



Sensory Science Hunt

You will find the answers to our Science Hunt questions by exploring the galleries and interacting with the exhibits.

Note to chaperones and adults: You will need to help children read the questions and exhibit signs. Have students answer the questions orally.

Explore the possibilities!

Upper Level

- **Enter the Fun Factory. Test your skills on our assembly line. For this activity, you will be using gears. Can you think of something gears are used for?**

Answers will vary.

- **Explore road surfaces. Feel the various types of roads at the exhibit by the hot air balloon. How is the standard cement different from the eco-friendly cement? What about the asphalt? How are roads intended for cars different from those meant for walking or wagons?**

The standard concrete is smooth and solid with channels that allow water to flow over the surface into a storm drain. Eco-friendly concrete allows water to filter through holes or pores in the cement. You will notice it has a rougher texture. The same is true for the standard asphalt versus the eco-friendly asphalt. When exploring roads over the years, you will notice a drastic change in how they feel. Roads for feet are more compact with packed dirt or sand. It will feel smoother and more solid. Roads for wooden wheels is very rough with large stones layered on the bottom and smaller stones layered towards the top. Roads for tires use concrete. It is solid with small ridges or grooves running through the top of it. These grooves help prevent tires from skidding on wet pavement and allow

water to run off towards storm drains. Roads for the future feel very similar to those made for rubber tires today. However, they are actually made out of recycled materials.

- **Find the *Giant Engine*. Push the large pistons. The faster you push, the faster the fan at the end will move. Have someone stand it the back to feel the difference. Just like this fan moves faster the harder you and the engine works, a car would move faster too.**

Not available, experiment with your group.

- **Listen to the heartbeat. Feel the outside of the large heart to feel the different features. Where is your heart? What do you think these different features do?**

Your heart is in the center of your chest. Your heart includes many parts that help pump blood into your heart and move it out to the rest of your body. It also has four different chambers. The atria chambers act as receiving chambers for the blood pumped into the heart from the body. The ventricles pump water out of the heart to the body.

- **Find the *Cell Model Drawers*. What is a cell? Feel the different features of the cell. Each organelle has a different shape, size, and job!**

A cell is the smallest structural and functional unit of an organism. It contains many different organelle.

- *Vacuole- deals with food and like a vacuum, it stores things.*
- *Lysosome-act like blenders, break down food into smaller pieces. They also break down parts of the cell that are broken.*
- *Mitochondria- Once food is made into smaller pieces, the mitochondria split food to get energy. They are the powerhouses of the cell.*
- *Nucleus- the nucleus sends directions to the cell, it is like the main computer or information center for the cell.*
- *Ribosomes- these break down information from the nucleus and make sense of it.*
- *Golgi body- these send the information from the ribosomes to the necessary places. They are kind of like the post office of the cell.*
- *Cytoplasm- this is the fluid that the organelles are in.*
- *Cell membrane- this is the protective covering around the cell. It acts as a type of barrier.*

Upper Level

- **Find the xylophone. To the left, the pipes are the longest. To the right, the pipes are the shorter. How does the sound or pitch change as you move from left to right and right to left?**

The pitch will get higher as you move to the right and lower as you move to the left. Sound waves move with more frequency in the shorter tubes (they get squished together). This creates a higher pitch.

- **Strum a string on the *Piano Sound Board*. Can you feel any difference in the vibrations of the strings?**

These vibrations are creating waves. The waves disrupt the air creating sound. The shorter strings will produce higher notes. The strings themselves will move at a greater frequency. The opposite is true of the longer strings.

- **Move to the *Giant Lever*. Pull the rope in different directions. Is it easier to lift if pulled in a certain direction? Why do you think this is?**

This is the weight attached to the Giant Lever. The force needed to lift the weight is greater when the rope is moved closer to the fulcrum or pivot point.

- **Sail a boat using only wind? Find out how wind is able to move a sailboat. Try setting the boat at different angles. Which angle makes the boat move the most? Why do you think that is?**

Drawings will vary. A sail boat or sail car does not have to travel in the same direction as the wind. By moving the sail, the sail cars can travel across the wind or even somewhat into the wind. The direction of the wind on a sail is roughly perpendicular to the sail.