Mysterious matter in the Universe!

By Capital City Academy Students

Matter

- Matter is generally considered to be a substance that has rest mass and also volume. The volume is determined by the three-dimensional space it occupies, while the mass is defined by the usual ways that mass is measured. Matter is also a general term for the substance of which all observable physical objects consist.
- The matter in the universe is created by the big bang , but not in the form that we see it today.
- First there is very strong evidence that most of the matter in the Universe is in the form of unseen or dark matter – matter (at least so far) cannot be seen by standard astronomical methods, but whose presences can be inferred because its influences the Universe gravitationally.

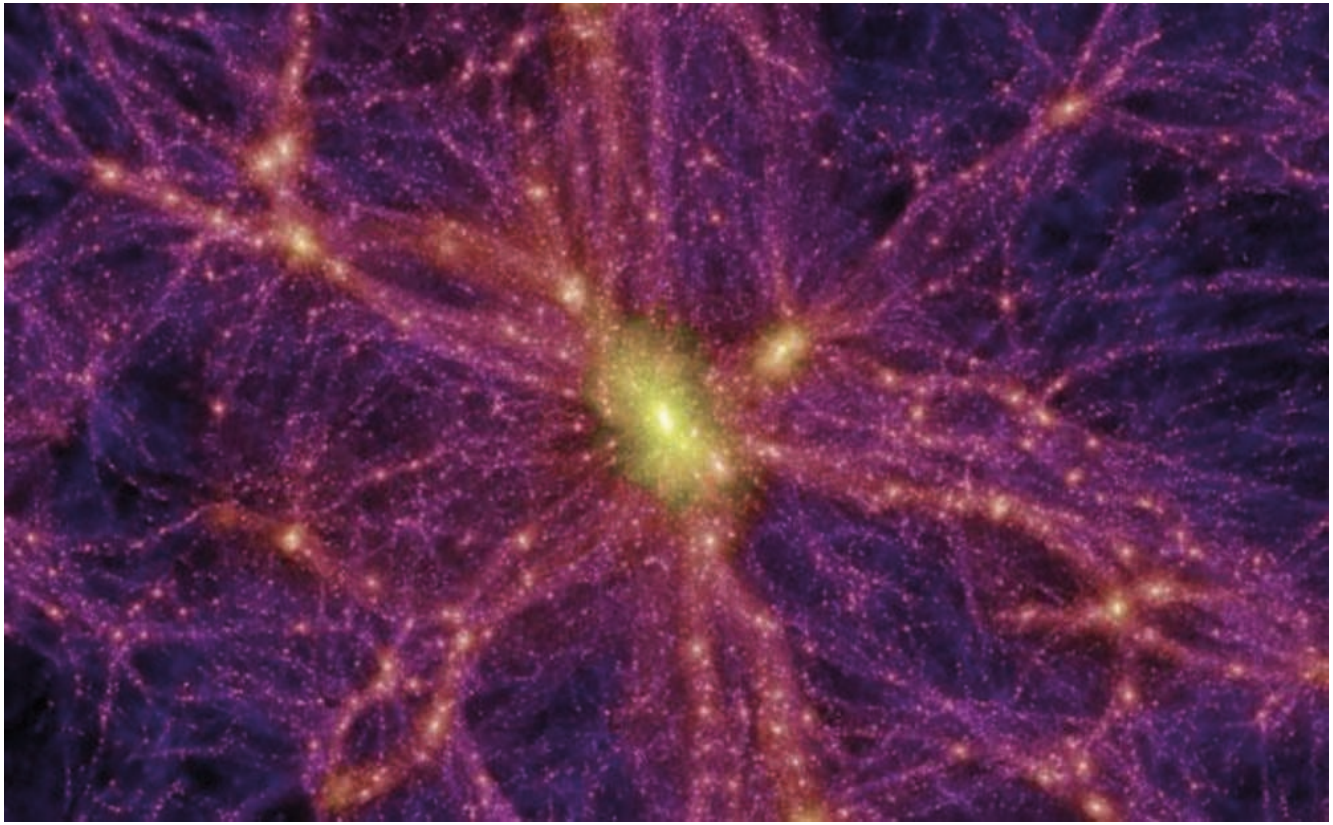
Matter and dark energy

- We know how much dark energy there is because we know how much it affects the universe's expansion.
- Other than that it is a complete mystery. But it is an important mystery, it turns out that 74% of the Universe is dark energy.
- Dark matter makes about 22%. The rest- everything on Earth, everything ever observed with all of our instruments , all normal matter-adds up to less than 4% of the Universe .
- Come to think, it shouldn't be called "normal" matter at all, since it such a small fraction of the Universe.
- Albert Einstein was the first person is the first person to realise that empty space is not nothing. The first property that there was more space to come . As more space come to place, more of the energy of space would appear, which means that the Universe is expanding faster.
- Another explanation is that it is a new kind of dynamical energy fluid or field, something that fills all space but something whose effect on expansion of the Universe is the opposite of the matter and normal energy.
- The theorists have named this "quintessence" after the fifth element of the Greek philosophers.
- Although we still don't know what it is like, what it interacts with or why it exist. So the mystery continues.

