What planet are you from?

50-55 minutes | 9-12 years old | Difficulty: intermediate

Description

In this activity the different groups act as a kind of artificial intelligence capable of learning by itself to identify things, in this case, different species of extraterrestrial creatures, in order to help them return to their home planet. At the end of the activity, each pupil will create a card with their own version of an alien, deciding which planet they want them to belong to.

Preparation

- Groups: small groups (3-5 people).
- Prepare the material needed for the activity.
- Have the alien cards and planets documents printed in colour and cut out.
- Have the documents with the empty cards and the categories of extraterrestrial creatures printed.
- Important: glue the two parts of each planet together before starting the activity.

Materials

Coloured pencils	Stationery.
Scissors	Stationery..
Pupil download	Downloadable with the alien cards. A document for the entire classroom.
Pupil download	Downloadable with the three planets. A document for the entire classroom.
Pupil download	Downloadable with empty cards. One document per group.
Teacher download	Downloadable with the categories of extraterrestrial creatures. One document per teacher.

Follow these steps

Introduction 20 minutes

In this first activity of the itinerary, pupils will begin to work in the same way as a type of artificial intelligence.

Artificial intelligence is the simulation of human intelligence by machines which allows them to perceive their environment, understand it, learn from it and act accordingly.

We are going to carry out an activity in which, first as a whole class and then in groups, the pupils will simulate how a self-learning artificial intelligence works. The pupils will have to deduce the common characteristics of a series of extraterrestrial creatures to identify their planet of origin, and then use these deductions to help other extraterrestrials return to their home planets. This is the same way a machine-learning artificial intelligence would learn to identify which planet each of these beings came from, using examples to learn from.

Generally, artificial intelligence that recognises objects uses **machine learning**, a type of artificial intelligence that uses examples to understand the real world.

For example, we can train an artificial intelligence to recognise drawings of balls if, at the start, we show it various drawings of balls and tell it that they are balls.

In time the artificial intelligence will identify all types of balls.

We start with showing the class one by one the images of the three planets, he characteristics of the creatures and analysing this information together:

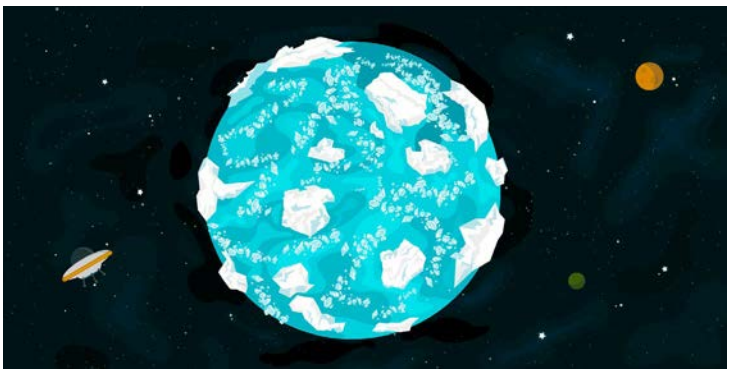
This first planet, called **Corussion**, is a planet whose surface is mostly terrestrial. Its surface is red and arid, and its main inhabitants live in the mountains.

After presenting the planet Corussion, we show the class three cards with the images of three inhabitants that we know for sure are from the planet Corussion. Then we analyse together the characteristics of the creatures of this planet, leaving it up to the pupils to come to their own conclusions. Different questions can be asked to guide them towards the characteristics they should look for, for example:

- What shape do they have?
- What is their body covered with?
- Which parts of their body are the most eye-catching?

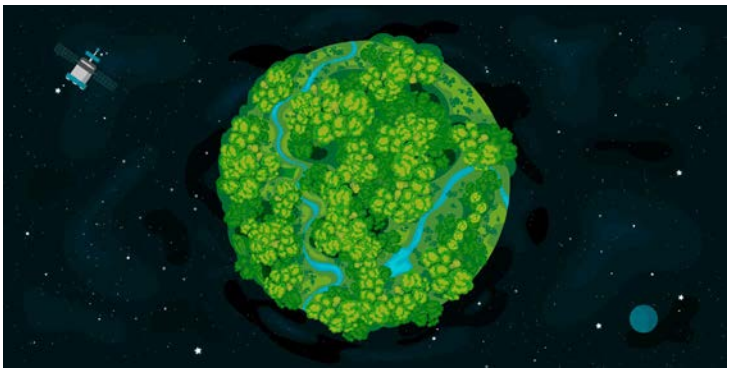
The second planet is **Crephil**. It is mostly made up of water and there is little sunlight. Its inhabitants tend to live underwater and rarely come to the surface, as nearly all of it is frozen.

Following the same activity as in the previous case, we show the children three cards with the pictures of three inhabitants of Crephil and briefly analyse their characteristics with the class. Again, different questions can be asked as in the previous case to guide the pupils towards the characteristics they should pay attention to.



Peculiar is the third planet. It is made up of large jungle vegetation, with enormous plants. The climate is very changeable, as temperatures are high during the day, but drop drastically at night, so its inhabitants tend to take refuge among the jungle trees.

Again, we show the class three cards with the images of three creatures from the planet Peculiar and ask them different questions to guide them towards the characteristics they should look for.



Steps 35 minutes

Before starting the activity, we form the groups and prepare the classroom. To do this:

- We place the illustrations of each of the planets in different areas of the classroom, e.g. on a table or stuck to the wall.
- We prepare a space next to each planet for the groups to place the cards corresponding to each creature. This space can be anything from a table to a cardboard box. We can leave the cards with the examples of inhabitants we have shown in the introduction next to each planet to serve as a guide.

