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TITLE:

Exploring acidification of air and water

GRADE LEVEL: 3RD GRADE

STEAM AREAS: SCIENCE, TECHNOLOGY,
ARTS

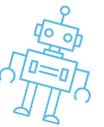
MATERIALS NEEDED:

- Mobile device in use -A-class
- Augmented Reality App or QR code ,
- PH testing kit,
- Legos or similar building blocks,
- Historical data on ocean acidity,
- Worksheets for data analysis



OBJECTIVES:

- Participants will gain an understanding of how excess carbon dioxide in the atmosphere affects the chemistry of the ocean and its implications for sea animals and global climate.



PROCEDURE:

Workshop: Ocean Acidification & Climate Change

Duration: 90 minutes

1. Introduction (15 mins):

Briefly discuss oceans' importance and workshop objectives.

2. Activity 1: CO₂ Diffusion (20 mins):

Use A-class App to open the question about CO₂ diffusion into the ocean. Participants answer related questions.

3. Activity 2: Effects on Sea Organisms (20 mins):

Explain calcium carbonate's role. Participants use Legos to symbolize sea shells, discuss impact.

4. Activity 3: Climate Impact (15 mins):

Discuss CO₂, global warming, and climate change. Analyze historical temperature data with A-class.



PROCEDURE:

5. Workshop (20 mins):

Measure water pH in special vessel
Create a timeline comparing ocean acidity.
Analyze and discuss results on worksheets.

6. Conclusion (10 mins):

Summarize key findings.
Encourage reflection on personal actions. question from participants

7. Closing (10 mins):

Thank participants.
Provide resources for further learning.

ASSESSMENT:

- Assess participant engagement during activities.
- Review completed worksheets and group discussions.
- Evaluate the quality of conclusions drawn from the data analysis.

REFERENCES:

- [Teacher's Guide for "LEGO® Atoms and Molecules: Chemical Reactions" for use with: LEGO models and lessons created by Kathleen M. Vandiver, Ph.D., M.Ed. Instructional testing and review by Amy Fitzgerald, M.Ed. Teacher's guide.](#)