



Interest Level: Grades K-2

Reading Level: Grade 2



Titles in this series:

Body Parts:

Double-Jointedness, Hitchhiker's Thumb, and More

Eye Color:

Brown, Blue, Green, and Other Hues

Facial Features:

Freckles, Earlobes, Noses, and More

Hair Traits:

Color, Texture, and More

Unusual Traits:

Tongue Rolling, Special Taste Sensors, and More

Vision:

Nearsightedness, Farsightedness, and More

Standards

National Science Education

- Life science: characteristics of organisms

AAAS Benchmarks for Science Literacy

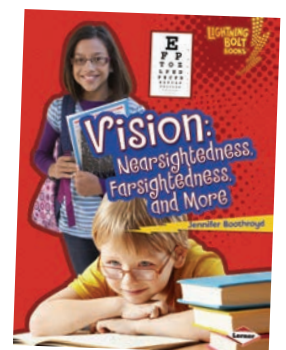
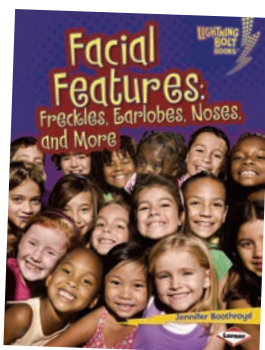
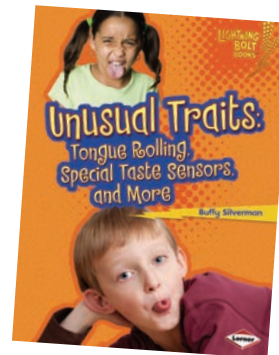
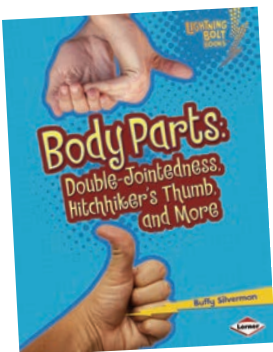
- **The Living Environment** *Diversity of Life*: Know that some animals and plants are alike in the way they look and in the things they do, and others are very different from one another.
- Heredity*: Know that offspring are very much, but not exactly, like their parents and like one another.

Common Core Reading (Informational Text)

- Key Ideas and Details
- Integration of Knowledge and Ideas
- Range of Reading and Level of Text Complexity

Multiple Intelligences Utilized

- Verbal-linguistic, visual-spatial, bodily-kinesthetic, logical-mathematical, intrapersonal, interpersonal



Lesson 1

Vocabulary Search

Purpose

Students will identify and define important vocabulary words relating to genetic traits.

Materials

- What Traits Are in Your Genes? series
- index cards
- pencils
- dictionary

Prepare

- Distribute five to seven index cards to each student.

Pretest

- Each student will select one What Traits Are in Your Genes? book to read.
- What words do you think you might find in a book about the topic you chose?

Model

- Explain how students can skim text to find important words.
- Discuss what words might be

important, such as specific vocabulary that is repeated. Discuss where these words can be found, for instance in a topic sentence.

- Select one of the What Traits Are in Your Genes? books. Demonstrate how to skim for important words. Explain your thinking as you select words.
- Show students how to look up the definitions of words in the glossary or a dictionary.

Read

- Students skim their chosen What Traits Are in Your Genes? books.

Practice

- Students identify important vocabulary words and record them on index cards.
- Look up each word's definition in the glossary or in a dictionary.

Discuss

- Group students according to the books they chose, and have them share the words they identified.
- Have each group create a list of the top ten most important words from their book.
- Using the list, ask students to circle which of the top ten words are in the book's glossary or index.
- As a class, discuss the process of skimming for words. Did many group members pick the same words? How many words in the top ten list were in the book's glossary or index?
- What did you learn from this exercise?

Evaluate

- Evaluate students' understanding and participation during group discussions.

Lesson 2

Comparing Traits

Purpose

Students will compare and contrast the traits they have with the traits of a classmate and a family member.

