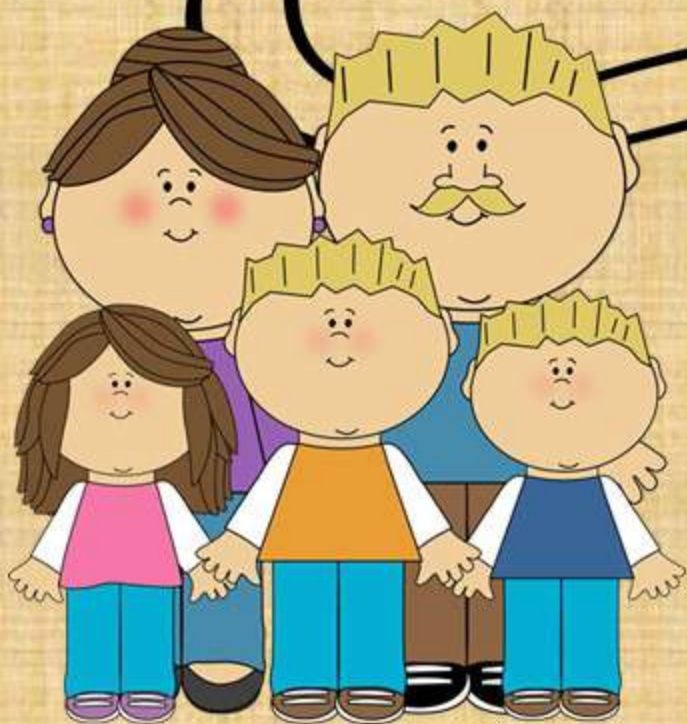


Inherited Traits and Learned Behaviors



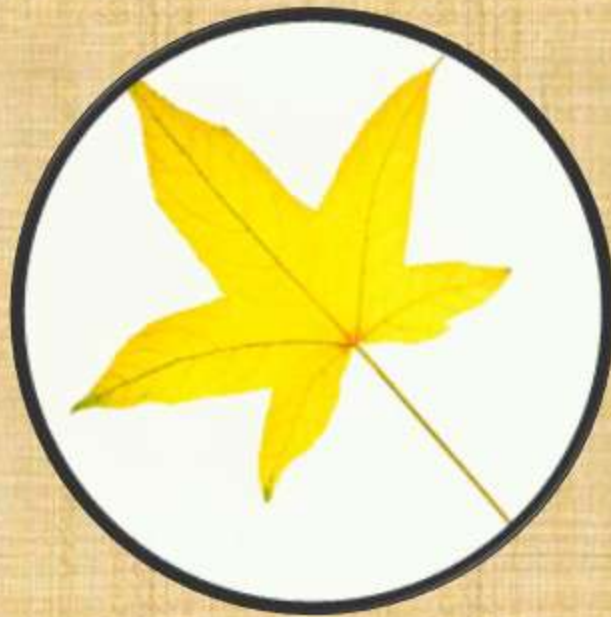
How would you describe yourself?

- What do you look like?
- Think about your personality, how do you act?
- What are your likes and dislikes?
- Some of these traits are passed down by your parents, and others you learn on your own



