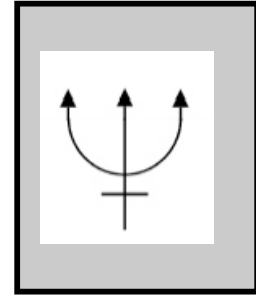
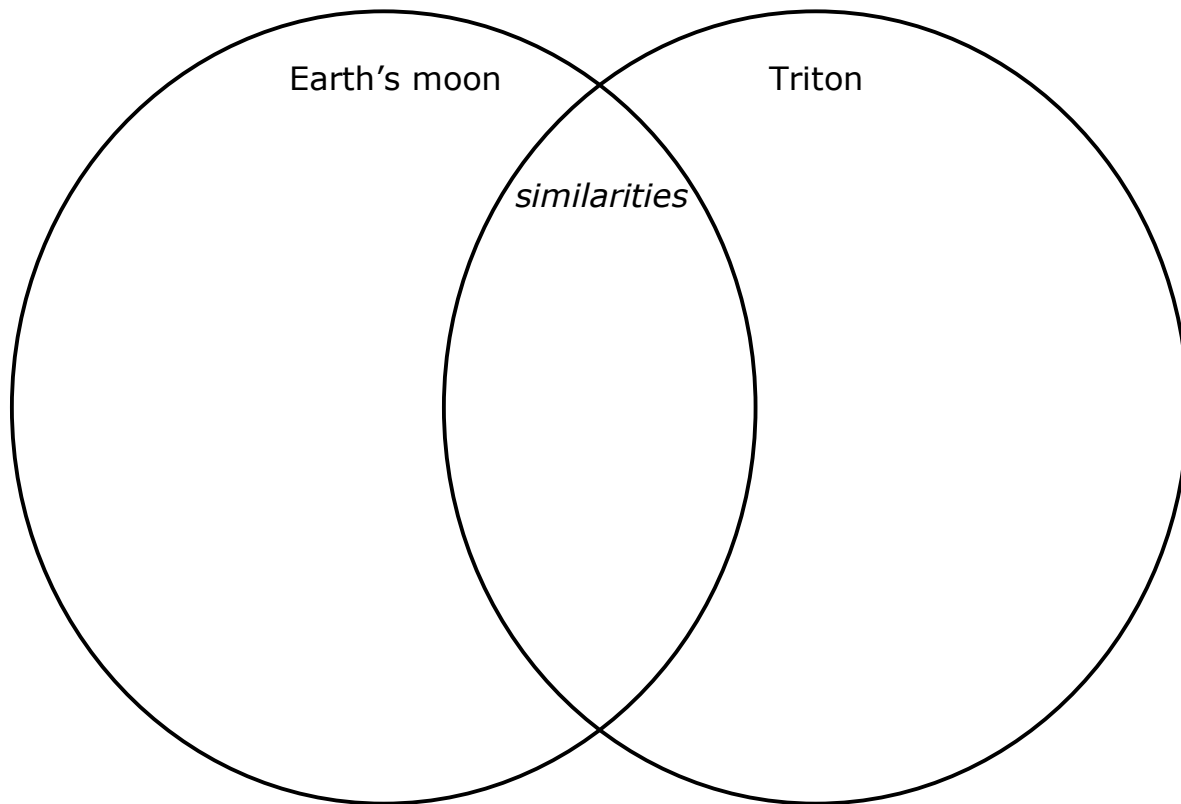


Station # 8 Neptune

The planet Neptune is located 4500 million or 4.5 billion km from the Sun. Its nearest neighbor planet is Pluto, which is 1400 million miles away. Uranus is 1630 million miles away.



Triton is one of Neptune's 13 moons and is known as one of the strangest in Our Solar system. As you read the Neptune sign (or the accompanying page) think about ways that Triton and Earth's moon are alike and ways that they are different. Record your notes in the Venn diagram provided.



Round Robin:



In a group of four, each person will take a turn sharing one similarity or difference between Venus and Earth until all ideas have been shared.

If you think your group members had interesting information that you would like to add to your Venn diagram, please do so.



Neptune Station # 8

Surprising...

- **Discovery** – Neptune was the first planet discovered by mathematics. Irregularities in Uranus' orbit suggested a more distant object was tugging on it. Calculations were made, and telescopes pointed to the predicted spot. Within hours, Neptune was discovered! Familiarity – Neptune could be Uranus' twin. Their diameter, color, atmosphere, and internal make-up are almost identical.
- **Orbit** – Discovered in 1846, Neptune will not return to its discovery position until 2011. A section of Pluto's orbit crosses inside the orbit of Neptune, and so for 20 years of Pluto's 248-year orbit, Neptune becomes the farthest planet. This last occurred between 1979 and 1999, and will not occur again until 2226.
- **Winds** – The Great Dark Spot, the windiest place in the solar system, is an earth-sized cyclone, generating winds up to 1,200 MPH!
- **Heat** – Neptune gives off more heat than it receives from the Sun. As a result its atmosphere is as warm as Uranus' even though Neptune is much farther from the Sun.

Not Surprising – Neptune is appropriately named for the god of the sea, as its interior consists largely of frozen water.

Neptune Interior labels

Outer envelope - **Hydrogen, helium** and **methane** gasses.

Mantle - Rich in **water, methane,** and **ammonia** under high temperature and pressure.

Core - **Rock** and **ice** equal to about one Earth mass.

(Neptune information continued on the next page)



Neptune's Moons

Triton, the largest of Neptune's 13 known moons is one of the strangest in the solar system.

Triton is one of only three moons in the solar system with an atmosphere. (Jupiter's, Io and Saturn's, Titan are the other two).

Triton is colder than any other measured object in the solar system, only 38° C above absolute zero. Yet, despite its cold temperature, Triton has active geysers, which spew out gaseous nitrogen.

Triton is the only large satellite in the solar system to circle a planet in a direction opposite to the rotation of the planet. This suggests that it was a captured object.

Triton

Neptune's largest moon is one of only three moons with an atmosphere. At -445° F, it is the coldest known body in the solar system.

Astronomers believe Triton is a captured object because it orbits Neptune in a backward direction.

Neptune dark spot and scooter caption

This photograph of Neptune taken by Voyager 2 shows The Great Dark Spot accompanied by bright white clouds. To the south is the bright feature nicknamed, "Scooter." Further south is "Dark Spot 2" which has a bright core. All these features are rapidly moving storms in Neptune's upper atmosphere.