Materials

- What Traits Are in Your Genes? series
- Venn Diagram p. 6
- pencils

Prepare

- Divide students into pairs.
- Make one copy of Venn Diagram p. 6 for each student. Make an additional copy for each pair.

Pretest

- Why do some families look alike?
- Why do some look different?

Read

- Read the What Traits Are in Your Genes? series.

Model

- Complete a sample Venn diagram as a class, comparing the teacher and an assistant or a student.
- Refer to What Traits Are in Your Genes? books to remember different traits.

Practice

- Students will complete Venn Diagram p. 6 with their partners.
- Students will complete Venn

Diagram p. 6 at home, comparing their traits with a family member's.

Discuss

- Students will share their Venn diagrams with the class.
- Do you have more traits in common with your family member or with your classmate?

Evaluate

- Assess each Venn Diagram p. 6 for inclusion of a variety of traits.

Lesson 3

Tally Your Traits

Purpose

Students will take an inventory of their own traits and create a bar graph in small groups.

Materials

- What Traits Are in Your Genes? series
- lined paper
- Our Traits—Data Chart p. 7
- Our Traits—Bar Graph p. 8
- pencils

Prepare

- Split students into small groups and assign one What Traits Are in Your Genes? book to each group.
- Copy Our Traits—Data Chart p. 7 and Our Traits—Bar Graph p. 8 for each group.

Pretest

- How are all people the same? How are they different?
- How do we collect data? How do we show information on a bar graph?

Read

- In small groups, read the assigned What Traits Are in Your Genes? books.

Model

- List all the traits from one What Traits Are in Your Genes? book on the board.
- Call out the traits one at a time, and ask students to raise their hands if they have that trait. Keep track with tally marks.
- Sketch a bar graph to show your results.

Practice

- On lined paper, each student will make a list of traits from the assigned What Traits Are in Your Genes? book.
- Individually, students will circle the traits they possess.

- Each group will fill out Our Traits—Data Chart p. 7 together. They will list the traits they read about and make tallies for group members that have each trait.
- Groups will use Our Traits—Bar Graph p. 8 to create a bar graph based on their tally marks.

Discuss

- Have groups share their results with the class.
- What is the most common trait in each group?

Evaluate

- Evaluate students for their understanding and participation in group work.

Extension

- Assign this project as homework and have students survey a group of family members.

Assessment Genetic Jeopardy

Purpose

Students will demonstrate their understanding of traits by playing a game.

Materials

- What Traits Are in Your Genes? series
- lined paper
- index cards
- pencils
- a bell

Prepare

- Complete a few sample cards to use as models.
- Divide the class into two teams to play Genetic Jeopardy.

Pretest

- What are traits?
- Where do traits come from?

Read

- Read the What Traits Are in Your Genes? series.
- As they read, students should write down interesting facts they learn.

Model

- Explain how to play Genetic Jeopardy. Each student will get six index cards. On each card, students will write a question that can be answered from a What Traits Are in Your Genes? book. Students should write one question per book. On the back of the card, they will write the answer to the question.
- Show students your sample cards.
- Explain that students will work in teams to play the game and that there will be a host, like on a game show. The host will collect and sort the cards by book topic. Students will line up in their team to answer questions. One person from each team will step forward. These students will be racing against one another. When students are ready to play, the host will read the answer on the card. If a player knows the question that matches that answer, he or she will try

to be the first to ring the bell. If the player tells the host the right question, his or her team gets a point. If he or she provides the wrong response, the player from the other team has the opportunity to answer and score a point. If no one responds correctly, no points are earned. The game moves to the second round, with the next set of players, and the next card is read.

Practice

- Each student writes five questions and their answers on individual index cards.
- The class plays Genetic Jeopardy.

Evaluate

- The teacher observes students during game play for knowledge of genes and traits.
- Students assess their own knowledge of genes and traits through game play.

