

You will need to add the Graphical Analysis app to your Chromebook before you begin. Go to the Web Store, type "Graphical Analysis", add to Chrome.

1. Familiarize yourself with the motion sensors. Hint: The view of the sensor is limited. Movement must be toward or away from the sensor. Remember that the slope of your graph is in meters/second. Collect your initial measurements before converting any of the units.

2. What is your normal walking pace in meters/second? _____

- a. How many furlongs/fortnight is your normal walking pace?
 (1 fortnight = 14 days) (1 furlong = 201.168 meters)

Show Work: $\frac{x \text{ m} \cdot 3600 \text{ s} \cdot 24 \text{ hr} \cdot 14 \text{ d} \cdot 1 \text{ (fur)}}{\text{s} \cdot 1 \text{ hr} \cdot 1 \text{ d} \cdot 1 \text{ (fort)} \cdot 201.168 \text{ m}} =$	Final Answer: _____ fur/fort
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3. How fast does your hand naturally wave in meters/second? _____

- a. How many miles/hour can your hand naturally travel?
 (1 mile = 1.609 kilometers)
 1609 m

Show Work: $\frac{x \text{ m} \cdot 1 \text{ (mi)} \cdot 3600 \text{ s}}{\text{s} \cdot 1609 \text{ m} \cdot 1 \text{ (hr)}} =$	Final Answer: _____ mi/hr
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4. How fast in meters/second does the ball fall? _____

- a. How many knots can a soccer ball fall at in this room?
 (1 knot = 0.514 meters/second)

Show Work: $\frac{x \text{ m/s} \cdot 1 \text{ knot}}{0.514 \text{ m/s}} =$	Final Answer: _____ knots
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5. How fast can your foot naturally kick in meters/second? _____

a. How many miles/hour can your foot naturally travel?

Show Work: $\frac{X \text{ m} \mid 1 \text{ (mi)} \mid 3600 \text{ s}}{3 \mid 1609 \text{ m} \mid 1 \text{ (hr)}}$	Final Answer: _____ mi/hr
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6. How many meters/second does a piece of paper fall in this room? _____

a. How many feet/second will a piece of paper fall in this room?

(2.54 centimeters = 1 inch)

Show Work: $\frac{X \text{ m} \mid 100 \text{ cm} \mid 1 \text{ in} \mid 1 \text{ (ft)}}{5 \mid 1 \text{ m} \mid 2.54 \text{ cm} \mid 12 \text{ in}}$	Final Answer: _____ ft/sec
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