# Unplugged Activity

# Title: MAZE OF PLANETS

**Educational level:** 1st year of Primary Education, 1st Cycle of Primary Education.

**Curricular areas:** Social Science.

**Timing:** in any term (1 session of 45 minutes).

## Summary

Would you be able to follow the sequence of the planets in our Solar System? In this activity we will have a board on which the Sun will give us the starting point to follow the corresponding sequences. We will have arrows to cut out and paste according to the indications to be followed.

## Aims

- To recognise and name the planets of the Solar System.
- To stimulate interest and motivation towards learning basic concepts of unplugged robotics.
- To develop spatial orientation to place the appropriate arrows and follow the sequence to be carried out.
- To show curiosity and interest in participating in the activities.

**Key competencies to develop:** mathematical competence, competence in science and technology, digital competence, learning to learn.

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## How do we do it?

1. **Motivation:** to start the activity, we will show the students the intelligence bits made with each of the planets that make up our Solar System. Based on these images, we will brainstorm the characteristics of each one of them, which will be completed with a search for information in different formats (internet, books and stories that we bring to the classroom, etc.). We will also play the following videos on the PDI:

   ➔ https://www.youtube.com/watch?v=bf40ruY8UOs
   ➔ https://www.youtube.com/watch?v=F2prtmPEjOc

   In the first case, it is an informative video and, in the second case, a song about the planets.

2. **Central activity:** once the motivation around the chosen theme has been done, we will show the children the boards that we are going to use to carry out the activity. We will tell them that the planets have become disoriented and lost, and that we have to help the Sun to follow the paths to get to them. To achieve this, in addition to the board, which will have 3 different levels of difficulty, we will have arrows to cut out and glue, so that we can follow the paths of the different sequences given (which also have 3 levels of difficulty to cater for the different rhythms and needs of the classroom)**.**

3. **Sharing:** once the activity has been carried out, we will get into a large group to show the options we have chosen to follow the sequences we were asked to do. In this way, students will be able to see that there is no single solution to the activity and that the different strategies used are valid.

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## Suggestions

★ The main activity can be done individually or in cooperative pairs.
★ There are different levels of difficulty in the main activity:
- Level 1: shorter sequences and/or use of board showing exclusively the planets appearing in the sequence.
- Level 2: slightly longer sequences and the possibility of using either the complete board or the board showing only the planets that appear in the sequence.
- Level 3: the tour of all the planets of the solar system is carried out in order. The complete board is used.

## Resources

- **Human:** teacher and students.
- **Material:** intelligence bits with the planets of the Solar System, PDI, boards and arrows to carry out the activity, sequences with different levels of difficulty, glue and scissors.

**Space:** different areas of the classroom (large group or assembly group and table work area).

**Type of activity:** group activity (at the beginning and the end of the activity) and individual or pair activity (at the main part).

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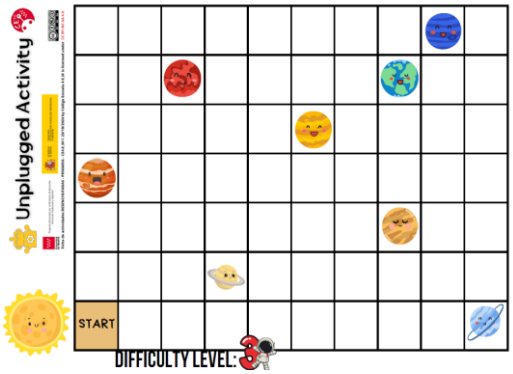
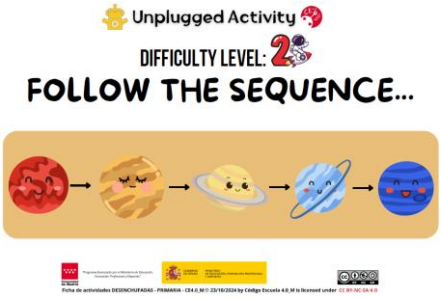
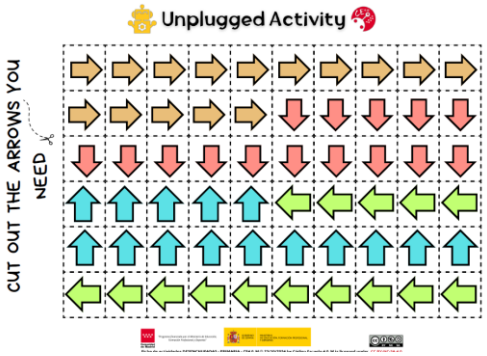
[Intelligence bits]




[Boards with different levels]




[Sequence cards with different levels]




[Arrows to cut out]

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# What have we learned?

**The assessment rubric is shown below:**

| Assessment Criteria | 4 Excellent | 3 Very good | 2 Satisfactory | 1 Needs improvement |
|---|---|---|---|---|
| Recognizes, names, and orders the different planets of the Solar System. | Recognizes and names all planets correctly and orders them without errors. | Recognizes and names most planets and orders them with few errors. | Recognizes and names some planets but has difficulty ordering them. | Recognizes and names few planets and has many errors in ordering them. |
| Shows interest in applying basic unplugged robotics knowledge. | Demonstrates high interest and applies knowledge enthusiastically and autonomously. | Shows interest and applies knowledge with occasional help. | Shows moderate interest and needs considerable help to apply knowledge. | Shows little interest and has difficulty applying knowledge even with help. |
| Creates sequences using spatial orientation correctly to reach a specific point. | Creates sequences correctly and uses spatial orientation precisely and autonomously. | Creates sequences correctly with some help and has good spatial orientation. | Creates sequences with errors and needs significant help with spatial orientation. | Has difficulty creating sequences and using spatial orientation even with help. |
| Actively participates in proposed activities. | Actively and enthusiastically participates in all activities. | Participates in most activities with a positive attitude. | Participates sporadically and needs additional motivation. | Participates minimally and with little motivation in activities. |

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## Computational Thinking

**Logic (prediction and analysis):** thinking to make predictions, solve problems and make decisions based on available information.

**Algorithms (steps and rules):** is a step-by-step process that solves a problem or completes a task.

## More information

**QR codes to the activity resources:**

| Intelligence bits with name and drawing of each planet | Boards with different levels | Sequence cards with different levels | Arrows to cut out |
|---|---|---|---|
| | | | |

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