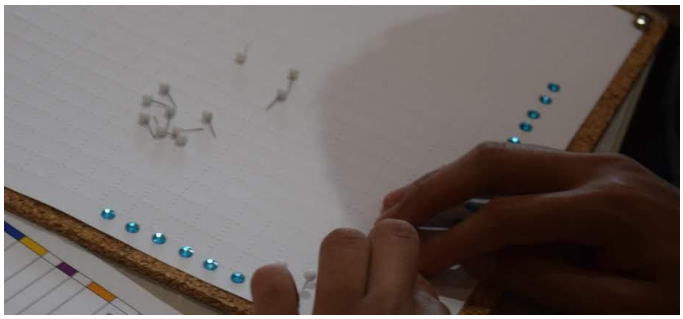
Section 2 Part C: Potato Model and Light Curve

Tips!

1. Emphasize that asteroids generally spin on their short axis due to millions of years of damping by collisions with solar system debris.
2. The clusters of pins are entirely for low vision and blind. So . . . have them try this with the sleep masks on! Obviously this could be done with some kind of light source bouncing off the potato, and a light meter reading the intensity of the reflection. The pins make for easy data collection.
3. I picked eight clusters for convenience, but you can pick anything reasonable.
4. Pick any reasonable time for collection of data (this is how much time passes between being able to see the pins). We will eventually use data collected in one night's observation.
5. The student's should come up with the idea of collecting data for more than one spin. You could ask "What happens if the next observation is closer to the sun?" Explain that is the reason for trying to get all observations in one night.
6. Possibly have the students look up rotational periods of a few asteroids. They could then think about how to plan one evening's observations. What other things would they need to consider?
7. 
8. The tactile graph can also be done with the sleep masks on. The picture shows paper on top of a corkboard, sticky gemstones for each axis, and pins to mark the data points.
    a. Possibly use the classroom whiteboard to make a grid with some masking tape, and then foam stickers for the data points.
9. The time from one peak to the next represents one rotation. The average of at least two rotations is better.

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