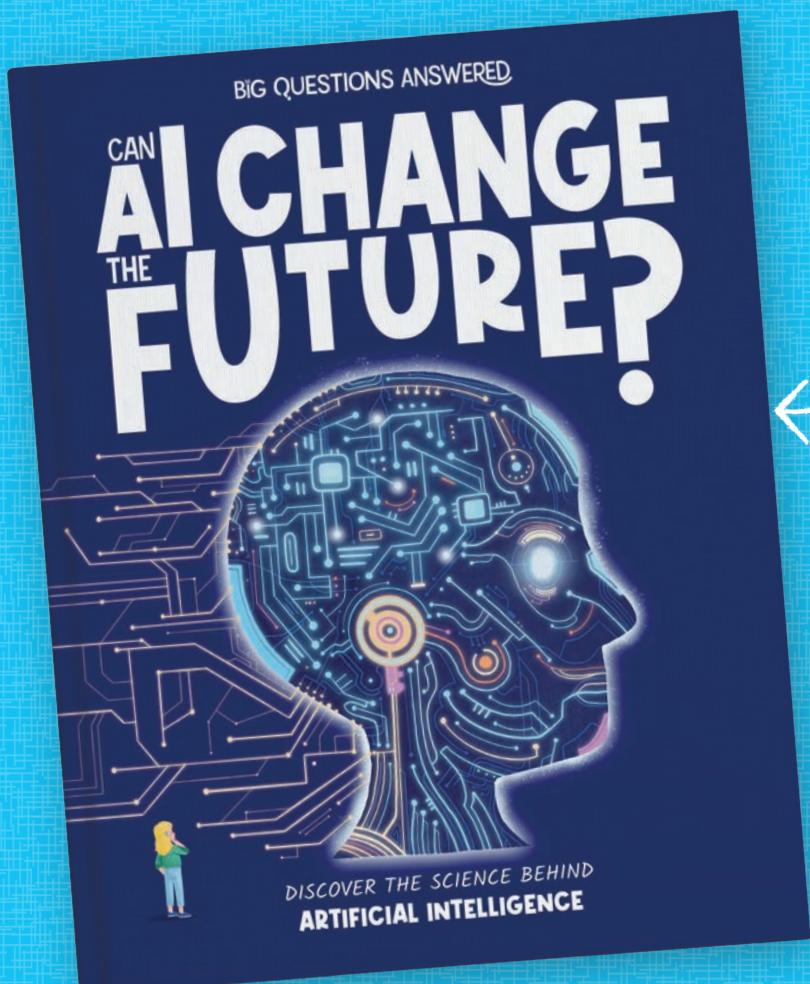


THE BIG QUESTIONS ANSWERED

YOUNG AI RESEARCHERS' ACTIVITY PACK



Full of fun and exciting activities to accompany this book!



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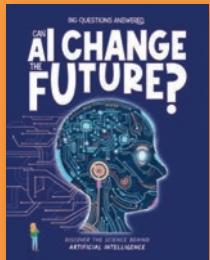
Picture Credits:
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Shutterstock: zuperia 7bl, 7bml, 7bmr, 7br.

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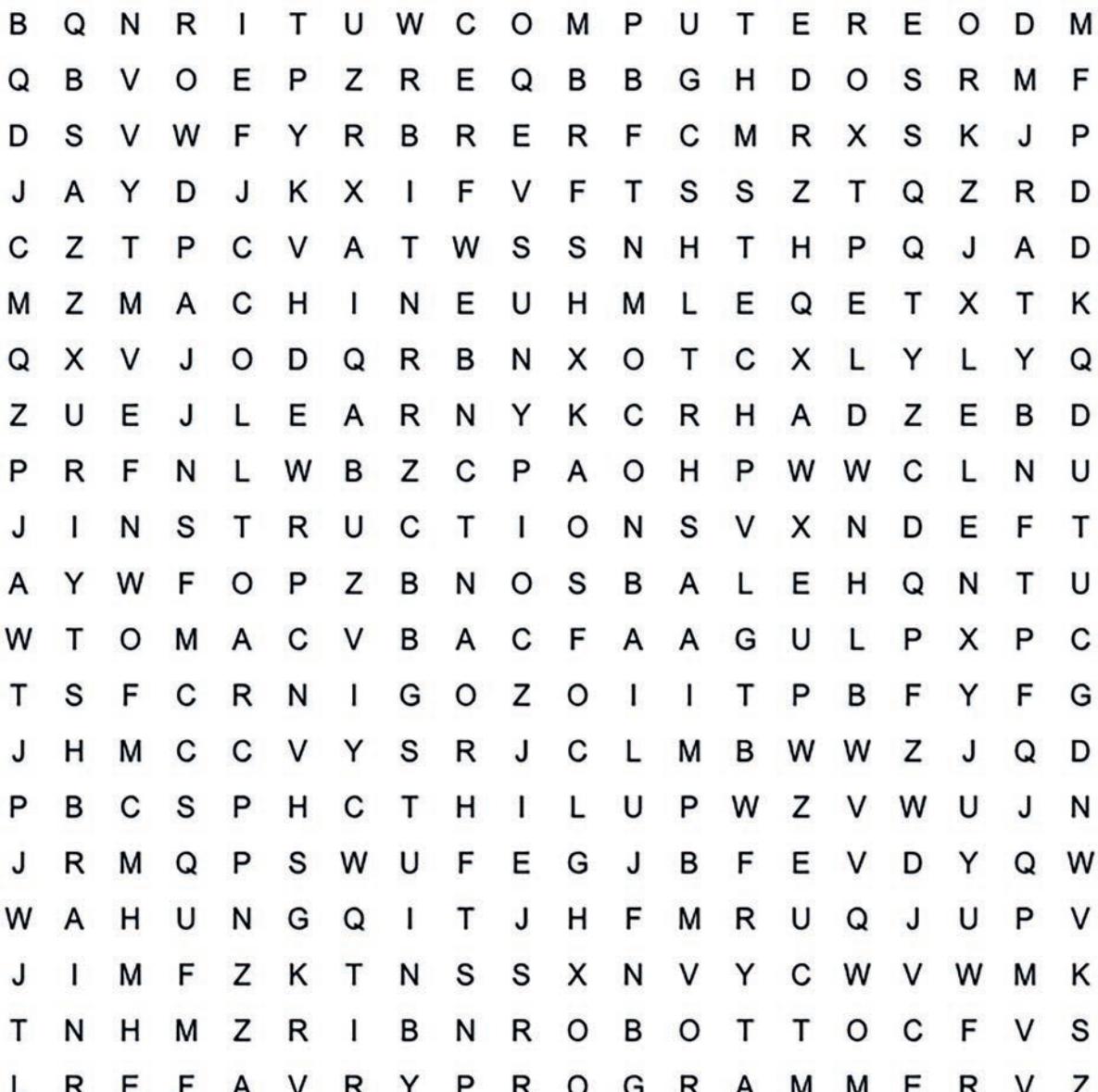
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CREATED INTELLIGENCE

Find and circle the words listed below, in the grid. Words can be found in any direction (including diagonals) and can overlap each other.



**ARTIFICIAL
INTELLIGENCE
COMPUTER
SOFTWARE**

**MACHINE
INSTRUCTIONS
PROGRAMMER
ROBOT**

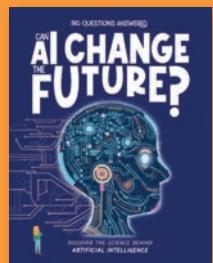
**DATA
BRAIN
TECH
LEARN**



CAN AI CHANGE THE FUTURE?

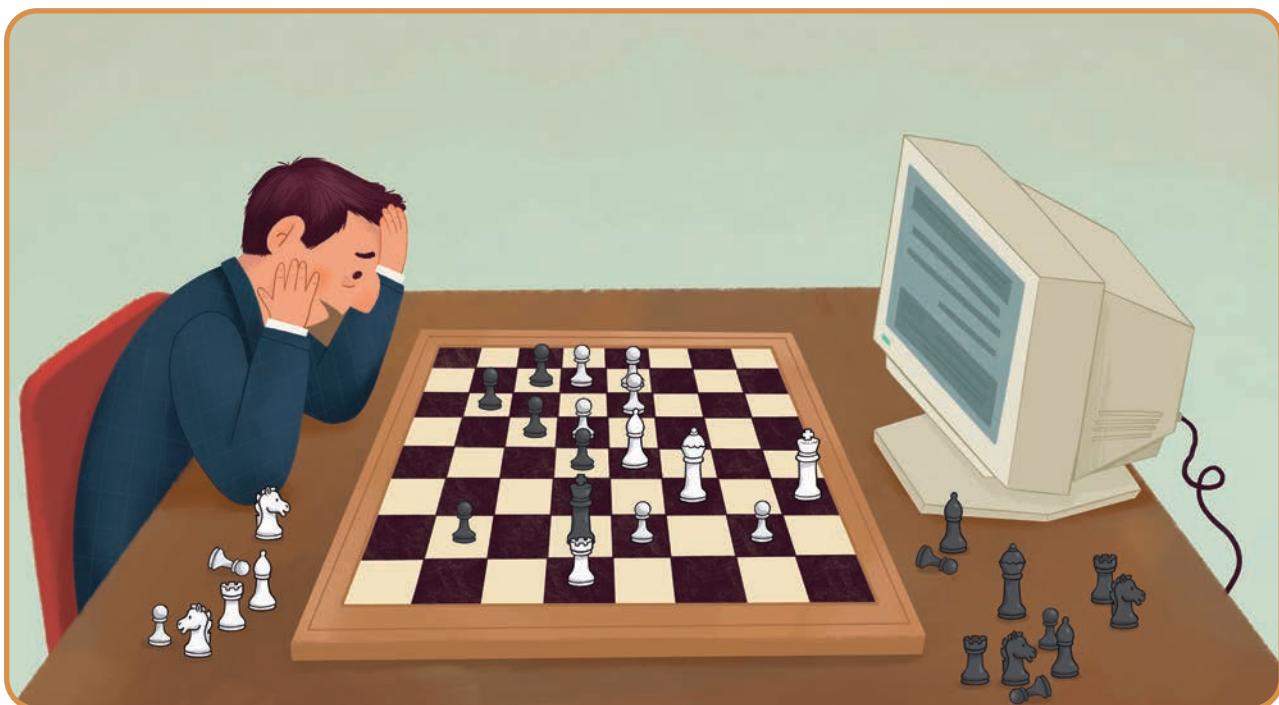
For reference to the Teachers' & Parents' Resources, this goes with 'A Major Breakthrough: Scene 2'.

