**Obtaining, Evaluating, and Communicating Information**  
**Grades 3-5 - Student Guide**

**Before You Begin**

**Goal:** You and your classmates will visit exhibits, make observations, and talk with your classmates to figure out how the exhibits work!

**Led By:** Chaperone

**Explored By:** Students Grades 3-5

**Activity Length:** 30-45 Minutes

**Materials:** This worksheet and a writing utensil OR This document on a mobile device and pen and paper

**Getting Started:** The ability to make **inferences** based on **observations** and is an important tool used by scientist to discover new knowledge about the world we live in. Good scientists work hard to learn about their surroundings so they can solve problems and explain how things work, then they communicate their ideas to the rest of the world!

With your group, pick one of the following exhibit sets to focus on for your group’s experiment and observations. Your group will need to make observations at each exhibit in the set. If your first choice exhibit is busy, pick another one or come back to it later.

<table>
<thead>
<tr>
<th>Marimba</th>
<th>Gear Ratio</th>
<th>Refraction</th>
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<tbody>
<tr>
<td>Vibragomelon</td>
<td>Pulleys</td>
<td>Prism</td>
</tr>
<tr>
<td>Tension String</td>
<td>Fixed and Movable Pulley</td>
<td>Bending Light</td>
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<tr>
<td></td>
<td>Giant Lever</td>
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| Explores Energy | Explores Forces and Interactions | Explores Waves |
Gather Information

Observe...
Take a few minutes and look at the exhibits your group picked. What do you see? What do you notice? What do you hear? You are making **observations**!

Think...
How do you think the exhibit works? Remember, good scientists don’t always know the correct answer right away—it might take some time to figure it out!

Record...
As a group, work together to record three good scientific **observations**. Remember, scientific observations are facts, based on your five senses. Many times, scientific observations include numbers. Observations are important because they can be used as **evidence** when you are figuring out how something works. *Example: The shorter pipe makes a higher pitch sound than the longer pipe.*

Name of Exhibit: __________________________
Observation:

How do you think this exhibit works?

Name of Exhibit: __________________________
Observation:

How do you think this exhibit works?

Name of Exhibit: __________________________
Observation:

How do you think this exhibit works?
Evaluate Information

Compare...
Think about the observations you just made and how you think the exhibits work. Now, you are going to discuss your ideas with a classmate. With a partner, pick one exhibit you just observed and talk about how you each think it works. Here’s a question to ask your partner to get started: How do you think the exhibit worked?

Record...
Good scientists always record their data. In the columns below, record what was the same about you and your partner’s ideas and what was different. This will help you to figure out how it works! You can use words or draw a diagram to explain.

My idea was similar to my partner’s because...

My idea was different from my partner’s because...
Communicate Ideas

Conclude...
When scientists discover something new, they draw a conclusion, or their new ideas, and they communicate their ideas with others. Sometimes scientists write lab reports, make videos, or publish articles to share their research. It’s important to share your ideas so your research can help others!

Record...
Answer the questions below to communicate your ideas clearly!

Conclusion
Claim: How do you think the exhibit works?

Evidence: What did you observe when you tested the exhibit? (Hint: Use your observations from pg. 2!)

Reasoning: How was your idea similar to your partner’s idea and why do you think that’s the right answer?