



# 'Remarkable' first image of black hole unveiled

April 11, 2019

In a landmark breakthrough, scientists have revealed the first-ever photo of a black hole.

1. It's being described as a landmark breakthrough — \_\_\_\_\_  
\_\_\_\_\_

FRANCE A. CORDOVA, NATIONAL SCIENCE FOUNDATION DIRECTOR, SAYING:  
"Black holes have captivated the imaginations of scientists and the public for decades."

2-1. An international team of scientists \_\_\_\_\_  
2-2. to capture the groundbreaking image in a distant galaxy, \_\_\_\_\_  
\_\_\_\_\_

SHEP DOELEMEN, DIRECTOR, SAYING:  
"We are delighted to be able to report to you today that we have seen what we thought was unseeable."

- 3-1. Black holes are dense celestial entities \_\_\_\_\_  
\_\_\_\_\_
- 3-2. which makes viewing them \_\_\_\_\_  
\_\_\_\_\_
4. Scientists combined the power \_\_\_\_\_  
\_\_\_\_\_
5. A collaborative effort \_\_\_\_\_  
\_\_\_\_\_
- 6-1. The breakthrough image \_\_\_\_\_  
\_\_\_\_\_
- 6-2. that explains the laws of gravity \_\_\_\_\_  
\_\_\_\_\_

## [Vocabulary]

**landmark:** Having great import or significance: *a landmark court ruling.*  
• *a landmark court ruling*

**breakthrough:** a discovery or achievement that comes after a lot of hard work

**black hole:** an area in space, where gravity is so strong that nothing, not even light, can escape from them. Black holes are thought to be formed by collapsed stars.

**captivate**: to attract or interest someone very much

- *She captivated the audience with her expressive voice.*

**telescope**: a piece of equipment shaped like a tube that you look through to make distant objects look closer and larger

**groundbreaking**: introducing new ideas or methods; using new methods, or achieving new results

**galaxy**: an extremely large group of stars and planets

**light-year**: a unit of length in astronomy equal to the distance that light travels in one year in a vacuum or about 5.88 trillion miles (9.46 trillion kilometers)

**dense**: so thick that it is difficult to see through it

- *The dense fog made it impossible for them to see even two meters ahead.*

**celestial**: in or relating to the sky, heaven, or space

**entity**: a separate unit that is complete and has its own character

- *The rebels wanted to establish a new political entity.*

**gravitation**: the force that causes objects to move toward each other

**gravitational field**: a field of force surrounding a body of finite mass

- *The effects of a gravitational field cannot be distinguished from those of uniform acceleration.*

**breakthrough**: *modifier* that brings you success and recognition and take you to a higher level in your profession

- *the group's breakthrough album*

**image**: the picture that you see on a computer or television screen, or in a movie theater; a visual representation (of an object or scene or person or abstraction)

- *By pressing the print button, an image will be printed.*

**lend**: to give something a particular quality;

to give someone support or help

- *'The smile lent his face a boyish charm.'*

**relativity**: the relationship between time, space, and movement as described in Einstein's "Theory of Relativity"

**general relativity**: a theory which is based on the two postulates (1) that the speed of light in a vacuum is constant and independent of the source or observer and (2) that the mathematical forms of the laws of physics are invariant in all inertial systems and which leads to the assertion of the equivalence of mass and energy and of change in mass, dimension, and time with increased velocity

**gravity**: The force that makes any two objects that have mass move toward each other. The most common example of this is when an object falls to the ground.