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.

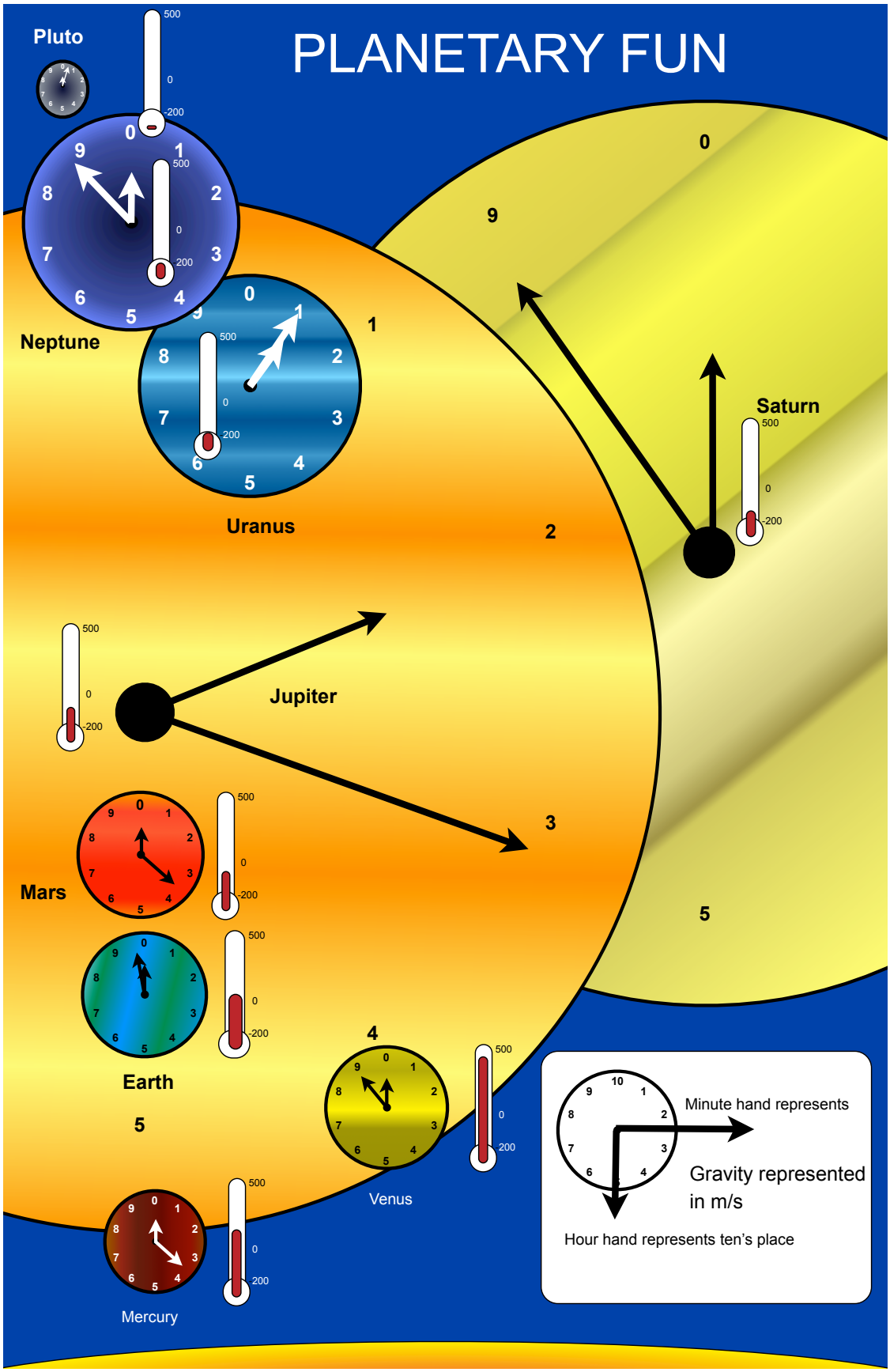
Lesson Structure and Procedures:

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 Fact Sheet - Metric

	MERCURY	VENUS	EARTH	MOON	MARS	JUPITER	SATURN	URANUS	NEPTUNE	PLUTO
Mass (10^{24}kg)	0.330	4.87	5.97	0.073	0.642	1898	568	86.8	102	0.0131
Diameter (km)	4879	12,104	12,756	3475	6792	142,984	120,536	51,118	49,528	2390
Density (kg/m^3)	5427	5243	5514	3340	3933	1326	687	1271	1638	1830
Gravity (m/s^2)	3.7	8.9	9.8	1.6	3.7	23.1	9.0	8.7	11.0	0.6
Escape Velocity (km/s)	4.3	10.4	11.2	2.4	5.0	59.5	35.5	21.3	23.5	1.1
Rotation Period (hours)	1407.6	-5832.5	23.9	655.7	24.6	9.9	10.7	-17.2	16.1	-153.3
Length of Day (hours)	4222.6	2802.0	24.0	708.7	24.7	9.9	10.7	17.2	16.1	153.3
Distance from Sun (10^6 km)	57.9	108.2	149.6	0.384*	227.9	778.6	1433.5	2872.5	4495.1	5870.0
Perihelion (10^6 km)	46.0	107.5	147.1	0.363*	206.6	740.5	1352.6	2741.3	4444.5	4435.0
Aphelion (10^6 km)	69.8	108.9	152.1	0.406*	249.2	816.6	1514.5	3003.6	4545.7	7304.3
Orbital Period (days)	88.0	224.7	365.2	27.3	687.0	4331	10,747	30,589	59,800	90,588
Orbital Velocity (km/s)	47.9	35.0	29.8	1.0	24.1	13.1	9.7	6.8	5.4	4.7
Orbital Inclination (degrees)	7.0	3.4	0.0	5.1	1.9	1.3	2.5	0.8	1.8	17.2
Orbital Eccentricity	0.205	0.007	0.017	0.055	0.094	0.049	0.057	0.046	0.011	0.244
Axial Tilt (degrees)	0.01	177.4	23.4	6.7	25.2	3.1	26.7	97.8	28.3	122.5
Mean Temperature (C)	167	464	15	-20	-65	-110	-140	-195	-200	-225
Surface Pressure (bars)	0	92	1	0	0.01	Unknown*	Unknown*	Unknown*	Unknown*	0
Number of Moons	0	0	1	0	2	67	62	27	14	5
Ring System?	No	No	No	No	No	Yes	Yes	Yes	Yes	No
Global Magnetic Field?	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	Unknown
	MERCURY	VENUS	EARTH	MOON	MARS	JUPITER	SATURN	URANUS	NEPTUNE	PLUTO