

## LESSON PLAN

### Soil – an important element of the environment.

#### The main aim:

Examination of the soil parameters, familiarizing students with the most important soil threats and the ways of their prevention.

#### The aims in detail:

##### Students:

- know the definition of soil
- describe the process of soil formation
- enumerate mineral salt existing in the soil
- identify features deteriorating the soil condition
- describe the meaning of soil in the environment
- describe the result of soil destruction
- know the ways of preventing soil destruction
- carry out an experiment
- analyse the results of the experiment and make conclusions

#### Methods:

- discussion, experiment, pictograms

#### Forms:

- groupwork,

#### Needed equipment:

- a set for the soil examination,
- laboratory glassware,
- paper,
- crayons, marker pens,
- magnet clips.

#### Class realization:

##### **I. Warm-up**

1. Teacher asks students what the soil is and what function it has in the environment.
2. Teacher and students define how the soil is formed and what ingredients it consists of.

##### **II. The main part**

1. Teacher shows students two samples of soil: one from a garden, the other one roadside. Students are asked to describe the samples, their colour and structure.
2. Students are divided into two groups. Each group has to examine one of the samples taking into consideration the presence of nitrogen, phosphorus, potassium. They also determine the samples' pH.
3. Students examine the samples. They give conclusions.



4. Students are divided into several groups. Each group picks a slip of paper (a-k) with the soil threat written on.
  - a) Growing plants on the same field for a long time results in smaller crops.
  - b) Deforestation causes soil erosion.
  - c) Pouring detergent water onto the ground kills animals and plants.
  - d) Illegal dumping sites destroy the soil.
  - e) Excessive pasturing in the same place destroys the soil.
  - f) Using pesticide, herbicide and fungicide destroys soil animals and plants.
  - g) In farm land pitched at large angle the soil is washed down by downfall.
  - h) Walking or riding on the same piece of grass causes the soil compression and thus no animals can live in there.
  - i) Using farm lands for industry building destroys the soil.
  - j) Spreading salt onto roads in winter destroys the soil.
  - k) Grass burning kills soil animals and plants.
5. Each group has to make a poster / a pictogram showing how to prevent the particular threat.
6. They put their poster on the board.
7. Teacher collects the slips of paper with the threats from students. Then, he/she distributes them one more time making sure that students don't get the same name they produced the poster about.
8. Students have to match the slips with the name of the soil threat to the pictograms on the board.

### III. Summing-up

1. Teacher asks questions based on the information from the class.
  - a) What's the function of the soil in the environment?
  - b) How do the samples of the soil differ and why?
  - c) How can we prevent the soil destruction?

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