www.thebigquestionsanswered.com



CHECKMATE CHALLENGE

The chess match when a supercomputer beat a human for the first time was legendary! Can you spot 10 differences between the two scenes? Circle them when you spot them.

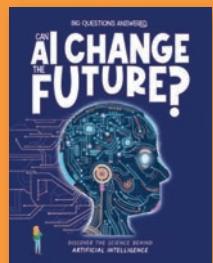




CAN AI CHANGE THE FUTURE?

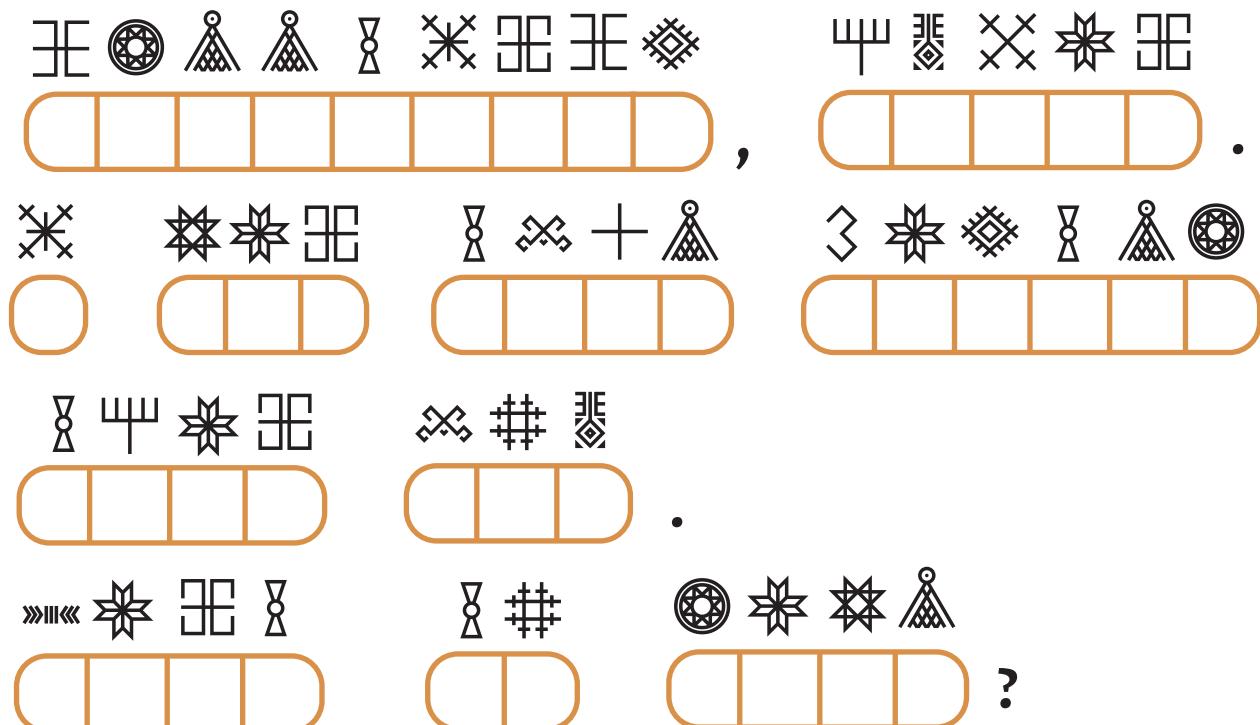
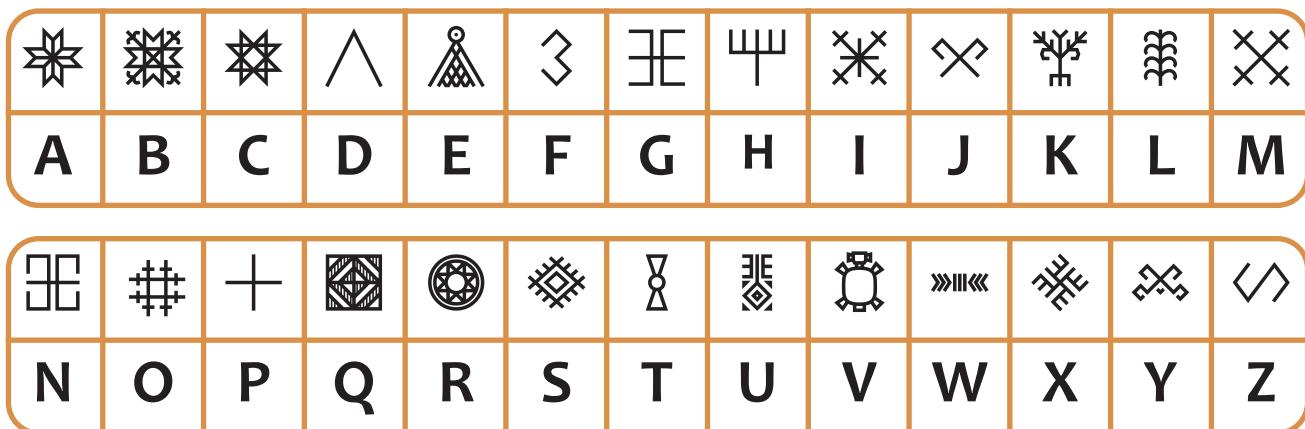
For reference to the Teachers' & Parents' Resources, this goes with 'Training A1: Scene 3'.

www.thebigquestionsanswered.com



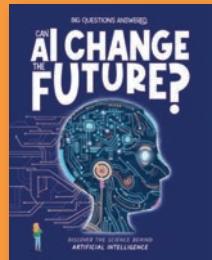
A MESSAGE FROM A MACHINE

Imagine you are a computer scientist programming a brand-new computer when a strange message flashes up on your screen. Can you use the code below to work out what the message is? Once you've read your message, write your response using the code on a separate piece of paper.



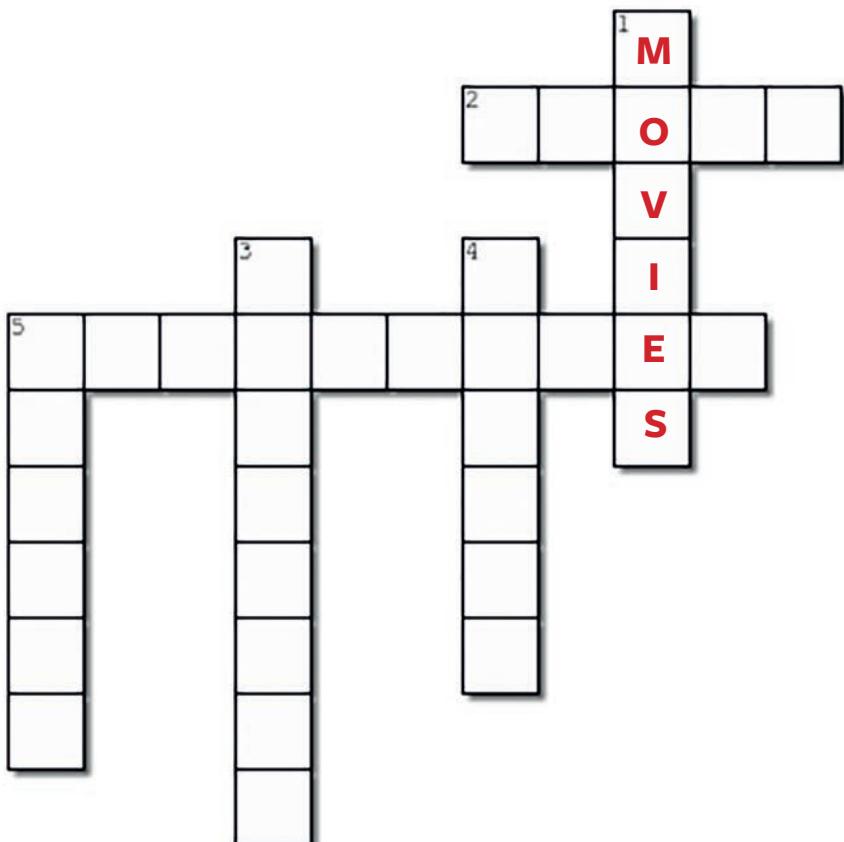
For reference to the Teachers' & Parents' Resources, this goes with 'Amazing AI Skills: Scene 4'.

