



# Life on other planets

## Life in space

### time

80 minutes

### learning outcomes

To:

- discover that different celestial bodies have different conditions regarding temperature, gravity, atmosphere, and oxygen
- know that beings on other celestial bodies would not look like us

### materials needed

- computers with internet
- books about planets
- colouring pencils

## Preparation

For the activity **Life on Earth**, draw a table on the board as shown below, with the words temperature, gravity, atmosphere, and oxygen in the left-hand column. The adjacent columns are to fill in the details of the planets you will be investigating.



## Life on Earth 10 min.

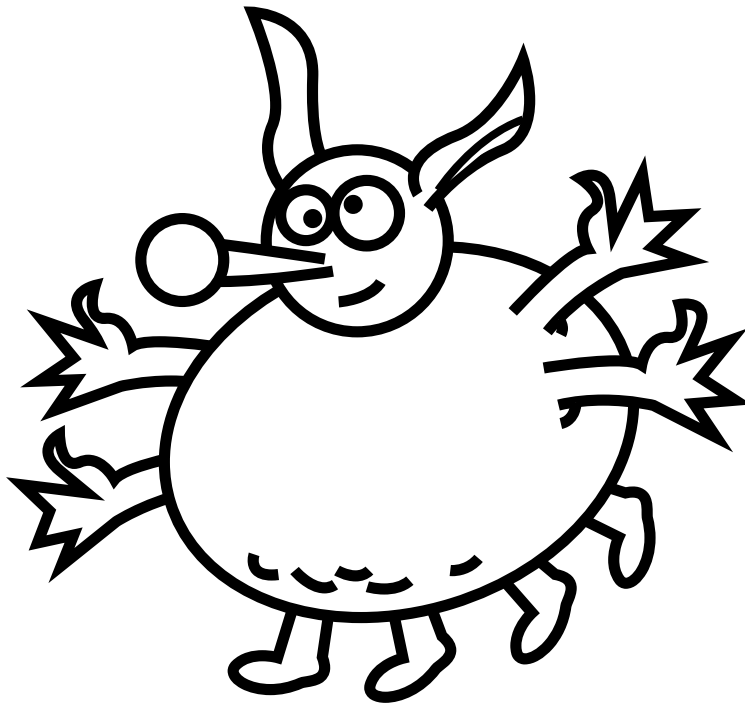
Show the children the table on the board. With the children, complete the column for the Earth. Explain that Earth has gravity, an atmosphere and that our air contains oxygen. Explain these terms if necessary, and write yes in the relevant spaces in the table. Also write down that the average temperature on Earth is 13 degrees.

	Earth	Venus	Saturn	...
temperature	13° C	...	...	...
gravity	yes	...	...	...
atmosphere	yes	...	...	...
oxygen	yes	...	...	...

Ask the children to describe how humans look. Does everyone look the same? Explain that although people may differ, we all basically look the same. Explain that the other celestial bodies we know differ from the Earth in the points shown in the table. Ask the children if they think people would look different if the conditions on Earth were different.



The children investigate what people would look like on other celestial bodies.



## People on other celestial bodies 50 min.

Explain that life on the other planets in our solar system is not possible (yet). Organise the children into groups of four. Assign each group to a particular celestial body. Each group investigates the conditions on that celestial body. These include temperature (hotter or colder than Earth), gravity (stronger or weaker than Earth), whether there is an atmosphere, and if there is more or less oxygen in the air than on Earth. The children use books and the internet for their research. These are the questions per celestial body:

**Venus:** Temperature, hotter or colder than Earth?  
(hotter)

**Saturn:** Temperature, hotter or colder than Earth?  
(colder)

**The Moon:** Gravity, stronger or weaker than Earth?  
(weaker)

**Jupiter:** Gravity, stronger or weaker than Earth?  
(stronger)

**Mercury:** Is there an atmosphere?  
(no)

**Mars:** Oxygen: more or less in the air than Earth?  
(less)

The children use what they found out about their celestial body to answer Task 1a and b on the worksheet. Discuss how people would have to change to be able to live in these conditions. The group from the planet Mercury, for example, investigate the dangers of living on a planet without an atmosphere.



Hand out the colouring pencils. The children complete Task 1c on the worksheet by drawing what people on their celestial body might look like.



## What do they look like? 20 min.

Ask each group what they have found out about their celestial body. Write the answers in the table on the board. Then ask the children what they think people on this celestial body would look like. Why did they draw their people the way they did? Possible explanations are:

- People living on Venus would have to protect themselves from the Sun.  
They might do this by developing a special thick skin, just like an elephant on Earth.
- People on Saturn would need to protect themselves from the cold.  
They could do this by having a thick layer of fat, or lots of hair.
- On the Moon, people's legs would not have to bear so much weight as on Earth. So they could have thinner legs.
- If people lived on Jupiter they would have to be able to handle the strong force of gravity. This would make it very hard to move, so it might help if they had lots of muscles in their legs, and a very small body.
- Mercury doesn't have an atmosphere. This means there is no air pressure. So, people on Mercury would burst apart if they didn't make any adjustments. They would need some kind of protection, like a spacesuit to be able to live on this planet.
- People on Mars would need to be able to cope with far less oxygen in the air. Their lungs would have to be very efficient to absorb the little oxygen that there is.

Come to the conclusion that people on Earth look the way they do because they have adapted to the conditions here. Explain that the groups of children have investigated just one difference between Earth and another celestial body. In real life there are far more differences from the conditions on Earth. So if we find life somewhere else in the universe, it will probably look very different from life on Earth. The children complete Task 2 on the worksheet.





