**6th grade** SEPUP **Kit:** Exploring the Solar System

**Activities:** 90- Drawing the Solar System 91- How Big are the Planets

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**Audience:** 6th grade

**Materials Included:**

* Projector
* Transparency 90.1, 91.1 & 91.2
* Calculator (optional)
* Ruler & Meter Stick
* Student Sheet 90.1, 90.2 & 91.1
* Compass
* Spherical Objects

**Materials Not Included:**

* Butcher paper
* Additional Meter sticks
* String
* Tape
* Markers
* Colored Pencils
* Construction Paper

**Big Idea:**

* Students explore scale for diameter of planets
* Students explore distance between the planets

**Hook:** short video or audio- School House Rock “Inner Planet Janet”, Star Trek, Star Wars or other preconceived/stereotypical ideas about space

**Prior Knowledge/ Experience:**

* Planets, sun, stars in sky
* There is distance between planets, sun and stars in sky
* In 5th grade they learn about sun, moon and stars

**Improvements:**

* Stronger hook (see above)
* Create planets to scale based on distance and size

**Suggestions for Lesson Extensions:**

1. After completing lessons 90 and 91, find a long hallway.
2. Have students measure hallway to find the distance from sun to Neptune.
3. Calculate acceptable scale, thinking about distance and planet size.
4. Discuss as a class the potential need to use different scales for the distance and planet size.
5. In small groups calculate scale distance of planets.
6. Come together in whole group to share data.
7. In hallway use meter stick to measure where each planet would be.
8. Place a marker for each planet.
9. In small groups calculate scale for planet diameter and create planets.
10. Have students research planets and create an accurate representation.
11. Place the planets on the markers in the hallway.

**Reflections:** Use discussion questions listed under Follow-Up in pre-prepared materials for Lesson 90. Debrief students experiences from creating a larger replica.

**Timing:** 2 to 4 class periods