

# Observing Traits

David has dark hair, just like his parents. Leticia's hair is dark, too, just like her father. Her mother's hair, however, is blond. It is easy to understand why David's hair is dark. Both of his parents have dark hair. How about Leticia? Why is her hair dark? Why not blonde?

**Gregor Mendel**, who is known as the **father of genetics**, first answered these questions back in the mid 1800's. He discovered the Law of Dominance while he worked with pea plants. The Law of Dominance states:

1. *An organism receives two genes for each trait, one from each parent.*
2. *One of the genes may be stronger than the other. The **stronger** gene shows up. The gene that shows up is called the **dominant** gene. The "**hidden**" gene is called the **recessive** gene for that trait.*

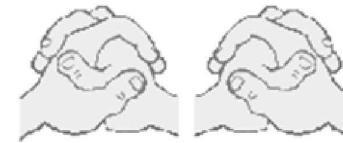
an offspring (child in humans – kitten in cats and puppy in dogs) receives two of the same genes (either two recessive or two dominant), the offspring will inherit that trait. However, if an organism has one dominant gene and one recessive gene for a certain trait, the organism will have the trait of the dominant gene. The recessive trait will be "hidden."

Let's look at Leticia again. Leticia has genes for dark hair and for light hair. The gene for dark hair is dominant over the gene for light hair. That is why Leticia's hair is dark.

## What To Do:

1. Look at the pictures below to determine what each characteristic looks like.
2. With a lab partner observe each other's traits.
3. Highlight the one you have.
4. The teacher will survey the class to determine the number of each trait.
5. Fill in the data table and graph the dominant traits results.

1. Left thumb over right thumb



- Right thumb over left thumb

2. Dimples



- No Dimples

3. Tongue Roller



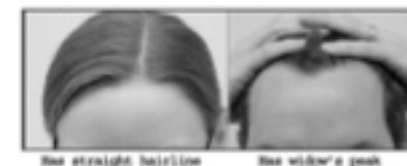
- Non Roller

4. Unattached earlobes



- Attached earlobes

5. Straight hair line



- Widow's peak

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<b>Traits</b>	<b>Dominant</b>	<b>Recessive</b>	<b># with dominant</b>	<b># with recessive</b>
1. Thumb position	Left over right	Right over left		
2. Cheeks	Dimpled	Non-dimpled		
3. Tongue	Roller	Non-Roller		
Widow's Peak	Present	Absent		
Earlobes	Free	Attached		
6. Hair Color	Dark	Light		
Eyesight	Normal	Glasses		

**uestions:**

Which trait had the highest number of dominant genes  
owing up? \_\_\_\_\_

Which trait had the highest number of recessive genes showing up? \_\_\_\_\_

Are recessive traits always hidden? \_\_\_\_\_

hy not? \_\_\_\_\_

[illegible]

ime \_\_\_\_\_ period \_\_\_\_\_

## EXIT TICKET

Who is known as the father of genetics?

- A. Paul Harvey
- B. Gregor Mendel
- C. Robert Hooke
- D. Isaac Newton

What is an offspring?

- A. running water
- B. a young organism
- C. a dead organism
- D. where an aquifer comes out of the ground

What is the stronger gene called?

- A. Recessive
- B. Offspring
- C. Normal
- D. Dominant

What is the hidden gene called?

- A. Recessive
- B. Offspring
- C. Normal
- D. Dominant

Where do we get our genes?

- A. Mother only
- B. Father only
- C. Both mother and father
- D. Scientists don't know

Name \_\_\_\_\_ period \_\_\_\_\_

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