



A Journey Through the Solar System: A Mock Solar System Activity

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Introduction

In May 2012, graduate students introduced a new activity at the Lingle Middle School Outdoor School that emphasized previous space science and exploration lessons, demonstrations, and activities.

Discussion

- Developed as a way to tie the Lingle Middle School previous visits together
- Objects representing the planets were one spaced out, at scaled sizes and distances
- Students volunteered to be the commander, pilot, and mission specialists
- Students were briefed and “launched” into the mock solar system
- They took notes about what they saw at each planet and why those clues were important
- When the mission ended, they discussed what they saw with the graduate student



Figure 1: Saturn floats on water as students investigate

Table 1: Planetary objects

Body	Scaled D (inches)	Object Used
Sun	44.00	Inflatable Ball
Mercury	0.01	BB
Venus	0.48	Marble
Earth	0.50	Large Marble
Jupiter	5.63	Foam ball
Saturn	4.75	Foam ball
Uranus	2.01	Raquetball
Neptune	1.95	Raquetball

Table 2: Planetary distances

Planet	D to Sun (AU)	Scaled D (ft)
Mercury	0.4	1.9
Venus	0.7	3.5
Earth	1.0	5.0
Mars	1.5	7.5
Jupiter	5.2	26.0
Saturn	9.5	47.5
Uranus	19.0	95.0
Neptune	30.0	150.0

Conclusions

- Outdoor School was the first time for the mock solar system activity.
- It was well received by the students and teachers alike.
- The mock solar system is widely adaptable.
- Posters for each planet have been made so if a “mission” isn’t possible, a guided tour of the solar system is.
- Students are able to grasp the size and distance differences of the Sun and planets in the solar system.