

# SCIENCE EXPLORATION JOURNAL

## FOR CHAPERONES AND STUDENTS

# Mixed Bag

(For Grades K-2)

A little bit of each:

- Force and Motion
- Light and Optics
- Patterns and Possibilities

*This Journal is designed to help you guide young students through Hands On Hall. As you visit each activity, some suggestions are made for how to direct students so that they learn the most from their experience. Questions to ask the students at each station are also offered to help you help the students to learn.*

## GIANT LEVER

The Giant Lever works on the principle of mechanical advantage: The farther the rope is from the turning point of the lever (in this case, the bottom), the easier it is to move it.

### Ideas for Student Interaction

- Have students have a tug-of-war at the exhibit. The side pulling on the rope attached at the top will usually win. Ask students if they can figure this out.
- Invite one student to pull on the rope attached at the top of the lever. See how many students it takes to beat that one student in a tug-of-war.

## PULLEY POWER

Not all of the chairs at this exhibit are the same! Each chair is attached to 2, 3, or 4 pulleys. The chair attached to 4 pulleys makes the work feel easiest.

### Ideas for Student Interaction

- Have students try pulling themselves up on each chair. If they can't do it themselves, ask other students to help them pull.
- Ask 3 students to pull themselves up at the same time. Compare the length of rope that each one pulls to get to the top. (The chair with 4 pulleys will feel easiest, but will use the most rope.)

# Mixed Bag

(For Grades K-2)

A little bit of each:

- Force and Motion
- Light and Optics
- Patterns and Possibilities

## HEAD ON A PLATTER

This exhibit is basically an optical illusion. Students can go behind the exhibit and sit on a stool putting their head through an opening. In the front of the exhibit, mirrors and props make it appear that a student's head is on a platter!

### Ideas for Student Interaction

- Have them take turns putting their "head on a platter" with your help while the other students sit in front and watch.
- Ask the students why it looks like their friends don't have any body.
- Show the students the mirrors and how they make it look like there is a table there when there really is not.

## 20 QUESTIONS

This is a computer version of the popular game *20 Questions*. You will probably have to work the computer interactions for the students, but they can come up with an "animal, vegetable, or mineral" and try to "stump" the computer.

### Ideas for Student Interaction

- Gather students around the exhibit and have them come up with a person, place or a thing.
- When the computer asks a question, read it to the students and ask them for their response. This is a good way to get students to think about specific categories that their person, place, or thing might fit into.