(ENG) Sour Art

Introduction

Step 1 - Motivational Stage

Step 2 - Investigational Stage

Step 3 - Consolidation Stage

Introduction

#Online activity #In-class activity #Inquiry-based learning #Experiential learning #Artwork

Pupils make a painting, using materials found in the kitchen. The solubility of substances is studied through practice. At the same time, the pupils study alkalinity and acidity.

Learning Objectives

- [ ] understand the concepts of basic, acidic and neutral.
- [ ] experiment and understand the chemical reaction and solubility through one's own experiment.
- [ ] use their creativity to create a work of visual art.

ACTIVITY DETAILS

Activity Details

Connection of the activity with Art

Art Work of pupils

Link to local, national School Curriculum

Solution/ Concept of solubility of substances and saturation of solutions

Equipment required

- 1 dl bilberries (Vaccinium myrtillus) or pieces of red cabbage or red onion
- A tablespoon of lemon juice or strong vinegar
- A tablespoon of baking soda
- A tablespoon of dishwasher detergent
- Watercolor paper
- Wide watercolor brush
- Fine watercolor brush
- Water for rinsing the brush
- Tape
- pH indicator paper

Duration of activity

45 minutes

Sources

Step 1 - Motivational Stage

Ask the pupils the following questions:

" How do acidity and alkalinity affect the colours of food? "

“ How do substances dissolve? ”

Step 2 - Investigational Stage

STUDENTS' TASKS

The pupils make the dyes.

Bilberries, red cabbage or red onion are crushed or boiled in a little water to make a coloring liquid. Ready-made juice is not suitable, because industrially produced juice uses acidity regulators.

Soda powder is dissolved in as little water as possible, as is the detergent for the dishwasher. Ask the pupils to test the conditions involved in the dissolution such as the temperature of the water, the strength of the stirring, and finally what amount has the saturation point.

Pupils tape the watercolor paper to the base (table) to prevent it from curling up.

They paint on the paper with a thick brush the background color from the coloring liquid. Soaking wet is not what is looked for. Then pupils paint patterns on top of the coloring liquid with different almost colorless liquids.

> Don't tell pupils beforehand what will happen. It is a nice surprise to see the colorful reactions.

Ask them the following questions:

" What happens to a painted primer when it reacts strongly to an alkaline or acidic substance? "

" Does the acidity or alkalinity of substances always have the same effect on colour changes? "

Step 3 - Consolidation Stage

The pupils confirm their hypothesis about the effect of acidic or basic substances by finding out their pH values, for example, with the help of pH strips. You can also look for pH values on food packages or on websites.

If pupils work online, they can present their artworks. They can also be assembled on the classroom wall as a collage. Since the colour scheme is the same in all of them, the collage looks great and coherent even though the works are different in the subject matter.

End of the activity

EXIT