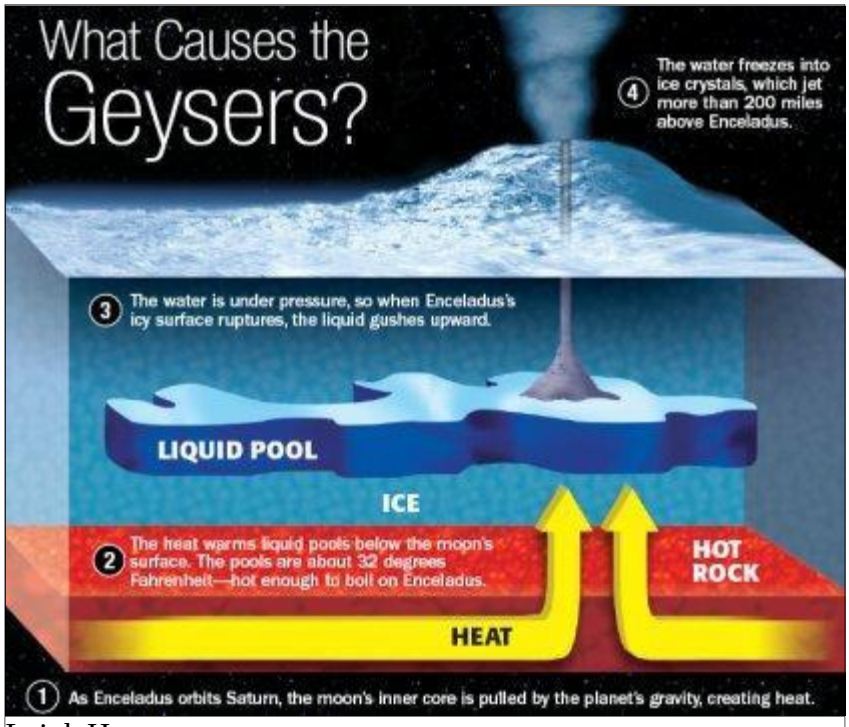
Cold Faithful

Geysers Spout From Icy Saturn Moon

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Cassini snapped shots of Enceladus (en-**SELL**-ahdus) as the craft orbited Saturn. On close inspection, the photos show **geysers**[1] spurting ice particles hundreds of miles above the moon's south pole.



Leigh Haeger

Scientists suspect that the geysers are fed by pools of water about 150 feet under the icy moon's surface. If the experts' **hypothesis**[2] is true, Enceladus would be the only body in the solar system besides Earth known to have liquid water.

[1] **geyser:** a spring that now and then shoots out hot water and steam
2 hypothesis: theory; something not proved but assumed to be true for purposes of argument or further study or investigation

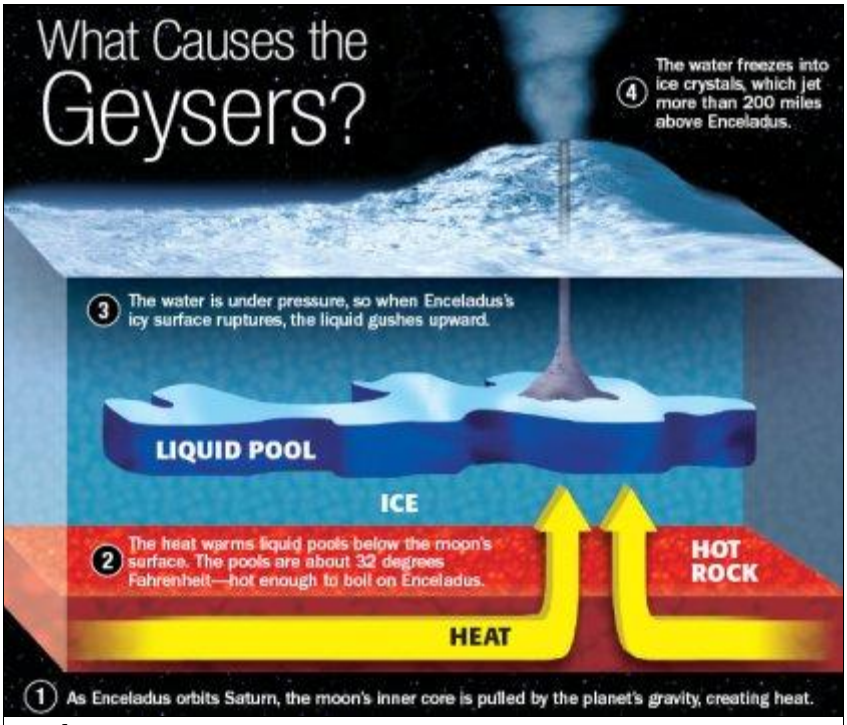
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"It's surprising because everything is so cold in the outer solar system," Andrew Ingersoll, an atmospheric scientist involved in the research, told *Senior Edition*. "You don't really expect to have liquid water out that far from the sun."

