

CLIL LESSON PLAN

Solids, liquids and gases

Aims

- **To introduce materials and their classification according to their properties.**
- **To introduce particle theory and how the particles model can be used to explain differences between solids, liquids, gases and changes of state.**

Teaching aims

- **To recognize solids, liquids and gases by their properties.**
- **To classify some difficult materials.**
- **To introduce how particles are arranged in solids, liquids and gases.**
- **To understand a simple model of matter made up of particles.**
- **To use model particles to explain changes of states such as melting and solidifying.**

Learning outcomes

At the end of this unit students will be able to:

- **Describe a simple particle model to recognise the nature of matter:**
 - ✓ **Arrangement, proximity, attraction and motion of particles in solids, liquids and gases.**
 - ✓ **The relationship between heating and movement of particles.**
- **Use the simple particle model to explain:**
 - ✓ **Why solids and liquids are much less compressible than gases.**
 - ✓ **Why changes of state occur.**
- **Follow processes and instructions.**
- **Explain, to write and to discuss their ideas.**
- **Work autonomously.**

4C_s curriculum

a) Content

- **Properties of solids, liquids and gases**
- **Particle theory**
- **Changing state:**

- i. The state of a substance**
- ii. State of a substance at room temperature**

b) Cognition

- **Classify materials as a solid, liquid or gas and justify their classification.**
- **Identify some sentences with the properties of solids, liquids and gases.**
- **Have discussion about and analyse and explain why some materials are difficult to classify.**
- **Summarise the properties.**
- **Associate a representation of particles with different state.**
- **Draw a flow diagram for three states.**
- **Identify diagrams.**
- **Reinforce the idea that learning involves asking questions and checking understanding.**
- **Complete a frame about substances and particles.**
- **Key point identification, note taking, summarising and presenting.**
- **Discriminate different steps in an experiment about changes of state,**
- **Summarise the experiment.**
- **Experiment, explain the results, analyse and conclude.**
- **Read the text and answer a question.**
- **Make a drawing summarizing changes of state.**
- **Explain what happens when we heat butter.**
- **Explain the relation between particle movement and energy.**
- **Design an experiment to show the relationship between heat and changes of state.**
- **Compare processes and summarize all these activities in a poster and explain at the rest of the class.**
- **Revise materials**
- **Consolidation exercise. Spelling and listening.**
- **Multiple choice, complete a table and some sentences.**

c) Communication

- **Language of learning:**
 - **Present tense (Explain and affirmative, negative and questions sentences)**
 - **Past Tense**
 - **Future Tense (Predictions and hypothesis)**
 - **Where, when, why, who, what, which, how?**
 - **There is... and there are...**
 - **Prepositions from, of,...**
 - **If...(then)...+ grammar of if -clauses**
 - **Modal verb (instructions in the LAB)**

- **Essential vocabulary**
- **Language for learning:**
 - **Strategies for reading and understanding a text.**
 - **Strategies to improve classroom talk:**
 - **Encourage student questioning**
 - **Allow for student talk**
 - **Survey the class**
 - **Ask for summary to promote active listening and speaking.**
 - **Poster with instructions**
 - **Poster with discipline**
 - **Poster with equipment and materials**
 - **Frames to facilitate discussion.**
 - **Tasks and demands.**
 - **Mini presentations**
 - **Describing a sequence of events. (First, then, next, finally).**
 - **Analysis and conclusion:**
 - **I have found out...**
 - **What I thought would happen was ...**
 - **If I ..., My graph shows than ...**
- **Language through learning:**
 - **Vocabulary extension**
 - **Books**
 - **Handouts**
 - **Laboratory**
 - **Internet**
 - **Software**

d) Culture. Global warming

- **Work in groups of four to answer questions about climate change and prepare a presentation in power point for the rest of the class.**

(I intend to prepare a Web Quest on Global Warming)