CHOICE
CitizensHip cOmpetences to tackle clImate ChangEs

Train the Trainers -

Design a classroom workshop with computer simulations about raising CO2 emission awareness. Best practices

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22/02/2023

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Preliminary actions / 1

- **Title**: *Classroom Workshop: Raising CO2 Emission Awareness with Computer Simulations. Best practices.*
- **Definition of workshop purpose**: The purpose of the workshop is to raise the awareness about CO2 raising emissions in young students of age …….
- **Objectives**:
  - Describe how CO2 emissions affect the global climate,
  - present the main sources of CO2 emissions,
  - acknowledge the dynamic of the phenomenon
  - Examine different scenarios about how the phenomenon will continue to evolveby 2100
  - identify actions/best practices that contribute to CO2 emissions

Preliminary actions / 2

- **Materials needed:**
  - Computers/laptops with internet access
  - Projector
  - Whiteboard
  - Markers
  - Handout sheets
  - Classroom that allows group working

Agenda /1

- **Opening - Introduction**. (10-15 min)
  - Welcome, present of other facilitators, if any
  - Brief overview of the workshop and its objectives
    - Can ask questions to cause brainstorming from the participants.
      - Do you know what is global warming?
      - Do you know what is the main cause of global warming
      - Do you the role of CO2 in global climate
      - Do you know the term green, etc.
    - You can use a short presentation up to 6-7 slides to present the main aspects of the subject
  - Can also present a video simulation that will attract their interest.
    - E.g. the raise of global temperature from 1884 to 2022. https://climate.nasa.gov/interactives/climate-time-machine/

Agenda /2 p.1

- **Mini lectures**. (20-30 min)
  - Present subject background theory.
    - Starting by explaining the role CO2 in earths climate.
      - Short theory introduction can be enriched with a simulation activity that describes this.

        e.g. https://phet.colorado.edu/sims/html/greenhouse-effect/latest/greenhouse-effect_en.html
    - Explaining what CO2 emissions are and their effects on environment.
      - Short presentation
      - Discussion of the main sources of CO2 emissions, including transportation, electricity generation, and industrial activities
      - Ask students to calculate carbon emissions using a carbon emissions calculator such as: https://offset.climateneutralnow.org/footprintcalc or https://ecotree.green/en/calculate-flight-co2

Agenda /2 p.2

- **Mini lectures**. (20-30 min)
  - Using visual aids, such as graphs or video, illustrate how CO2 emissions will affect the environment the next years.
  - E.g: https://www.youtube.com/watch?v=7KQ-cAqwtXs

Agenda /3

- **Work time/practical exercise (20 min)**
  - Ask students to share their thoughts and their idea on how CO2 emissions can be reduced so that greenhouse effect can be restricted or even reversed if possible.
  - Introduce students to a computer simulation such as https://en-roads.climateinteractive.org/scenario.html?v=23.2.1 explore how changes in various human activities affects CO2 emissions and global warming.
  - Students will work in groups to examine various simulation scenarios and see the impact that each action has to planet temperature increase.
  - Debrief with the entire class to discuss their findings and the impact of their actions on CO2 emissions and temperature increase.

Agenda /4

- **Adopting environmentally-friendly habits (20 minutes)**
  - Discussion of simple actions that can be taken to reduce CO2 emissions, such as reducing energy use, reducing waste, and using environmentally-friendly transportation
  - Encouragement of students to make a personal commitment to reduce their CO2 emissions
  - Create a handout to take home with best practices about how to reduce CO2 emissions.

Agenda /5

- **Debrief and (5-10 minutes)**
  - Summary of the key points covered in the workshop
  - Reflection on the impact of human activities on CO2 emissions and the importance of adopting environmentally-friendly habits
  - Final thoughts and closing remarks

Evaluation (optional)

- **Evaluation (5 minutes)**
  - At the end of the workshop, students will be asked to complete a short evaluation form to provide feedback on the workshop and their learning experience.
  - The facilitator/teacher will also use this feedback to make improvements for future workshops.

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Thank you for your attention

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