

Text Structure and Language Features: Example 1

Text Structure - Explanation

Statement of phenomenon

Explanation sequence

**WHY DO SOLIDS, LIQUIDS AND GASES HAVE DIFFERENT PROPERTIES?**

Solids, liquids and gases have different properties such as differences in their shapes and volumes because of the behaviour of the tiny particles inside them. This explanation is called the Kinetic Particles Theory.

A solid such as ice is different from a liquid such as water because ice has a definite shape and volume whereas water has a definite volume but no definite shape - it takes the shape of its container. These differences can be explained by examining the behaviour of invisible particles inside ice and water.

Inside an ice cube, the particles are very close to each other and they are held in fixed positions so they cannot roll over each other. This is why ice does not change its shape or volume if it is kept cold. However, if ice is heated the particles inside are still very close to each other but they will start to roll over each other more and more until the ice is all melted and has no definite shape any more. The ice has now changed to water, which is a liquid.

Inside a beaker of water, the particles are very close to each other but they are not held in fixed positions so they can move around by rolling over each other. This is why water does not change its volume but can change its shape by taking the shape of the container, if it is kept at room temperature; however, if water is heated the particles inside will start to move around faster and faster until they fly away from each other when the water is boiling. The water has now changed to steam, which is a gas.

Inside a cylinder of natural gas, the particles are not close to each other and they are not held in fixed position so they can fly everywhere. If the cylinder is opened the gas will quickly spread to the outside and can be used as fire for cooking.

Background information

The Kinetic Particles Theory is a useful scientific model because it can explain the many differences in the properties of different states of matter.

**Language Features**

Use of timeless present, typical of much scientific writing, e.g. takes, has

Use of word chains to build topic information, e.g. solids, liquids, gases, heated, melted, boiling

Use of relating verbs, e.g. Solids, liquids and gases have different properties. This explanation is called the Kinetic Particles Theory.

Use of action verbs to build sequence of events, e.g. heater, roll, melted, change, move

Use of passive voice, e.g. is called, be explained, be used

Use of general nouns, e.g. solids, liquids, gases

Use of technical language, e.g. particles, volume, temperature, boiling

Use of classifying adjectives, e.g. tiny, natural

Use of detailed noun groups, e.g. the many differences in the properties of different states of matter

Use of causal conjunctions, e.g. because, if, so

Use of adverbial phrases, e.g. in their shapes, to the outside

Use of compound and complex sentences