

Name: _____

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Solar System: Outer Planets

Exploring Uranus & Neptune

Directions: These last outer planets wrap up our tour of the *Gas Giants* and our unit on The Solar System. To recap: all gas giants are failed stars, as they're composed mostly of the same basic elements as stars but didn't gain enough mass during planet formation! More on this soon... (No Wikipedia or non-scientific based websites when searching the answers, besides with the links provided.)

Resources needed:

- <https://science.nasa.gov/uranus/>
- <https://science.nasa.gov/neptune/>
- <https://science.nasa.gov/uranus/moons/miranda/>
- <https://eyes.nasa.gov/apps/solar-system/#/home>
- <https://pages.uoregon.edu/jschombe/ast121/lectures/lec20.html>
- <https://science.nasa.gov/solar-system/planets/neptune/why-uranus-and-neptune-are-different-colors/>
- <https://science.nasa.gov/missions/hubble/dark-storm-on-neptune-reverses-direction-possibly-shedding-a-fragment/>

1. Uranus	
Position from the Sun: [OBJ]	
Distance from the Sun:	
Orbital period (in years): [OBJ]	
Rotational period (in days): [OBJ]	
How many Moons, list the major ones:	

2. Neptune	
Position from the Sun: [OBJ]	
Distance from the Sun:	
Orbital period (in years): [OBJ]	
Rotational period (in days): [OBJ]	
How many Moons, list the major ones:	

- Uranus and Neptune have a visible blue surface. Describe what is occurring in their atmosphere that causes their visibly blue surface; setting them apart from the other Gas Giants.
- What term do astronomers use to distinguish Uranus and Neptune from the other two Gas Giants?
- Uranus has a very distinct rotation from any other planet, as it orbits the Sun on its side. What is the offset degree of this planet's tilt and what do scientists believe causes this unique characteristic?

6. **This is a two-part question.** (They are not dependent on one another, so you can still get points if you get one wrong.)
- What is the name of the only spacecraft that has ever been sent out to Neptune? What was its mission, if any?
 - Expand on the knowledge you have garnered on the money, technology, and laws in place to send spacecraft out to space by NASA or any other space agency. **Compared to Jupiter and Saturn, why do you think there have not been more missions to Uranus, Neptune, or their moons?**
7. [Miranda](#) is one of Uranus' moons. For the most part, all of this planet's moons have similar structures. **List two characteristics of this moon. Why do you think not all parts of the moon are displayed?** (The linked website displays the 3-D visualized image of the moon.)
8. Is Triton a moon of Uranus or Neptune? What characteristic differs Triton from all other moons in the entire Solar System? List two other characteristics of this moon apart from your previous response. (Use [NASA: Eyes on the Solar System](#) simulation for further guidance.)
9. The Hubble Space Telescope (HST) took this image of Neptune. What is the name given to the darker feature seen on Neptune's surface, and how is it similar or different from Jupiter's Great Red Storm (GRS)?

