

The Explorers

1st Teaching period

The following activities are designed to take place outdoors (for example, in the school garden, a nearby park or a planned forest school trip). The aim of these activities is to raise awareness among the students about the importance of biomimicry in our everyday life and the necessity of us acting more responsibly when it comes to protecting the environment.

1st Activity:

Time: 5 minutes

Type of activity: teacher - student discussion

Organization: teacher - students

Actions/Tasks: In order to introduce the topic, the teacher shows the students nature-inspired items such as *flippers, a hook-and-loop fastener, underwater glue*, and asks them the following questions: *What is biomimicry? What can nature teach us? Can you think of any other nature-inspired innovations? How can we bring biomimicry into our classroom?*

2nd Activity:

Time: 15 minutes

Type of activity: nature observations, comparing and contrasting

Organization: individual work, teacher - students

Actions/Tasks: The teacher and the students explore the surroundings together, draw rough sketches and record notes in their observation journal, as follows: *I can see/ I wonder/ It looks like.* (see Handout_1) To take a closer look, the students may use hand lens, cameras or phones.

3rd Activity:

Time: 10 minutes

Type of activity: group brainstorming

Organization: group work

Actions/Tasks: Using the data collected and working in groups of 3, the students brainstorm nature-inspired design ideas that could be put into practice in order to have an eco-friendly classroom. (see Handout_2)

4th Activity:

Time: 20 minutes

Type of activity: crafting

Organization: individual work

Actions/Tasks: Using twigs, scissors and twine, each student has to make a rustic twig frame which can come in different shapes as the objects observed during Activity 2. Here are the steps he/ she needs to follow: collect 10 twigs, lay out the frame, arrange the twigs accordingly, criss-cross the twine around each corner of the frame, knot it off and cut off any excess. (see Handout_3)

As homework assignment the students have to choose a photo taken during the observation activity or to make a drawing about this experience and insert it in the crafted twig frame.

2nd Teaching period

1st Activity:

Time: 10 minutes

Type of activity: group discussion

Class organization: group work

Actions/Tasks: The students exhibit the rustic twig frames in the classroom and working in groups of 4 outline five reasons why bringing biomimicry into the classroom is a win-win situation. (see Handout_4)

2nd Activity:

Time: 40 minutes

Type of activity: digital sketching and crafting

Class organization: group work

Actions/Tasks: The teacher divides the classroom into 5 groups. Each group receives a different task and the materials needed for the project. First, the students have to decide upon the design of their final product. To do so, they need to brainstorm design ideas together by drawing different sketches on Google Jamboard (<https://jamboard.google.com>), taking into consideration the materials they use, the shape, size, colour(s) and the purpose of their product (see Handout_5). After they set up the steps they need to follow (see Handout_6), the students make their product and present the final outcome in front of the class.

Group 1: Make a hexagonal pencil holder. Materials: coloured paper, pencils, crayons, ruler, rubber, glue, scissors

Group 2: Make a cylinder brush holder. Materials: paper towel tubes, crayons, glue, coloured paper, pencils, brushes, ruler, rubber, scissors

Group 3: Make a framed spider web. Materials: photo frame, twine, photos, wooden paper clips, paper, pencils, ruler, rubber, glue, scissors

Group 4: Make a tree shaped box. Materials: cardboard, coloured paper, crayons, ruler, rubber, glue, scissors

Group 5: Make a bird nest shaped holder. Materials: sticks, moss, natural wheat straws, paper, pencils, rubber, ruler, glue, scissors

Follow-up activities:

- *Our Classroom – Then & Now* – organize a temporary photo exhibition;
- *Bringing Nature Indoors* – hold a school magazine writing competition;
- *Biomimicry and the School of Tomorrow* – stage a digital poster exhibition (<https://www.canva.com>);
- *Nature knows best* - create an online crossword puzzle about biomimicry (<https://puzzlemaker.discoveryeducation.com/criss-cross>).