



STEAM &Sports

Lesson 3 - Find your animal

CC BY-NC-ND 4.0

The "STEAM&Sports" project is co-funded by the European Union. The opinions and views expressed (in this press release/statement/publication/etc.) are those of the author(s) alone and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the SEPIE National Agency can be held responsible for them.



Co-funded by
the European Union

Find your animal

Concept

This lesson should include some of the following concepts:

1. Biology - Students will review, apply knowledge about living communities and develop awareness of the importance of preserving living communities;
 - a. Develop skills of orientation and navigation in space;
 - b. Show how orienteering can be useful in solving problems related to living communities;
2. Engineering - Students will- create an appropriate drawing (map) in a visual programming language;
3. Art - Students will draw and make animal masks;
4. Mathematics - Students measure time of crossing a polygon;
5. Sports - Integrate knowledge about living communities with practical skills of orienteering; Students correctly perform exercises, a variety of natural and derived movements.
6. Technology - Students can use SPORTident system for identification at control points



Learning objectives and Outcomes

1.Objectives:

- a.- Students repeat the learned material through the game.
- b.- Students perform exercises on a polygon in order to discover the way to the solution of the biology task.

1.Outcomes

2.Students will be able to:

- a.use the internet to search and access online resources;
- b.uses knowledge of orientation in space (directions of the world, reading map symbols);
- c.recognizes animals and determines the area in which they live;
- d.create mask using a variety of materials and tools;
- e.collaborate with other students;
- f.solve problems in a creative and innovative way;
- g.develop a sense of cooperation and team spirit and an awareness of the importance of a healthy lifestyle;
- h.find information on the Internet;
- i.list activities that can help endangered and protected animals;
- j.notice the connection between man and nature, his social and environmental responsibilities;
- k.recognize the importance of the diversity of plant and animal life and set an example in his environment with his actions;
- l.promote the preservation of the living community in his environment and their protection from physical and chemical pollution;
- m.develop the physical abilities of competitors and the skill of orientation in nature and a healthy environment.



Methodology

Planning: repeating instructions for crossing the polygon and deciphering tasks;

Construction: students find and solve tasks on the polygon;

Testing: students solve tasks on the polygon;

Active learning: students apply a variety of activities (practical, research, thinking, problem-solving) to reach the goal;

Motivation: Orienteering is a challenge to apply what has been learned from other subjects and successfully complete the game;

Skill development: students develop creativity, cooperation, problem solving, critical thinking;

Application of knowledge in practice: students see how the acquired knowledge can be applied in real life;

Evaluation: students reflect on their work and provide feedback

Individualization: each student can contribute according to their abilities (student with motor difficulties draws masks; student with visual impairment can describe animals and their footprints ; student with learning disabilities can be in charge of making a map or searching for certain materials...)

The emphasis is on all students having an important role and that everyone feels accepted and enjoys the activity

Educational standards in connection with sports

Symbolic movements,
body awareness,
problem- solving,
teamwork, autonomy,
spatial awareness,
speed,
general dynamic coordination,
cooperation,
inclusion,
tactical games for decision – making and cooperation,
environmental care,
healthy competitions.

This lesson includes elements of these school subjects

Biology (Biologija), Informatics and computing (Informatika i računarstvo), Mathematics (Matematika), Art education (Likovno vaspitanje) and Physical education (Fizičko vaspitanje)

Timeframe

1st lesson - students learn the rules of orienteering
2nd lesson - cross the range and assemble a jigsaw puzzle
3rd lesson - make masks
4th lesson - present their knowledge of living communities
5th lesson - make their own orienteering maps

Students Age

10 years

Material needed

Cardboard or paper for making a map (of the school yard or a nearby park), pictures or illustrations of animals and their traces (footprints), compass, different cards with tasks, markers or flags for marking points in space, material for making a mask (cardboard, tempera, scissors), stuffed animals, computer, smart watch...



Short description of the content

Students cross the training ground using their acquired knowledge of biology and respecting the rules of orienteering, solve tasks and come to a solution by putting together puzzles. They make animal masks. They present their knowledge about living communities. Finally, they compare the results and evaluate their success.

Sequence of Lesson

Engage (30 min): Students repeat about living communities (the concept of ecosystems, the role of humans in the protection and preservation of living communities)...

Present orienteering as a technique used to navigate in space and explain how this technique can help solve problems in a living community. Explain the principles of orienteering: use of a compass, map reading, orienteering in space...

Divide the students into groups and give them maps.

Explore (60 min): Students use a map and a compass to find the solution. At certain points, they find pieces of the puzzle. When they find all the pieces of the puzzle and put it together, they will get a picture of the footprint (paw print) of an animal, which is the solution. When they recognize whose print it is, they find the solution to which hidden animal it is. Each group will get a different animal.

Elaborate (60 min): Students draw, make, color, and cut masks. When they put the mask on their face, they present their knowledge about that animal and its habitat. While presenting, they stand on one leg, which makes it difficult for them to concentrate. Students from the second group measure the presentation time, the accuracy of the given information. In the end, they imitate their animal's movements (crawling, jumping, running...).

Evaluate (45 min): Create a simple map of a living community with landmarks, e.g. mountain, river, forest, field using the program Paint or Scratch.

Extend (15 min): Find interesting facts about that animal on websites.

Lesson Developer

Name: Marija Trivunović

Organization: "Branko Radičević", Primary school

Contact details: marija.trivunovic@yahoo.com

Tips for age group differentiation (for older/younger kids than indicated in the lesson)

Younger kids (10 - 11) - tasks with clear pictures of animals in color, simple puzzles, drawing, imitating movements and sounds from nature, sound clues.

Older kids (12 - 13) - symbols, associations, rebuses, logical questions, problem tasks, research tasks on specifics and interesting facts on the given topic.

The Oldest (14 - 15) - codes, data linking, creating polygons and maps, creating tracks (QR code with habitat data), calculating speed, strength (physics formula), animal structures, multi-level puzzles (biology + logic + physical activity)

To which SDG(s) does the lesson relate most



SDG 3. Good health and well-being
polygon in nature, running, ...



15. Life on land
learning about the nature that surrounds us....

What Inclusivity and Accessibility measures can or should the teacher take for this lesson

Puzzles with pictures or voice clues

Physical tasks that match their abilities (e.g. rolling a ball, instead of jumping)

Clues in relief versions

Sound recordings - for visual impairment

Pictograms and simple tasks for students with cognitive difficulties

Read tasks, write down, help

Have an easier, simpler polygon with the same goal

Objectives:

Students solve puzzles, follow clues and, through movement on the polygon, discover which animals on the polygon are hidden behind the tasks.

STEAM &Sports



UNIVERSIDAD
DE BURGOS

FUTURE MINDS



Learning
Hub
Friesland



CC BY-NC-ND 4.0

Attribution-NonCommercial-
NoDerivatives 4.0 International

steamandsports.eu



Co-funded by
the European Union