Next, we explain to the working groups that we have many more creatures to take back to their home planets. To do this we will have to look at the characteristics of each one and place them on the planet we think they belong to.

We take the previously prepared alien cards and distribute them among the groups. The cards have three levels of difficulty, marked with a different coloured border (we can see the classification in the teacher's downloadable from the materials section). We distribute the same number of cards of each level to the groups.

If there are any cards left over, we reserve them for the end of the activity.

We start the game and tell the class that they have 15 minutes to place each creature on its planet.

Answer:

We can identify the **Corussion** creatures by looking at the following characteristics:

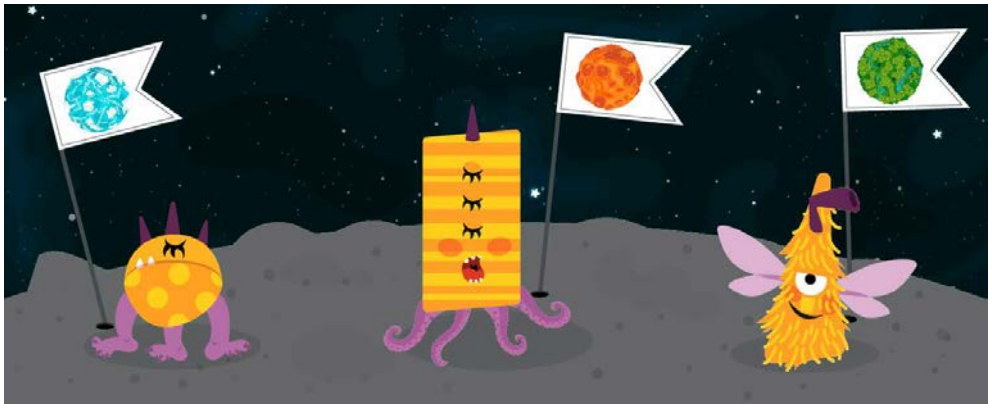
- They have wings to move nimbly across the mountains.
- Their bodies have stripes in order to camouflage themselves.
- They have horns.
- They are square or rectangular.

We can identify the **Crephil** creatures by looking at the following characteristics:

- Their limbs are tentacles that allow them to swim in the water.
- Their skin is covered with moles to camouflage themselves among the glaciers.
- They have a tube on their head.
- They have a rounded shape.

We can identify the **Peculiar** creatures by looking at the following characteristics:

- They have three legs.
- Their body is covered with hair.
- They use their tails to move through the jungle.
- They have a triangular shape.



There will be cases where an extraterrestrial cannot be clearly classified as belonging to one planet, because it has characteristics similar to several planets. In these cases, it should be placed in the category with which it has a higher percentage of similarity.

In the attached downloadable, you can check the correct classification of each one.

Once the time is up and all the cards have been placed, we will check if the cards have been correctly placed on the planets. In the review process we select a planet, pick up some correct cards and ask our pupils why they think it is the creature´s planet, with the aim of all debating among all of them. Some possible questions might be:

- How did you come to the conclusion that they belong to this planet?
- What details did you look at to realise this?

This same process can be repeated with cards that are misplaced and to help guide the class to realise where they should actually be placed.

After analysing some examples from the first planet, we move to the second and finally to the third planet to repeat the exercise.

If there are any cards left over from dealing the cards at the beginning, we can analyse them together to decide where these creatures come from.

Once the debate is over, we are going to draw our own extraterrestrial creatures.

We hand out a card template, a pair of scissors and coloured pencils to each group to cut out the cards. The pupils will decide on their own which alien they want to draw and from which planet they want it to be from.

Once the designs of the new cards are ready, we will analyse which planet we think each of the creatures we have created belongs to.

Conclusion 5 minutes

To end the activity, we explain to the pupils that have to followed a process similar to the one that artificial intelligence would use to learn to identify beings from different planets.

First, we have to show it the planets and some examples of beings from each place. With these examples, the artificial intelligence learns by itself, and in the end, it is able to recognise which planet other individuals belong to, just as they have done in class.

Objectives and competences

Objectives

- Show a systematic attitude in effectively organising information.
- Select the most appropriate information in line with the purpose of the search.
- Be aware of the possibilities and limits of current technology in carrying out tasks and resolving problems.
- Know digital technology that can be useful in carrying out personal, family and educational tasks.

Digital competences

Information and data literacy

- Browsing, searching and filtering data, information and digital content.

Problem solving

- Identifying needs and technological responses.
- Identifying digital competence gaps.

Other competences

- Ability to organise and plan.
- Ability to analyse and summarise.
- Oral and written communication.
- Information management skills.
- Problem resolution.
- Decision making.
- Working in a team.
- Interpersonal skills.
- Ability to negotiate.
- Leadership.

Recommendations

- You can bring three cardboard boxes the size of a shoebox to use as a card container for each planet.
- You can establish groups or allow the pupils to choose their team members.
- The complexity of the activity can be increased if, during the game, each team places the creatures on each planet face down to avoid giving clues to the other teams.
- If there is more time available or pupils progress more quickly than expected, each team can draw their own creatures and swap them with other groups to try to guess which planet they come from.
- If there is less time available, they can classify the creatures they have created in groups instead of analysing them individually.