

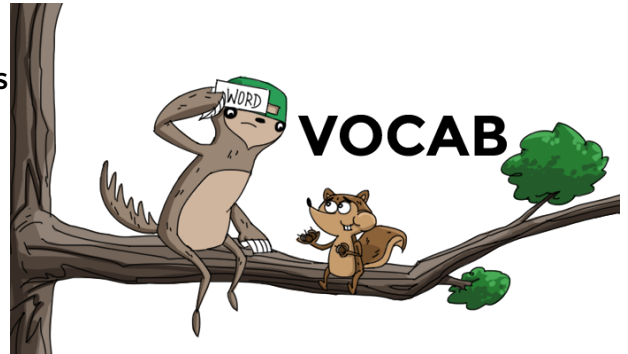
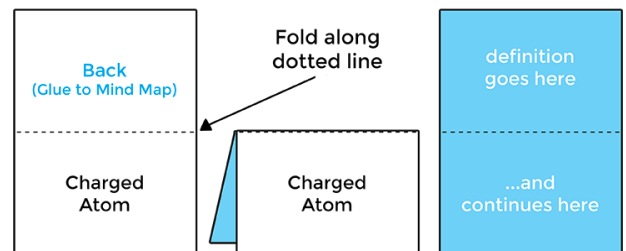


Mutations Lesson 1: The Solve

Student Handout

I. Vocabulary Warm-up

1. Using the materials at your table, cut out your vocabulary cards along the **solid lines**. Note: Do not cut at the dotted lines.
2. Fold the cards at the dotted lines.
3. Write the definition of the term on the inside of the card using the definitions below.
4. Use the clues from the Mind Map images, definitions, and vocabulary terms to place the cards in the correct location in the Mind Map, explaining your thinking to group members as you go.
5. When you're ready to glue or tape, raise your hand so you can check your Mind Map with your teacher.
6. Use glue or double-sided tape to connect the back of the vocabulary card to the correct place on the Mind Map.
7. Use your completed Mind Map to discuss these questions with your group:
 - a. Where are chromosomes found?
 - b. What is a gene?
 - c. Besides eye color, what are other human traits?
 - d. How can a mutation occur?