Mysterious Moon

Ingersoll and his coworkers have had their eye on Enceladus since *Cassini* launched in 1997. Although the 314-mile-wide moon is small enough to fit within the borders of New Mexico, its surface **intrigued**[3] the scientists.

"Most moons are full of craters," Ingersoll says. "However, Enceladus has certain places that are smooth." The moon's partially flat surface led Ingersoll and his coworkers to conclude that there had been geological activity there less than a few million years ago—relatively recently, for space.

Cassini's photos gave scientists an even closer look at Enceladus' surface. "Many distinct narrow fountains of vapor and fine water ice particles were clearly seen jetting from the south polar surface and reaching [many] miles in space," says Carolyn Porco, a *Cassini* imaging scientist.

Signs of Life

Ice particles weren't the only objects spewing from the geysers. The gigantic plumes also contained basic organic materials such as the gases methane and carbon dioxide.

Those materials, along with water and a heat source, are the basic requirements needed to support life—and Enceladus has all three.

"If we're right, we think we're looking at [an] environment in the solar system [besides Earth] where we have liquid water and the potential for living organisms," Porco told reporters.

Scientists say that if the moon could support life, the creatures probably would live under its surface, near the water. The life-forms

3 intrigued: interested; made curious

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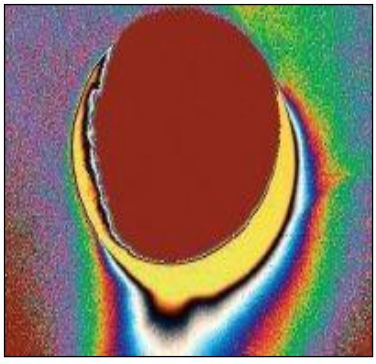
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Future Explorations

More recently, *Cassini* flew by Enceladus in April 2012.

"There's no question, along with [Saturn's] moon Titan, Enceladus should be a very high priority for us" in future space missions, Jonathan Lunine, a *Cassini* scientist at the University of Arizona, told the *Los Angeles Times.* "Saturn has given us two exciting worlds to explore."

Cassini's Wild Ride



NASA

Cassini nabbed this shot of Enceladus' geysers.

Enceladus' geysers aren't *Cassini's* only claim to fame. The bus-sized space probe is in the process of orbiting Saturn 76 times.

Using five telescopes, the probe is taking 300,000 images of the planet, its 47 known moons, and its rings. *Cassini* is also collecting space particles and measuring conditions such as temperature.

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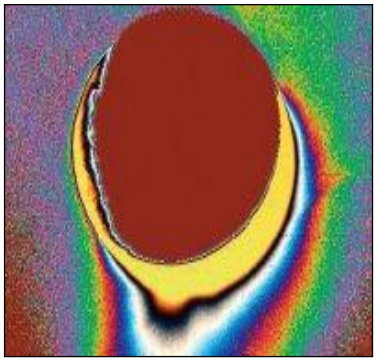
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Name: _____ Date: _____

1. What was most surprising about the discovery that there might be liquid water on Enceladus?

A Enceladus is not a planet
B Enceldaus is very far from the sun
C Enceldaus is 314 miles wide
D Enceldaus is one of Saturn's 47 moons

2. Read these two sentences from the passage:

"Those materials [gases methane and carbon dioxide], along with water and a heat source, are the basic requirements needed to support life—and Enceladus has all three."

"If we're right, we think we're looking at [an] environment in the solar system [besides Earth] where we have liquid water and the potential for living organisms," Porco told reporters.

Which of the following describes the relationship between the two sentences?

A The sentences agree with one another.
B The first sentence presents one side of an argument and the second sentence presents the opposing argument.
C The first sentence presents a problem and the second sentence presents a solution.
D The first sentence presents information and the second sentence draws a conclusion.

3. According to the article, all of the following are reasons why scientists think there might be life on Enceladus EXCEPT

A geysers have been discovered there
B organic materials such as the gases methane and carbon dioxide were found on Enceladus
C Cassini is orbiting Saturn 76 times
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4. Read the following sentence and answer the question below: "Many distinct narrow fountains of vapor and fine water ice particles were clearly seen jetting from the south polar surface and reaching [many] miles in space," says Carolyn Porco, a Cassini imaging scientist.

What does the word **distinct** mean?

A together
B big
C separate
D wavy

5. The primary purpose of this passage is to describe

A what scientists are thinking about Cassini's discoveries
B what life is like on Enceladus
C the American space program
D describe how geyser's work on Enceladus

6. According to the passage, why are scientists so excited by the discovery of geysers on Enceladus?

7. Does the discovery of geysers on Enceladus answer the question of whether or not there is life on that moon of Saturn's? Why or why not? Give specific examples from the text that support your position.

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