

Discovering Saturn - Activities (Ages 12-15)



Today we are going to investigate:

- How to find Saturn in the sky
- The structure and composition of Saturn's rings
- The structure and composition of planet Saturn

Activities

- 1 Start up Night Sky and use your finger to move around the sky. Find the planet Saturn (Tip: if you can't find it, try typing 'Saturn' into the Search box). Double tap on Saturn for a close up view of the planet's 3D model. Use your finger to move the planet around so you can see different views of Saturn.

Question: How would you describe the appearance of Saturn's rings?

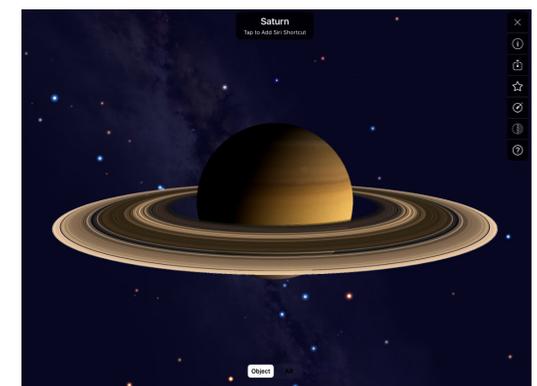
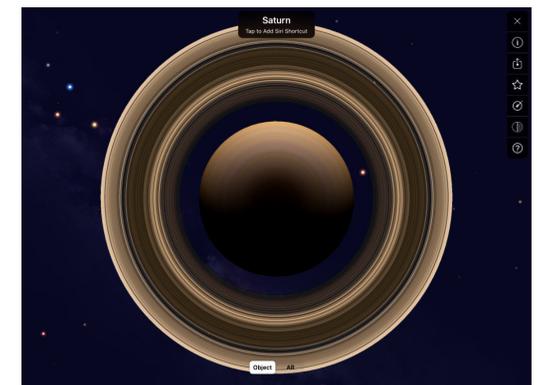
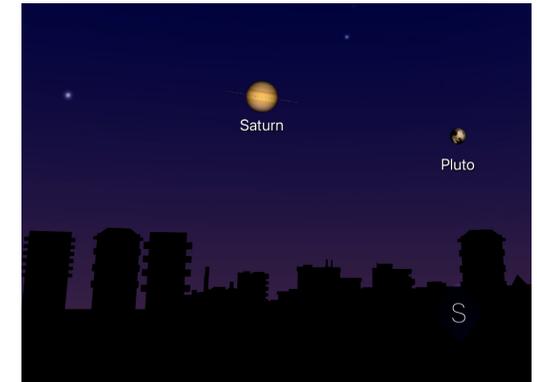
- a) Solid in structure b) Multiple small rings c) Gaseous clouds

- 2 Saturn's ring system is made up of thousands of individual 'ringlets'. These narrow ringlets appear grouped together into sets of different colours and densities. One particularly dark region is called the **Cassini Division** after Giovanni Cassini who discovered it in 1675.

Question: Can you identify the Cassini division in the rings?

- 3 Each ringlet contains trillions of particles of water ice moving around Saturn. These icy lumps vary from the size of snowflakes to the size of houses. The ice also contains a fine dust. Try moving the 3D model planet around so that you can see how thin the rings are.

Question: What force keep the rings in place around Saturn?



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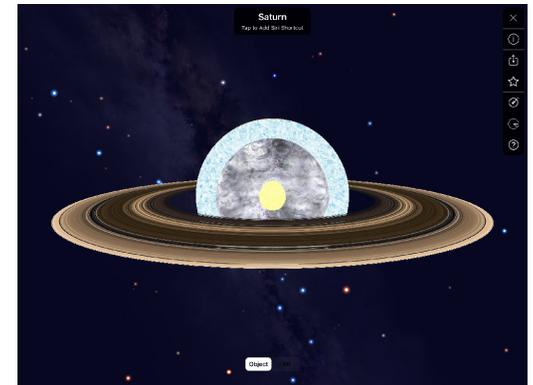


4 There are no permanent surface features on Saturn such as craters or mountains. All you can see are bands of clouds near the top of Saturn's atmosphere. This is because Saturn is a planet made of gas. Astronomers call this type of planet a **gas giant**. Tap the  icon on the right of the screen to access Saturn's information panel.

Question: Investigate Saturn's composition, which element makes up the majority of the planet?

5 Tap on the  icon for a view of the planet's interior. Tap on each layer to bring up a descriptive label.

Question: What is the largest layer that surrounds Saturn's rocky core made of?



What we have discovered:

- Saturn is categorised as a gas giant planet
- Saturn's ring system is made up from multiple narrow ringlets
- The rings are composed of ice and dust
- Saturn is mostly made up of hydrogen