

Sensors and Scatterplots Activity – Student Data Sheet – **Sample**

Calculate Body Mass Index (BMI) In Metric Units

1. **Measure your weight.** Ensure that the scale is set to measure in kilograms. Remove your shoes and heavy items from your pockets (phones, wallets, coins, etc.). Remove jacket if you are wearing one. Step on the digital body weight scale. Record your weight to the nearest tenth place in kilograms.

Weight: 77.6 kgs

2. **Measure your height.** Remove your shoes and, with feet together, stand flat against a wall. Have a team member place a ruler flat on your head so that it makes a right angle with the wall. Place a sticky note on the wall where the ruler touches the wall. You will use this sticky note to measure your height. Step away from the wall and use a measuring tape to find the distance from the floor to the sticky note. Depending on your measuring tape, you will measure the distance in centimeters or millimeters. Convert the distance to meters. This is your height. Record your height in meters to the nearest hundredth.

Height: 195 mm or cm Height: 1.95 m

3. **Calculate BMI value.** Use the following formula to find your BMI. Substitute your weight and height into the formula. Record your BMI to the nearest whole number.

$$\text{BMI} = \frac{(\text{Weight})}{(\text{Height})(\text{Height})} = \frac{77.6}{(1.95)^2} = \frac{77.6}{3.80} = \underline{20} \text{ kg/m}^2$$

Measure Resting Blood Pressure and Pulse Rate

Use the following procedure to obtain your resting blood pressure and pulse rate.

1. **Obtain measurements.** Sit at your desk. Place the wrist blood pressure monitor cuff on your left wrist. Follow directions on the placement of your arm during the measurement. Press start button and remain seated until the monitor displays the readings. Wait a minimum of 5 minutes and repeat using your right wrist. (Have another team member use the monitor while you wait.)

Record your systolic pressure (SYS):

Reading 1 (left) 120

Reading 2 (right) 133

Record your diastolic pressure (DIA):

Reading 1 (left) 77

Reading 2 (right) 87

Record your pulse rate:

Reading 1 (left) 79

Reading 2 (right) 77

2. **Find averages.** Use your measurements to find the average of your two readings.

Systolic pressure average: 126.5

Diastolic pressure average: 82

Pulse rate average: 78

Record Your Data

Transfer your height, BMI value, systolic pressure average, diastolic pressure average and pulse rate average to the class data sheet.