

# The Scottish SPCA's ADVENTURE TAILS

Online learning resource pack



## BOOK 2 – ANIMALTRONICS

Design your own animal robot



This activity book belongs to:

.....



**ANIMAL WISE**<sup>®</sup>  
SCOTTISH SPCA



# PAGE GUIDE

<b>Introduction</b>	<b>Page 3</b>
<b>How to use the pack</b>	<b>Page 4</b>
<b>Curriculum links</b>	<b>Page 5</b>
<b>Step 1 – Research</b>	<b>Page 6</b>
<b>Step 2 – Mechanics &amp; Interactions</b>	<b>Page 8</b>
<b>Step 3 – Design</b>	<b>Page 9</b>
<b>Step 4 – Build</b>	<b>Page 10</b>
<b>Step 5 – Robot World</b>	<b>Page 12</b>
<b>Colour me in!</b>	<b>Page 14</b>
<b>Detective Board</b>	<b>Page 15</b>



Hi, I'm Gibson! Welcome back to the Scottish SPCA's Adventure Tails. Congratulations on completing the first stage on your quest to become a Scottish SPCA Animal Champion.

Remember, in order to be crowned an Animal Champion there are five colour stages to complete – **Orange**, **Blue**, **Pink**, **Purple** and **Green**.

A new colour stage will be released each month so keep an eye on our website ([scottishspca.org/education-resources](http://scottishspca.org/education-resources)). To be Scotland's Animal Champion you must complete all coloured booklets in order so the **orange** booklet would be your first and the **green** booklet would be your last.

Did you see we also launched **#AnimalSmart**? Check out our social media channels as each week we will introduce you to some of the animals in our care, you will get the opportunity to ask questions to some of the team, such as our vets and those that help rehabilitate wildlife and so much more!

As for now, Martha and I have an exciting challenge for you where you can really show your creative side. So... shall we get started?!

**MARTHA**



**GIBSON**





# HOW TO USE THE PACK



1. This pack is slightly different to the **orange** stage as we have set you a unique challenge!
2. Look out for me, Gibson, as I have lost some of my animal friends along the way so we need your help. Look at my clues and see if you can guess what the animals are. Use your answers to crack the code, complete this second booklet and unlock the next one.
3. If you can't guess what the animal is, take a sneak peak on page 15 as I have left you some clues.
4. You can either print off the pack and draw on it directly or use your own paper. Once you have completed all the steps and cracked Inspector Martha's secret code, take a photo of page 15, along with a photo of your completed animal robot prototype and share it with us. If you have printed the booklet and filled in the pages, you can scan these in or take photos and then ask your parent/carer to email us: [education@scottishspca.org](mailto:education@scottishspca.org). Don't forget to include your first name, initial of your second name, class, school and local authority. For example I would be Gibson S, P7, Dogtastic Primary School, Edinburgh.
5. Complete our challenge and we will send you a certificate and you can then progress on to the next coloured stage.
6. Complete all five coloured stages and we will crown you one of **Scotland's Animal Champions**. Pssst....if at least 50% of the pupils at your school take part, you'll get the amazing honour of being one of the Scottish SPCA's **School Animal Champions 2020**.



# CURRICULUM LINKS

We have made sure that our Adventure Tails booklets have lots of links to the Curriculum for Excellence so that you can impress your teachers with what you have learnt!

Health and wellbeing



Numeracy and mathematics



Expressive arts



Literacy and languages



Religious and moral education



Science



Social Studies



Technology



Psst... this particular challenge is a great link with



# STEP 1 – RESEARCH

## THE CHALLENGE

**We want you to design your very own animal robot! To complete our blue Animaltronics challenge you need to compete all five steps and crack Martha's secret code to unlock the next booklet. Ready?...**



