

Humongous



Hero



Humongous Hero

Project Directions

I. Determine the Height of the Humongous Hero

1. Complete the “Hero’s Height” worksheet to calculate the hero’s height.
2. Select one group member to be the “measurement model” for your hero’s measurements.

II. Find the Scale for Your Drawing of the Humongous Hero

1. Which student is your group going to measure to complete this project? _____
2. What is the hero’s height according to this student’s proportion? _____
3. How tall is the space (in centimeters) that you will draw your hero in? _____
4. Divide the hero’s actual height (see #2) by the space you will draw it in (see #3) and round down to the nearest centimeter to determine the scale factor that you will use to draw the hero. Show your work below.

Scale: 1 cm = _____ cm

III. Determine the Dimensions of the Humongous Hero

1. Complete the “Hero Dimensions” worksheet pages to determine the dimensions of the hero.
2. Calculate the dimensions of the scale model of the hero using the same worksheets.

IV. Draw and Label the Dimensions of the Humongous Hero

1. Draw the hero and label its dimensions on the right side of the poster board.
2. Leave room for the hero’s name at the top and the worksheets to be attached on the left side.

V. Find the Measurements of the Humongous Hero’s Possessions

1. Draw and label the dimensions of four objects that are owned by the hero.
2. Show all work (proportions) used to determine the dimensions of these objects.





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Hero Dimensions 1

Use the table below to determine the dimensions of the Humongous Hero. All measurements should be rounded to the nearest tenth of a centimeter. Use the hero height that was determined using the height of your group's measurement model (see page 2).

Body Part	Measurements		Scaled Measurements (1 cm = _____ cm)	
Sample: <u>neck to finger tip</u> height (model's hero)	Student Model $\frac{94 \text{ cm}}{189.2 \text{ cm}}$	Hero $= \frac{x}{975 \text{ cm}}$	$x =$ <u>484.4 cm</u>	$484.4 \div 19 =$ (19 is sample scale factor.) <u>25.5 cm</u>
<u>length of face</u> height				
<u>width of face</u> height				
<u>shoulder to shoulder</u> height				
<u>base of neck to waist</u> height				
<u>waist width</u> height				
<u>waist to knee</u> height				
<u>knee to foot</u> height				
<u>length of foot</u> height				





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Teacher Tips (1 of 3)

Lesson Description: Humongous Hero is a group project that involves proportions and the use of scale. Students use proportions and the handprint of the Humongous Hero to determine its height and body measurements. Then they make a scale model of the superhero that can be drawn on poster board. Finally, students use proportions to determine the dimensions of various items owned by the hero.

Math Content: Writing and Solving Proportions; Using Proportional Reasoning to Create a Scale Model; Metric Measurement; Using Proportions to Solve Problems

Time Required: 3-5 Class Periods

Humongous Hero includes:

- * 5 Humongous Hero assignment sheets
- * 3 Humongous Hero Teacher Tips pages
- * 1 Humongous Hero Cover Page

Materials Needed: Centimeter measuring tapes, poster board, butcher paper, large hand cutouts

Suggested Grade Level: 5th - 8th

Teacher Testimonial:

Humongous Hero is a group project that the students really enjoy. They measure each other to help determine the size of the Humongous Hero and then use a scale to reduce the superhero down to a size that can be drawn on their poster board. When I have used this project before, the students really enjoyed designing the look of the person (superhero) and used mathematics to keep him in proportion.

Teacher Tips:

- * The Humongous Hero project should be completed in groups. I have always used groups of four, but a group of three would also be acceptable. Larger groups allow too many spectators.
- * Using an overhead projector and sheets of white butcher paper, create a “Humongous Hero hand” for each group. Tape the butcher paper to the wall and then use a tracing of your hand to draw the “humongous hands”. Simply move the overhead further away from the butcher paper to make the hand bigger. (**Note: I have always used hands that are about 102 centimeters from the base of the palm to the tip of the longest finger. This is A little more than 5 times the length of my hand and so creates a Humongous Hero that is about 900 centimeters, nearly 30 feet, tall.**)
- * Of course you may use a different “humongous hand” size if you want students to calculate the size of a larger or smaller Humongous Hero.