# Life on other planets

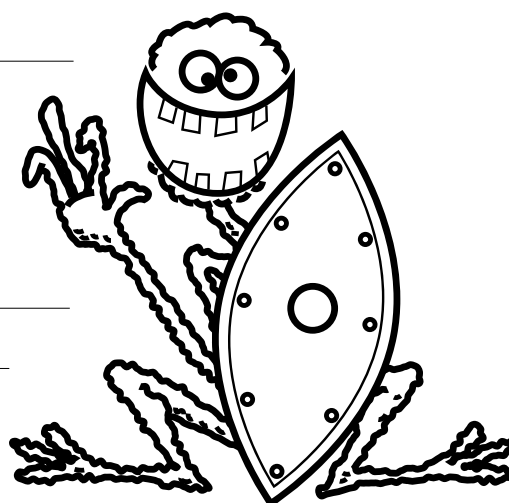
1 People on other celestial bodies

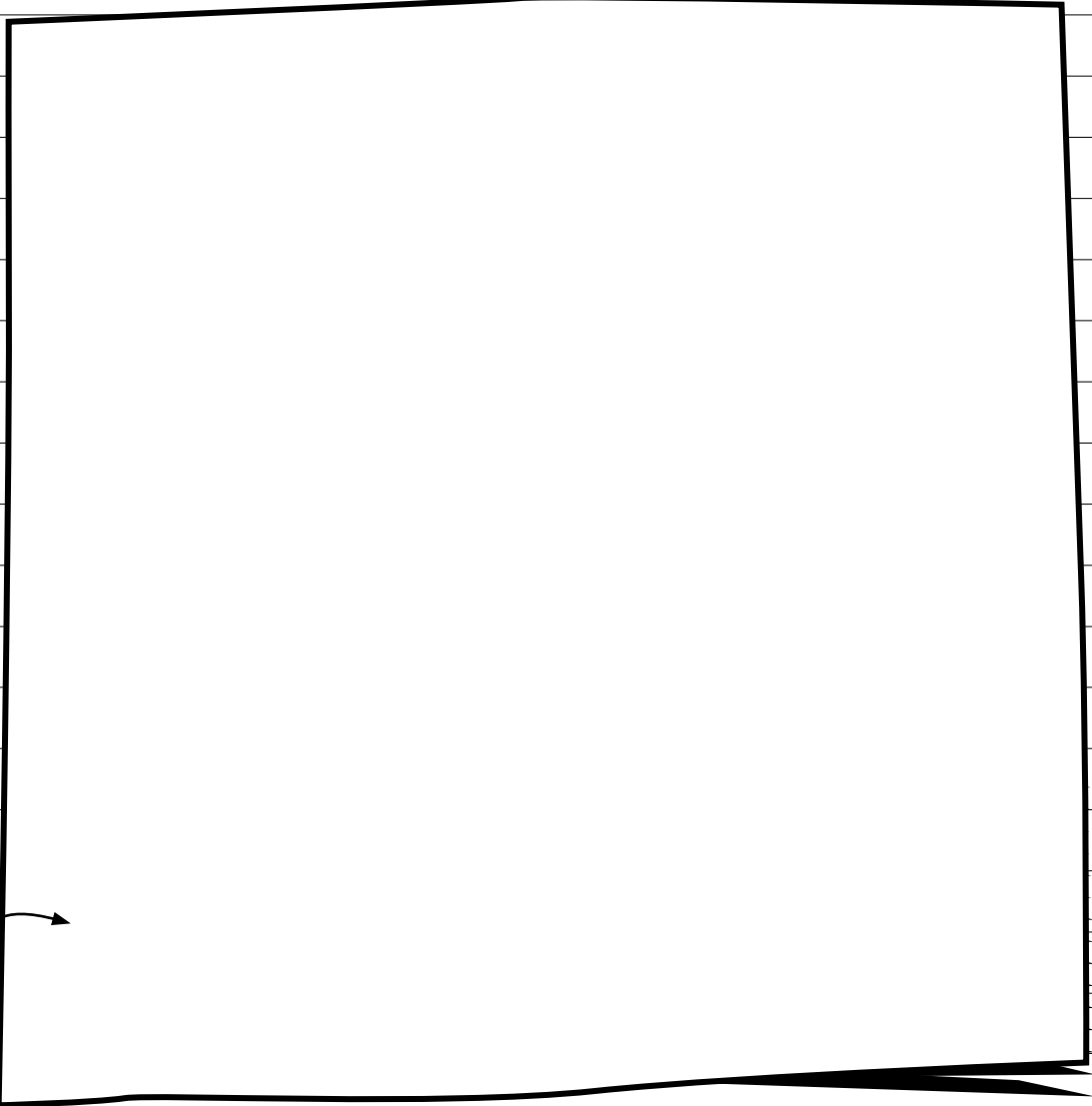
a What have you found out about your celestial body?



b What do you think would have to change for people to be able to live in these conditions?

c Draw what you think a person on this planet might look like.





draw how  
you think  
it might  
look  
HERE

2

What do they look like?

a

Circle the correct answer.

On Venus it is **hotter / colder** than on Earth.



On Saturn it is **hotter / colder** than on Earth.

On the Moon there is **stronger / weaker** gravity than on Earth.

On Jupiter there is **stronger / weaker** gravity than on Earth.

Mercury **does / does not** have an atmosphere.

Mars has **more / less** oxygen in the air than on Earth.

b

What would have to change if people were to live on:

	<b>Venus</b>
	<b>Saturn</b>
	<b>the Moon</b>
	<b>Jupiter</b>
	<b>Mercury</b>
	<b>Mars</b>
c	If we found life on another planet, it would probably look very different

to humans. Why is that?

write your  
answer  
HERE