



# Tools and Weapons

Chemical Sciences



Written for the Australian Curriculum: Science

Sienna Osborne | Randall Hall | Richard John

## AUSTRALIAN CURRICULUM: SCIENCE

<b>Strand:</b>	Science Understanding, Science as a Human Endeavour
<b>Sub-strand:</b>	Chemical Sciences
<b>Descriptor:</b>	Different materials can be combined for a particular purpose People use science in their daily lives

### SCIENCE WORDS

Materials, Stone Age, Bronze Age, bronze, copper, tin, combined, mixed, strong, hard, durable, malleable, Iron Age, iron, carbon

### INFORMATION FOR PARENTS OR CAREGIVER

Helping your child learn to read is a rewarding and enjoyable experience for both you and your child. Here are some ways you can help your child with their reading.

#### BEFORE READING

- Introduce the book; read the title and look at the pictures. Ask your child if they know of any tools or weapons and what materials they are made of.
- Refer to the science words above. Discuss each word and its meaning. These words will appear in the book.

#### DURING READING

- At this level, your child should attempt to read their home reader on their own. There may be words they are unsure of. Encourage them to break these words down into their individual sounds, blending them from left to right.
- Stop your child on the pages where Suzie the Scientist appears. Discuss the science vocabulary and interesting information presented.

#### SCIENCE CONCEPTS IN THIS BOOK

Early in the *Australian Curriculum: Science* students relate the **properties** of materials to the practical **uses** of those materials. They also consider how different materials can be **combined** and how this combination of materials can affect the resultant properties.

In this book we relate the properties of materials to the human development of tools and weapons. We look at the materials used during the Stone Age, Bronze Age and Iron Age and show how our ancestors discovered ways of combining materials to increase the efficiency and effectiveness of tools and weapons. For example, by combining rocks and stones with sticks, early humans were able to make much more effective cutting and hunting tools (e.g. axes and spears).

Around 5000 years ago people got more sophisticated in combining materials. It was discovered that combining copper and tin (in a roughly 8:1 ratio) produced a material, bronze, that was much stronger, harder and more durable than pure copper or tin. This marked the beginning of the Bronze Age. Around 3000 years ago it was discovered that trace impurities of carbon (< 1% !) created an iron alloy that could be annealed and tempered to produce a much harder and stronger material. This marked the beginning of the Iron Age.



# Tools and Weapons



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People have been making tools and weapons for thousands of years.

Tools were made for cutting, digging and hitting.

Weapons were made for hunting.

Tools and weapons from different times were made from different materials.



## Stone Age Tools and Weapons

In the Stone Age, humans used weapons and tools made of stones, sticks and bone.

Stones are hard and heavy and were used to smash things.

Sticks are long and thin and were used to dig.

Bones are sharp and light and were used for cutting.



# Match the pairs

Stone Age



Bronze Age



Iron Age



## AFTER READING

Ask your child what the book was about and encourage them to re-tell it in the order in which it appeared.

Discuss the following with your child to assist in understanding the content of the book:

- What different materials did people use in the Stone Age?
- Why did steel tools and weapons replace bronze tools and weapons?
- What new materials can you think of that have been discovered since the Iron Age? (Hint: Think of what many of your toys are made of.)
- Which age do you like the best—the Stone Age, the Bronze Age or the Iron Age?

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# Tool and Weapons

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In this book Suzie the Scientist helps us learn about materials that were used to make tools and weapons. We learn that different materials were used during different times in history. Suzie also shows us how combining different materials can change their properties to produce more effective tools and weapons.

**Australian Curriculum:** All books in the 'Suzie the Scientist' series are written for the *Australian Curriculum: Science* and align directly to what children learn in the classroom. This book addresses the learning outcome "Different materials can be combined for a particular purpose" from the Chemical Sciences sub-strand.



WOW! Tools and weapons are cool! And so is science.

## PARENTS, READ ALONG WITH SUZIE!

Throughout this book Suzie the Scientist tells us interesting scientific facts. Use these pages to encourage further interest and discussion about **materials** with your child.

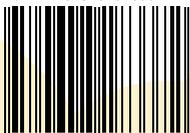
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