Venn Diagram

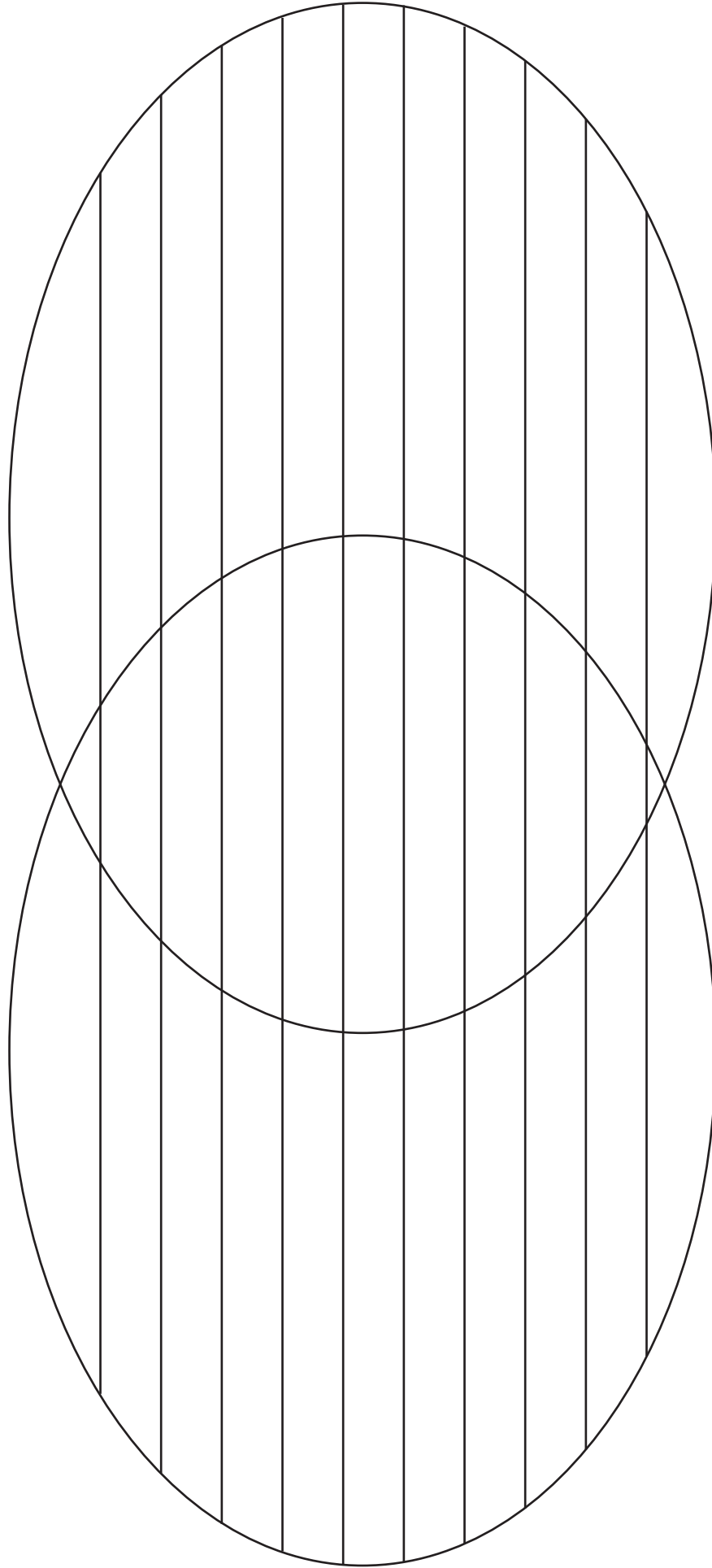
Name _____

Name _____

Different

Same

Different



Name _____

Date _____

Our Traits—Bar Graph

Directions: Make a bar graph to show your group's data. Be sure to label each trait under the bar you draw for it.

