Ecological disasters

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Lesson Plan

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Title of Activity: Ecological disasters	**Subject area:** Biology
Grade Level(s): 9. Level /14 years old/	**Duration:** 90 minutes

Learning objectives:

- Students will describe the main causes of selected environmental and technological disasters.
- Students will explain the short-term and long-term consequences of these catastrophes for the environment and society.
- Students will identify key facts and data related to their assigned disaster.

Teaching Method: cooperative learning

Teaching Techniques: group work followed by presentation, discussion

Materials / Resources / Technology use: paper, address book, internet, tablets, GPT chat to a limited extent

Activity Description:

Introduction:

Step 1: for a fair division of students into groups we use an activation game at the beginning (each student will find a piece of paper in the classroom with a concept written on it. Students must communicate and connect the concepts so that they make sense in the individual groups. Group No. 1 on the pieces of paper – heart, valve, aorta, pericardium, ventricle. Group No. 2 on the pieces of paper – lungs, alveoli, trachea, bronchi, 2 lobes. Group No. 3 on the pieces of paper – actin, myosin, gluteal muscle, lactic acid, spasm. Group No. 4 on the pieces of paper – vertebra, osteoporosis, calcium, fracture, 33-34). There will be 4 groups in total with a maximum of 5 members each.

Step 2: They will draw a point (1. Chernobyl accident, 2. Fukushima I nuclear power plant accident, 3. Deepwater Horizon accident, 4. Los Angeles gas leak, 5. Great Pacific garbage patch) on which they will work within the given topic. The division of work in the group and mutual control are important. Here, students will search for information about when the accident occurred, what impact it had, or still has,

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on the environment and, more generally, on the lives of people in the area. Was the accident caused by human error or natural causes? Were any measures introduced after the accident?

Step 3: Working on the point through mutual cooperation. Subsequent presentation in front of the other groups. After each presentation, discussions – could this catastrophe have been prevented? What does this catastrophe mean for humanity? Questions from the students.

Closure: After each group has completed their work, the teacher will evaluate not only the group's presentation but also the overall progress of the work/collaboration.

Assessment: Verbal assessment, evaluation of the work of the entire group by other teams

References:

https://cs.wikipedia.org/wiki/Seznam_ekologick%C3%BDch_katastrof
https://www.csfd.cz/film/683975-cernobyl/prehled/
https://www.csfd.cz/film/397118-deepwater-horizon-more-v-plamenech/prehled/