

ACTIVITY 13

MY VERY OWN ALIEN!



Level:
Grades 1-6

Preparation:
intermediate

Number of students:
groups of 2-4

Length:
30 min. +

Place:
classroom

Type of activity:
**do-it-yourself, drawing,
creative activity**

BRIEF DESCRIPTION

Students design an extraterrestrial (through a drawing or craft) and reflect on how its characteristics are adapted to the conditions of the planet where it lives.

MATERIALS

- colouring pencils
- paper

Eco-friendly tip: For DIY, use materials that often end up in the recycling bin or garbage. Don't hesitate to ask parents to provide certain items in advance. Here are a few ideas:

- plastic containers (yogurt, cottage cheese, shampoo, etc.)
- egg cartons
- styrofoam balls
- absorbent cotton
- scrap paper or cardboard
- scraps of fabric, such as old clothes (clean!)
- tissue paper
- pipe cleaners
- wooden skewers
- gouache
- glue/tape
- hot glue gun



PREAMBLE

Astronomers are always discovering new exoplanets, i.e. planets orbiting other stars (other than our Sun). Scientists are discovering that there are all kinds of planets, all with very different characteristics (atmosphere, mass, distance from their star, etc.). What might an alien living on these distant worlds be like?

In this activity, students can be imaginative as they create an extraterrestrial and think about the conditions needed to live on an imaginary planet. Depending on the time and resources you have available, you may decide to do this activity on paper, asking the students to draw their alien, or you may decide to make it into a craft.

PREPARATION

Assemble the materials you'll need for your DIY project.

STEPS

Explain that there are planets outside our solar system, and that some of them might be able to support life. What might aliens on those worlds look like? Ask them to imagine and create an alien and its world.

Point out that living species on Earth are often quite different from one another, depending on the environment in which they live. For example, a whale can be huge because it lives in water, where its weight is supported by the pressure of the water. We all feel lighter in water, and this phenomenon has allowed animals like whales to evolve to massive sizes in our oceans. On land, an animal that big would have difficulty moving. Another example is how animals living in polar zones have adapted to the cold. They all have thick fur or layers of fat to keep them warm.

Did you know that the first photo of an exoplanet was taken by a team of Quebec researchers at the University of Montreal?

**DID YOU
KNOW...?**

Students can use one of the following four imaginary worlds as inspiration to create their alien. They can also invent their own planet.

1. **Aklarok** is a small volcanic planet located close to its star, making it very hot. Because of its small size, gravity on its surface is 10 times weaker than on Earth, causing its inhabitants to be very tall and slim.
2. **Bilza** is a very cold, mountainous planet. Gravity on its surface is five times greater than on Earth and 80% of its surface is frozen. Its inhabitants are small and stocky.
3. **Chisk** is a planet about the size of Earth. An ocean covers its entire surface, so there are no continents. It orbits a small red star.

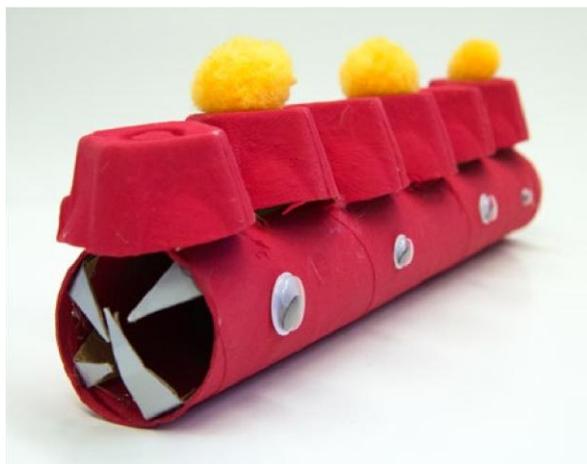


4. **Douxi** is a tropical planet with oceans and forested land. One side of the planet always faces its star, so it's always bright. The other side is constantly in the dark.

