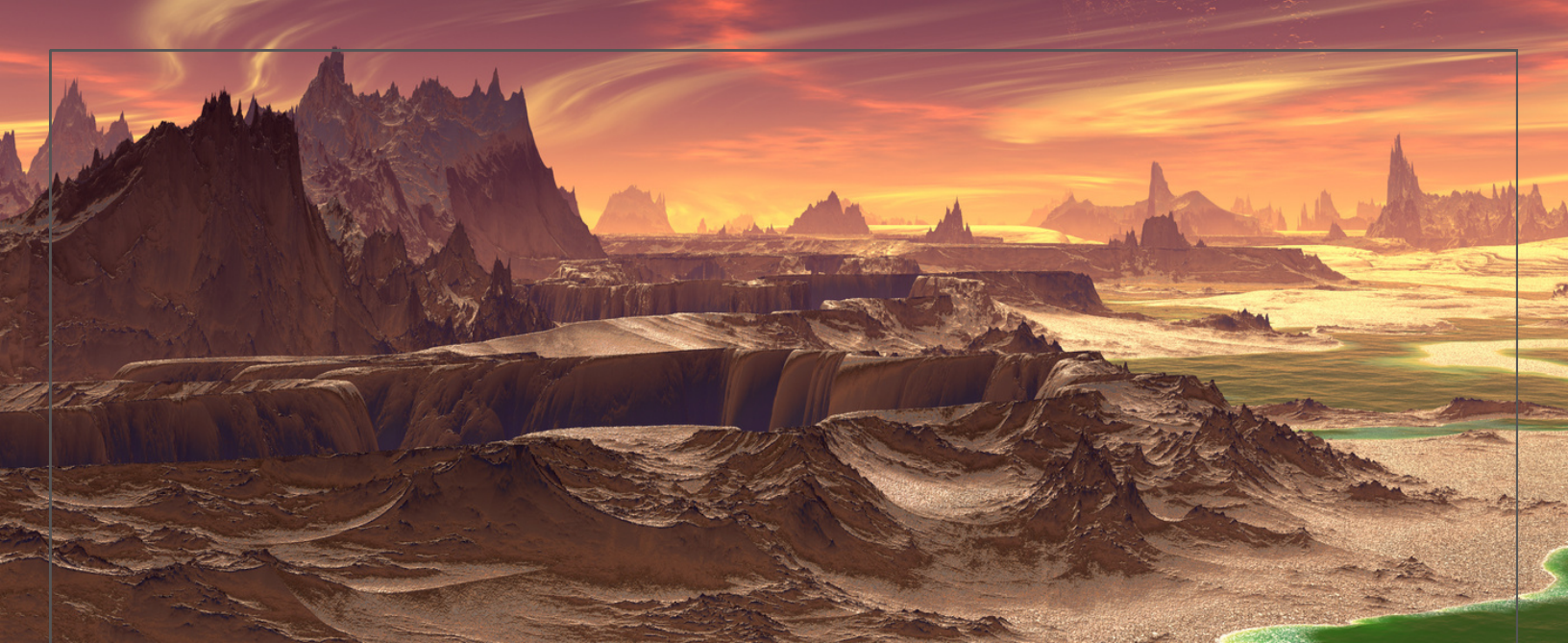


# ASTROBIOLOGY

The science and artistry of life

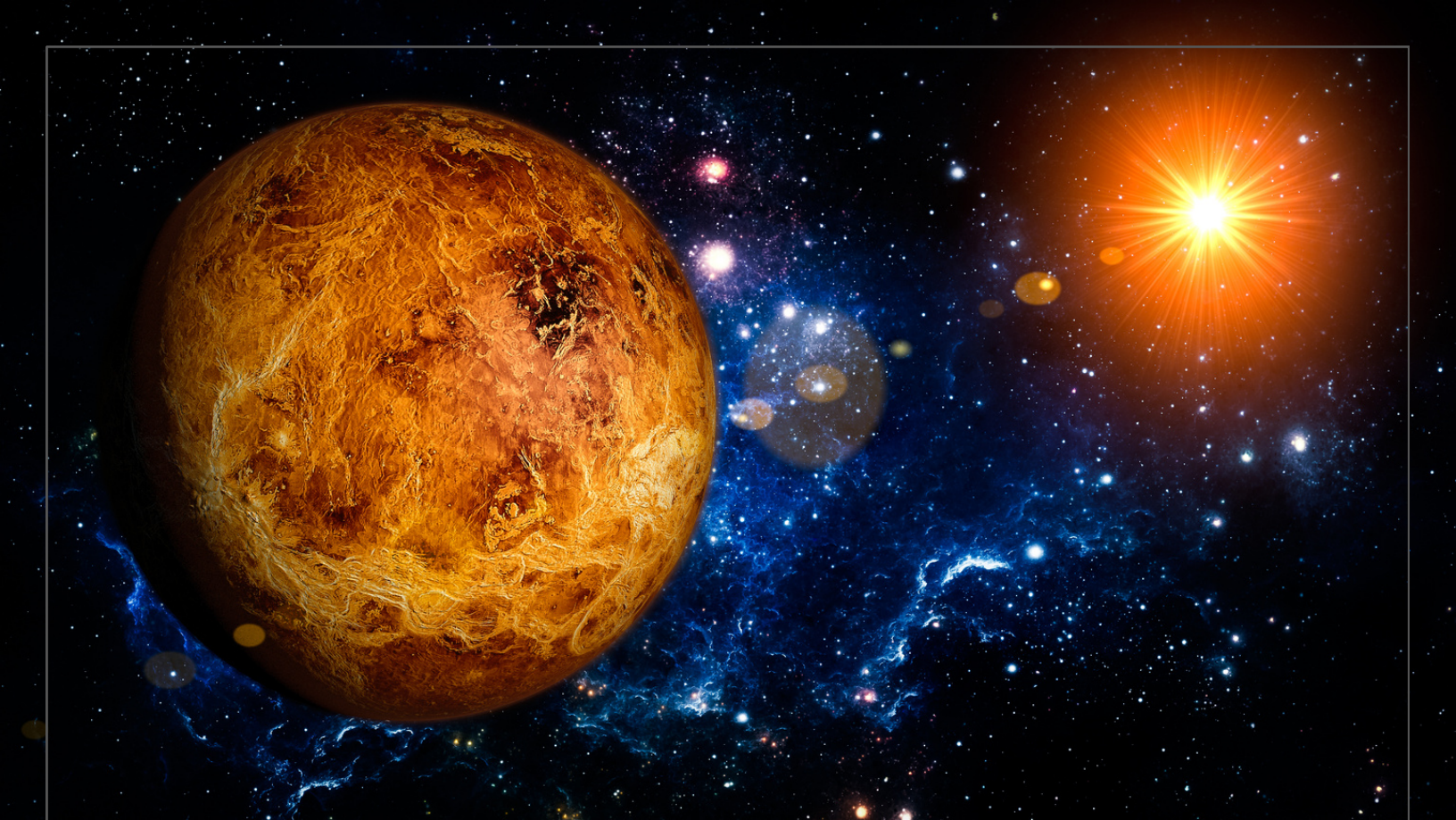




# THINGS TO THINK ABOUT

**Anyone can make up a creature, but can you design creatures that will thrive in the described environments of each fictitious planet?**

- **Size** | is it large or small?
- **Skin** | type, color, composition, and covering (e.g., fur)
- **Eyes** | quantity, color, location, features and adaptations
- **Appendages** | quantity, size, features and adaptations
- **Mouth** | size, location, features and adaptations
- **Diet** | what does the species eat?
- **Defenses** | How does the species defend itself?
- **Habitat** | Where does the species live and sleep?
- **Wakefulness** | Is it diurnal, nocturnal, crepuscular, or cathemeral?
- **Social** | Does the species congregate, or are members solitary?
- **Food Web** | Where does the species exist within the food web?
- **Threats** | What threats does the species need to survive?
- **Lifespan** | How long does the species live, on average?
- **Development** | What are the developmental stages of the species?
- **Skeleton** | Does the species have a skeleton? If so, is it an endoskeleton, or an exoskeleton?



# AZURION

Gravity: 3 times that of Earth

Temperature range: 283° - 343° Kelvin

Precipitation: None

Length of day: 96 Earth hours

Life on Azurion is hard, with punishing temperatures and violent sandstorms. How would life survive in such a desolate wasteland? What adaptations make life possible, and what would the creatures look like? Where would they live? What would they eat? How would they protect themselves?

**Work to bring the creatures of Azurion to life!**





# DRAKULON

Gravity: Half that of Earth

Temperature range: 260° - 310° Kelvin

Precipitation: Trace amounts as dew

Length of day: 10 earth hours

A protective atmosphere regulates the temperatures on Drakulon, but the environment is stark due to the scarcity of water. What type of life would flourish despite the challenges? What would it look like, and what adaptations would be necessary to thrive?

