Learning STEMs from Curiosity?

Lesson Scenario

no.5

BASED ON THE STEM LEARNING CONCEPT AND METHODS OF NON-FORMAL EDUCATION

ABOUT

The STEM concept is an educational idea concerning the subjects of Science, Technology, Engeneering and Mathematics. Rather than dividing them into separate curriculums, as in the traditional system, the new concept focuses on an interdisciplinary approach. This way promotes finding connections and is more in touch with modern labour market.

The STEM approach is based on activating pupils in the classroom and providing a "hands-on" experience which enables young people to learn based on their own findings. This project based style creates also a chance to develop soft skills and practice cooperation, group work and problem solving abilities. Combining the STEM idea with non-formal learning methods promotes self-awareness about personal development, builds confidence and, above all, fosters motivation through curiosity.

ELEPHANT TOOTH PASTE

Working in small groups pupils will learn about catalysts of chemical reactions by creating a foamy paste (Elephant Tooth Paste). Using food colouring will help add a bit of a creative twist to the task.

For whom?	6th / 7th Grade
How much time do you need?	45 minutes
What will you learn?	Basic concept of a chemical reactions products Catalysts Surface tension
What soft skills will you develop?	Precision and focus on details Reading and carrying out instructions Creativity
What do you need?	1/2 a cup of hydrogen peroxide per group Dish soap 1 tablespoon of dry yeast per group 3 tablespoons of warm water per group Food colouring

INSTRUCTIONS

STEP BY STEP

01.

Divide the class into small groups

02.

Each group experiments with the reaction with and without dishsoap

03.

Each group experiments with the reaction with different shapes of empty bottles

04.

Each group experiments with the reaction with adding food colouring

05.

Each group decides on their creation process and produces Elephant Tooth Paste

06.

Presentation of results

07.

Discussion about the properties of the chemical reaction observed and the influence of different factors

ACKNOWLEDGEMENTS

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Participating Organizations:

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For more information and resources please visit the project website by scanning the QR code below.

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