

Exhibit Explorations

Our Gee Whiz! and Space Journeys Outreach exhibits can be mixed and matched to create the experience to transform any school or community event. Sci-Port can provide 1-8 cubes and can serve up to 500 people in a 5 hour period. Our exhibit exploration can also be paired with your choice of activity add-ons.

Music: The Science

- **Laser Harp:** Rather than strings, this harp uses laser beams! As students move their hands between the beams, sounds are produced when the light is deflected, causing the harp to play a programmed note.
- **Digital Music Box:** Like a piano students can program this simple wheel with pegs to produce musical tunes. A set of light sensors are programmed to play notes when the lights from corresponding laser beams are blocked.
- **Xylo-Fun:** Color coded bars are available for students to arrange in a xylophone base. By placing the bars in sequential order and striking them from left to right, students may play a song.

Music: The Art

- **Air Guitar:** Students get to play the guitar by plucking the rubber bands which are stretched between a laser and a sensor, creating vibrations that interrupt the laser beam. When the beam is interrupted, the sensor sends a signal to a computer, which produces a sound.
- **Handy Bongos:** Students get to produce different percussion sounds by touching the different electronic bongos and explore different combinations of rhythm and melodies that make music!

Simple Math

- **Equations (2):** Students complete simple addition, subtraction, multiplication, and division equations by inserting the correct number into the appropriate position. If the solution is correct, the number lights up!
- **Fractions (2):** Students use pizza slices to learn how parts of a whole are expressed as fractions or decimals! When students remove or insert pieces of pizza an electronic display shows the amount of pizza in the pan in the form of a fraction and a decimal.

Numbers & Shapes

- **Make it Fit:** Students have to determine how many triangles will fit into the shapes by predicting how many they think will fit then complete the puzzles to see if their hypothesis was correct.
- **World of Numbers:** Students will discover new and different forms of writing and expressing numbers, and they can figure out and write their age in different numeral systems.
- **Inside a Shape:** Students will determine the relationship among shapes as they first predict how many of a certain shape they can fit into a large shape and then put their hypothesis to the test!

Magnetism

- **Attracting Art:** Students use magnets to “draw” with iron filings encased in a plastic box allowing them to see how magnets exert invisible forces that extend in a field around the magnet as the iron filings are attracted and repelled along the lines of the magnetic field enabling them to draw pictures.
- **Magnetic Sculptures:** Students observe the attractive and repulsive qualities of magnets by placing round magnets on metal rods resulting in the magnets with like sides facing each other to appear to “float” as they repel each other away and the magnets with opposite poles facing each other to attract each other or “stick” to each other.
- **Compass Garden:** Students will be able to see how a variety of magnets such as bar magnets and horseshoe magnets can be used to manipulate compasses due to the fact that the compass needle’s south pole is attracted to the north end of the magnet and repelled from the south end of the magnet.

Exhibit Explorations cont.

All About Me

- **Reaction Speed:** Students will discover the amount of time it takes for their brain to respond and give a command in this activity by testing how quick delete is their reaction speed is in a given situation.
- **Balance Beam:** Students can find out how long they can remain balanced on their own and even challenge their friends to see who can balance the longest as a timer counts how long they remain balanced before one side of the beam hits the ground.
- **How Tall Will You Be:** Using a computer program students will be able to estimate how tall they will be when they are 18 years old based on their current age, birthday month, height, weight and gender.

Light & Color

- **Light Lenses:** Lenses of different shapes will help students explore the refraction of light by placing the lenses in front of the light source and describing the light's path allowing them to see that light can bend.
- **Rainbows:** Students will use the small diffraction cards to hold up to the light to discover how white light can be refracted to produce the colors of the visible light spectrum (rainbows) and see if they can name all the colors of the rainbow.
- **Laser Bullseye:** With mirrors students can manipulate light and learn about reflection. Students will attempt to hit the bullseye on a target by manipulating a laser beam using two or more mirrors.

Electricity

- **Build a Circuit:** Students will build a circuit that turns on light bulbs or rings bells. Using a central power source and students will place modular pieces including light bulbs, buzzers, doorbells, switches, insulators and conductors to make a closed circuit which will allow the flow of electricity to turn on their different pieces.

Living in Space

- **Astronaut Suit:** Students will get to see what an astronaut suit looks like.
- **Space Food:** Students will learn all about what astronauts really eat in space! Students get to become a "Space Chef" and design a gourmet, nutritious meal for an astronaut in outer space.

Working in Space

- **Robodunk:** Students will get to use a robot to dunk a basketball into the goal by using the joystick and maneuvering the robot so it can grab a ball and position it over the goal then release the ball.
- **Space Gloves:** Students will attempt to put pieces together while wearing a pair of large bulky gloves to simulate the difficulty of using space gloves.
- **Tooling Around:** Students will learn about microgravity and how astronauts use tools up in space by stepping on a "lazy susan" and turning the bolts with a wrench using one hand.

Motion & Gravity

- **Gravity Well:** See how "Stellar Wobble" can help us find planets in other solar systems.
- **Planetary Slingshot:** Try to launch a ball and hit the target, but watch out for the gravity traps!

Planets & Astronomy

- **Starry Night:** Using a computer program students will be able to visualize the objects in the night sky from any location at any time or year. Students can see what the sky looked like on the night they were born!
- **Space Puzzle:** Students will get to put together a double-sided puzzle of the Earth on one side and the Andromeda galaxy on the other and learn more about our planet and the Andromeda galaxy.

Exhibit Explorations cont.

Our Sky

Students will learn about the names of the constellations in our sky and what time of the year the constellations can be found in the sky. Once the students have learned the shape and name of the constellations they can then play a game to see if they remember the constellations as one will light up and they have to guess the correct constellation name in a given time.

- **Summer**
- **Autumn**
- **Winter**
- **Spring**

BASIC ACTIVITY ADD-ONS

- **Be a Conductor:** Find out if the human body conducts electricity!
- **Strong Shapes:** Learn why architects use domes and arches. Then, build one of each!
- **Your Amazing Body:** Explore the unexpected functions of your internal and external organs.

DELUXE ACTIVITY ADD-ONS

- **Noisemakers:** Discover the difference between noise and music, and learn how sound travels.
- **Ooey Gooey Gloop:** Students will use inquiry skills to create a polymer that can be taken home.
- **Planisphere:** Make your own star chart to take home!
- **Celestial Conga:** Students will create a model that demonstrates how the earth revolves around the sun and the moon revolves around the earth. They will also explore other concepts such as the phases of the Moon, Lunar and Solar Eclipses, and how we are only able to see one side of the Moon.
- **Strawberry DNA:** Did you know DNA is in the food you eat? Visitors will get the opportunity to extract the DNA from a strawberry!
- **Straw Rockets:** Learn about rocketry and propulsion by building your air-powered straw rocket.
- **Constellation Tubes:** The visitors will identify constellations and learn their stories
- **Be an Astronaut:** Create your own space food, discover how astronauts sleep and try on a space suit.
- **UV Bead:** Learn about ultraviolet light by using at least one detection method.