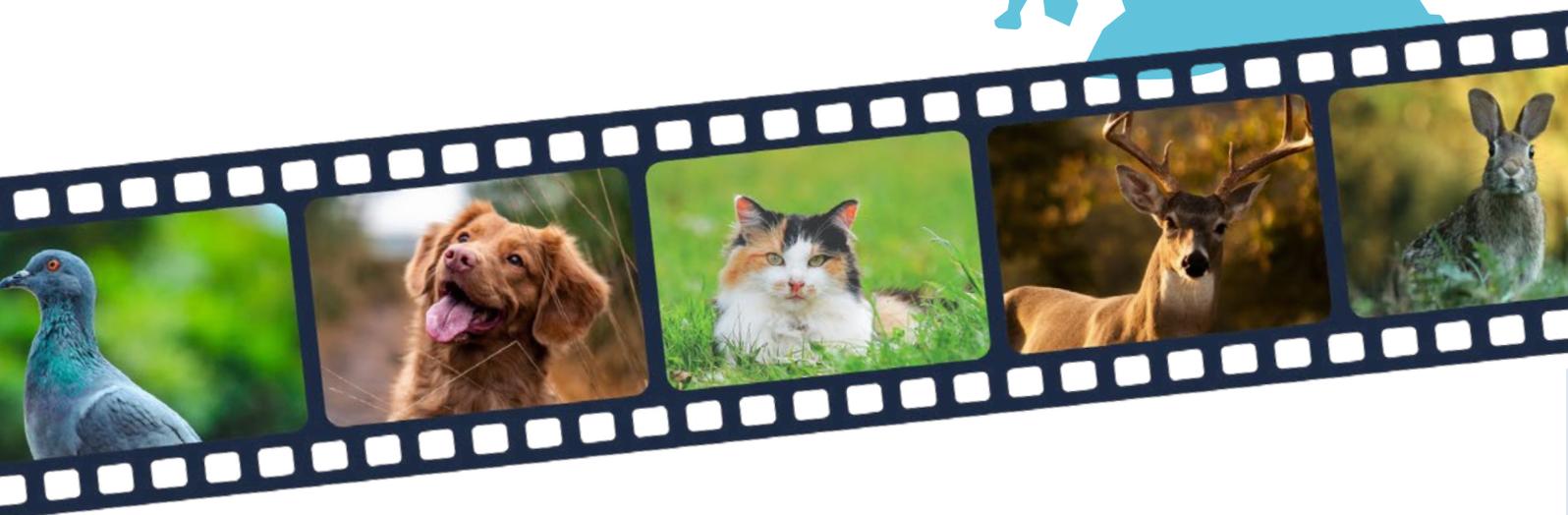
### First of all, what do you know about robots?

Why not take a look at books such as 'That's not my robot' by Fiona Watt or ask google?

-  When was the first robot created?
-  How do people use robots now?
-  Are there animal robots for sale in the shops?

Think about the types of animals we have living in Scotland and base your animal robot on one of these. Look at animals living around you. Most importantly use your imagination.