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MIGHTY MACHINES

Computer scientists have begun installing AI in lots of different machines. Use the clues below to work out the different things AI is already being used in, and fill in the boxes. The first one has been done for you.



VEHICLES

PHONE

LAPTOP

VACUUM

~~MOVIES~~

VIDEO GAMES

ACROSS

- Devices that people use to speak to others even when they're really far away.
- Games that are played on electric-powered consoles or computers.

DOWN

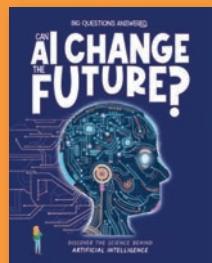
- Stories that are acted out and filmed, often with special effects, or that are animated.
- Huge machines that people travel inside, which AI can drive so the people don't have to.
- A type of computer that folds up small, and people often do work on.
- Machines that are used to suck up dust and dirt from the floor.



CAN AI CHANGE THE FUTURE?

For reference to the Teachers' & Parents' Resources, this goes with 'Revolutionary Medicine: Scene 5'.

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BAFFLING BODY PARTS

Scientists are looking to use AI in many fields in the future – including medicine! Each part of the human body plays an important part in keeping us alive. Can you match up the image and description of the organ with its name?

I am...

THE HEART



I am...

THE BRAIN



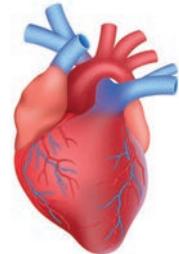
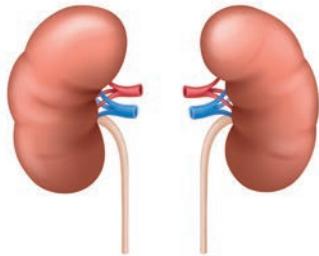
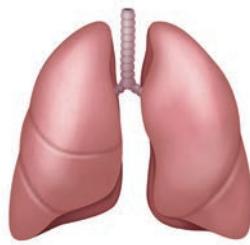
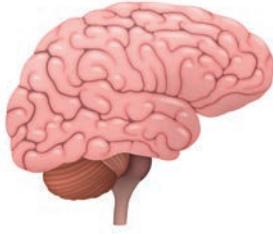
I am...

THE KIDNEYS



I am...

THE LUNGS



Fact:

I am the wrinkly organ in your head that sends instructions to every part of your body.

Fact:

I am a pair of organs connected by a windpipe. I help you breathe air!

Fact:

I am a pair of small organs that filter your blood to keep it clean.

Fact:

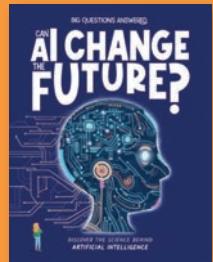
I may not be the shape you expect, but I pump blood around the body.



CAN AI CHANGE THE FUTURE?

For reference to the Teachers' & Parents' Resources, this goes with 'Catching Criminals: Scene 6'.

www.thebigquestionsanswered.com



CRAFTY CRIMINAL

This criminal is trying to catch us out! Can you spot 8 differences between the two scenes? Circle them when you spot them.

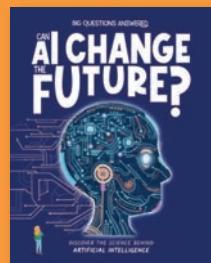




CAN AI CHANGE THE FUTURE?

For reference to the Teachers' & Parents' Resources, this goes with 'Feeding the World: Scene 7'.

www.thebigquestionsanswered.com



ROBOT REMIX

Oh no, the farmer's robots have crashed into each other in the field and mixed up a bunch of words! Test your word-solving skills by trying to unscramble the words. They are all related to AI and robots. There is a list of the correct words below to help you.

FITARLIACI

NITENGECILLE

PUTORCEM

FERASWOT

NICHAME

TROOB

NRIAB

SOFTWARE

INTELLIGENCE

BRAIN

ROBOT

COMPUTER

ARTIFICIAL

MACHINE

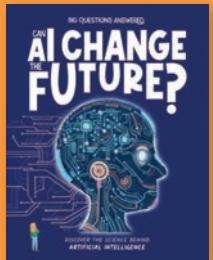
EXTRA ACTIVITY - WORD WITHIN WORDS

How many words can you find within the word 'artificial'?

1. You can only use the letters within the word 'artificial'.
2. Each of these letters can only be used once: R, T, F, C, L.
3. 'Intelligence' has two letters A's so you can use them twice. It has three letter I's so you can use them three times.
4. You can't use any other letters from the alphabet.

EXAMPLE: you can make the word CRAFT using the letters in ARTIFICIAL.

ARTIFICIAL

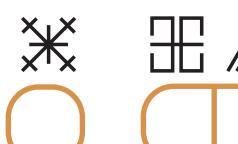


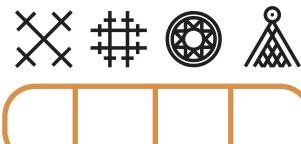
MYSTERY MESSAGE

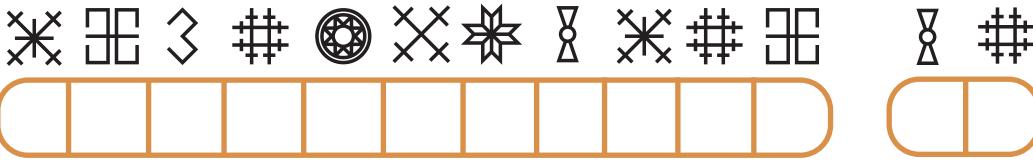
Imagine you are working with an AI robot when they suddenly switch to different type of language. Can you use the code below to work out what the message is? Once you've read the message, write your response using the code on a separate piece of paper.

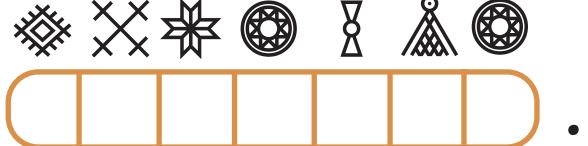
❖	❖❖	❖❖	△	❖	3	EE	■	❖❖	❖	❖	❖	❖❖
A	B	C	D	E	F	G	H	I	J	K	L	M

□□	##	+	❖❖	○○	❖❖	❖	EE	»»»	❖❖	❖	❖	◇
N	O	P	Q	R	S	T	U	V	W	X	Y	Z

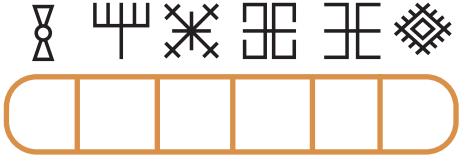
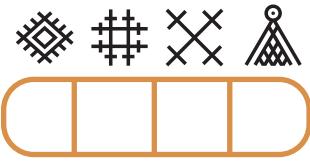
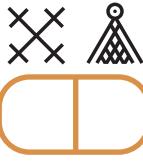
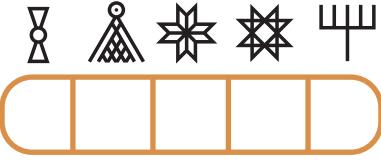
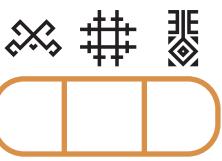
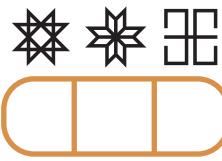








_____.



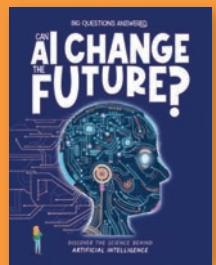
?



CAN AI CHANGE THE FUTURE?

For reference to the Teachers' & Parents' Resources, this goes with 'Self-Driving Cars: Scene 9'.

www.thebigquestionsanswered.com



THE POWER OF AI

Can you use the words below to fill in the blanks and uncover some fantastic facts about AI? Each answer can only be used once.

computers

medical

years

self-aware

exist

robots

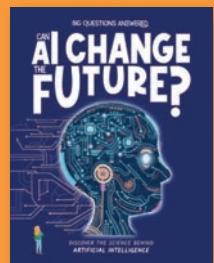
1. The study of artificial intelligence is still very new. The term was only created in the 1950s, which means the science is less than 100 _____ old.
2. The science is based around training _____ to think, learn, and make decisions like humans.
3. AI can be programmed into machines called _____ which can perform all sorts of tasks, like cleaning things up to performing science experiments.
4. AI can be used to do lots of good, like helping police solve crimes, helping farmers grow food, and helping doctors provide better treatment.
5. However, some people are worried that if machines become too smart, they will become _____ and want to take over the world!
6. Thankfully, that kind of technology doesn't _____ yet. In fact, it might not ever!



