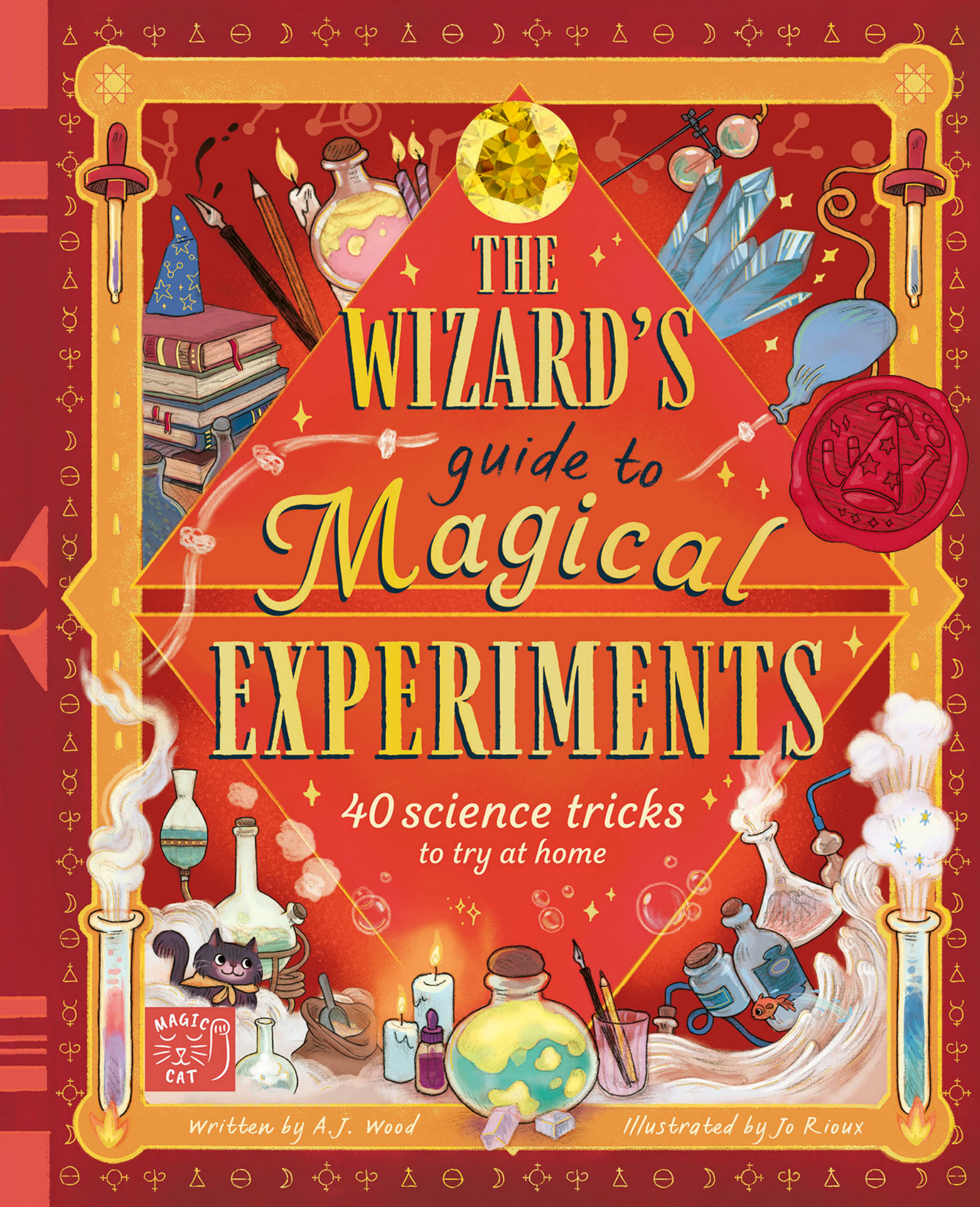
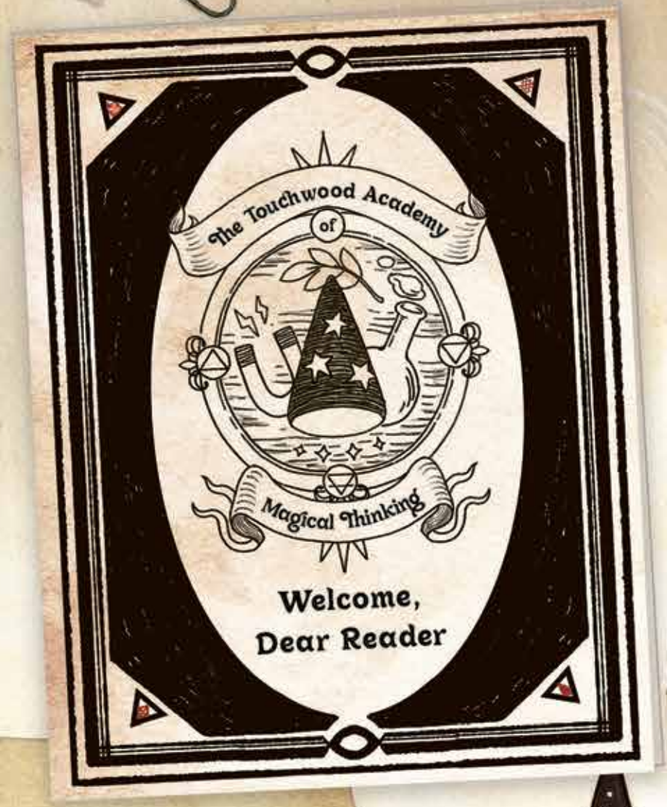