**Work to bring the creatures of Drakulon to life!**





# XANDORA

Gravity: Half that of Earth

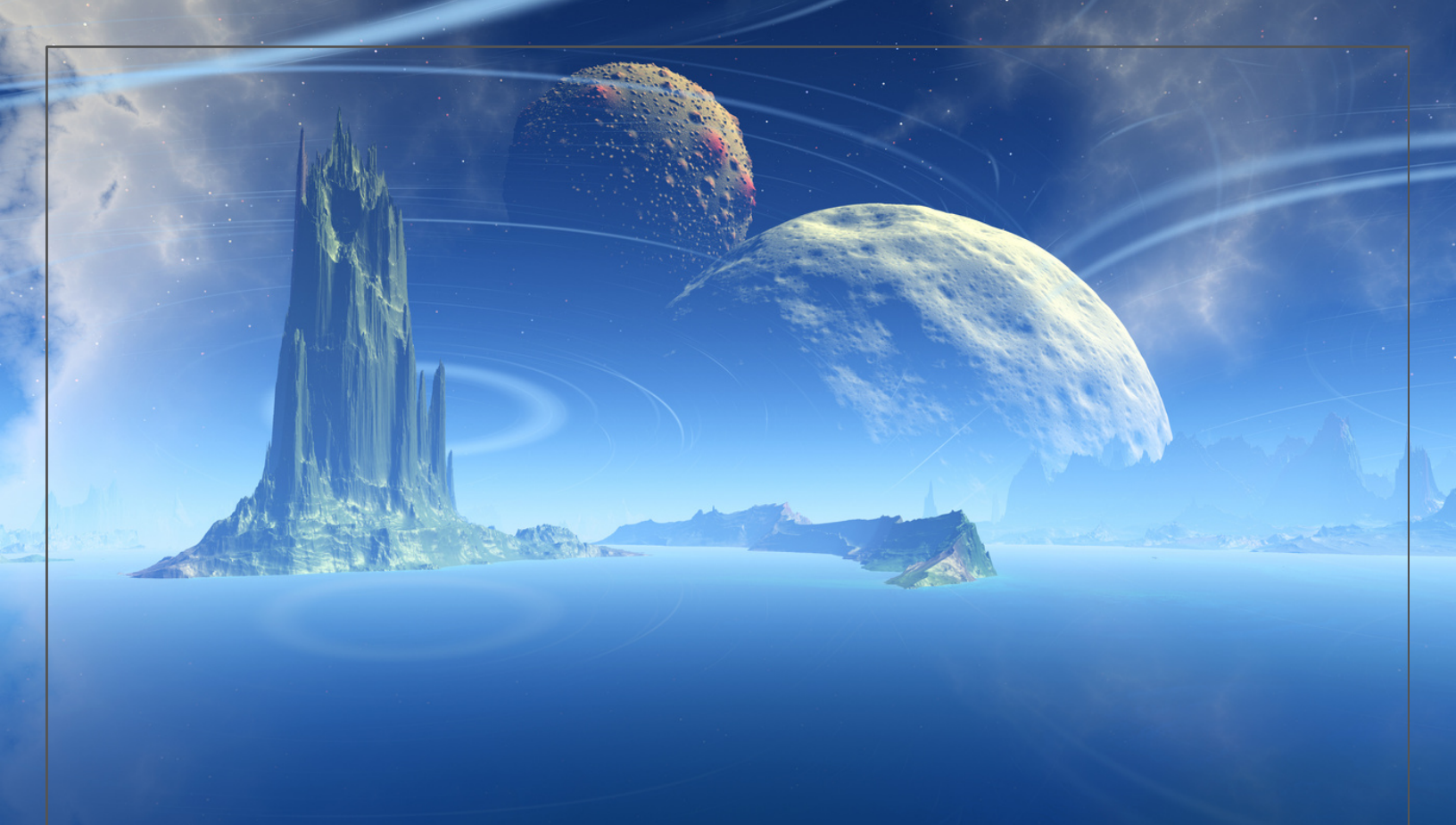
Temperature range: 260° - 290° Kelvin

Precipitation: 91 cm per annum

Length of day: 12 earth hours

The proximity of nearby moons creates large tidal variations on Xandora, with high and low tide shifting by up to 30 feet. The planet is covered in native flora and fauna, but what does the species you are thinking about look like? What has the presence of liquid water meant for the creatures of Xandora?

**Work to bring the creatures of Xandora to life!**



# CASPIALUS

Gravity: Two times that of Earth

Temperature range: 253° - 290° Kelvin

Precipitation: 91 cm per annum

Length of day: 42 earth hours

Caspialus is a water world with catastrophic tidal changes due to the presence of large proximate moons. Richly full of life above and below the surface, Caspialus features extremely large predators lurking in its depths, and a competitive ecosystem where every species needs to adapt to survive.

