☆**M**STAR
INTERVENTION

Lesson: Introduction

Lesson Objective

- Students will discuss proportionality and some of its real-life applications.

Instructional Materials

Material	Quantity	Description
Computer with Internet access and speakers	1	To watch a video, found at: www.archive.org/details/NASA_Science_Earth_Clip14_HD
Projector	1	
Display Master	1	Questions for Discussion
Handout	1 per student	Questions for Discussion
Answer Key	1	Questions for Discussion

Preview

This lesson introduces proportionality by presenting real-life examples of how proportions are used in everyday situations. Students will discuss the examples and begin developing an initial definition, incorporating previous knowledge as well as new information. Students will use the mathematical ideas from this lesson throughout the Proportionality module and revisit the video clip at the end of the module.

Introducing the Hook

Introduce students to proportions in everyday life by using the video linked below from NASA's Real World Mathematics.

www.archive.org/details/NASA_Science_Earth_Clip14_HD

This video provides students with an initial definition of proportionality. The video also provides examples of how racing and architecture use proportionality. Cyclists can use a test run to prepare for a race. To anticipate potential challenges, architects can build a smaller-scale stadium before building an actual stadium. Art and cooking also use proportionality.

Discussion

Distribute the Questions for Discussion handout. Tell students to think about the questions while watching the video. After watching the video, prompt student discussion by going over the answers, which are listed below:

- How is proportionality used in the real world? (rocket performance, racing, architecture, art, cooking)

- What is 1 way you saw proportionality used in the video? (rocket engines, bike distances, stadiums)

- The video states that the Egyptians probably used proportionality to build the great pyramids and the Romans to build the Coliseum. Do you believe this is true? How might the Egyptians or Romans have used proportionality? (answers will vary)

- Though it does not give specific examples, the video states that art and cooking use proportionality. How do you think art or cooking use proportionality? (doubling, halving recipes; enlarging, shrinking pictures; etc.)

- Why is proportionality important in architecture? (answers will vary)

- After seeing the video, how would you define proportionality? (answers will vary)

- What are some other examples of when you have seen proportionality used in real life? What other professions use proportionality? (answers will vary)

Use the Questions for Discussion display master as needed.

Ask students whether they have used proportionality or scaling in art class. Allow students to share their experiences.

Closure

Review examples of how proportionality is used in the real world. Summarize the concepts presented in the video.