

LINES OF SYMMETRY

LESSON OBJECTIVE: Try to find lines of symmetry both in nature and in urban areas.

AGE: primary school, **TIME:** 20 minutes, **PLACE:** a locality close to the school where it is possible to look for nature products (fruits, leaves, stones...) or to observe buildings and urban objects, **SEASON:** year-round, **TOOLS:** sheets of cardboard, scissors, tape, marker pen, rubber bands or wooden skewers



1. ESTIMATION OF SYMMETRY

First, we encourage the children to try to estimate which of the objects around us do have and which do not have a line of symmetry. Together we write down (or draw) the estimates. Each child has a worksheet or they can work in small groups (2-3 children) and share one worksheet.



2. MAKING THE FRAME

In this phase we make paper frames with the line of symmetry. Children work in small groups (2-3), each group is given sheets of cardboard. We simply cut a square or rectangular window in the sheet. The line of symmetry is marked by a skewer taped across the window or by a stretched rubber band (it is useful to make small cuts in the frame so the band does not slip down). The tool is finished!





3. SEARCHING FOR SYMMETRY

The groups explore the surroundings (within a pre-agreed area) and seek for symmetry with use of the frames. The task is simple: find objects, examine shapes and decide if they are symmetrical or not. You can agree on the number of objects each group is supposed to find.

It is also possible to draw the line of symmetry on some objects (e. g. leaves) and glue them into a notebook.



4. SHARING

The groups present what they discovered in the end of the lesson. It does not matter if the groups have similar findings – it is good for verification. We get back to the estimates we made at the beginning – which ones can we confirm?

TIPS:

We can compare the two environments. Was it easier to find the symmetry in nature or in urban areas? Why?

We can use the frames after coming back to the classroom and compare the situation outdoors and inside.



You can find more photos at <https://ucimesevenku.cz/cisla-venku/osova-soumernost/>



This material is a translation of the lessons created for the Czech outdoor learning program Učíme se venku. 2019

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