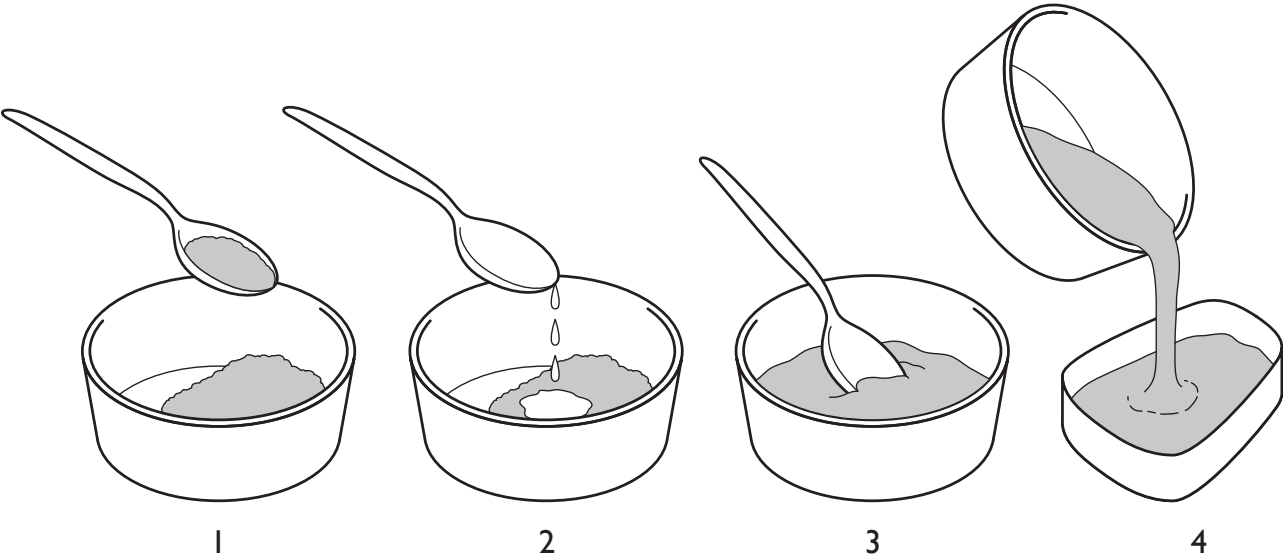
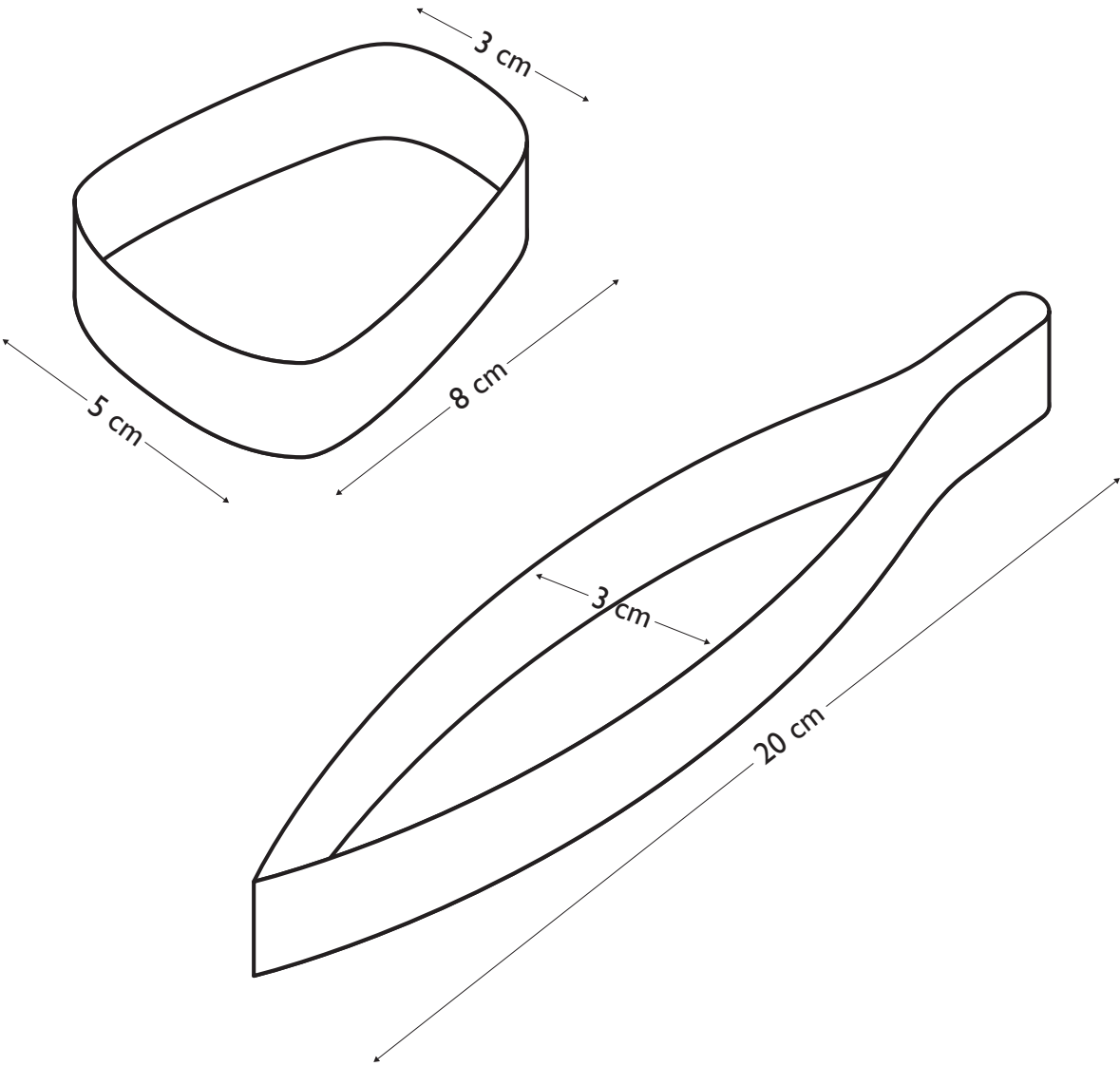


