Title: Add to the Infographic: Planets

Time: 30-40 minutes

Resources, Materials, Technology:

- Planets infographic
- Planet information sheet
- Several different color marker Markers

Take Home:

Visualizing data in meaningful concise ways is difficult. Having a plan when you start is crucial. However, if the visualization is just not working it is important to ditch it and start again. When working in a group it is crucial that all individuals have a working knowledge of the content and truly understand the data and visualization they are trying to represent.

Lesson Structure and Procedures:

Day 1: 35-40 minutes in length

- Place students into groups of 3-4
- Give each group a 11x17 full color copy of Planet Infographic, a different bright color marker, and the planet information sheet.
- Instruct each group to pick an aspect of planetary data off the info sheet and create a way to visualize it on the infographic.
- Make sure students add their names to the back of the infographic in the marker color they have chosen.
- Then draw the new information directly on the infographic (note: Students may not simply draw the number of moons on the planet then need to represent it visually.)
- When the information has been added pass the infographic to the next group and have them add another aspect of information the infographic.
- The next group must then add on another aspect not yet added to the infographic. The infographic will pass to all groups in the room. The task of adding more information will become progressively more difficult as the lesson goes on as certain aspects (moons, rings) are very easily represented however other aspects (length of day, length of year) are much more difficult.

Follow Up/Extensions:

- Have students discuss what ways they feel were the best to add more information to the infographic and why. Tie this to how they plan to incorporate new information in their infographics.
PLANETARY FUN

- Minute hand represents
- Hour hand represents ten’s place
- Gravity represented in m/s

The diagram illustrates the relative positions and sizes of the planets in our solar system, with each planet represented by a clock or thermometer. The minute and hour hands indicate the planet's orbital position and size, respectively.
<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance from Sun (AU)</th>
<th>Diameter (km)</th>
<th>Mass (Earth)</th>
<th>Density (g/cm³)</th>
<th>Escape Velocity (km/s)</th>
<th>Surface Temperature (K)</th>
<th>Number of Moons</th>
<th>Number of Satellites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pluto</td>
<td>39.5</td>
<td>2320</td>
<td>0.002</td>
<td>1.88</td>
<td>4.7</td>
<td>45.5</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Neptune</td>
<td>30.0</td>
<td>49,248</td>
<td>1.03</td>
<td>1.64</td>
<td>5.5</td>
<td>195.8</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>Uranus</td>
<td>19.2</td>
<td>50,724</td>
<td>14.59</td>
<td>1.42</td>
<td>4.9</td>
<td>193.1</td>
<td>14</td>
<td>27</td>
</tr>
<tr>
<td>Saturn</td>
<td>10.0</td>
<td>116,400</td>
<td>95.5</td>
<td>1.69</td>
<td>5.9</td>
<td>188.0</td>
<td>27</td>
<td>82</td>
</tr>
<tr>
<td>Jupiter</td>
<td>5.2</td>
<td>139,820</td>
<td>318.0</td>
<td>1.32</td>
<td>5.8</td>
<td>180.0</td>
<td>79</td>
<td>79</td>
</tr>
<tr>
<td>Earth</td>
<td>1.0</td>
<td>12,742</td>
<td>5.98</td>
<td>5.52</td>
<td>10.4</td>
<td>288.0</td>
<td>1</td>
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<tr>
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<td>12,104</td>
<td>4.87</td>
<td>4.86</td>
<td>8.0</td>
<td>267.0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Pluto:**
- **Diameter:** 2320 km
- **Mass:** 0.002 Earth masses
- **Density:** 1.88 g/cm³
- **Escape Velocity:** 4.7 km/s
- **Surface Temperature:** 45.5 K
- **Number of Moons:** 2
- **Number of Satellites:** 5

**Neptune:**
- **Diameter:** 49,248 km
- **Mass:** 1.03 Earth masses
- **Density:** 1.64 g/cm³
- **Escape Velocity:** 5.5 km/s
- **Surface Temperature:** 195.8 K
- **Number of Moons:** 7
- **Number of Satellites:** 15

**Uranus:**
- **Diameter:** 50,724 km
- **Mass:** 14.59 Earth masses
- **Density:** 1.42 g/cm³
- **Escape Velocity:** 4.9 km/s
- **Surface Temperature:** 193.1 K
- **Number of Moons:** 14
- **Number of Satellites:** 27

**Saturn:**
- **Diameter:** 116,400 km
- **Mass:** 95.5 Earth masses
- **Density:** 1.69 g/cm³
- **Escape Velocity:** 5.9 km/s
- **Surface Temperature:** 188.0 K
- **Number of Moons:** 79
- **Number of Satellites:** 82

**Jupiter:**
- **Diameter:** 139,820 km
- **Mass:** 318.0 Earth masses
- **Density:** 1.32 g/cm³
- **Escape Velocity:** 5.8 km/s
- **Surface Temperature:** 180.0 K
- **Number of Moons:** 79
- **Number of Satellites:** 79

**Earth:**
- **Diameter:** 12,742 km
- **Mass:** 5.98 Earth masses
- **Density:** 5.52 g/cm³
- **Escape Velocity:** 10.4 km/s
- **Surface Temperature:** 288.0 K
- **Number of Moons:** 1
- **Number of Satellites:** 1

**Venus:**
- **Diameter:** 12,104 km
- **Mass:** 4.87 Earth masses
- **Density:** 4.86 g/cm³
- **Escape Velocity:** 8.0 km/s
- **Surface Temperature:** 267.0 K
- **Number of Moons:** 0
- **Number of Satellites:** 0