What Is a Black Hole?

A black hole is an area of such immense gravity that nothing—not even light—can escape from it.

Black holes can form at the end of some stars’ lives. Once all of a star’s material is used up, it no longer has the energy to support itself and it collapses.

All of that collapsing matter creates a magnificent explosion.

The material left over after the explosion falls into an infinitely small point, creating a singularity.

This small point is called a singularity.

Black holes can form in many ways and have a range of masses. Stellar black holes have as much mass as a bunch of our stars. Supermassive black holes, on the other hand, have the mass of 1,000 million suns, all trapped within a tiny singularity.

Event Horizon

The area around a singularity where nothing—including light—is able to escape is called an event horizon. That’s probably what you are thinking of when you think of a black hole.

What would happen if you took a spaceship near a black hole’s event horizon? The closer you get to the black hole, the stronger the gravity, and the ship’s hull might stretch so far that it would break apart. This is called spaghettification.