Cast an axe and sword



Cast an axe and sword

Objectives

- To learn how to make a mould.
- To cast the shape of an axe and sword in mould.
- To use materials responsibly.

Cross-curricular links

History

2a About the characteristic feature of the period.

Science

Sc1

2e Use simple equipment and materials appropriately and take action to control risks.

Sc3 That non-reversible changes result in the formation of new materials which may be useful.

Design and technology

3a Reflect on the progress of their work as they design and make, identifying ways they could improve their products.

Resources

Each child will need safety spectacles.

Each child or group will need a copy of worksheet 9, plaster of Paris, a large ball of Plasticine and a spoon. Secondary sources about how axes and swords are made or pictures showing how axes are attached to their handles and how the finished swords would have looked.

You may need yellow food colouring (optional).

Starter

Tell the children that the Celts lived in the times called the Bronze and Iron Ages. A feature of these times was that people learnt how to melt metals, mix them and cast them in moulds to make useful shapes such as axes, knives and swords. These processes needed great heat but the children can find out about making casts using a different technique.

Demonstrate how adding water to some plaster of Paris powder makes it set into a solid. You may like to point out that this is an irreversible change but the children can use it to pretend the mixture of powder and water is molten metal and when it is left it represents the cooling down of the molten metal to make a solid.

Main activities

1. Issue worksheet 9 and go through it with the children as a revision of the starter, then let them make the mould for the axe. Ask them to hold up their moulds to check that there are not any gaps where different lumps of Plasticine have been stuck together.
2. Make sure the children have put on their safety spectacles before issuing the plaster of Paris. For each object they should put about three heaped tablespoonfuls of plaster of Paris in the bowl and add four or more tablespoonfuls of water to make a runny substance. At this stage if you wish you could add food colouring to their mixtures to make the mixture deep yellow.
3. Let the children pour the mixture into the moulds and leave them to set.
4. After they have set the children can peel away the mould and examine their axe and sword. They may like to make another one by improving their mould – for example by making the sides flatter.

Plenary

The children could display their axes and swords and compare them. They could use secondary sources to find out how the axes were attached to handles and how the swords were finished off to produce a sharp blade with a handle.

Outcomes

The children can:

- Use materials responsibly.
- Make casts of axes and swords.