

Saturn's rings

SCRIPT:

It seems no child ever draws a picture of outer space without drawing a planet with a ring around it – the planet Saturn. And although it's not the only planet with rings, the rings of Saturn are by far the most spectacular. But just what are the rings made of? It turns out they're made mostly of ice...great rivers of ice, shining in the Sun. But it's not solid ice. The ice is broken up into many pieces, like snowballs, drifting in circles around the planet. Most of them are small, but some are as big as a house. And they appear to have gathered into a few big rings. But look closer, and you see a series of separate circles. In fact, Saturn's rings are really many thousands of rings. But where did the rings come from? That's one of the biggest puzzles in the Solar System. They could be the pieces of a moon that broke apart, or a shattered comet. Scientists say they just aren't sure how it could have happened.

Another puzzle is the spokes, like the spokes on a bicycle wheel, that have been photographed in the rings. Mysterious and beautiful, the planet Saturn has captured our imaginations for centuries. Now, with a new generation of robotic spacecraft, scientists hope to finally discover many more secrets of the rings.

Relevant NSES Standards

NSES Content Standard A: Understanding about scientific inquiry.

(Grades K-8) Types of investigations include describing objects.

(Grades 5-12) Compare different explanations for data. (Saturn's rings.)

NSES Content Standard B: Physical science; properties of objects and materials.

(Grades K-8) Finding common materials in objects. (Water ice in rings.)

(Grades 5-12) Properties of matter remain the same. (Ice is same on Earth & Saturn.)

NSES Content Standard D: Earth and space science.

(Grades K-4) Objects in the sky. Planets.

(Grades 5-8) Objects in the solar system.

NSES Content Standard E: Science and technology.

(Grades K-4) Science tries to answer questions about the natural world.

(Grades 9-12) Creativity and imagination are useful in work of science.

(Developing explanation for the rings.)

NSES Content Standard G: History and nature of science.

(Grades K-12) Much more remains to be understood. Science is incomplete.

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