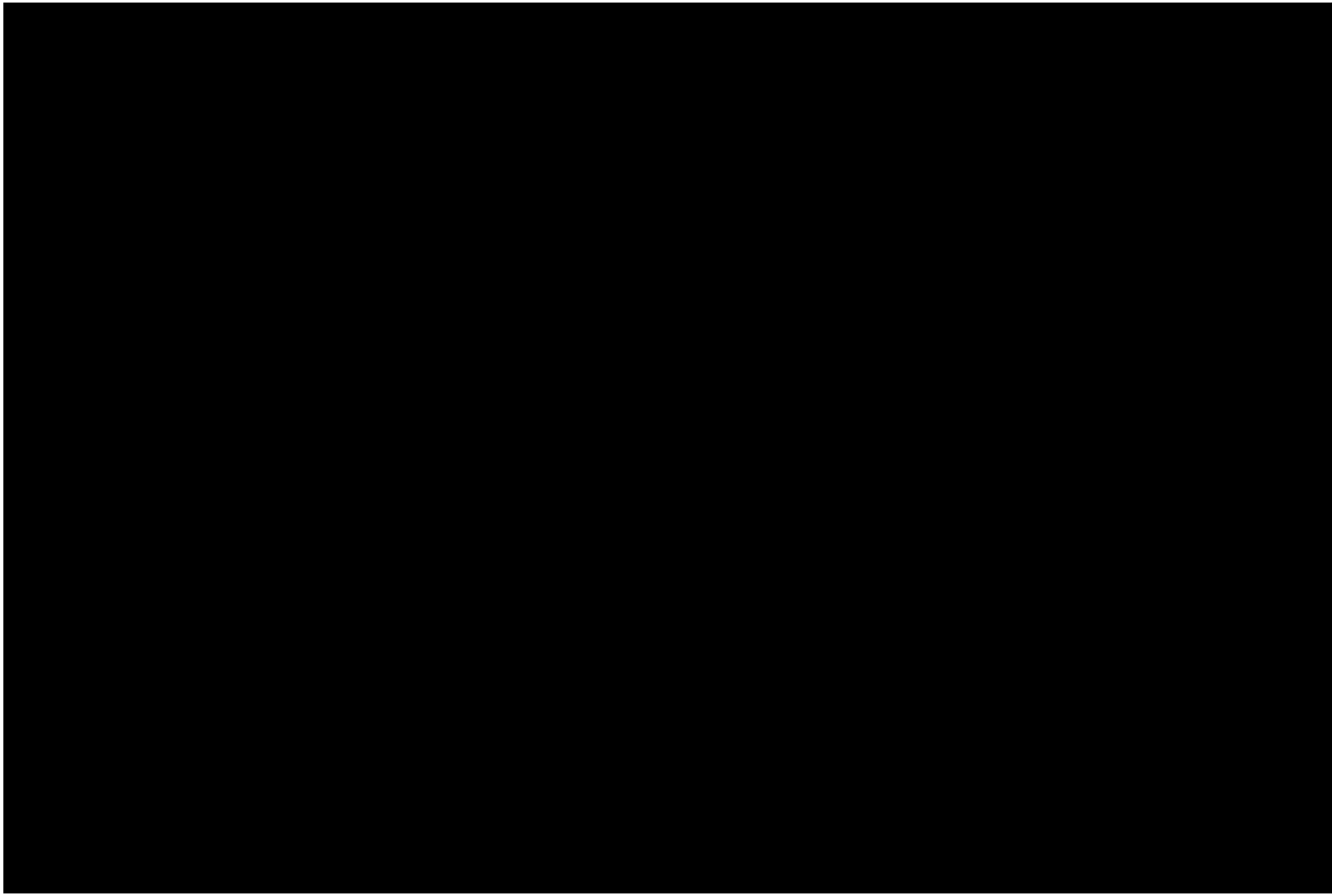
Dark matter

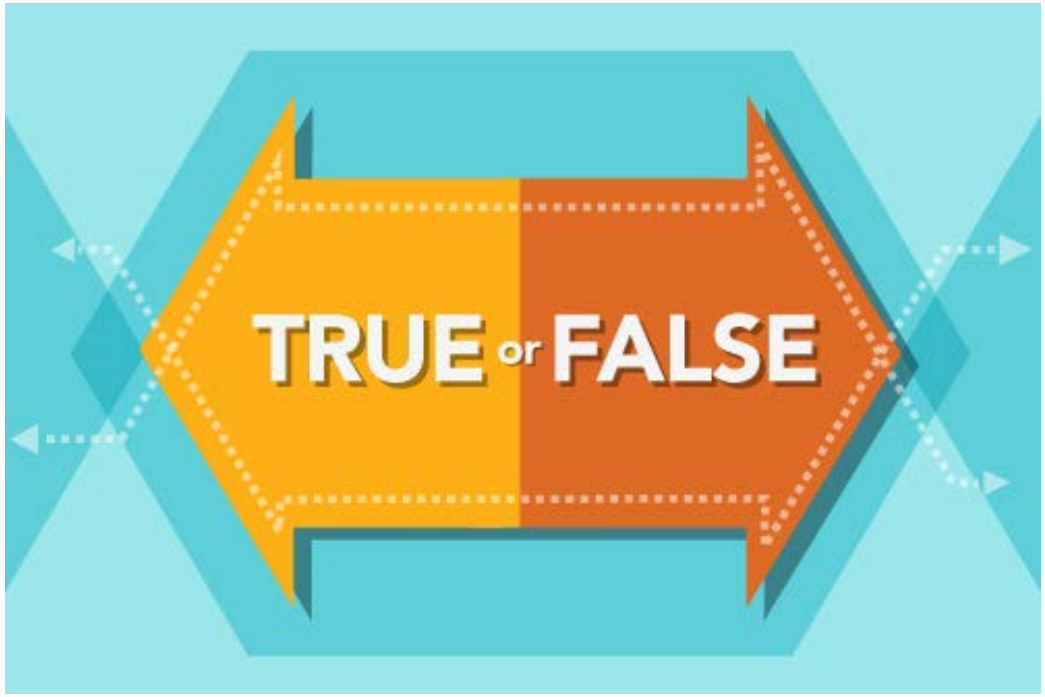
- In is astronomy and cosmology, dark matter is a type of matter hypothesized to account for a lager part of the total mass in the Universe. Dark mater cannot be seen directly with telescopes; evidently it neither emits nor absorbs light or other electromagnetic radiation at any significant level.
- It is not in the form of dark clouds of normal matter, matter made up of particles called baryons which are matter that include protons and neutrons and all the objects composed of the excluding electrons.
- Dark matter is not anti-matter (molecules formed by atoms consisting of antiprotons, antineutrons and positions) because we do not see the unique gamma rays when anti-matter annihilate with matter
- We can rule out large galaxy-sized black holes on the basis of how many gravitational lenses we see.
- High concentration of matter bend light passing near them from objects further away, but we don't see enough tensing events to suggest that such subjects make up the required 25% dark matter contribution.

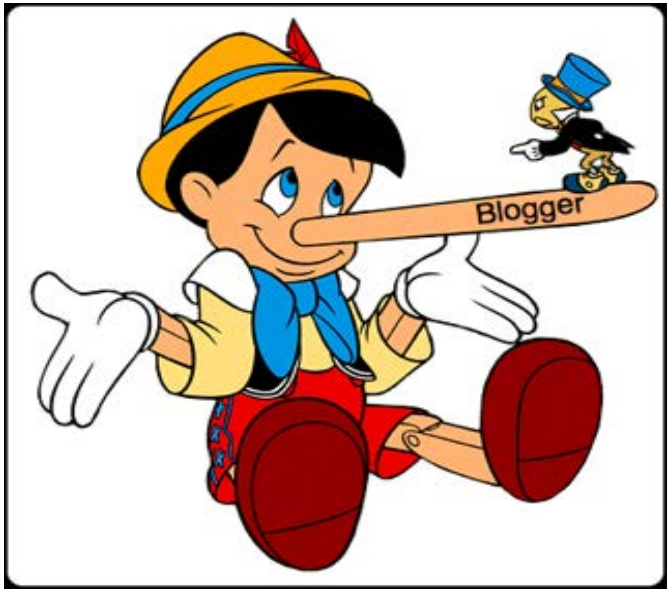
- In the 1970s, an astronomer called Vera Rubin was measuring the velocities of stars in other galaxies and noticed something strange: the stars at the galaxies' edges moved faster than had been predicted. To reconcile her observations with the law of gravity, scientists proposed that there is matter we can't see and called it dark matter.
- Physicists are racing to find subatomic particles that could be the missing dark matter, which is thought to make up about 26% of the energy density of the Universe.
- Image: A computer-generated image of dark matter's potential distribution across millions of light years of space



http://www.youtube.com/watch?v=pHXv-NuSnP0&safe=active




TRUE or FALSE


Blogger

- Dark matter makes up roughly 22 per cent of the matter in the universe.

True

- Dark matter can be seen through telescope since they have developed even more that we can see what is in the sky.

False
it cannot be seen directly by telescopes.

- The first hint of existences of dark matter came in 1925.

FALSE
1933

- Dark matter was discovered by Albert Einstein

FALSE
Vera Rubin

An American astronomer who established the presence of dark matter in galaxies, measures spectra in the 1970s.