CAN AI CHANGE THE FUTURE?

For reference to the Teachers' & Parents' Resources, this goes with 'Space Exploration: Scene 10'.

www.thebigquestionsanswered.com



DESIGN YOUR OWN SPACE ROBOT

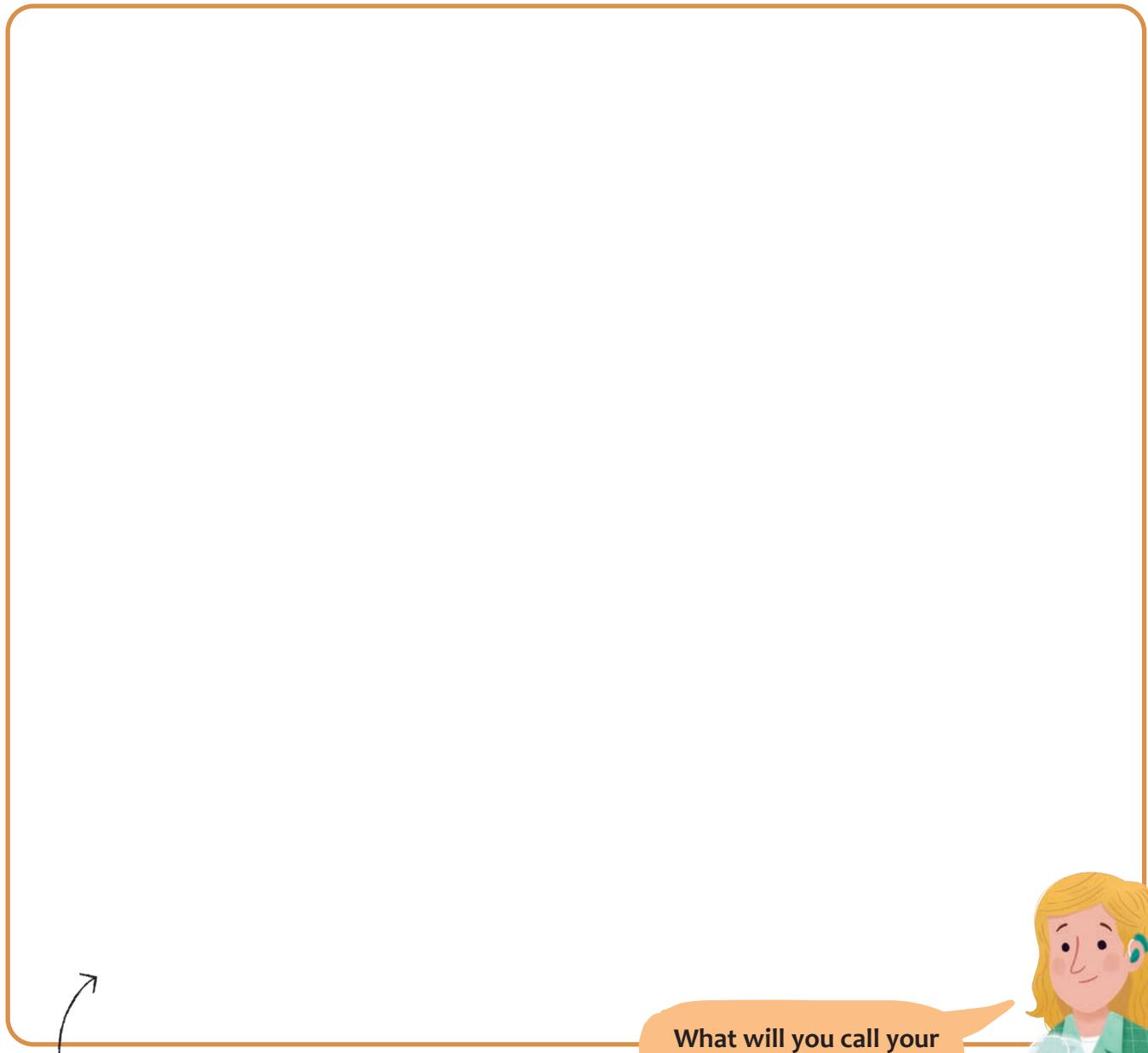
Scientists are planning to create lots of different AI robots that could explore outer space and conduct science experiments. Create your own robot that's fit for exploring outer space, using the prompts below.

Think about:

Where will your robot be sent to? Will it be a new planet or an existing one?

What sort of experiments will your robot be required to do? Draw your robot doing this experiment!

How will your robot get around? Will it have legs, wheels, or something else?



Draw your AI
robot in here!

What will you call your
new AI robot?

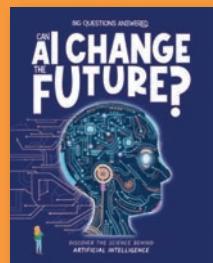




CAN AI CHANGE THE FUTURE?

For reference to the Teachers' & Parents' Resources, this goes with 'The Possibility of Super-Intelligence: Scene II'.

www.thebigquestionsanswered.com



SUPER SMART ROBOTS

There's a lot to learn about artificial intelligence and robots. Read the statements below and decide if they are true or false.

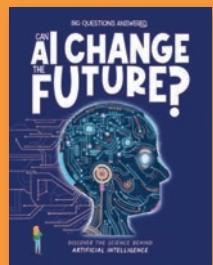
	SENTENCE	TRUE	FALSE
1	AI can see patterns, follow instructions, and make decisions.		
2	Robots can work longer than humans since they don't need to sleep or eat.		
3	Robots that are superintelligent will be able to solve all the world's problems.		
4	AI can predict the weather better than humans.		
5	Robots can learn to read people's minds.		
6	Superintelligent robots already exist.		



CAN AI CHANGE THE FUTURE?

For reference to the Teachers' & Parents' Resources, this goes with 'Robots Ruling the World: Scene 12'.

www.thebigquestionsanswered.com



DIARY ENTRY

Imagine you are walking down the street one day when you see a group of robots walking towards you. Use the space below to write a diary entry all about your experience.



Feeling stuck? Try some of these...

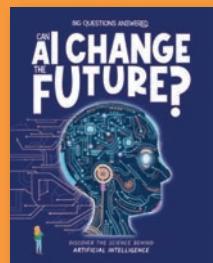
- **Describe the street you were on.**
Where were you? What was around you at the time?
- **Describe what the robots looked like.**
Think about the size, their body language, and how many there were.
- **Describe how you felt.**
Were you excited, nervous, or something else?



CAN AI CHANGE THE FUTURE?

For reference to the Teachers' & Parents' Resources, this goes with 'The True Impact of AI: Scene 13'.

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INTO THE FUTURE

The future of artificial intelligence is complicated but very exciting. It seems AI could do a lot of good in the world. What do you think about it? Read the questions below and think about your own opinions before filling in your answers.

If you could invent your own type of AI, what would it do?

.....
.....
.....

Do you think it's important to be careful about what we teach AI? Why?

.....
.....
.....

What do you think living alongside robots would be like?

.....
.....
.....

What excites or scares you the most about the idea of living and working with robots?

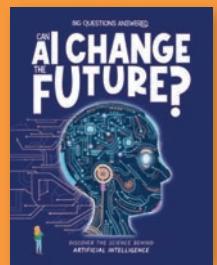
.....
.....
.....



CAN AI CHANGE THE FUTURE?

For reference to the Teachers' & Parents' Resources, this goes with 'Post-Reading Questions'.

www.thebigquestionsanswered.com



WRITE YOUR OWN AI STORY

Can you write a story of your own about AI, making sure to include the 3 key words below?

AI

COMPUTER

AI RESEARCHER

MORE FUN AI ACTIVITIES

COLOURING SHEETS & MORE!

The following activities aren't based on any specific scenes in the book. They can be used on their own or alongside the book as extra activities.

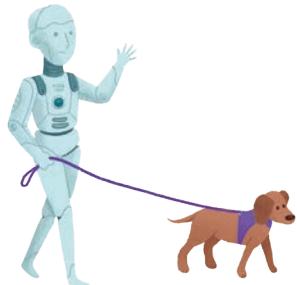
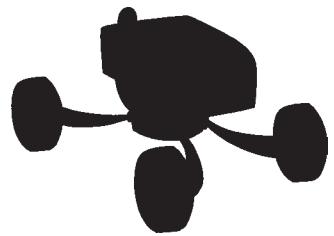
FIND THE SCIENTIST

There are lots of different scientists below. Can you find the AI researcher?
Circle them when you find them - there's only one!



MATCH THE SHAPE

Can you match each shadow to the correct picture? Draw a line to connect them.



SIMPLE SUMS

Below are 3 objects which represent different numbers.

Work out the sum based on what each object represents and write your answers in the boxes.



