Name: _____ **Date:** _____

Planet Neptune Multiple Choice Questions

Circle the correct answer.

1. An important tool for all scientists is

    a. A telescope
    b. A microscope
    c. A stethoscope
    d. Mathematics

2. Where is Neptune located in the solar system?

    a. First planet from the Sun
    b. Fourth planet from the Sun
    c. Seventh planet from the Sun
    d. Eighth planet from the Sun

3. How was Neptune discovered?

    a. Neptune was predicted by mathematical calculations
    b. Neptune was observed by telescopes
    c. Both a. and b. above
    d. None of the above

4. The surface of Neptune

    a. Is solid
    b. Is composed of hydrogen, helium, water, and silicates
    c. Is composed of hydrogen, water, and carbon dioxide
    d. None of the above

5. When viewed from space Neptune appears

    a. Blue
    b. Tan
    c. Black
    d. Green

6. Astronomers believe that Triton was originally a

    a. Star
    b. Moon of Uranus
    c. Comet
    d. Planet

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Planet Neptune Short Answer Questions

1. Explain the role of mathematics in the discovery of planet Neptune.

2. Do some research and write a short report about English astronomer John C. Adams and his relationship with Sir George B. Airy, the Astronomer Royal of England.

3. Do some research and write a short report about French mathematician Urbain J. J. Leverrier and his relationship with Johann G. Galle, the director of the Urania Observatory in Berlin, Germany.

4. The surface of Neptune is composed of hydrogen, helium, water, and silicates. Describe which of these components are solid, liquid or gas. If you don't know the answer, look it up.

5. Do some research and write a short report about the Hubble Space Telescope.

6. Do some research and write a short report about Neptune's rings. Be sure to explain why Neptune's outer ring is unique in the solar system.

7. The Earth and Neptune are both blue planets when viewed from space. Locate pictures of both planets. Use descriptive language to describe how these planets look similar and different.

Planet Neptune Answer Key

Multiple Choice

1. d.
2. d.
3. c.
4. b.
5. a.
6. c.

Short Answer

1. In the 1840s an English astronomer, John C. Adams, and a French mathematician, Urbain J. J. Leverrier, were working separately on the same problem. The problem was that the orbit that Uranus was in did not match the orbit it should be taking if it was the last planet in the solar system. These researchers did the mathematical calculations that predicted the size and location of a new planet that would exert gravity on Uranus to give it the orbit that astronomers had observed. When astronomers looked in the location predicted by the mathematics they discovered Neptune in 1846.

2. When John C. Adams sent his prediction of the existence of Neptune to Sir George B. Airy, the Astronomer Royal of England, Airy did nothing with the prediction.

3. When French mathematician Urbain J. J. Leverrier sent his prediction of the existence of Neptune to Johann G. Galle, the director of the Urania Observatory in Berlin, Germany, Galle searched the sky in the predicted location and discovered the new planet Neptune.

4. Hydrogen and helium are gases; water is a liquid; and silicates are solids.

5. Individual response

6. Individual response

7. Individual response