

**Students:** Please fill out this worksheet as you explore our exhibit halls.

LEVEL

## 6 The AstraZeneca Human Edge

### Section A

Topic: Biology

- A1.** Explore the entire AstraZeneca Human Edge hall. Find as many different types of diagnostic imaging as you can. Write down what you find, including which body part is shown and what the imaging reveals.

### Section B

#### Hanging Skeletons

Topic: Biology

Find the two older human skeletons hanging together. (Hint: They are both missing hands).

- B1.** Carefully examine both skeletons. What injuries or damage do you notice?



- B2.** Study the X-ray behind the larger skeleton. Do you see evidence of any other injuries the person may have had while they were alive?

## Section C

### Living Liquid

Topic: Biology

**C1.** Whole blood can be separated by density into a hematocrit, which shows the different components. Find the hematocrit model and sketch it below. Label each component and record the percentage of blood composed of this component, as well as its function, in the spaces below the sketch.



- i. Plasma ( \_\_\_\_\_ %): \_\_\_\_\_
- ii. Red Blood Cells ( \_\_\_\_\_ %): \_\_\_\_\_
- iii. White Blood Cells ( \_\_\_\_\_ %): \_\_\_\_\_
- iv. Platelets ( \_\_\_\_\_ %): \_\_\_\_\_

## Section D

### Immunity Mirror

Topic: Human Health and Body Systems



- D1.** Stand on the marked area on the floor. Press the “Without Vaccine” button. What happens when a virus that you have not been vaccinated against enters your body? List two types of immune system cells that respond to a viral infection, and explain the roles they play.
- D2.** Press the “With Vaccine” button. What happens when a virus that you have been vaccinated against enters your body? How does this differ from the above scenario?

## Section E

### How Do Vaccines Keep Communities Safe?

Topic: Human Health and Body Systems

Find a friend (or two) and approach the interactive floor.



**E1.** Use the control panel to select a disease and the level of vaccination coverage: the percentage of vaccinated people in the community. Circle your choices below:

Flu	COVID-19	COVID-19 (Omicron)	Measles	
0%	20%	50%	80%	95%

**E2.** The dots you see on the floor represent people. Yellow dots are unvaccinated people and blue dots are vaccinated people. Walk across the floor. What happened?

**E3.** Choose a new disease or coverage and try the experiment again. What happened?

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## The Bruce Poon Tip Living Earth Hall

### Section F

#### Caves Capture Our Changing Climate

Topic: Earth and Space Science

**F1.** How are scientists able to determine a stalagmite's age by looking at its chemical composition?



**F2.** What else can scientists determine by studying the chemical composition of stalagmites?

**F3.** Speleothems are cave formations, such as stalactites and stalagmites. Are speleothems formed due to a chemical or physical reaction? Explain your answer.

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## Science Arcade

### Section G

#### Shadow Maker

Topic: Physics

- G1.** Wait for the flash and make a funny pose! What kind of light emissions does this exhibit demonstrate?



- G2.** How is it possible for your shadow to remain against the wall?