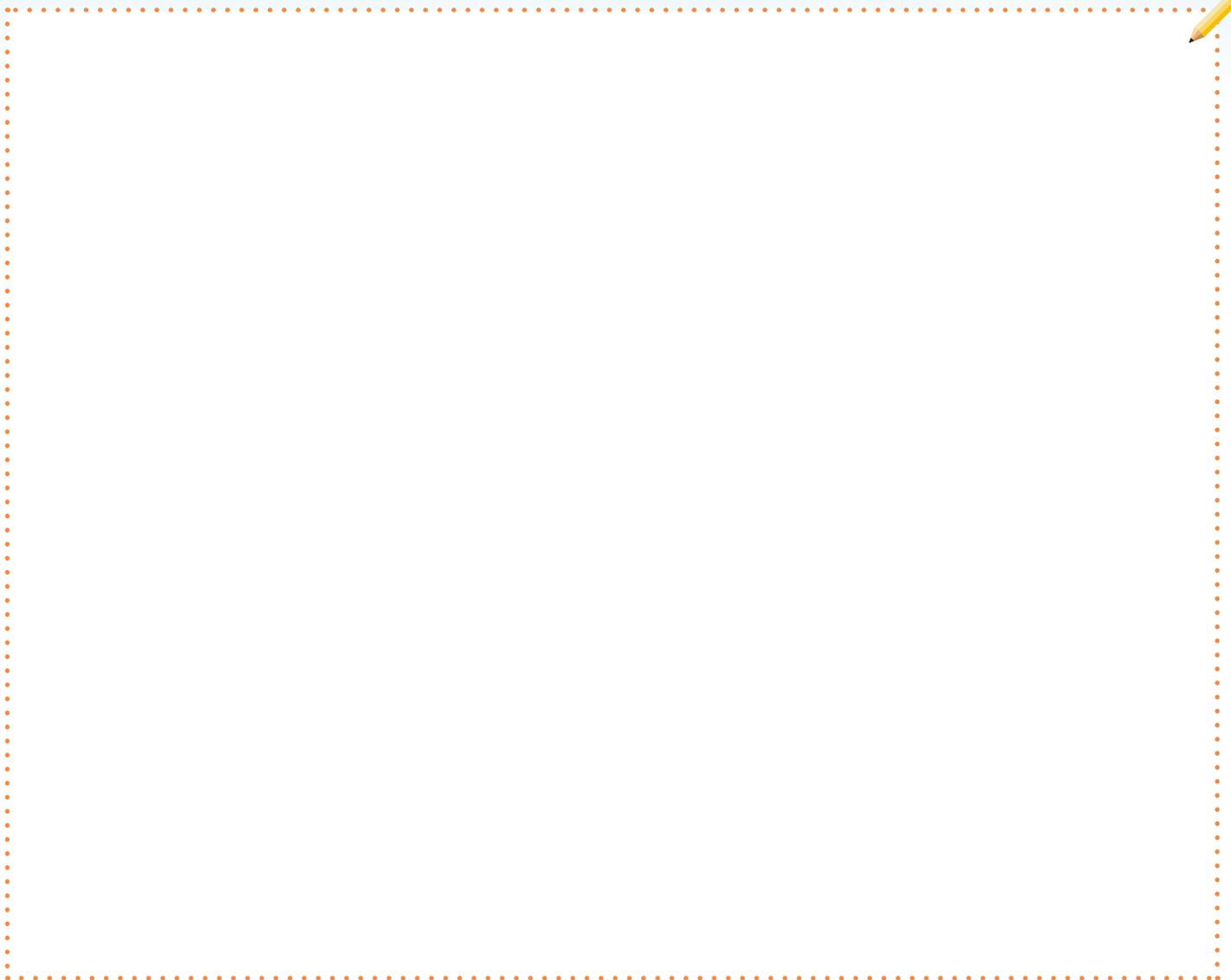
Not sure which animal to choose? Here are some examples of animals that you may spot living close to you. Take some time to watch how they move, what they look like, what sounds they make and hopefully that will help you build your amazing creation!



# ANIMALTRONICS

Make a list of animals that you might want to build as a robot. You can also draw them if you like. What do you like about them? Why would they make a good robot? When you have finished, look at your list and pick out the animal that you are going to build.

## POSSIBLE ANIMALS



MY CHOSEN ANIMAL IS: .....



### MYSTERY ANIMAL #1

I am born with white fur. I am around 3 weeks old before my fur is waterproof and I can swim in the sea. ....