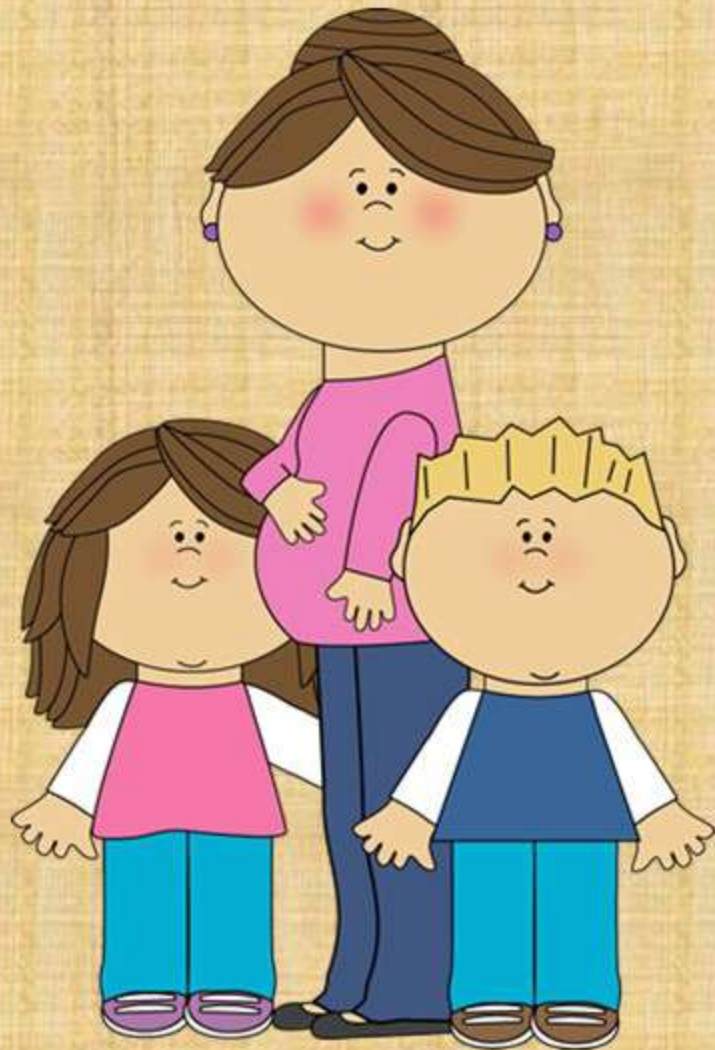
Traits

- Every living thing has **traits** that make it unique
 - A trait is a quality or characteristic of a living thing
 - Red hair, shape of a leaf, color of your eyes



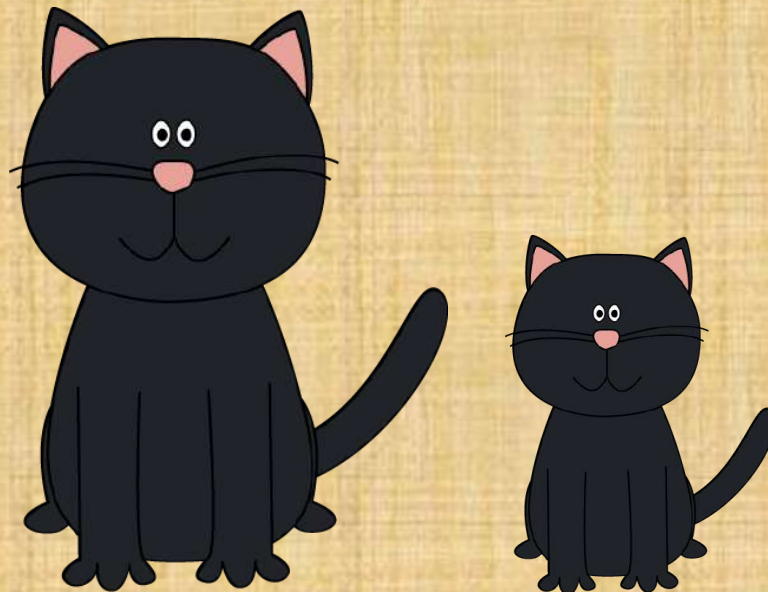
Inherited Traits

- Inherited Traits – physical characteristics that are passed from parents to their babies, or offspring
 - Eye color, hair, skin color, curly hair, straight hair, dimples, freckles, short, tall
 - The passing of traits is called **heredity**



Inherited Traits

- Animals and plants have inherited traits also
 - Two black cats will have black kittens
 - Seeds from a pink rose bush will produce more pink rose bushes
 - <http://www.brainpop.com/science/cellularlifeandgenetics/heredity/>



Let's determine some of
your inherited traits:

Do you have
attached or
detached
earlobes?



Attached Earlobes

Detached Earlobes

Do you have
attached or
detached
earlobes?



Attached Earlobes

Detached Earlobes

Do you cross
your right thumb
over your left
thumb, or your
left thumb over
your right
thumb?

Do you have attached or detached earlobes?



Attached Earlobes

Detached Earlobes

Do you cross your right thumb over your left thumb, or your left thumb over your right thumb?

Can you roll your tongue?

Do you have attached or detached earlobes?



Attached Earlobes

Detached Earlobes

Do you cross your right thumb over your left thumb, or your left thumb over your right thumb?

Can you roll your tongue?

Do you have dimples?

Do you have attached or detached earlobes?



Attached Earlobes

Detached Earlobes

Do you cross your right thumb over your left thumb, or your left thumb over your right thumb?

Can you roll your tongue?

Do you have dimples?

Are you right-handed or left-handed?

Do you have attached or detached earlobes?



Do you cross your right thumb over your left thumb, or your left thumb over your right thumb?

Can you roll your tongue?

Do you have dimples?

Are you right-handed or left-handed?

Do you have freckles?

Do you have naturally curly hair?

Do you have attached or detached earlobes?



Attached Earlobes

Detached Earlobes

Do you cross your right thumb over your left thumb, or your left thumb over your right thumb?

Can you roll your tongue?

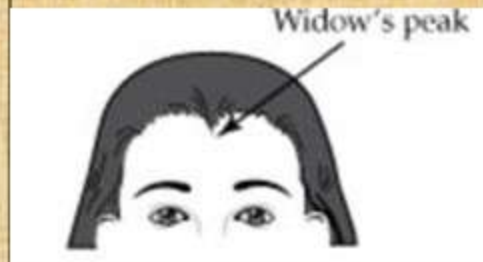
Do you have dimples?