= 5



= 1



= 2

$$\text{Robot holding globe} + \text{Person holding tablet} + \text{Computer monitor} = \boxed{}$$

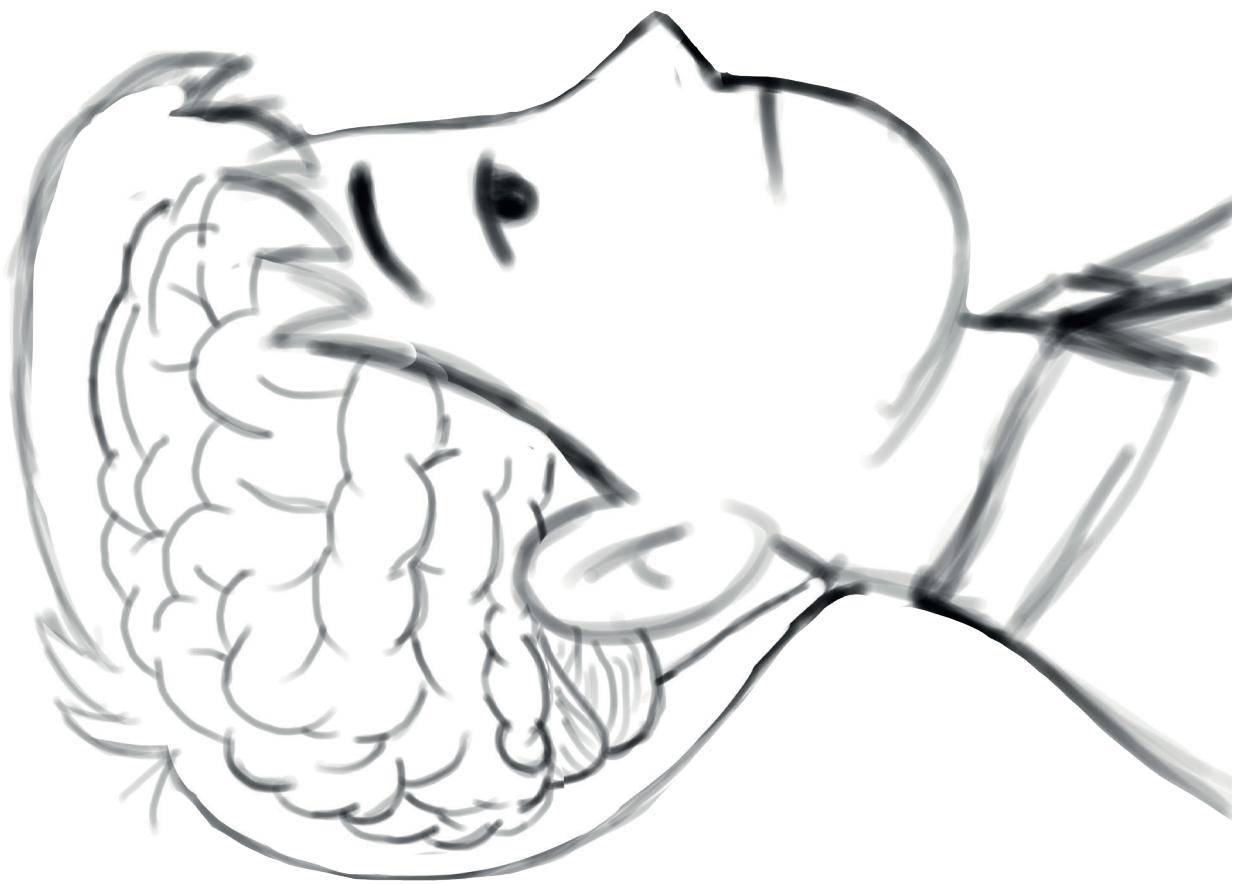
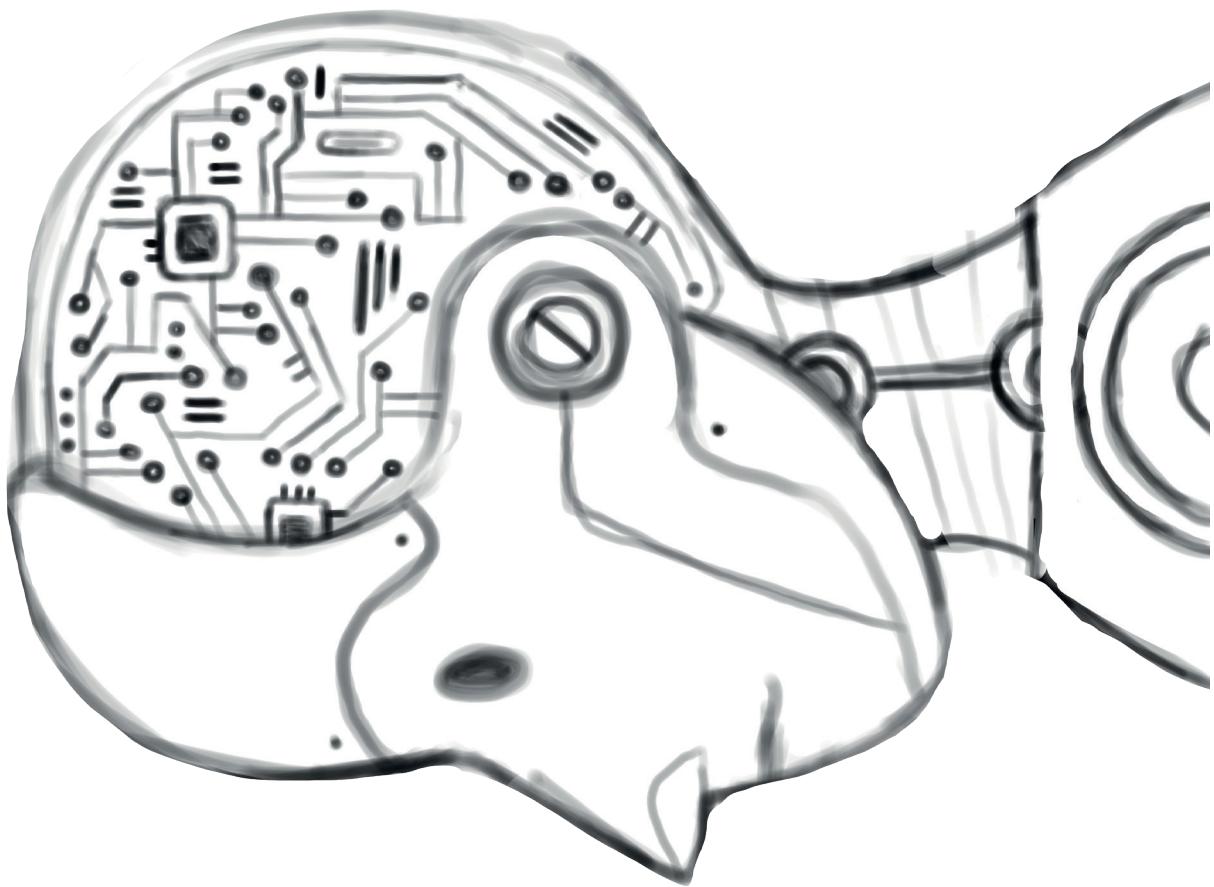
$$\text{Person holding tablet} - \text{Computer monitor} + \text{Robot holding globe} = \boxed{}$$

$$\text{Robot holding globe} + \text{Robot holding globe} + \text{Person holding tablet} = \boxed{}$$

$$\text{Computer monitor} + \text{Person holding tablet} - \text{Robot holding globe} = \boxed{}$$

COLOUR ME IN!

This colouring sheet is based on scene 1: Could Computers Become Intelligent?



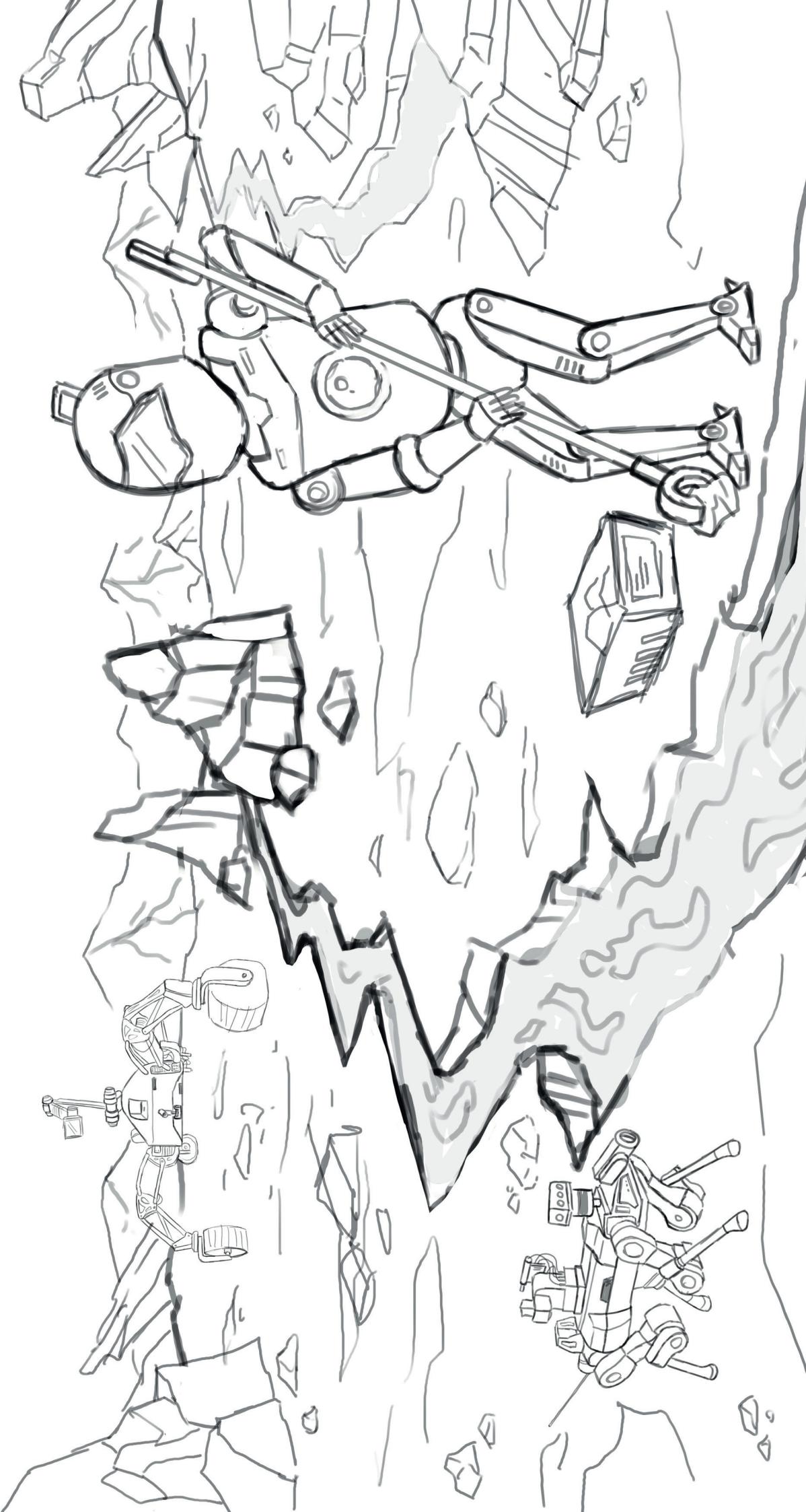
COLOUR ME IN!

