



Einstein's Theory Triumphs in Major Challenge!

Description

Albert Einstein created important math in the early 20th century to explain how gravity works in the Universe. This math is still useful today.

A large team of astronomers studied nearly 6 million galaxies. They looked at how these galaxies changed over 11 billion years.

The team found that gravity pulls galaxies together in a pattern called the cosmic web. This pattern matches what Einstein's theory predicts.

These discoveries show that Einstein's ideas are correct, both for large and small scales of the Universe.

The results were shared in three new papers on arXiv, a website for scientific papers.

Cosmologist Pauline Zarrouk said this test helps scientists understand how galaxies form and how gravity works on a grand scale.

The research is based on data from the Dark Energy Spectroscopic Instrument (DESI). This instrument has been mapping the Universe since 2019.

The DESI team hopes to learn more about dark matter and dark energy, which make up most of the Universe.

Vocabulary List:

1. **Cosmic** /'kɒz.mɪk/ (adjective): Relating to the universe or cosmos especially as distinct from the Earth.
2. **Galaxies** /'gæl.ək.si:z/ (noun): Systems of stars stellar remnants interstellar gas dust and dark matter bound together by gravity.
3. **Gravity** /'græv.ɪ.ti/ (noun): The force that attracts a body toward the center of the earth or toward any other physical body having mass.
4. **Instrument** /'ɪn.strə.mənt/ (noun): A tool or device used for a particular purpose especially for scientific work.
5. **Research** /rɪ'sɜ:rtʃ/ (noun): The systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions.
6. **Spectroscopic** /,spek.trə'skɒp.ɪk/ (adjective): Relating to the technique of spectroscopy which involves the study of the interaction between matter and electromagnetic radiation.

Comprehension Questions



Multiple Choice

1. Who created important math in the early 20th century to explain how gravity works in the Universe?
Option: Isaac Newton
Option: Albert Einstein
Option: Galileo Galilei
Option: Stephen Hawking
2. How many galaxies did the team of astronomers study?
Option: 1 million
Option: 6 million
Option: 10 million
Option: 20 million
3. What pattern do the team of astronomers observe in the arrangement of galaxies?
Option: Spiral pattern
Option: Circular pattern
Option: Cosmic web
Option: Random scattering
4. Where were the results of the research shared?
Option: Nature journal
Option: Science magazine
Option: arXiv
Option: National Geographic
5. Who stated that the test helps scientists understand how galaxies form and how gravity works on a grand scale?
Option: Pauline Zarrouk
Option: Albert Einstein
Option: Isaac Newton
Option: Galileo Galilei
6. Which instrument has been used to map the Universe since 2019?
Option: Hubble Space Telescope
Option: Kepler Spacecraft
Option: Dark Energy Spectroscopic Instrument (DESI)
Option: Chandra X-ray Observatory



True-False

7. Albert Einstein created math in the early 20th century to explain gravity.
8. The team of astronomers studied 10 million galaxies.
9. The research is not based on data from the Dark Energy Spectroscopic Instrument (DESI).
10. The cosmic web pattern matches what Einstein's theory predicts.
11. The DESI team hopes to learn more about planetary atmospheres.
12. Dark matter and dark energy make up a small portion of the Universe.

Gap-Fill

15. The research is based on data from the Dark Energy Spectroscopic Instrument (DESI). This instrument has been mapping the Universe since _____.
17. Cosmologist Pauline Zarrouk said this test helps scientists understand how galaxies form and how gravity works on a grand _____.
18. The team found that gravity pulls galaxies together in a pattern called the _____ web.

Answer

Multiple Choice: 1. Albert Einstein 2. 6 million 3. Cosmic web 4. arXiv 5. Pauline Zarrouk 6. Dark Energy Spectroscopic Instrument (DESI)

True-False: 7. True 8. False 9. False 10. True 11. False 12. False

Gap-Fill: 15. 2019 17. scale 18. cosmic

Vocabulary quizzes



Multiple Choice (Select the Correct answer for each question.)

1. Which type of white blood cells are responsible for fighting infections?
Option: Lymphocytes
Option: Neutrophils
Option: Monocytes
Option: Eosinophils

2. What is the application of medical care or therapy for a condition called?
Option: Prevention
Option: Diagnosis
Option: Treatment
Option: Recovery

3. What force keeps stars and planets in orbit around each other?
Option: Magnetism
Option: Friction
Option: Gravity
Option: Repulsion

4. Which eye condition is commonly referred to as nearsightedness?
Option: Hyperopia
Option: Myopia
Option: Astigmatism
Option: Presbyopia

5. What term is used to describe finding or learning about something for the first time?
Option: Research
Option: Discovery
Option: Knowledge
Option: Study

6. What refers to the application of scientific knowledge for practical purposes especially in industry?
Option: Science
Option: Innovation
Option: Technology
Option: Research

Gap-Fill (Fill in the blanks with the correct word from the vocabulary list.)

7. _____ are constantly working on new studies and experiments to advance scientific



knowledge.

8. The _____ provides structural support and protection for the body.
9. A microscope is an essential _____ for studying microscopic organisms.
10. A _____ is an abnormal mass of tissue that may be benign or malignant.
11. The force of _____ pulls objects towards each other.

Matching Sentences (Match each definition to the correct word from the vocabulary list.)

12. The hurricane caused extensive damage and left many people homeless.
13. The surprise party was full of energy and enthusiasm.
14. The old car never broke down and always started on the first try.
15. The theory attempted to explain the origins and nature of the universe.
16. Advancements in this field have transformed the way we communicate and work.

Answer

Multiple Choice: 1. Monocytes 2. Treatment 3. Gravity 4. Myopia 5. Discovery 6. Technology

Gap-Fill: 7. Researchers 8. Skeleton 9. Instrument 10. Tumor 11. Gravity

Matching sentence: 1. Severe 2. Exciting 3. Reliable 4. Cosmic 5. Technology

CATEGORY

1. Health - LEVEL1

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