Don't forget to record your animal trivia answers on page 15

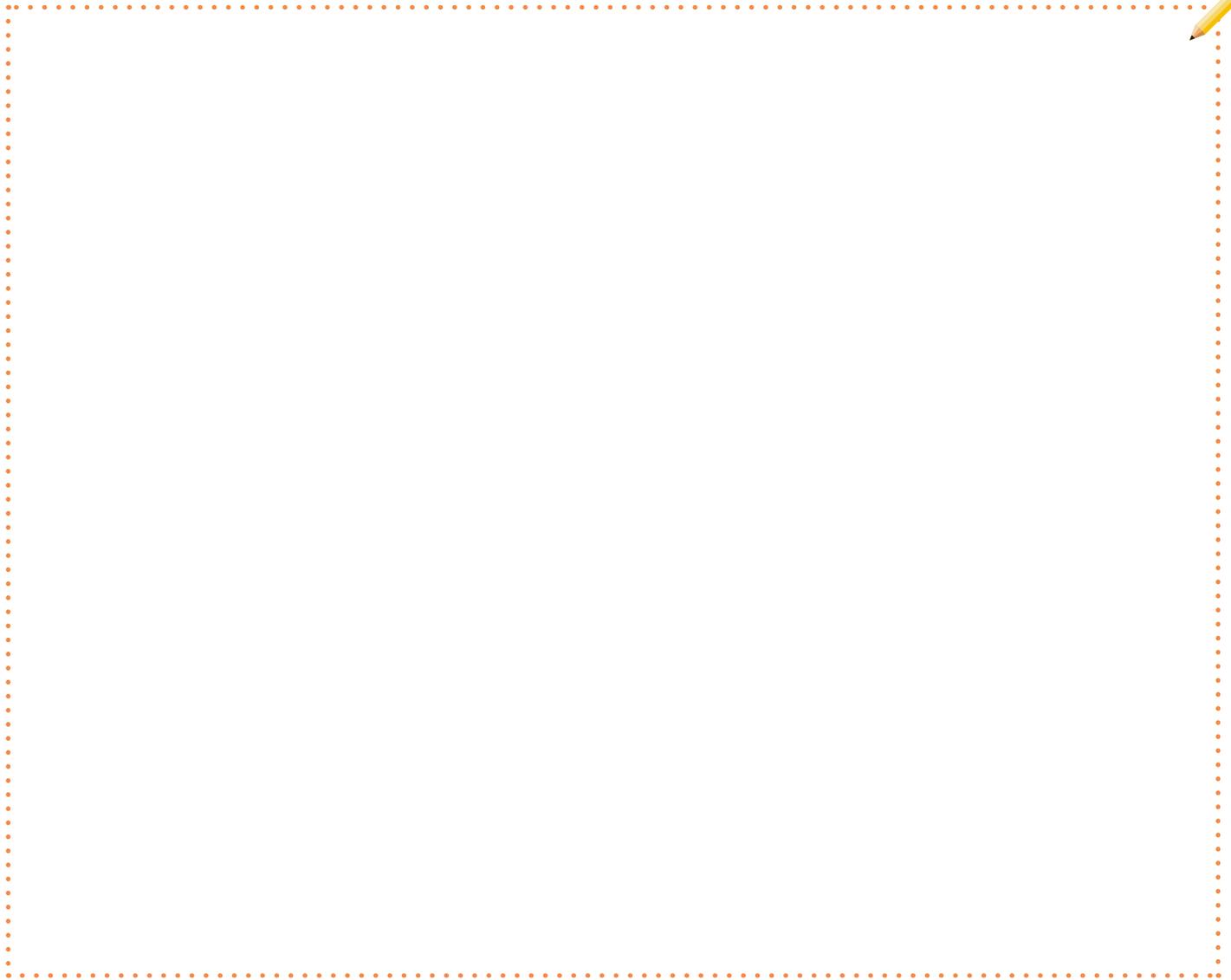
# STEP 2 – MECHANICS AND INTERACTIONS

**Now that you have chosen your animal, think about how your robotic animal will move. Will it...**

- 🐾 Be on wheels? If so, how many?
- 🐾 Have legs? If so how many?
- 🐾 Have wings?
- 🐾 Interact with you and anyone else it meets, human or animal?
- 🐾 If you make a sound will it respond by moving away?
- 🐾 Be able to detect objects that are in front of it?
- 🐾 Respond to light?
- 🐾 Have any special powers?

**Use the space below to sketch out your ideas**

## MY IDEAS



### MYSTERY ANIMAL #2

I can fly as fast as 60 miles per hour and I have a wingspan of up to 2.5 metres.

