

VOCABULARY

- ***Cosmologist** – someone who studies the nature and origin of the universe
- ***Baryonic Matter** – matter composed of protons and neutrons; ordinary matter, as distinct from exotic forms
- ***Dark Matter** – non-luminous material that is postulated to exist in space and that could take any of several forms including weakly interacting particles (*cold dark matter*) or high-energy randomly moving particles created soon after the Big Bang (*hot dark matter*)
- ***Dark Energy** – a theoretical repulsive force that counteracts gravity and causes the universe to expand at an accelerating rate.
- ***Diluted** – weakened by the addition of water or another solvent.
- ***Black Hole** – a region of space having a gravitational field so intense that no matter or radiation can escape
- ***Symmetry** – the quality of being very similar or equal

COMPREHENSION CHECK

1. Why do we call dark matter 'dark'?
2. How much of the universe is made of dark energy?
3. How does dark energy cause the expansion of the universe?
4. What is the difference between dark matter and dark energy?
5. How do most people think the universe will end?

The Death of the Universe

LET'S TALK

1. What do you think the shape of the universe is?
2. If we haven't discovered dark matter directly yet, how can we (astronomers in particular) be sure that it exists?