Exploration 1: “How does MATTER affect Sound?”

<table>
<thead>
<tr>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stethoscope</td>
</tr>
</tbody>
</table>

**Directions:**
- **Gas vs Sound**
  - One person puts on the stethoscope (DO NOT tap or touch the end! A very loud sound will result.)
  - Another person taps their fingers together next to the end of the stethoscope
  - Record how loud the sound was in the chart
- **Liquid vs Sound**
  - One person puts on the stethoscope and gently places the end in one end of the container of water
  - Another person taps their fingers together in the water at the opposite end of the tub
  - Record how loud the sound was in the chart
- **Solid vs Sound**
  - One person puts on the stethoscope and gently places the end on one end of the desk
  - Another person “Lightly” taps on the end of the desk opposite of the stethoscope
  - Record how loud the sound was in the chart

**Record your observations in the chart below:**

<table>
<thead>
<tr>
<th></th>
<th>Little/No Sound</th>
<th>Some Sound</th>
<th>The Most Sound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solid</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What state of matter had the most sound? ________________________________

What state of matter had the least sound? ________________________________
Exploration 2: “How does MATTER affect Light?”

<table>
<thead>
<tr>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear jar &amp; water</td>
</tr>
</tbody>
</table>

**Directions:**

- **Gas vs Light**
  - One person shines the light on the wall
  - Record how bright the light shone on the wall and what the gas did to the light

- **Liquid vs Light**
  - Another person shines the light through the jar with water onto the wall
  - Record how bright the light shone on the wall and what the liquid did to the light

- **Solid vs Sound**
  - Another person shines the light through the cardboard onto the wall
  - Record how bright the light shone on the wall and what the solid did to the light

**Record your observations in the chart below:**

<table>
<thead>
<tr>
<th></th>
<th>Little/No Light</th>
<th>Some Light</th>
<th>The Most Light</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gas</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Liquid</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Solid</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What state of matter had the most light? __________________________________________

What state of matter had little light? __________________________________________
Claim

What claim did you come up with that best answers the focus question based on the class data chart?

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Evidence

What evidence statements did you come up with that best support your claim (Remember you need one for each state of matter)?

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Reasoning

Please complete the following sentences:
The reason for this occurring with light traveling is _________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

The reason for this occurring with sound traveling is ________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________