THE WIZARD'S guide to Magical EXPERIMENTS
40 science tricks to try at home
MAGIC CAT
Written by A.J. Wood
Illustrated by Jo Rioux

THE WIZARD'S *guide to* MAGICAL EXPERIMENTS



A WORD OF WARNING

Some experiments can be DANGEROUS. *Look out for this warning symbol on the following pages. When you see it, you will need a grown-up to help you. They do not necessarily need magical training, but should assist with any experiment that involves flames, hot liquids or the use of a freezer or stove.*

PROPS FOR YOUR PERFORMANCE:

- Wizard's hat
- Cape
- Wands of various sizes

THINGS YOU WILL NEED FOR YOUR EXPERIMENTS:

- Measuring spoons
- Saucers, plates, small and large bowls
- A selection of mason jars
- Notebook, colouring pens, paper
- Access to a freezer and an oven

FROM THE STORE CUPBOARD:

- Table salt
- White vinegar
- Lemon juice
- Sugar
- Bicarbonate of soda
- Baking powder
- Eggs

Setting Up a Wizard's Laboratory

You will be able to find most of the equipment needed for the experiments in this book around your home. If you can, find a place to set up your own wizard's lab, complete with an area where you can perform your magic for others to see.

The Office of Magical Thinking

Dear Reader,

You are about to embark on a series of lessons that will teach you something about the world around you and all the magic that is just waiting there to be discovered. As a wizard, I have always been fascinated by the study of matter, but rather than waste time trying to turn base metal into gold, I encourage you to use your studies for more practical purposes...

Within these pages you will find many magical experiments, along with tips on how to perform them, and an explanation of how they work.

I created this handbook for my two wizardlings when they were setting out on their own voyage of discovery, but it is now time for me to pass on that knowledge again, so that you too can master some magic as a first step in wizardry.

Wizard Wood

Wizard A.J. Wood,
President of the
Worldwide Confederation
of Wizards

THE WIZARD'S *guide to* MAGICAL EXPERIMENTS

A WORD OF WARNING

Some experiments can be DANGEROUS. *Look out for this warning symbol on the following pages. When you see it, you will need a grown-up to help you. They do not necessarily need magical training, but should assist with any experiment that involves flames, hot liquids or the use of a freezer or stove.*

Setting Up a Wizard's Laboratory

You will be able to find most of the equipment needed for the experiments in this book around your home. If you can, find a place to set up your own wizard's lab, complete with an area where you can perform your magic for others to see.

SHOPPING LIST:
- BOX OF EGGS - SIX SHOULD DO
- MORE SALT
- REPLACEMENT WAND
- SARDINES FOR MERLIN

PROPS FOR YOUR PERFORMANCE:
- Wizard's hat
- Cape
- Wands of various sizes

THINGS YOU WILL NEED FOR YOUR EXPERIMENTS:
- Measuring spoons
- Saucers, plates, small and large bowls
- A selection of mason jars
- Notebook, colouring pens, paper
- Access to a freezer and an oven

FROM THE STORE CUPBOARD:
- Table salt
- White vinegar
- Lemon juice
- Sugar
- Bicarbonate of soda
- Baking powder
- Eggs

WHAT IS THE WORLD MADE OF?

Before we start our experiments, there is something important you need to understand. And that is that every physical thing in the world is made of MATTER, whether it's a mountain or a mouse, a chair or a cookie.

And all that matter is made up of teeny-tiny things called ATOMS. Yes, even you!

Understanding that ATOMS have positive and negative parts is the first lesson for any wizardling to master.

INSIDE AN ATOM

EXPERIMENT 1 — 10 MINUTES

HOPPING LADYBIRDS

MATERIALS: sheet of red paper, black felt-tip pen, hole punch, 2 balloons

1 ▸ Use the hole punch to cut 10 to 20 small red circles from the paper. Add some black spots so they look like little ladybirds.

2 ▸ Spread the circles out over the surface of a clean table so they're not touching.

3 ▸ Blow up two balloons and, once you've tied each end, give one to an audience member. Leave the room momentarily and rub your balloon against your hair or woolly jumper for about 20 seconds. Your hair needs to be clean, by the way. So does your jumper!

4 ▸ Ask the audience member to hold their balloon over your paper bugs. Nothing will happen. Now hold your balloon over the bugs, about 5 cm away, while saying your magic words. Your bugs should hop up and stick to your balloon.

EXPERIMENT 2 — 5 MINUTES

MAKE WATER BEND

MATERIALS: paper cup, sharp pencil, balloon, water

1 ▸ Make some preparations before you gather your audience. Make a small hole in the bottom of your paper cup with the sharp point of a pencil.

2 ▸ Blow up your balloon, tie off the end, and then rub it on your hair until your hair starts sticking to it.

3 ▸ Call your audience together. Hold the cup over a sink or bowl and fill it with water. The water should flow out of the hole in a thin, straight stream.

4 ▸ Slowly move the balloon towards the stream of water while saying your magic spell. Watch as the stream of water magically bends towards the balloon.

When you rub the balloon on your hair, negatively charged electrons transfer to the balloon.

When you hold the balloon near the water, the positive ends of the water molecules are attracted to the balloon's negative charge, which makes the stream of water BEND.

The Periodic Table

Everything in the whole world is made from just 118 different types of atoms. See how many you can recognise from the chart overleaf.

WHY DO LADYBIRDS HOP?

The balloon rubs electrons off of your jumper, giving the balloon a negative charge. When you hold it near your ladybirds, the POSITIVE part of each paper bug is attracted to the NEGATIVELY charged balloon.

These charges OVERCOME THE FORCE OF GRAVITY...

...AND THE BUGS HOP UPWARD, TOWARD THE BALLOON.

For these spells, I use the magic words "ALTE VOLANTI."