Here are **a few questions to guide the students**:

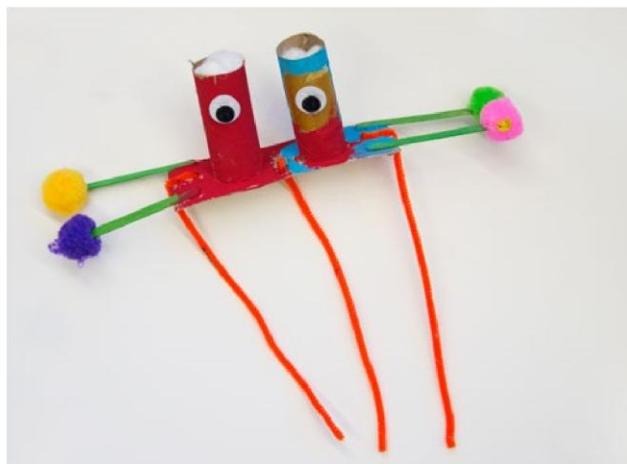
- How does your alien adapt to the conditions of the planet it lives on?
- How does it get around?
- How and what does it eat?
- Does it have the same senses as us (sight, hearing, smell, taste, and touch), or does it have sense that we don't have?
- How does it communicate?
- What is its name?

Once the students have a good idea of what their alien will look like, the creation can begin! For a quick activity, have the students draw their alien and its planet. For a longer activity, have them craft their alien using materials collected in advance. If you wish, you can then display their creations, making sure to include the alien's name and a short description.



Nidra lives on the planet Chisk. She filters water through her long body and captures the food she finds in it. The yellow parts are magnetic field detectors that help her to orient herself.

Image Credit: Bertrand Nadeau.



Fafalar is an inhabitant of the planet Aklarok. He is 22 meters tall, with two heads and three long, slender legs. He absorbs his food through his feet.

Image Credit: Bertrand Nadeau.

INFORMATION

Our Solar System has eight planets orbiting our star, the Sun. For a long time, nobody knew whether the other stars also had planets orbiting them. **The first exoplanet, a planet outside our Solar System, was discovered in 1995, and since then, more than 6,000 exoplanets have been catalogued.** The study of exoplanets is a very active area of astronomical research, and scientists are developing innovative methods to study these distant worlds.



These exoplanets are highly varied: some are very close to their star, with surface temperatures of several hundred degrees Celsius. Conversely, some are very far from their star and are frozen worlds. Some are also very small and have very low gravity, while others have a higher surface gravity than on Earth (see *Activity 10 Moving to Other Worlds* for more information on this subject).

We already know that there are gaseous planets, like Jupiter, without solid surfaces. If extraterrestrial creatures evolved on these worlds, they would most likely be very different from those on a planet with a solid surface like Earth. According to scientists, there could also be water planets.

Considering the variety of living species that have developed on Earth, it's easy to imagine that extraterrestrials could be entirely different from us.

DO ALIENS REALLY EXIST?

Nobody knows! There are billions of planets in our galaxy, many of which could have conditions similar to Earth. However, because they are extremely far away, it's a challenge for us to see what's on their surface. There is ongoing research to discover and to study exoplanets. There is one type of research that involves using radio telescopes in the hope of detecting a signal from an extraterrestrial civilization. While we do get signals from space, we've always been able to explain them as natural phenomenon, but this doesn't mean that extraterrestrials don't exist. Discovering the presence of life elsewhere in the Universe would be one of the greatest discoveries in human history.

Note: Since this activity was first published, we've launched a new resource in collaboration with other STEM organizations in Canada called [*Exoplanets in the Classroom*](#), and we think you might find some information there helpful, especially if your students seem keen to learn more.

SOURCE

This activity is inspired by the *Fabrique ton extraterrestre* activity from the *Rio Tinto Alcan Planetarium* in Montreal, and the book *Il y a de la vie sur les exoplanètes* by Jean-Pierre Urbain.

TO LEARN MORE

- [*Is There Life on Other Planets?*](#), NASA Science Webpage.