This colouring sheet is based on scene 9: Self-driving Cars.



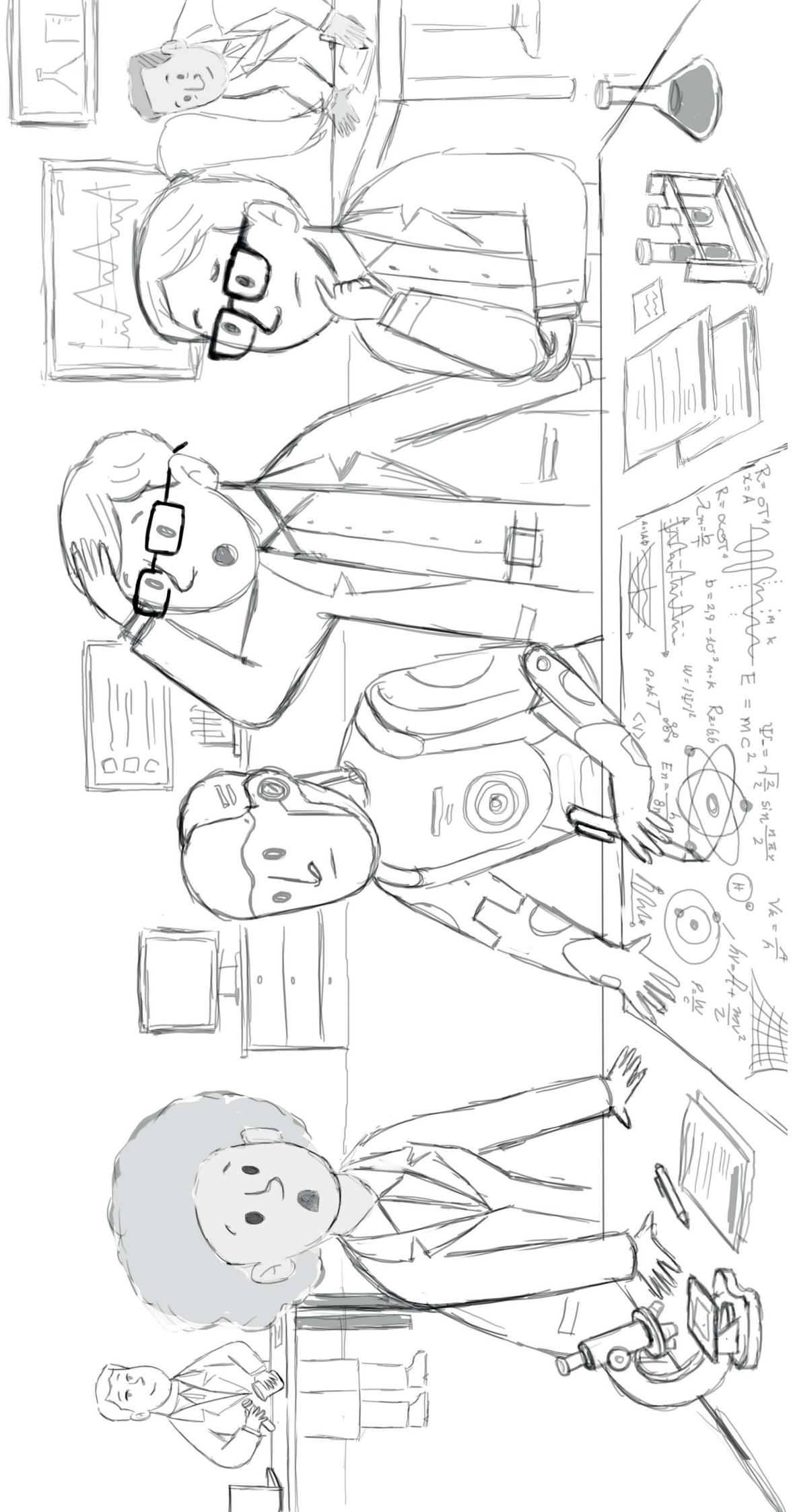
COLOUR ME IN!

This colouring sheet is based on scene 10: Space Exploration.



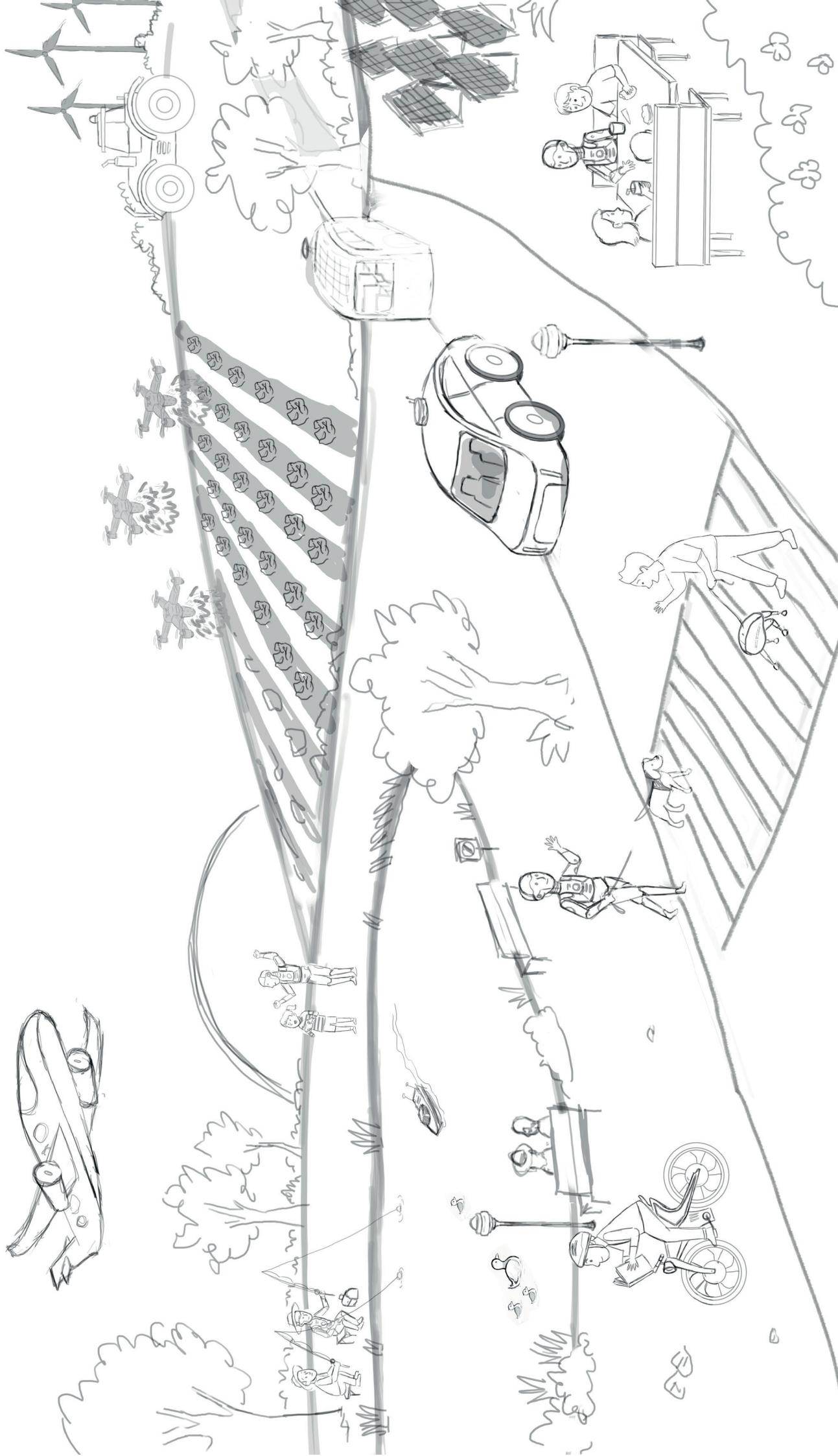
COLOUR ME IN!

