My Age and Weight on Other Worlds

**Directions:** Go to the following web address, [http://www.exploratorium.edu/ronh/age/](http://www.exploratorium.edu/ronh/age/)

Find and Record your age on other worlds in the Table below:

<table>
<thead>
<tr>
<th>Celestial Body</th>
<th>Earth</th>
<th>Mercury</th>
<th>Venus</th>
<th>Mars</th>
<th>Jupiter</th>
<th>Saturn</th>
<th>Uranus</th>
<th>Neptune</th>
<th>Pluto</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age in Days</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td><strong>Age in Years</strong></td>
<td></td>
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</tr>
</tbody>
</table>

**Directions:** Then read the section on the website, “What is Going On?”, and answer the questions.

1.) What determines the day length of a planet? _______________________________

2.) What determines the year length of a planet? _______________________________

3.) On what planet are you the oldest in years? ____________  Explain why.

   _______________________________________________________________________

4.) Explain why your age is so great in days on Jupiter, but your age in years is so low.

   _______________________________________________________________________

5.) Why do the planets closer to the sun revolve faster than planets that are further away? Explain.

   _______________________________________________________________________

**Directions:** Click on the link at the bottom of the Web page “Your Weight On Other Worlds.” Type in your weight on Earth in pounds, and complete the table. Do the same with an avg. elephant (13,000 lbs.).

<table>
<thead>
<tr>
<th>Celestial Body</th>
<th>Earth</th>
<th>Earth’s Moon</th>
<th>Mercury</th>
<th>Venus</th>
<th>Mars</th>
<th>Jupiter</th>
<th>Saturn</th>
<th>Uranus</th>
<th>Neptune</th>
<th>Pluto</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter (km)</td>
<td>12,800</td>
<td>3,500</td>
<td>4,880</td>
<td>12,100</td>
<td>6,800</td>
<td>142,000</td>
<td>120,000</td>
<td>51,800</td>
<td>49,500</td>
<td>2,300</td>
<td>1.4 mil</td>
</tr>
<tr>
<td>Distance to Sun (km)</td>
<td>150 mil</td>
<td>150 mil</td>
<td>58 mil</td>
<td>108 mil</td>
<td>228 mil</td>
<td>778 mil</td>
<td>1.4 bil</td>
<td>2.8 bil</td>
<td>4.5 bil</td>
<td>5.9 bil</td>
<td>0</td>
</tr>
<tr>
<td>Gravity on Surface (m/sec^2)</td>
<td>9.8</td>
<td>1.6</td>
<td>3.7</td>
<td>8.9</td>
<td>3.7</td>
<td>24.9</td>
<td>10.4</td>
<td>8.9</td>
<td>11.2</td>
<td>0.58</td>
<td>274</td>
</tr>
<tr>
<td>Human Weight (lbs.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Weight of Elephant (lbs.)</td>
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</tbody>
</table>
Directions: Now read the reading on the Web page, “What is Going On?”, and take a moment to look at the data represented by this table. What patterns do you see? Answer the following questions. THINK ABOUT IT!!!

1.) What 2 things determine the gravitational pull of two masses?

______________________________, and ________________________________.

2.) Why is your weight so large on Jupiter?

______________________________________________________________

______________________________________________________________

3.) Explain why you are virtually weightless if you are in the middle of space.

______________________________________________________________

______________________________________________________________

4.) Write a rule about the relationship of a planet’s size (Diameter) and its gravity.

______________________________________________________________

______________________________________________________________

5.) Write a rule about a planet’s size (Diameter) and an object’s weight on that planet.

______________________________________________________________

______________________________________________________________

6.) Write a rule about how gravity relates to an object’s weight.

______________________________________________________________

______________________________________________________________