

Pollution of running surface waters



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Activity No. 1

Part of the lesson: EVOCATION

The aim of the activity: Introduction of the surface water pollution topic and the consequences on the humans and environment.

Step 1

Brief description of the activity:

Ask pupils to think about the possible ways of pollution of surface waters and the impact of this pollution on nature and human beings. Pupils will work in pairs, writing their ideas down on a paper.

Instruction (what you need to tell the students):

Work in pairs. Think how people can cause the pollution of the rivers, streams and lakes, and what impact this pollution might have on nature and humans. Write your ideas down. You have 3 minutes to do it.

Step 2

Brief description of the activity:

After 3 minutes discuss about what pupils wrote down. Teacher might note down on a board different types of mentioned industries or other key facts from the discussion.

Instruction (what you need to tell the students):

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Tools for the activity (everything you need to take to the classroom): markers, papers, pen for each pair of pupils, chalk, board or flip paper

Estimated time (max. 40 min.): 5 minutes

Activity No. 2

The aim of the activity: Appreciation of the human impact on the surface waters.

Step 1

Brief description of the activity:

Before the lesson, teacher prepares the information sources, according to the note below. On the lesson, teacher assigns the pupils concrete topic/mean of industry, which pupils would focus on. The topics to focus on can include agriculture, forestry, mining & exploiting of mineral resources, food production, production and processing of plastics, heavy engineering industry, chemical industry, electro industry, medical industry and production of medical drugs, etc. Let pupils work for about 5 minutes. In between time, prepare the table on the board:

Type of Industry	The use of waters	Impact / pollution

Instruction (what you need to tell the students):

Work in pairs, one of you will write down the notes, the other one will present them. On the card you have written one concrete type of industry that humans need in their lives. Think through: What impact does the concrete industry have on the surface waters? How is the water used? Is much water needed for the production processes of the concrete industries? What kind of pollution does industry produce?

Step 2

Brief description of the activity:

One member of the pair writes down on a board the type of impact/pollution while the other presents the topic they worked on and lists the most important findings. On the board there soon will be the list of human activities causing the water pollution. In the moderated discussion pupils analyse possible sources of the pollution and their impact on nature and human beings.

Instruction (what you need to tell the students):

Now, each pair write down on a board your key findings and present them to the others.

Tools for the activity (everything you need to take to the classroom): Different types of industry written on the paper cards (each pair receives one card with one kind of industry), internet, notebook (at least 1 per classroom), chalk/markers, board/flip, pen and papers

Estimated time (max. 40 min.): 20 minutes

Notes: The types of industries can be selected based on their real representation in your concrete region/cities. You can use the relevant books or internet access where pupils can find additional information, if needed. For younger pupils you might have the information about concrete industries prepared in advance.

Part of the lesson:
APPRECIATION

Activity No. 3

Part of the lesson: REFLECTION

The aim of the activity: Understanding of the surface water pollution problem and its causes.

Step 1

Brief description of the activity:

Pupils work together and analyse each problem written on a board. They add additional information and try to find suitable solutions to decrease the negative impacts of the human actions on the surface waters pollution.

Instruction (what you need to tell the students):

On the board there are written different human actions and their negative impacts on surface waters. Think through: Which of these impacts are visible in our region? How do they influence us and the environment? What impact they have on our health? Try to suggest solutions to decrease the negative impacts. Are these solutions feasible? Are they also economic? Do alternative solutions for concrete industries exist? Can these fully replace original technologies in concrete industry?

Tools for the activity (everything you need to take to the classroom): Information from the previous activities

Estimated time (max. 40 min.): 15 minutes

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