Are you right-handed or left-handed?

Do you have freckles?

Do you have a widow's peak?

Do you have naturally curly hair?



Do you have attached or detached earlobes?



Do you cross your right thumb over your left thumb, or your left thumb over your right thumb?

Can you roll your tongue?

Do you have dimples?

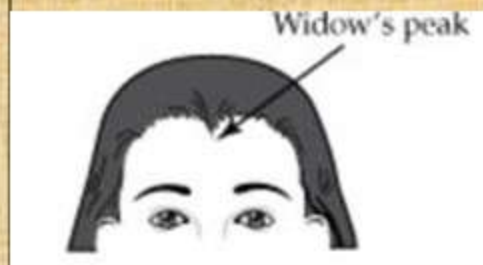
Are you right-handed or left-handed?

Do you have freckles?

Do you have a widow's peak?

Is your second toe longer than your big toe?

Do you have naturally curly hair?



Inherited Behaviors

- A **behavior** is a way of acting
 - These can be inherited too; they are called **instincts**
 - Babies are born with specific reflexes to help them survive



Inherited Behaviors

- Animal instincts:
 - When the weather becomes cold, animals prepare for winter by instinct
 - Some head for warmer climates, others hibernate
 - Birds protect their eggs and babies
 - Frogs are not born with this instinct
 - They leave their eggs to hatch (or die)



Learned Behaviors

- What is something that you are better at doing than other members of your family?
 - You learned how to do this, you did not inherit it from your parents
 - We learn many behaviors:
 - Riding a bike, making a sandwich, using good manners
 - Animals:
 - Raccoons learn to open trash cans
 - Birds learn where the best bird feeders are



Learned Behaviors

- A mother bear will show her cubs how to find berries for food
- A pet cat may learn that food appears in its bowl after it hears the sound of a can opener
- Humans learn how to speak



Inherited Traits

Learned Behaviors

<http://safeshare.tv/w/pihwfqHJCO>

Genes and Heredity

<http://studyjams.scholastic.com/studyjams/jams/science/human-body/heredity.htm>

How does it all happen?

- How do babies inherit their parents' traits?
- Why do robin eggs hatch into robins and not eagles?
- Why do deer have fawns and not rabbits?



Genes

- Traits move from parents to their offspring through **genes**
 - A gene is a tiny part of a cell that contains traits
- Genes contain instructions that control the growth of that plant or animal
 - Ex. Every human has genes that control hair color
 - The instructions in those genes are different (black, red, blonde)



Genes

- Birds have genes that control their size, shape, and color
 - Hawk's genes: hooked beak, sharp claws to tear apart mice and other small animals
- Plants have genes to control size, shape, and color of its leaves



How Genes Work

- Genes come in pairs
 - Fathers have XY genes, mothers have XX genes
 - One gene from mom combines with one gene from dad
 - When they combine, the baby then has two genes
 - (XX = girl, XY = boy)
 - The baby may inherit the mother's dimples and the father's curly hair

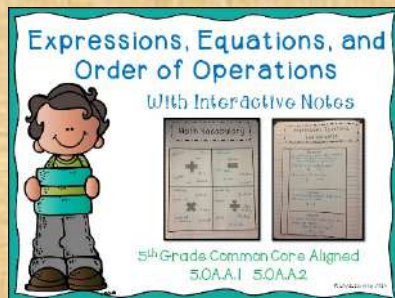
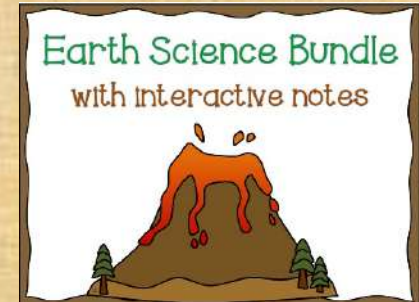
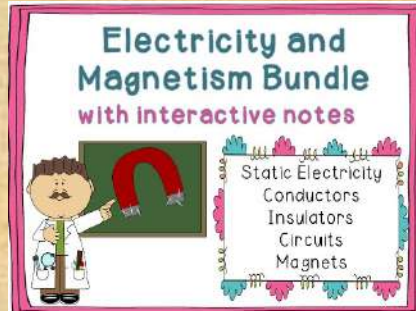
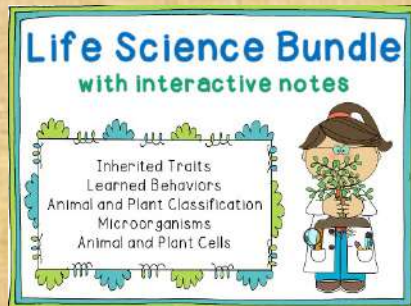


Bill Nye - Genes

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