**Work together to bring the creatures of Xandora to life!**





# BONUS CHALLENGE

Gravity: 3/4 of Earth

Temperature range: 300° - 365° Kelvin

Precipitation: 322 cm per annum

Length of day: 19 earth hours

Atmosphere: Breathable air

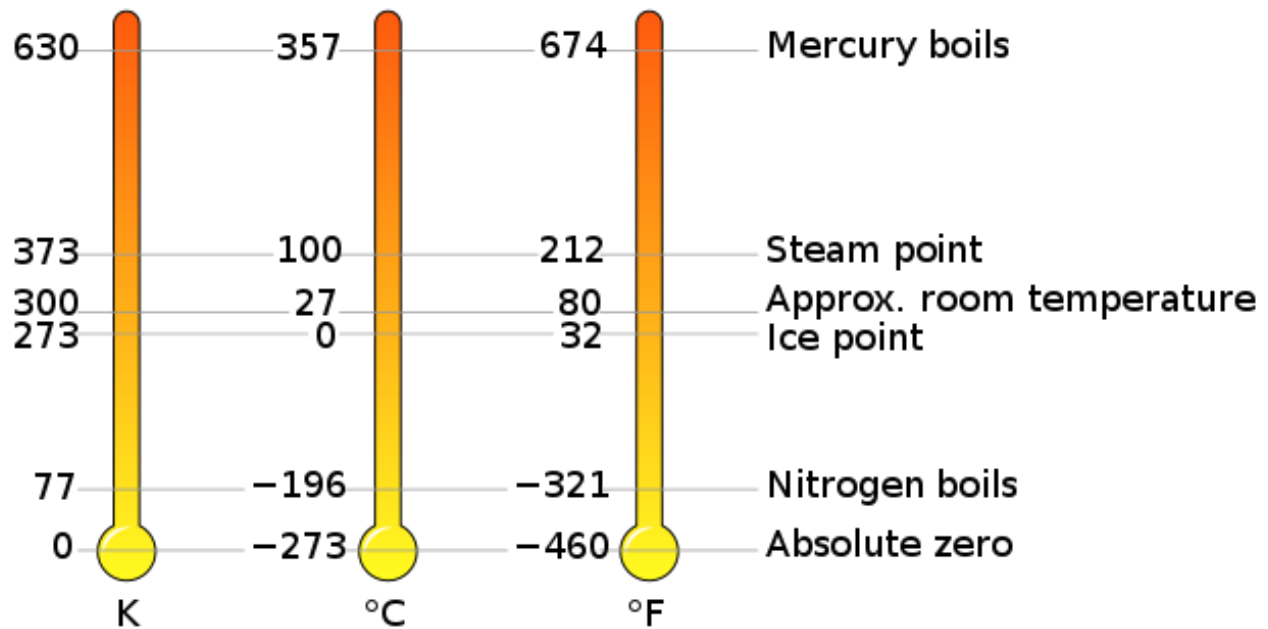
Similar to Xandora, the planet Alorixa has substantial tidal variances resulting from its proximate moon. You have arrived for a ten-year scientific exploration with little knowledge of the planet's resident lifeforms and weather patterns.

**Step 1.** Design the residential compound that you plan to live in during your stay on Alorixa.

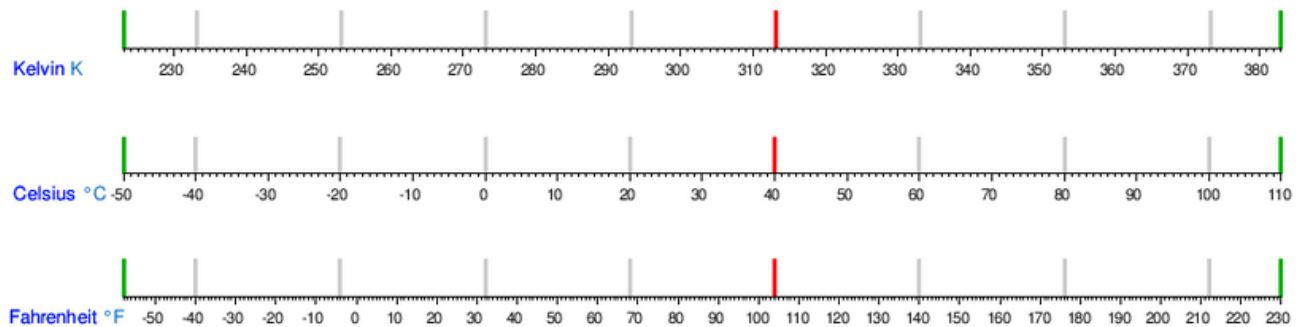
**Step 2.** Create five what-if scenarios.

**Step 3.** See if your residence would survive your partner's what-if scenarios, and whether their residence would survive yours!

# KELVIN CONVERSIONS



SOURCE: [Mike Run](#), 24 September 2019 (Wikipedia Creative Commons License)



SOURCE: Wikipedia ([LINK](#))





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