Fun Facts:

**VENUS**

* **History:**
  + Ancient civilizations thought it was 2 different stars: a Morning Star and an Evening Star.
    - Greeks called it:
      * Hesperus (son of the dawn goddess) in the evening
      * Phosphorus (light bringer) in the morning
    - Romans called it:
      * Lucifer (light bringer) in the morning
      * Vesper (things of the evening) in the evening
  + Greeks were first to figure out that it was the same thing.
  + Named after Roman goddess of love and beauty.
* **Explorations:**
  + It was the first planet humans visited. Mariner 2 (USA) flew by in 1962 and took some pictures.
  + Russians have sent 32 different spacecraft since 1961…none have been easy.
    - First landing attempt ran out of batteries before it landed because it took so long to descend through thick atmosphere.
    - Later landing attempts only got within 12 miles of the surface before the dense atmosphere crushed them.
    - Finally, they made a craft that released parachutes at 31 miles above surface and just dropped the vehicle and let it slowly descend through atmosphere like a marble through house paint.
    - This was the first planet humans landed on. Russians successfully landed *Venera 7* in 1970.
    - *Venera 9* & *10* were the first missions to send back photos of Venus’ surface 1975. They were black and white.
    - In 1982, *Venera 13* & *14* were the first landers to send back color photos of the surface.
  + Magellan (USA) arrived in 1990, orbiting & mapping Venus.
* **Facts, Figures & Characteristics:**
  + Similar to Earth in size, mass and composition…sometimes called our “sister planet.”
    - Diameter: 7513 miles (Earth is 7916 miles)
    - Magnetic field is far less, however.
  + 67 million miles from the Sun (Earth is 93 million)
    - It is actually within the Goldilocks Zone where liquid water can exist based on distance from Sun.
  + Orbit: 224 days
  + Rotation: 1 Venusian day = 243 Earth days (19 days longer than a Venusian year)
    - Venus spins clockwise…all other planets spin counterclockwise.
    - Sun rises in west, sets in the east.
    - This might be partly due to Sun’s gravity pulling on thick atmosphere, slowing the spin and even flipping it.
    - Might also be due to come kind of collision.
    - Venus’ spin is also super slow…only 4 mph. (Earth spins at 1040 mph.)
  + Surface shows evidence of active volcanos…over 167 very large volcanos larger that Hawaii’s Big Island.
  + Atmosphere:
    - For first 600 million years of Venus’ existence, it could have had as much water as Earth.
    - Through solar expansion & solar flares of a young Sun, Venus’ oceans were boiled away. With the water gone, the carbon dioxide filled the atmosphere creating a massive greenhouse effect.
    - With no water, there are no plate tectonics. With no plate tectonics, the crust is rigid, so carbon stays on the surface. (On Earth, the tectonics carry carbon back down into the earth.) The carbon in the rocks is baked out, releasing it to the atmosphere making it even worse.
    - Atmosphere is 96% carbon dioxide, 3.5% nitrogen & the rest is other gasses.
    - Atmosphere is 93x more dense than Earth
    - Pressure is 92x Earth
      * On Earth, sea level pressure is about 15 lbs/square inch
      * On Venus, pressure is 1300 lbs/square inch
      * This is the same amount of pressure as 3,000 feet underwater.
    - Clouds are made of sulfuric acid.
    - There is evidence of lightning & thunder.
    - Sunlight can’t fully penetrate such dense atmosphere…only about 20% of sunlight hits the ground, so it is in a permanent twilight
    - Winds can hardly blow…only about 2-3 mph at ground level…but it is so dense, this slow thick air can move rocks and stone
    - Surface temp: average of 870⁰ F
      * Hottest planet in solar system
      * Enough to melt lead, magnesium, silver & zinc
      * Hotter than temperatures we use to sterilize things.
  + Venus’ clouds are very different than the surface. Perhaps life evolved on Venus and adapted to the atmosphere or clouds.
* **Other Notes:**
  + Visible phases like the Moon, waxing, waning, crescents & halves.
    - Galileo was first to discover phases & helped bolster his argument for other planets orbiting Sun rather than the Earth.
  + Has been mistaken for UFO by lots of people, including:
    - January 6, 1969, Jimmy Carter & friends spotted a UFO in the sky. They reported it…turns out it was Venus.
  + Appears at 5 different angles in the sky, known as the Venus Pentagram

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