

# All About The Planets

Investigation Data Sheet



## How Are Saturn's Rings Formed?

Saturn's rings are very bright. Though they look "solid" or continuous from the Earth, the rings are actually composed of many, many bits of rock and ice circling Saturn at their own speeds.

### Objective

Perform a demonstration to show how the many moons of Saturn help form the thousands of rings around Saturn.

### Materials

- a record player
- 3 pencils
- sugar
- a vinyl record
- tape
- a small plastic card

**Safety Notice:** All applicable laboratory safety rules must be followed. Students should not perform any experimental activity without the teacher's supervision and express permission. Students must follow safety guidelines and wear appropriate protective gear.

### Procedure

1. Tape the pencils together. Make sure that their points are even.
2. Place the record on the turntable.
3. Evenly cover the surface of the record with sugar.
4. Smooth out the sugar with the plastic card.

5. Turn on the record player.
6. Slowly lower the points of the pencils straight down onto the spinning record.
7. Describe what happens to the sugar.

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8. When the pencil points push the sugar to the side and form cleared paths, this is similar to how Saturn's moons move through the huge cloud of rocks and ice chunks, pushing the material aside and forming separate rings.

### Conclusions

- How many rings does Saturn have?

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- Draw a picture of Saturn below. Be sure to include some of its moons and rings.