

THE OTHER SIDE OF INFINITY
**BLACK
HOLES**

AMAZING FACTS ABOUT BLACK HOLES

- Astronomers think that at least one black hole is born every day.
- The nearest known black hole is 1,600 light years (10 quadrillion miles/16 quadrillion kilometers) away.
- Surprisingly, black holes may not be totally black.
 - Infalling material can get hot and glow.
 - Sometimes black holes are so bright they can outshine an entire galaxy.
 - Supermassive black holes can be so luminous we can see them from distances of billions of light years.
 - The birth of a stellar-mass black hole produces a flash or radiation so bright it can outshine entire galaxies.
- There may be millions of stellar-mass black holes in our own Milky Way galaxy.
- There is a supermassive black hole right in the middle of the Milky Way galaxy that tips the cosmic scales at 4 million times the mass of the Sun. But don't worry—at nearly 30,000 light years away, it's too far away for us to fall into it.

Black Holes Glossary of Terms

- **Accretion disk:** A disk of matter that forms when a large amount of material falls into a black hole. The disk is outside the event horizon of the black hole. Friction and other forces heat the disk, which then emits light.
- **Escape velocity:** The velocity needed for an object to become essentially free of gravitational effect of another object.
- **Event horizon:** The distance from the center of a black hole where the escape velocity is equal to the speed of light.
- **Galaxy:** A collection of gas, dust and billions of stars held together by their mutual gravity
- **Gamma-ray burst:** An enormously energetic explosion of high-energy light, some of which is thought to be due to the formation of a black hole.
- **Gravity:** The attractive force of an object that depends on its mass, and your distance from it. The more massive an object, or the closer you are to it, the stronger the force of its gravity will be.
- **Mass:** The quantity of matter that makes up an object.
- **Supernova:** An exploded, or exploding, star.
- **Wormhole:** A theoretical shortcut through space caused when a black hole punches through the fabric of spacetime. While possible mathematically, in reality they probably do not exist.

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