Lesson Plan

Exploring Properties of Materials

Grade Levels: Foundation to Year 2

Subject: Science
Duration: 45 minutes

Australian Curriculum Links:

- Chemical Sciences Strand:
  - Objects are made of materials that have observable properties (ACSSU003): Identify, describe, and compare the properties of familiar materials.

Learning Goals:

- Identify and describe observable properties of materials such as colour, texture, and flexibility.
- Sort and group materials based on their properties.
- Develop an understanding of how different properties of materials affect their use and function.

Resources:

- Various materials for sorting (e.g., fabric scraps, plastic objects, wooden blocks).
- Sorting trays or containers.

- Pictures or samples of materials to support discussion.
- Chart paper or whiteboard and markers.
- Optional: magnifying glasses for closer observation.

Prior Knowledge: Students should have basic knowledge of:

- Common materials and objects in their environment.
- Ability to observe and describe objects based on their characteristics.

Lesson Sequence:

1. Introduction (5 minutes):

- Begin by discussing with students what they know about different materials.
- Introduce the concept of properties by showing examples of materials with different properties (e.g., soft fabric, hard plastic).
- Explain that materials have different characteristics or properties that we can observe and describe.

2. Exploration of Properties (15 minutes):

- Display a variety of materials with different observable properties (e.g., fabrics, plastics, wood).
- Guide students through a discussion on each material:
    - What colour is it? What does it feel like? Is it flexible or rigid?
    - Encourage students to use descriptive language (e.g., smooth, rough, bendy).
- Allow students to touch and manipulate the materials to explore their properties.

3. Sorting and Grouping Activity (15 minutes):

- Provide students with a selection of materials and sorting trays or containers.
- In small groups, ask students to sort and group the materials based on their properties (e.g., all soft materials together, all blue materials together).

- Encourage students to discuss their choices and reasoning for sorting each material.
- Circulate to support and guide students in their sorting activity.

4. Group Discussion and Comparison (5 minutes):

- Gather students together to share their sorted groups.
- Discuss similarities and differences in how materials were grouped.
- Guide a whole-class discussion on why certain materials were grouped together based on their properties.

5. Reflection and Conclusion (5 minutes):

- Summarize the lesson by revisiting the key properties discussed (e.g., colour, texture, flexibility).
- Ask students to reflect on what they have learned about materials and their properties.
- Discuss why understanding these properties is important in everyday life and in scientific study.

Assessment:

- Observe students during the sorting activity to assess their ability to categorize materials based on their properties.
- Listen to students' explanations during group discussions to gauge their understanding of material properties and their reasoning for sorting decisions.

Homework/Extension (optional):

- Encourage students to find and bring materials from home that have interesting properties to share and discuss with the class.
- Provide optional extension activities such as researching how specific materials are used in different products based on their properties.

Differentiation:

- Provide visual aids and simplified language for younger students (Foundation level).

- Offer additional challenges for older students (Year 2), such as comparing more complex properties or predicting how materials might behave in different situations based on their properties.

Closure:

- Reinforce the importance of understanding properties of materials in everyday life and in scientific exploration.
- Connect the lesson to real-world examples and encourage students to continue exploring and observing materials around them.

By engaging students in hands-on sorting activities and discussions, this lesson plan aims to develop their understanding of the observable properties of materials, aligning with the Australian Curriculum's objectives in chemical sciences for Foundation to Year 2 students.

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