

Middle School Math Challenge



Task 1: Math in the World

Math is everywhere, even in movies! Watch a movie listed below. Write a few paragraphs to address the importance of mathematics in the storyline, or how mathematics relates to a certain career, situation or problem posed by the movie.

- Hidden Figures (PG)
- Moneyball (PG)
- October Sky (PG)
- The Martian (PG-13)
- Queen of Katwe (PG)
- The Theory of Everything (PG-13)

Task 2: Ratio

Using ratio, make a stick figure scale model of yourself.

Find a twig that is about half the size of your small finger. This is a 2:1 ratio (the twig is half the size of your finger, or your finger is twice the size of the twig.)

Continue to make your model by laying out sticks and twigs that are half the length of your actual body.

CHALLENGE: Can you make a model that has a 5:1 ratio? For every cm measurement, your twig should be 5 cm.
No sticks? Use different items for your modeling: Lego, string, rocks, etc.

Task 3: Energy Challenge

Let's see if you can reduce your energy consumption by 5%!

Read your electricity metre in the morning, recording the numbers. After an hour, record again and calculate the kwh (kilowatt hours, the measure of electricity) used. Estimate the use over the day – will there be times when it's higher/ lower? Estimate how much energy will your family use in a day? Read the metre again at 7pm. How many kwh did you use today? Record over a few days and see if it increases or decreases. Find the average for a day, and then see if you can reduce this—how many kwh less would you need to use to reduce your family electricity consumption by 5%?