



Asteroid debris from Jupiter may have pummelled Earth for 150 million years

Description

A large asteroid broke apart about 800 million years ago. This event sent many rocky pieces towards Earth, the Moon, and Mars. Scientists from the Southwest Research Institute studied this issue.

The asteroid collision likely happened in the main asteroid belt. This area is between Mars and Jupiter. It contains millions of asteroids that travel around the Sun. The fragments from the breakup may have caused many impacts on these planets over millions of years.

The researchers think this event can explain the large craters on the Moon. These craters date back to around 800 million years ago. The impacts may have also influenced Earth's climate and the development of life.

The Moon shows many craters because it does not change much over time. Unlike Earth, it has no plate tectonics or weather to erase its surface. Scientists find it hard to study older impacts on Earth because its surface keeps changing.

The study mentions that the Eulalia asteroid family likely caused the breakup. The pieces from this incident spread out, increasing the chance of impacts on different planets, including Earth and Mars.

Vocabulary List:

1. **asteroid** /'æs.tə.rɔɪd/ (noun): a large rock that moves in space
2. **fragments** /'frægmənts/ (noun): small pieces broken from a larger object
3. **collision** /kə'liʒən/ (noun): when two objects hit each other
4. **craters** /'kreɪtərz/ (noun): big round holes on a planet or moon
5. **tectonics** /tek'tɒnɪks/ (noun): movement of large plates under a planet's surface
6. **influenced** /'ɪnfluənst/ (verb): changed or affected something over time

Comprehension Questions

Multiple Choice



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1. How long ago did the asteroid break apart?
 - Option: 500 million years
 - Option: 800 million years
 - Option: 1 billion years
 - Option: 200 million years

 2. Which area is likely where the asteroid collision happened?
 - Option: Near Earth
 - Option: The main asteroid belt
 - Option: Between Venus and Mercury
 - Option: The Kuiper Belt

 3. What do the fragments from the asteroid breakup explain?
 - Option: Formation of new planets
 - Option: Large craters on the Moon
 - Option: Weather patterns on Earth
 - Option: The existence of life in space

 4. Why is it difficult to study older impacts on Earth?
 - Option: They are too small to find
 - Option: Earth's surface keeps changing
 - Option: Earth has no craters
 - Option: There is no data available

 5. Which planets were mentioned as being impacted by the asteroid fragments?
 - Option: Earth and Venus
 - Option: Earth and Mercury
 - Option: Earth and Mars
 - Option: Earth and Jupiter

 6. What characteristic of the Moon helps preserve its craters?
 - Option: It is covered in water
 - Option: It has a thick atmosphere
 - Option: It has no plate tectonics or weather
 - Option: It is constantly renewing its surface

True-False



7. The asteroid collision is believed to have occurred in the asteroid belt between Mars and Jupiter.
8. The fragments from the asteroid breakup only affected Earth.
9. Scientists have an easy time studying older impacts on the Moon.
10. The Eulalia asteroid family is thought to have caused the breakup.
11. Craters on the Moon date back to around 800 million years ago.
12. The breakup of the asteroid has no impact on Earth's climate.

Gap-Fill

13. The asteroid broke apart about _____ million years ago.
14. The asteroid collision likely happened in the _____ asteroid belt.
15. The fragments from the breakup may have caused many impacts on _____ planets.
16. The Moon shows many craters because it does not change much over _____.
17. The pieces from this incident spread out, increasing the chance of _____ on different planets.
18. Scientists find it hard to study older impacts on Earth because it has no _____ tectonics.

Answer

Multiple Choice: 1. 800 million years 2. The main asteroid belt 3. Large craters on the Moon 4. Earth's surface keeps changing 5. Earth and Mars 6. It has no plate tectonics or weather

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

Gap-Fill: 13. 800 14. main 15. different 16. time 17. impacts 18. plate

CATEGORY

1. Sci/Tech - LEVEL1



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2. debris
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