This colouring sheet is based on scene 11: The Possibility of Super-Intelligence.



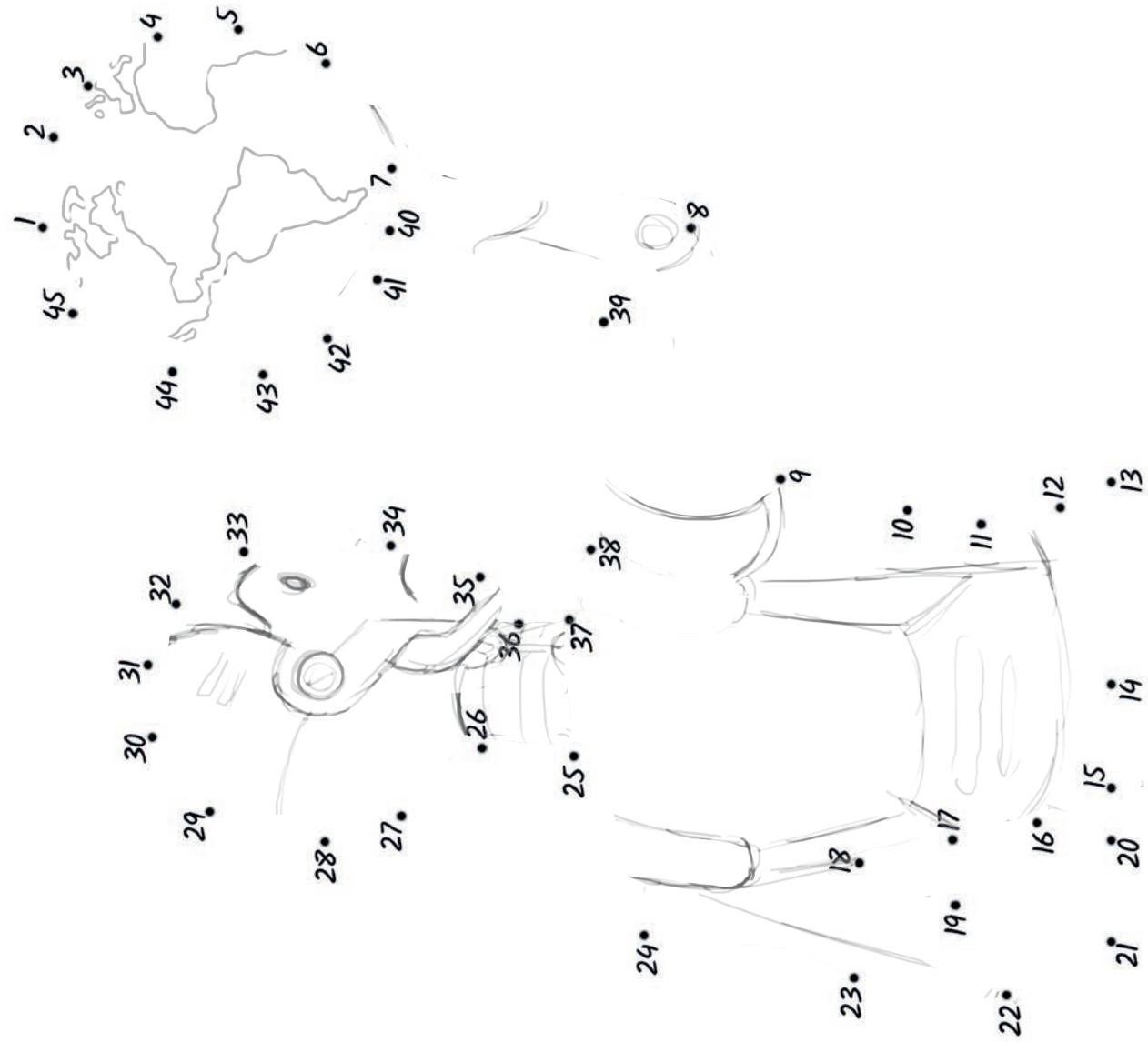
COLOUR ME IN!

This colouring sheet is based on scene 13: The True Impact of AI.



DOT-TO-DOT

Starting from 1, draw a line connecting the numbers to create a picture. Why not colour it in afterwards?



DOT-TO-DOT

Starting from 1, draw a line connecting the numbers to create a picture. Why not colour it in afterwards?



YOUNG AI RESEARCHERS' ACTIVITY ANSWERS

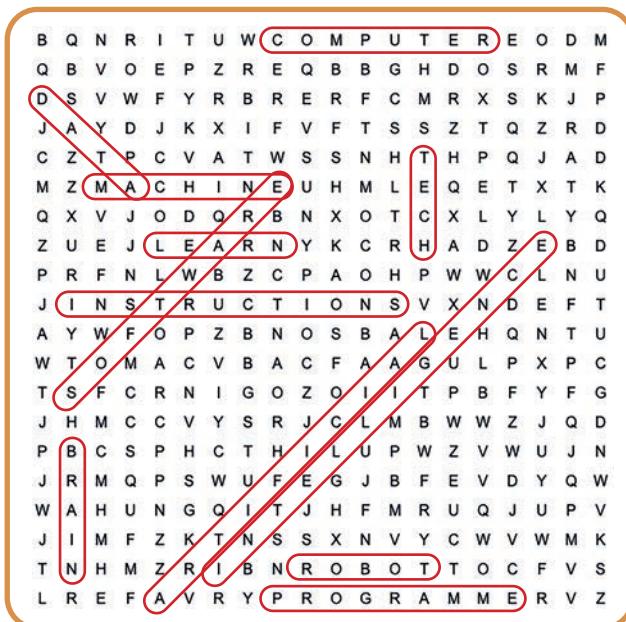
Find the answers to the activities on the following pages.

ACTIVITY ANSWERS

Check your answers against the correct answers below!

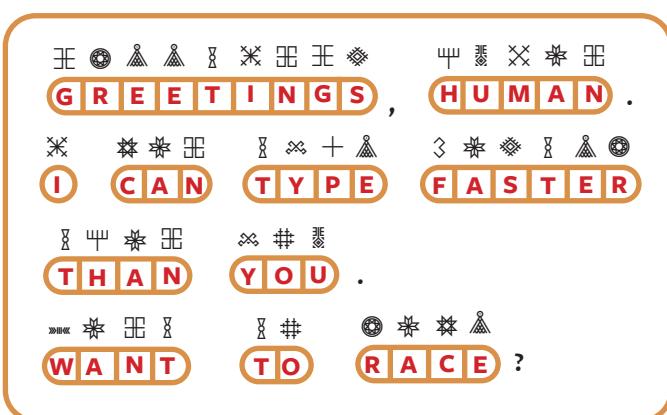
CREATED INTELLIGENCE ANSWERS

The answers below are for the ‘word search’ activity on page 3.



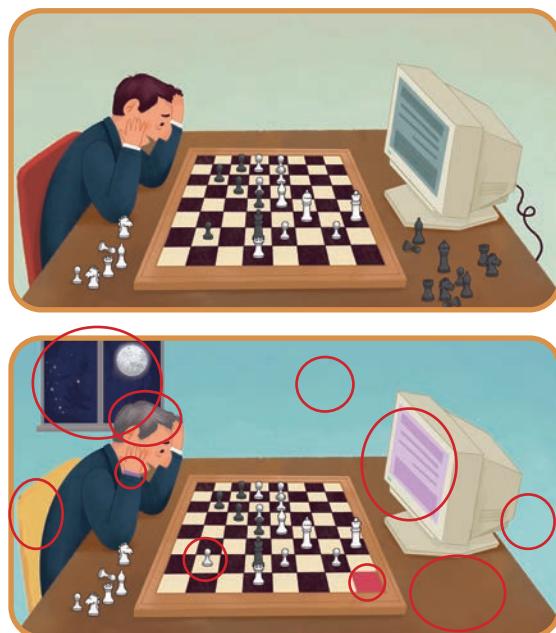
A MESSAGE FROM A MACHINE ANSWERS

The answers below are for the ‘decoding challenge’ activity on page 5.