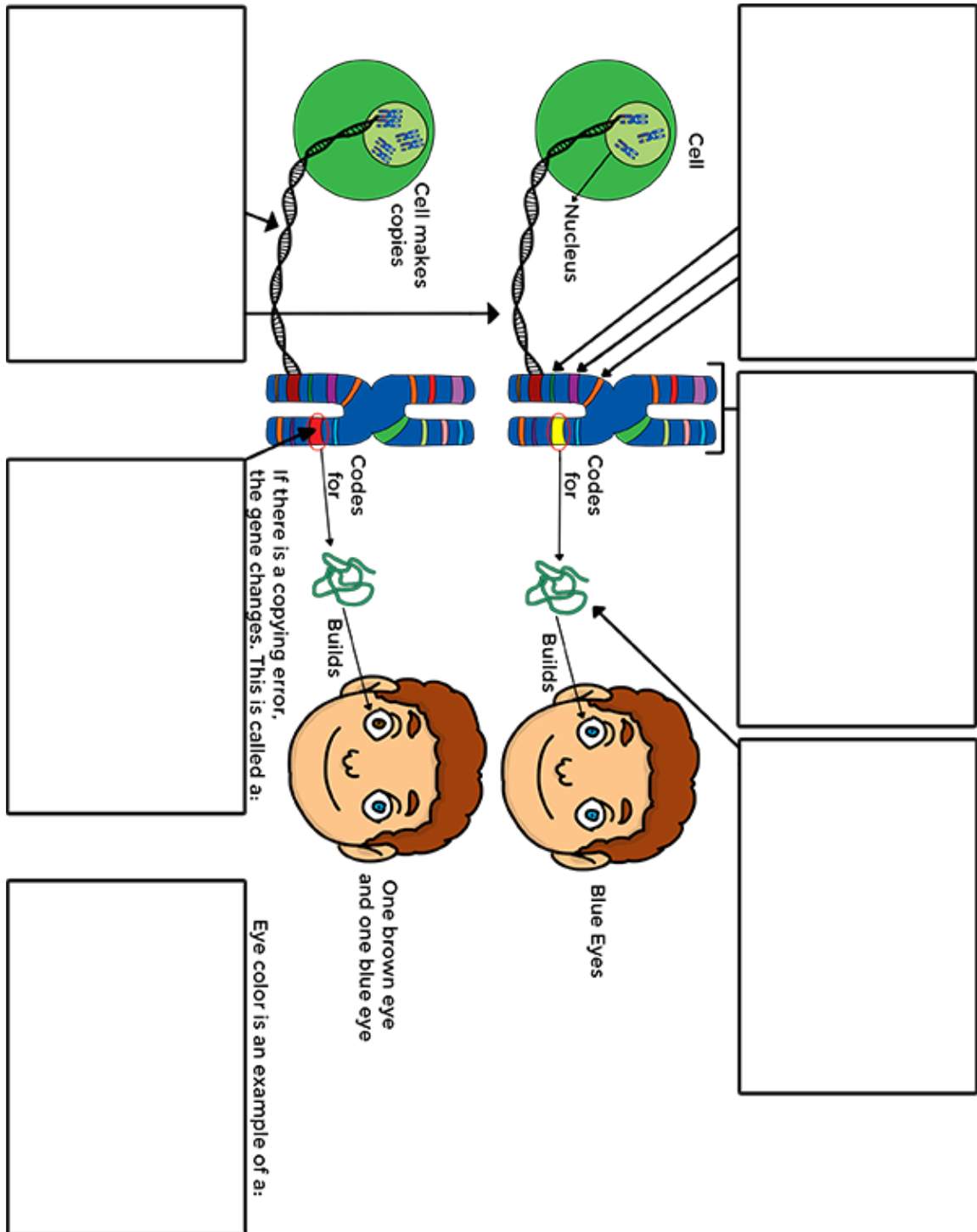




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Mind Map:





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Chromosome

Trait

Mutation

Gene

Protein

DNA

Vocabulary

- **Chromosome:** A structure made from DNA that carries genes for an organism
- **DNA:** A molecule that makes up a chromosome and carries all of an organism's genetic information
- **Gene:** A section of DNA on a chromosome that determines a particular trait
- **Protein:** A molecule that builds traits in an organism as determined by the DNA
- **Trait:** A characteristic or condition determined by your genes
- **Mutation:** A change in the structure of a gene



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II. Watch Mosa Mack

Either on your own, in a small group, or as a class (your teacher will let you know), view Mosa Mack's episode on Mutations. Then, fill out the questions below.

Name: _____

Date: _____

Episode Questions

1. Why was Kitty Perry disqualified from the Pretty Kitty show? Be as specific as possible.

2. Where do we get our traits?

3. Explain how a mutation can occur.

4. According to the cat lady, how did Kitty Perry get her 6th toe?

5. What type of mutation does the cat lady have?



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6. When Mosa reflected on the Peppered Moths, she realized that a mutation helped to benefit the moths. Explain the mutation that occurred in the Peppered Moths and how it helped the moths to survive.

7. A mutation is responsible for creating what we now know as cauliflower. List two other mutant organisms that were displayed in the “Magnificent Mutations” show.

8. What did Mosa figure out? What mutations of modern day whales can you find?



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III. Exit Ticket: Check for Understanding

Complete the exit ticket below you can take the quiz online!

Name: _____

Date: _____

1. Genes determine our:
 - a. Parents
 - b. Traits
 - c. Chromosomes
 - d. Mutations
2. The stripes on a chromosome represent different types of:
 - a. Patterns
 - b. Colors
 - c. Genes
 - d. Mutations
3. Which of the following best describes a mutation?
 - a. A change in a gene
 - b. A section of a chromosome that codes for a particular trait
 - c. Anything that can damage a gene
 - d. A distinguishing quality that can be passed from one generation to another
4. True or False: All mutations are harmful.
 - a. True
 - b. False
5. A mutation could cause which of the following:
 - a. Two differently-colored eyes
 - b. Extra toes on a foot
 - c. Color blindness
 - d. All of the above
6. True or False: Mutations can cause a species to change in appearance over time.
 - a. True
 - b. False