

LESSON PLAN 5

SUBJECT: Physics

THEME: Freezing and melting

The group is pupils at the age of 10 years old, 5th class of primary school

Time of the lesson: 45 minutes

Aims: Children are expected:

- To explore how a substance can change from solid to liquid and back again.
- To investigate how a change in temperature can change the state of a substance.
- To experience that when a substance changes from a solid to a liquid, the amount (weight) does not change.
- To learn about the melting point and the temperature at which the solid melts to become a liquid
- To learn about the Freezing Point and the temperature at which the solid freezes and becomes a solid
- To be able to use scientific vocabulary

Suggested materials:

- Butter, chocolate, gases, thermometer, saucepan

Course of the lesson:

Activities/Aims	Interactions	Procedures	Time
Discussion on things that melt and freeze	T-S	The students think and suggest substances from daily life that melt or freeze. Ask the students to identify the chocolate as a solid, liquid or gas. Ask them how we can convert it into a liquid.	5'
Developing questions and a hypothesis for the experiment	T-S	As a class, develop a question and hypothesis for this experiment. Write these out on chart paper and post them in the room near to the scientific inquiry process sheet so students are able to make a connection to what they are doing in this experiment. Review the scientific inquiry process. This information is already displayed on chart paper and hung in the classroom. Go over and explain the steps in relation to this experiment	10'
Start the experiment. Students observe and predict	T-S	Teacher places the chocolate bars into the saucepan and stirs as it melts. Ask the students to predict how long it will take the chocolate to melt. A student puts the thermometer to measure the temperature of melting chocolate. Then place the chocolate liquid in silicone cups.	10'
Making conclusions	T-S	Students discuss how the melting chocolate will become solid again. Teacher asks what is going to happen if we put the liquid in the fridge and why. Teacher puts the cups in the fridge.	5'
Checking For Understanding	T-S	Teacher shows cards with materials that melt or freeze and students name the change. Eg. Butter in a pan(melting), kid holding an ice-cream(melting), a lighting candle(melting), water in the fridge (freezing) etc.	10'
Enjoying the lesson	T-S	Each student has a little chocolate from those that they have made during the experiment.	5'