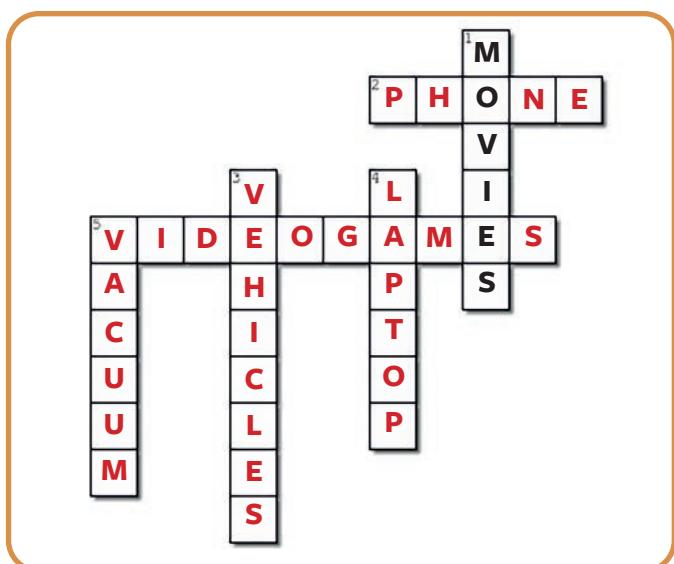
CHECKMATE CHALLENGE ANSWERS

The answers below are for the ‘spot the difference’ activity on page 4.



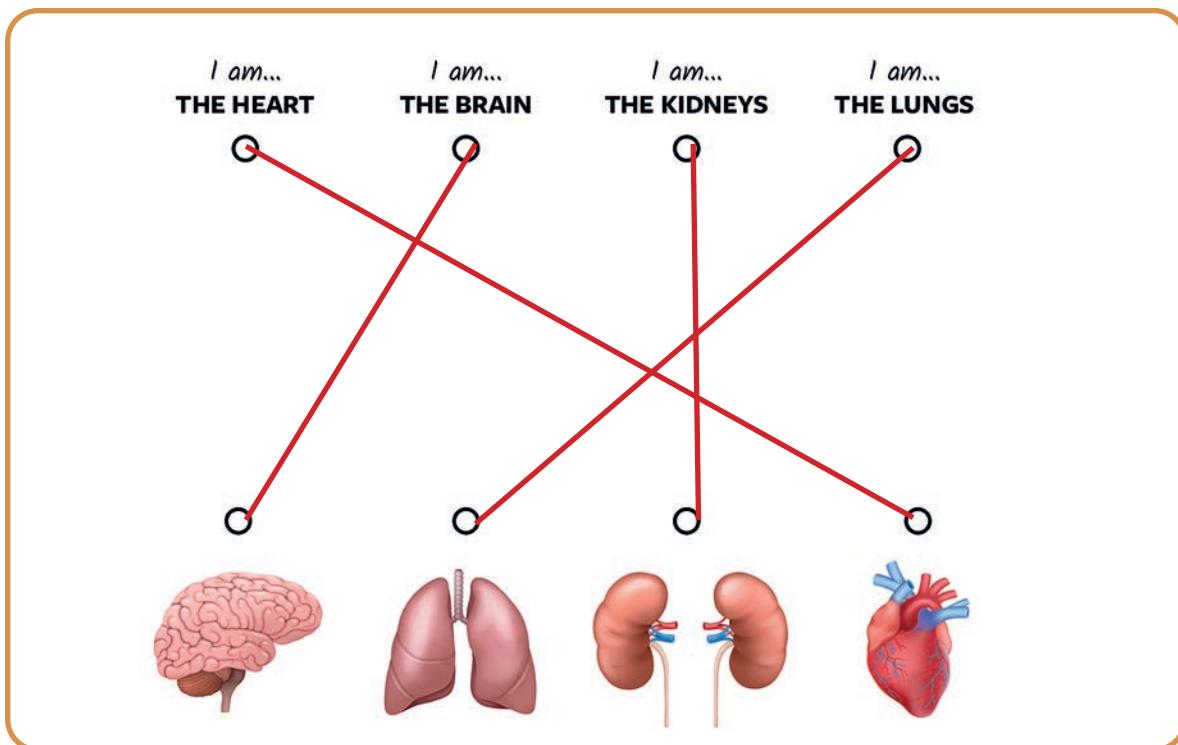
MIGHTY MACHINES ANSWERS

The answers below are for the ‘crossword’ activity on page 6.



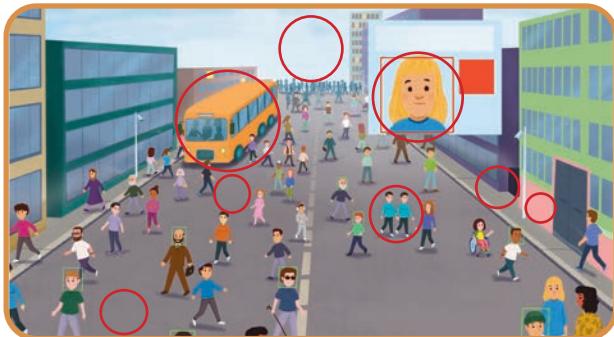
BAFFLING BODY PARTS ANSWERS

The answers below are for the 'match up' activity on page 7.



CRAFTY CRIMINAL ANSWERS

The answers below are for the 'spot the difference' activity on page 8.



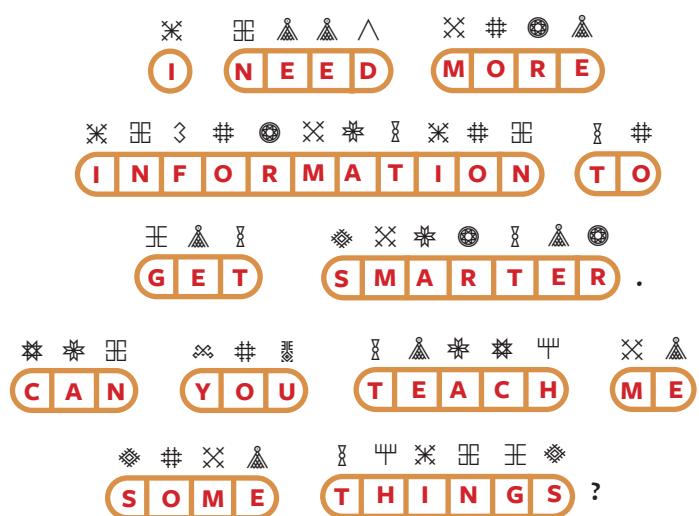
ROBOT REMIX ANSWERS

The answers below are for the 'word scramble' activity on page 9.

FITARLIACI	ARTIFICIAL
NITENGECLILLE	INTELLIGENCE
PUTORCEM	COMPUTER
FERASWOT	SOFTWARE
NICHAME	MACHINE
TROOB	ROBOT
NRIAB	BRAIN

MYSTERY MESSAGE ANSWERS

The answers below are for the 'decoding challenge' activity on page 10.



THE POWER OF AI ANSWERS

The answers below are for the 'fill in the blanks' activity on page 11.

1. The study of artificial intelligence is still very new. The term was only created in the 1950s, which means the science is less than 100 years old.
2. The science is based around training computers to think, learn, and make decisions like humans.
3. AI can be programmed into machines called robots which can perform all sorts of tasks, like cleaning things up to performing science experiments.
4. AI can be used to do lots of good, like helping police solve crimes, helping farmers grow food, and helping doctors provide better medical treatment.
5. However, some people are worried that if machines become too smart, they will become self-aware and want to take over the world!
6. Thankfully, that kind of technology doesn't exist yet. In fact, it might not ever!

SUPER SMART ROBOTS ANSWERS

The answers below are for the 'true or false' activity on page 13.

	SENTENCE	TRUE	FALSE
1	AI can see patterns, follow instructions, and make decisions.	TRUE	
2	Robots can work longer than humans since they don't need to sleep or eat.	TRUE	
3	Robots that are superintelligent will be able to solve all the world's problems		FALSE
4	AI can predict the weather better than humans.	TRUE	
5	Robots can learn to read people's minds.		FALSE
6	Superintelligent robots already exist.		FALSE

EXTRA ACTIVITY ANSWERS

Check your answers against the correct answers below!

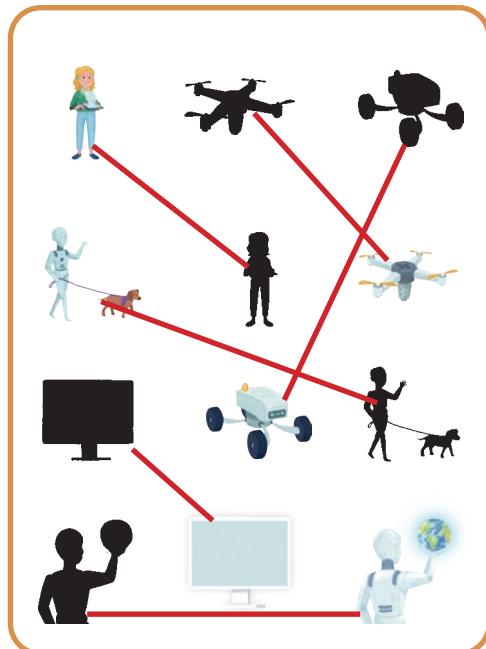
FIND THE SCIENTIST

The answers below are for the activity on page 18.



MATCH THE SHAPE

The answers below are for the activity on page 19.



SIMPLE SUMS

The answers below are for the activity on page 20.

$$\begin{array}{rcl} \text{Robot} + \text{Person} + \text{Monitor} & = & 8 \\ \text{Person} - \text{Monitor} + \text{Robot} & = & 4 \\ \text{Robot} + \text{Robot} + \text{Person} & = & 7 \\ \text{Monitor} + \text{Person} - \text{Robot} & = & 6 \end{array}$$