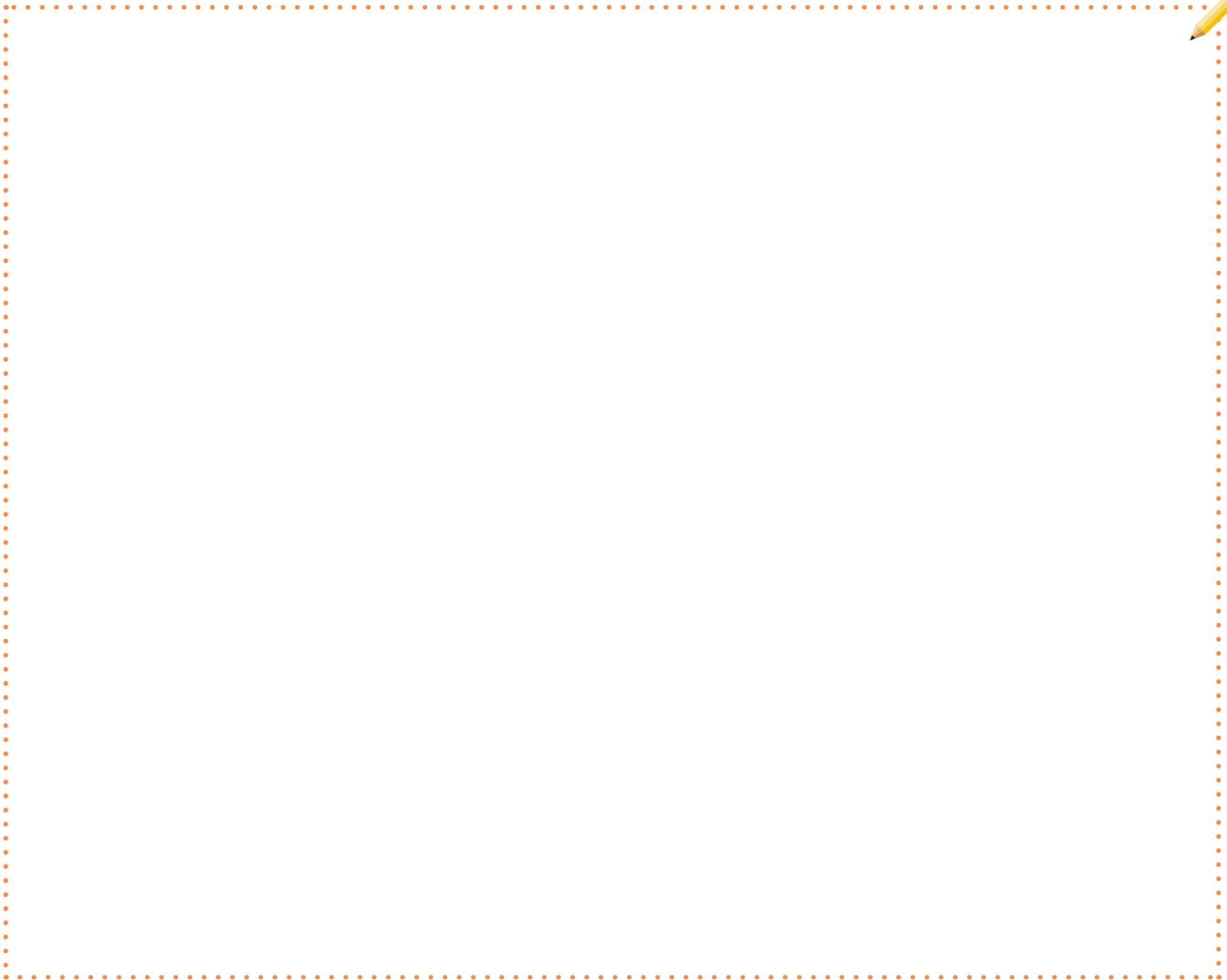
Don't forget to record your animal trivia answers on page 15

# STEP 3 – DESIGN

Now that you have done your research, you will know what type of animal robot you would like to make a prototype of. You will have thought about how it should move and if it will use senses just like us (respond to sound, light). It is now time to design your amazing robotic animal! Consider the following:

- 🐾 What do you want your animal to look like?
- 🐾 Is it a mythical creature? What does mythical mean?
- 🐾 Practice drawing it a few times first then add your final design to the space below.

## MY ANIMAL ROBOT



### MYSTERY ANIMAL #3

My home is called a lodge and I can stay underwater for around 15 minutes.

Don't forget to record your animal trivia answers on page 15

# STEP 4 – BUILD

Now that you have your design ready it's time to build your model. Building a model is a great way to show someone your ideas. For example, you could take your model to a robotics company who could do the complicated stuff and get your animal moving and interacting with you. Before you start building think about the following:

- 🐾 How are you going to build it?
- 🐾 What materials would you use for your model?  
Lego, cardboard, paper, Meccano?
- 🐾 What materials would you want a robotics team to make it out of?
- 🐾 If you could, how would you make it move?
- 🐾 Make sure you write the steps you took to make your model in the space below.

Use the space below to sketch out your ideas

## MY PROTOTYPE



A large rectangular area defined by a dotted orange line, intended for sketching out the prototype of the animal model.



