Fun Facts:

**NEPTUNE**

* **History:**
  + First planet discovered not with the naked eye or even with a telescope. It was discovered with math.
  + December 28, 1612 and January 27, 1613, Galileo actually saw Neptune through his telescope and recorded it’s location as a point of light…but he didn’t know what it was. He thought it was just a star. Later astronomers have identified that point of light as being where Neptune would’ve been.
  + 1821, French astronomer Alexis Bouvard studying Uranus made very precise calculations of Uranus’ orbit…but there were problems. Uranus strayed from where it should have been. Something was pulling on it. In the 1840s, England’s John Couch Adams & France’s Urbain Le Verrier worked out the math separately and began hunting it. On September 23, 1846, Johann Galle (a German) found it where those two guys said it would be.
  + Neptune is Roman god of the sea…corresponding to Poseidon in Greek. In Chinese, Japanese & Korean, they called it the “Sea King Star.” In Greek, they called it “Poseidon.” In Hebrew, they call it “Rahab”, the name of a biblical sea monster.
* **Explorations:**
  + Voyager 2 – arrived in 1989, 20 watts sent a message & images back to Earth…took 4 hrs, 6 minutes traveling at the speed of light to reach Earth
* **Facts, Figures & Characteristics:**
  + 4th largest planet
  + Furthest planet from the Sun
  + Takes 165 years to orbit the Sun
  + 30x farther from the Sun than the Earth
  + Sun shines 900x brighter on Earth than on Neptune
  + 2.8 billion miles away from Earth
  + Diameter 4x Earth
  + Mass is 17x Earth
  + Axis is tilted 28⁰ (Earth is tilted at 23⁰)…so it has subtle seasons, each lasting more than 41 years
  + 100,000x the atmospheric pressure of Earth
  + Cloud top temperature -360⁰ F
  + Internal temperature 9,200⁰ F
  + Fastest winds in the solar system at 1,300 mph
  + 1 day on Neptune averages 16 hours…different parts of the planet rotate at different speeds:
    - At equator, it takes 18 hours for a rotation
    - At the poles, it takes 12 hours for a rotation
  + 14 moons
  + 5 thin but distinct rings
  + Similar to Uranus in chemistry, mass & appearance
    - 80% hydrogen, 19% helium
    - 1% trace chemicals, including methane…which makes it azure blue
    - 30,000 miles wide (Uranus is 31,000 miles wide)
    - Neptune is 1 billion miles further than Uranus
* **Rings:**
  + First spotted in 1968 by an American from Villanova University, Neptune has 5 distinct rings, named after astronomers who studied Neptune and contributed greatly to what we know about it. The rings from innermost to outermost are called: Galle, Le Verrier, Lassell, Arago and Adams.
  + The rings range in width from 60 miles to 3000 miles.
  + The Adams ring is unique in that it contains parts that extremely faint and 5 brighter areas that look like arcs. These arcs are remarkably consistent as they circle the planet and are called: Fraternité, Égalité, Égalité, Liberté, and Courage.
  + The rings are reddish in color and made mostly of micrometer-sized dust particles.
* **Moons:**
  + 14 moons
  + 12 are pretty small, most less than 100 miles across
  + Triton was discovered in 1846, just after Neptune itself
    - 1674 miles in diameter (3/4 size of our own Moon)
    - Covered in ice & would be 6x brighter than our Moon if it orbited Earth
    - Temperature averages about -390 degrees…coldest place in the known solar system
    - White face has dark streaks…perhaps geysers or volcanoes or little explosions from the Sun’s distant heat

*\*Most of this information is taken from the “It’s Your Universe” podcast, hosted by Jeffery Kluger.*