## 1.1 SI Measurement

Measurement Brainstorm? Opener: Discussion about

"What would you measure using meters? Cm? Mm? Km?"

Measuring activity with calipers Complete student notes

Assignment attached: Do we need more conversion questions?

NOTE: Need calipers for this lesson.

Date:			
Date			

Name:

# Chapter 4: Rational Numbers 4.0 – SI Measurement

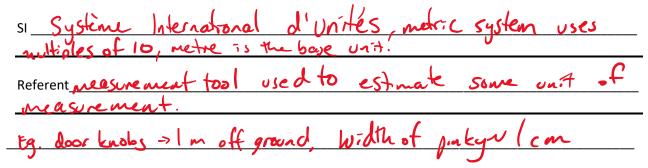
**Skills** 

A3: I can estimate reasonably

A5: I can use tools and technology to explore

C2: I can apply multiple strategies

SI Measure



Example 1: Estimate and Measure using SI units

Use a referent to estimate each distance. Then, measure each distance.

- a) The thickness of your desktop
- b) The height of the seat of a chair
- c) The width of the cover of your textbook

Converting between SI Units:

Recall: 
$$\frac{7}{10} \times \frac{25}{28} = \frac{5}{8}$$

If we travel for 2 hours at 100 km/h, how far will we have travelled?

Notice: 
$$\frac{100 \, \text{km}}{1 \, \text{hours}} \times \frac{2 \, \text{hours}}{1} = 200 \, \text{km}$$

### Example 1: Convert Between SI units of Length:

A newspaper reported the following measurements in different stories below. For each measurement, state a more appropriate SI unit. Convert to that measurement.

The distance from Earth to the moon is 38 440 300 000 cm.

Convert to km

38 440 3pg pgg cm x 1 km

199 pgg cm

38 4 463 km

A worm measures 0.0019 m.

convert to con

0.0019 m x 100 cm

0,19 cm

#### 4.0 Worksheet

- 1. Use your collection of SI measurement references to estimate each measure in your classroom. Justify your choice of unit.
  - a. The height of a light switch from the floor
  - b. The width of your classroom
  - c. The length of your desk or table
- 2. Measure each distance in #1 and compare the measurement to your estimate.
- 3. State an appropriate SI unit for each measurement.
  - a. The diameter of a quarter
  - b. The length of a car
  - c. The thickness of a quarter
  - d. The diameter of Earth
- 4. Convert each measurement

a. 6 cm = mm	b. 4 m = cm	c. 7 km = m
d. 0.5 cm = mm	e. 0.5 m = cm	f. 500 m = km
g. 0.345 km = cm	h. 3246 cm = km	i. 750 cm = m

- 5. Convert each measurement to a more appropriate unit. State why you think this is a better unit to use.
  - a. Mount Logan, in southwestern Yukon, is 595 900 cm tall.
  - b. The diameter of an apple is  $0.064\ m.$
  - c. The largest brown bear, the Kodiak, is 2440 mm in length.
  - d. A large pizza is 0.3 m in diameter.
  - e. A human eye is approximately 0.024 m in diameter.

## The units for SI are as follows

 $km \qquad \qquad hm \qquad \qquad dam \qquad \qquad m \qquad \qquad dm \qquad \qquad cm \qquad \qquad mm$ 

Knowing the conversions for km to m, m to cm, and cm to mm. Find a pattern for how we would convert to through the all of the SI units. In doing so, fill in the following conversions.

1 hm = \_\_\_\_\_ m

1 km = \_\_\_\_\_ dam

1 dam = \_\_\_\_ cm

1 dm = \_\_\_\_\_ mm

1 km = \_\_\_\_\_ dm

1 hm = \_\_\_\_\_ mm

#### **Answers**

- 1. a. b. c.
- 2. a. b. c.
- 3. a. mm or cm b. m c. mm d. km
- 4. a. 60 mm b. 400 cm c. 7000 m d. 5 mm e. 50 cm f. 0.5 km g. 34 500 cm h. 0.03246 km
- 5. m, 5959 m b. cm, 6.4 cm c. cm, 244 cm d. cm, 30 cm e. cm, 2.4 cm