

## **Black holes**

### **SCRIPT:**

We can thank the Hubble Space Telescope for taking this picture.... a photograph that's considered the first real evidence of a gigantic black hole in the center of a galaxy. In fact, scientists now say it's possible a black hole is lurking in the center of every galaxy, including our own. If it sounds incredible, take a look at what scientists say a black hole is...

It's a whirlpool in space, a funnel that leads to another dimension. There can also be a jet of gas, some sort of energy beam, coming out from the center of a black hole. Nobody knows what that is. All we do know, is that anything that goes down the drain of a black hole, disappears, and is never seen again. And what could possibly be inside a black hole? Nobody really knows. But there are some theories.

Some scientists think it might be a gateway to another Universe...or a passageway to oblivion. In the photo, you can see the energy beam coming out from the center. Scientists say this particular black hole has already swallowed an entire galaxy. A galaxy with two or three billion stars has dropped into a black hole...vanishing from the known Universe. As technology takes us deeper into outer space, we've begun to see things so bizarre, they defy description. But describe them, we must. Even the black hole. Because now, we've got a picture.

### **Relevant NSES Standards**

NSES Content Standard A: Understanding about scientific inquiry.

(Grades K-8) Science is used to describe/explain objects and events.

(Grades 9-12) Conceptual principles guide scientific inquiry.

NSES Content Standard B: Physical science.

(Grades K-4) Describing properties of objects.

(Grades 5-12) Properties of matter (unknown).

NSES Content Standard D: Earth and space science.

(Grades 9-12) Evolution and form of the universe.

NSES Content Standard E: Understanding about science and technology.

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

(Grades 5-8) Scientists do not always have explanations.

(Grades 9-12) Scientists are driven by their desire to understand the world.

NSES Content Standard F: Science in social perspectives.

(Grades 5-12) Scientific knowledge influences the way we see the world.

NSES Content Standard G: History and nature of science.

(Grades K-8) Science is not finished; much more remains to be understood.

(Grades 5-12) Scientists have always been faced with many difficult challenges.

**Credits:** Dr. Roeland van der Marel, Space Telescope Science Institute

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