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How Do Black Holes Form?

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The most well-understood [black holes](#) are created when a massive star reaches the end of its life and implodes, collapsing in on itself.

A black hole takes up zero space, but does have mass – originally, most of the mass that used to be a star. And black holes get “bigger” (technically, more massive) as they consume matter near them. The bigger they are, the larger a zone of “no return” they have, where anything entering their territory is irrevocably lost to the black hole. This point of no return is called the event horizon.

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[Read more: Everything Worth Knowing About Black Holes](#)

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Eventually, by growing and consuming material – planets, stars, errant spaceships, other black holes – astronomers think they evolve into the supermassive black holes that they detect at the center of most major galaxies.

But there’s a twist. Two twists, actually.

First, it would take longer than the universe’s current age for black holes that started as dead stars to grow to galaxy-center-sized black holes. So astronomers also think the universe might have jumpstarted the process by creating giant primordial black holes in the moment just after the Big Bang – though this is just [as weird and problematic as you might think](#).

Second, there’s very little direct evidence of so-called intermediate-mass black holes – the

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ones in between star-sized and galaxy-sized. Astronomers expect to see some black holes in this middle phase, on their way to [becoming supermassive but not quite there yet, and so far, they mostly don't](#).

Both tiny and enormous black holes do exist. We're just still connecting the dots between them.

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