

Hey there, fellow planet creators! 🚀 Are you ready to embark on an epic cosmic adventure? In this level, you'll get to design the structure of your very own exoplanet! But before you unleash your creativity, let's dive into some of the incredible types of exoplanets that exist in our universe. Get inspired by these fascinating worlds:

### **Terrestrial Planets**

These rocky worlds are composed mainly of rock and metal, similar to Earth or Mars. With solid surfaces, they may feature mountains, valleys, or even oceans, depending on their atmosphere and distance from their star.

### **Super-Earths**

Larger than Earth but smaller than Neptune, these planets may be rocky or have thick atmospheres. Their diverse compositions could offer a range of environments—some possibly suitable for life or even completely alien ecosystems!

### **Neptune-like Planets**

Similar in size to Neptune, these gas giants have thick atmospheres of hydrogen and helium. Beneath the clouds, they might hide oceans or layers of ice, making them both intriguing and enigmatic. What wonders lie beneath those swirling gases?

### **Gas Giants**

Massive planets composed mostly of hydrogen and helium, like Jupiter or Saturn. They lack a solid surface and often feature swirling storms and powerful magnetic fields. Some orbit close to their stars, creating extreme temperatures and dazzling atmospheric phenomena!

### **Unknown Planets**

Mysterious worlds whose full characteristics remain undiscovered. They might be newly detected planets with incomplete data, leaving their true nature up for discovery. Imagine uncovering the secrets of such an enigmatic planet!

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So, which type of exoplanet sparks your imagination? It's time to dream big and create a world that's uniquely yours. Let your creativity shine, and let's see what amazing planet you bring to life! ✨

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Let's have some fun with these multiple-choice questions based on the exciting exoplanet types we've just explored. Test your planetary knowledge and let your imagination soar! 🌌

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1 or 2 of the questions from the list of questions.

Hope you enjoyed this cosmic quiz! Which exoplanet adventure would you choose next? 🚀

Give it a name

Dropdown for Types

Select the colour

Use sliders to adjust the variables

Watch them live on the simulation

Lets see how many existing exoplanets match with \*given name\*

Save and continue!

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1. If you wanted to build a space vacation home with mountain views and perhaps a beachfront, which type of exoplanet should you choose?

- A) Gas Giant
- B) Neptune-like Planet
- C) Terrestrial Planet
- D) Unknown Planet

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2. You're an intergalactic biologist searching for a planet larger than Earth but smaller than Neptune, possibly teeming with exotic life forms. Which planet type are you heading to?

- A) Terrestrial Planet
- B) Super-Earth

- C) Gas Giant
- D) Neptune-like Planet

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3. As a daring space explorer craving the thrill of discovery, which mysterious type of exoplanet with incomplete data would you set your sights on?

- A) Neptune-like Planet
- B) Gas Giant
- C) Terrestrial Planet
- D) Unknown Planet

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4. If you dream of ice skating beneath swirling clouds of hydrogen and helium, on a planet that might hide oceans or layers of ice, which exoplanet would be your destination?

- A) Gas Giant
- B) Neptune-like Planet
- C) Super-Earth
- D) Terrestrial Planet

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5. You're producing a cosmic weather documentary and need a planet with massive storms and powerful magnetic fields, but no solid ground. Which type of exoplanet fits the bill?

- A) Super-Earth
- B) Terrestrial Planet
- C) Gas Giant
- D) Unknown Planet

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<https://www.solarsystemscope.com/textures/>

## Level 1

1. Type
2. Radius

## Level 2

- 1.

## Assign a Host Star to Your Planet! ★

Apart from further honing your planet as per your interest, in this level, you will assign a host star to your planet.

A host star for an exoplanet is the star around which the exoplanet orbits. Understanding the characteristics of these stars is crucial for studying the properties and potential habitability of the planets they host.

And the parameters that you will play with in this level are given below. Ensure that you understand what role each of these will play in the designing of your planet.

### Radius of the Star

How big is your star?

The radius of the host star is crucial for calculating the radius of an exoplanet using the transit method. The radius of also helps in determining the location of the planet's habitable zone—the region where conditions may allow for liquid water to exist on orbiting planets.

### Temperature of the Star

What is the surface temperature of your star?

A hotter star may emit more light and heat, impacting the climate of your planet. This temperature will also determine the types of planets that can form and their potential habitability.

### Distance from the Star

How far is your planet from its host star?

This distance is crucial for determining the planet's climate and whether liquid water can exist. Is it in the habitable zone, too hot, or too cold?

### Orbital Period

How long does it take your planet to complete one orbit around its star?

This period will influence seasonal changes and the length of a year on your planet, shaping its environment and possible life forms.

### Eccentricity

Is your planet's orbit circular or elliptical? The eccentricity of the orbit can affect climate stability and temperature variations throughout the year. A more eccentric orbit might lead to dramatic seasonal changes!

Know how each of these parameters affect your planet's characteristics before moving on.