

Lesson Title: Proportional Reasoning
Unit: Proportions
Grade Level: 6 th grade
Estimated time requirement: 1 class periods
Summary (25-50 words): Students will watch a video from Digital Curriculum and work with the distance learning instructor to compare specific body measurements and explore ratios and proportions.
Objectives: <ul style="list-style-type: none"> • Students will participate with a distance learning video to determine various common body proportions. • Students will use a centimeter measuring tape to measure given body parts. • Students will use a table to list measurements. • Students will compare measurements as a ratio. • Students will use direct proportions to make predictions for measurements of an imaginary giant.
Texas Essential Knowledge and Skills: 1B, 1C, 2C, 2D, 3A, 3B, 3C, 8B, 11A, 13B
Assessment: <ul style="list-style-type: none"> • Successful completion of student activity sheets.
Materials: <ul style="list-style-type: none"> • Centimeter measuring tape (one per pair of students) • Student Activity Sheets • Journal prompt (transparency)
Resources: <ul style="list-style-type: none"> • <u>Number Concepts for Middle School: Proportional Reasoning.</u> AIMS Multimedia. 2004. DigitalCurriculum. 6 September 2004 http://www.digitalcurriculum.com/dccdoor.php4?ID=11178&Page=Title • <u>Tailor Made.</u> AIMS Education Foundation. 2000. <u>Proportional Reasoning.</u> 6 September 2004 http://www.aimsedu.org/Activities/propreason/tailor.pdf
Prior Knowledge/Skills: Review ratios and converting fractions to decimals prior to viewing video.
Procedures: View the distance learning video from Digital Curriculum. Stop as necessary to give students time to complete the various measurements. Students will work with a partner to measure specific body parts as discussed in the video. Students will fill in information on the student activity pages. The teacher should be prepared to facilitate students in measuring and completing the student activity pages. The video instructor explains how to convert the ratios into decimals using a calculator. Students will be able to use a calculator to convert the ratios to decimals. The proportions discussed in the video are: hand span to wrist 1:1, hand span to neck 1:2, hand span to waist 1:4, Navel to height .618034, wing span to height 1.00, tibia to height .25. In the final activity, students will use the proportions they determined in the video to predict the

measurements of the Jolly Green Giant.

To extend the lesson, an added activity would be *Tailor Made* by AIMS. In this activity students will determine the average ratios of the circumference of the wrist/thumb, neck/wrist, waist/neck and use these ratios to project the measurements to that of an imaginary giant.

Technology Infusion:

Digital curriculum video

Family Connection: As an extension, students could see if their family members have similar proportional measurements discussed in this lesson.

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