

BLACK HOLES

A black hole is an object containing so much mass concentrated in a relatively small space that light cannot escape.

A black hole does not have a surface in the usual sense of the word. There is simply a region, or boundary, in space around a black hole beyond which we cannot see. This boundary is called the event horizon.

DO BLACK HOLES GROW WHEN MATTER FALLS INTO THEM?

Yes, the mass of the black hole increases by an amount equal to the amount of mass it captures.

A

B

Stellar black holes (A) have the mass of a dozen or so Suns, but supermassive black holes (B) have the mass of many millions of Suns!

Not all the matter around a black hole is doomed to fall into the black hole. For example, in many black hole systems, some of the gas escapes as a hot wind that is blown away from the disk at high speeds.

If the Sun suddenly turned into a black hole of the same mass, we'd continue to orbit it without being pulled in. Of course, this still wouldn't be good for life on Earth!

Black holes, because of their very intense gravity will cause light to bend around them, which will cause the appearance of background objects (like stars) to be distorted.

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