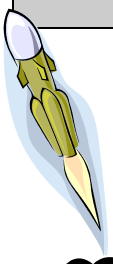
Exhibit Exploration

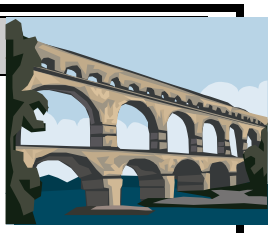
This guide is intended to help groups explore our exhibits . It is not necessary to complete every activity or work in a certain order. Take time to explore the questions your group comes up with. Remember to read signs and diagrams to help you understand how exhibits work.

Main Hall



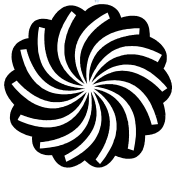
Go to the ***4-3-2-1 take off Rocket Launcher*** exhibit

Challenge: Find the optimal combination of water and air pressure. How high can you get your rocket to launch? Is more always better?



Find the ***Catenary Arch.***

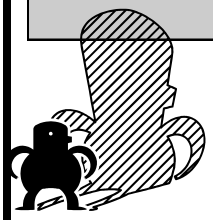
Challenge: As a group, can you build the arch? The key is teamwork and the **keystone!** Each block helps hold its neighbor and the keystone pushes on both sides.



Go to the ***Spinning Illusions*** near the Hall of Illusions

Challenge: Watch the "Crawling Skin" disc spin for 20 seconds and then quickly look at a friend's nose. What do you see? Your eyes get so used to the spinning pattern that they apply that pattern to the next thing you see.

Frozen Shadow Room



Find the exhibit ***Frozen Shadows***

Challenge: Leave a shadow that shows your whole team off the ground! How do you think this room works to capture your shadow?

Find the exhibit ***Light Harp***

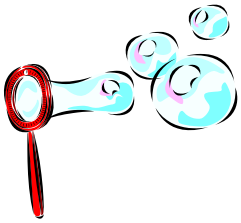
Challenge: Make music using light! Create a new song with your team. What causes the sounds you are hearing?

*Push the colored buttons on the tower to change the sounds made by the harp.

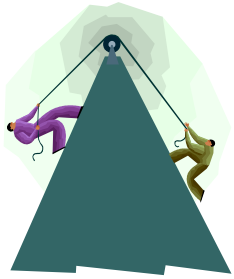
Bubble Room

Find the ***Bubble Wall*** exhibit.

Challenge: Can you get your <u>hand</u> through the *Bubble Wall* without popping the bubble (or getting your hand wet!)? Can you get your head through?
How did you do it? *Hint: try using a wand somehow*



Science Warehouse



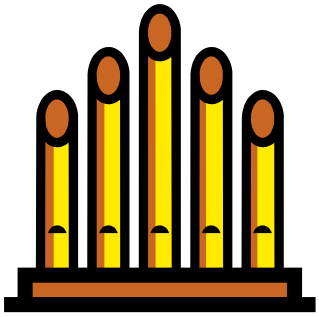
Go to the ***Pulley Chairs*** exhibit.

Challenge: Find the chair that is the easiest to pull yourself to the top. What color is it? What makes this chair easier to use than the others?

Hint: look at the rigging in the middle of the chairs...how many pulleys does each chair use? Remember that simple machines do some of the work for you!

Science Warehouse

Go to the **PIPE ORGAN** exhibit. Have students use the paddles to hit the tops of the pipes. The sound is caused by vibrations of air moving inside the tubes. Whether a musical note is high or low depends on how fast or slow the air is vibrating. The air inside a long tube or the air around a long string vibrates slowly and produces a low frequency sound. Air in a short tube or around a short string vibrates more quickly and so produces a higher pitched sound.



Have a student hit one of the shorter pipes, then one of the longer pipes. Which pipe makes a higher sound? Shorter pipes make higher sounds, and longer pipes make lower sounds.

Have your group play this song: Can they identify this common song? (Row, Row, Row your boat)

1- 1 **1- 2- 3** **3- 2- 3- 4- 5**

Find the **HEARING TEST** exhibit.

Hold down the green button while slowly turning the dial.
What is the highest frequency sound you can hear? _____
cycles per second

Name an animal that can hear sounds beyond your hearing range.

Outside (Front Entrance)

Find the **WHISPER DISCS** exhibit.

Split your group to have some stand in front of one dish, and the rest stand in front of the other. Follow the directions on the signs to send a message from one disc to another.

Can you still hear the sounds if you talk into the dish anywhere other than the middle?

Find the **CLIMB THROUGH TIME** wall

Have each student start at the left side of the wall and use the hand and foot holds to move sideways along the wall. For students who don't want to climb, let students hunt for the fossil casts hidden in the wall to see what was living in each time period.

Ask some follow up questions: In what time period did you go extinct? What other creatures lived in that time period? Were humans and dinosaurs alive in the same time period (do they appear in the same section of the wall? - Nope!)