

Lesson Plan

Overview	Pupils will identify the characteristics and properties of aluminium.
Age Group	KS3
Subject	Science
Learning Objectives	<p>Some: Pupils will be able to name at least 5 properties of aluminium and understand its applications and uses within their environment.</p> <p>Most: Pupils will be able to name 5 properties of aluminium and recognises its uses.</p> <p>All: Pupils will be able to name 5 properties of aluminium</p>
National Curriculum	<p>Chemistry</p> <p>Pupils should be taught about:</p> <ul style="list-style-type: none"> • The varying physical and chemical properties of different elements, • The properties of metals and non-metals.
Resources	<p>Periodic table hand-out</p> <p>All about aluminium PowerPoint</p>
Lesson structure	<p>Introduction</p> <p>Remind pupils that the periodic table organises information about the chemical elements.</p> <p>Each element is represented by a symbol.</p> <p>The chemical elements are arranged in order of increasing atomic number.</p> <p>The rows are called periods and the columns are called groups.</p> <p>Elements with similar chemical properties are in the same group of elements.</p> <p>Task</p> <p>Focus on aluminum as a material.</p> <p>Go through the All About Aluminium powerpoint, encouraging students to take notes and identify at least 5 properties of aluminium.</p> <p>Brainstorm the properties of aluminum ensuring the list is complete.</p> <p>Using these properties, ask students to create a cartoon character that embodies these properties.</p> <p>Extension</p> <p>Create a side-kick based on the qualities of another element from the periodic table. How will these elements react to each other?</p> <p>Plenary</p> <p>Share cartoon characters with partners. Encourage pupils to share characters with class. Has anyone been able to embody all the characteristics of aluminium within their character?</p>

Teacher Information

Properties of aluminium

After iron, aluminium is now the second most widely used metal in the world.

The properties of aluminium include:

- Low weight,
- High strength,
- Superior malleability,
- Easy machining,
- Excellent corrosion resistance
- Good thermal and electrical conductivity
- Very easy to recycle.
- High reflectivity: it is attractive for decorative uses like foil wrappings and drink cans.
- Retention of toughness down to very low temperatures, without becoming brittle like carbon steels.
- Elasticity.