### MYSTERY ANIMAL #4

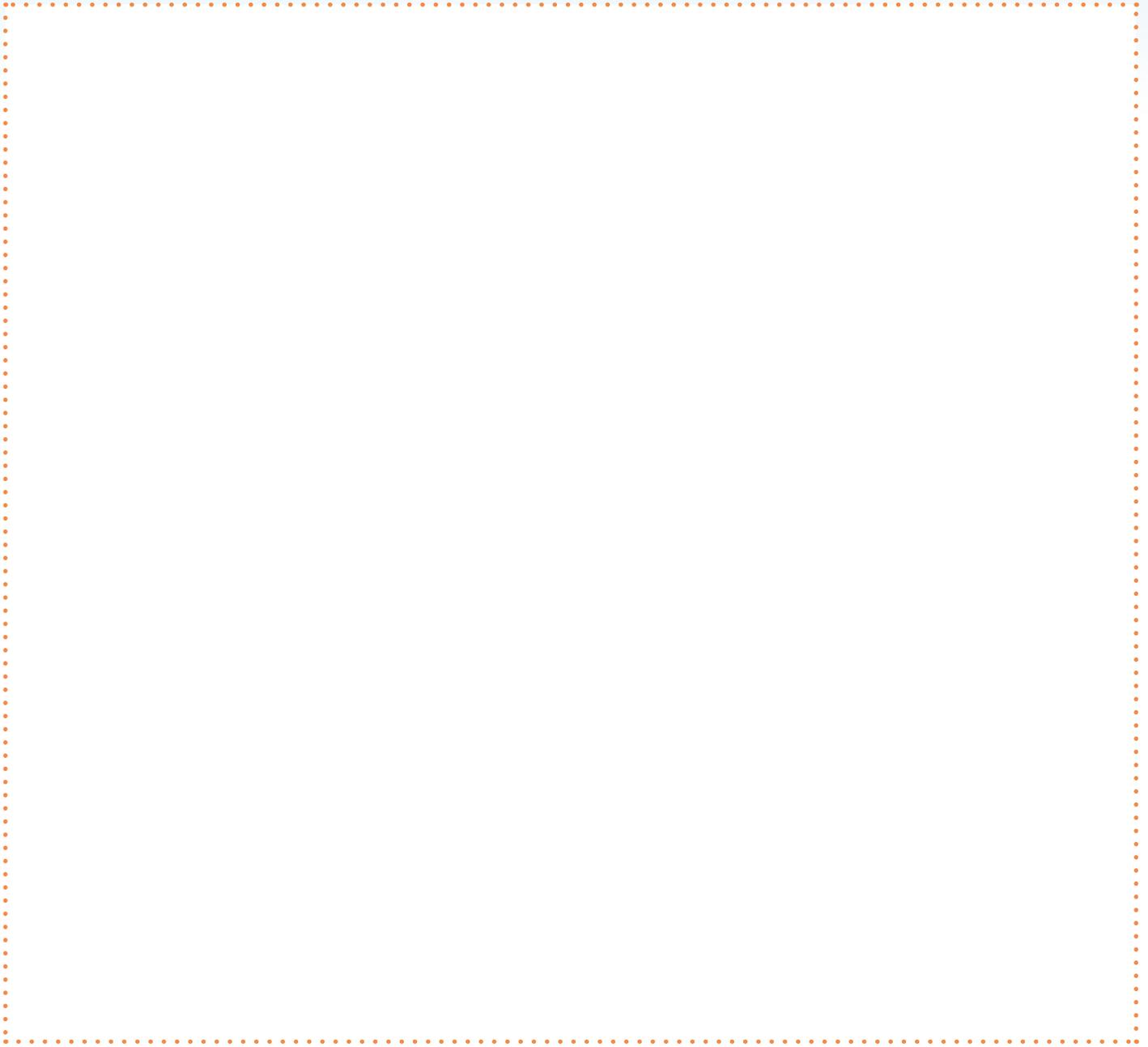
There are more of me than people in the world and I love to have dust baths.

Don't forget to record your animal trivia answers on page 15

# STEP 4 – BUILD

Now take some photos of your finished robot. If you have printed this booklet you can print out the photos, cut them out and stick them in here. If you haven't printed the booklet, you can send your photos to us seperately and we can add them into the space below.

## MY FINISHED ROBOT



### MYSTERY ANIMAL #5

My front teeth can grow up to 3mm per week.

.....  
Don't forget to record your animal trivia answers on page 15

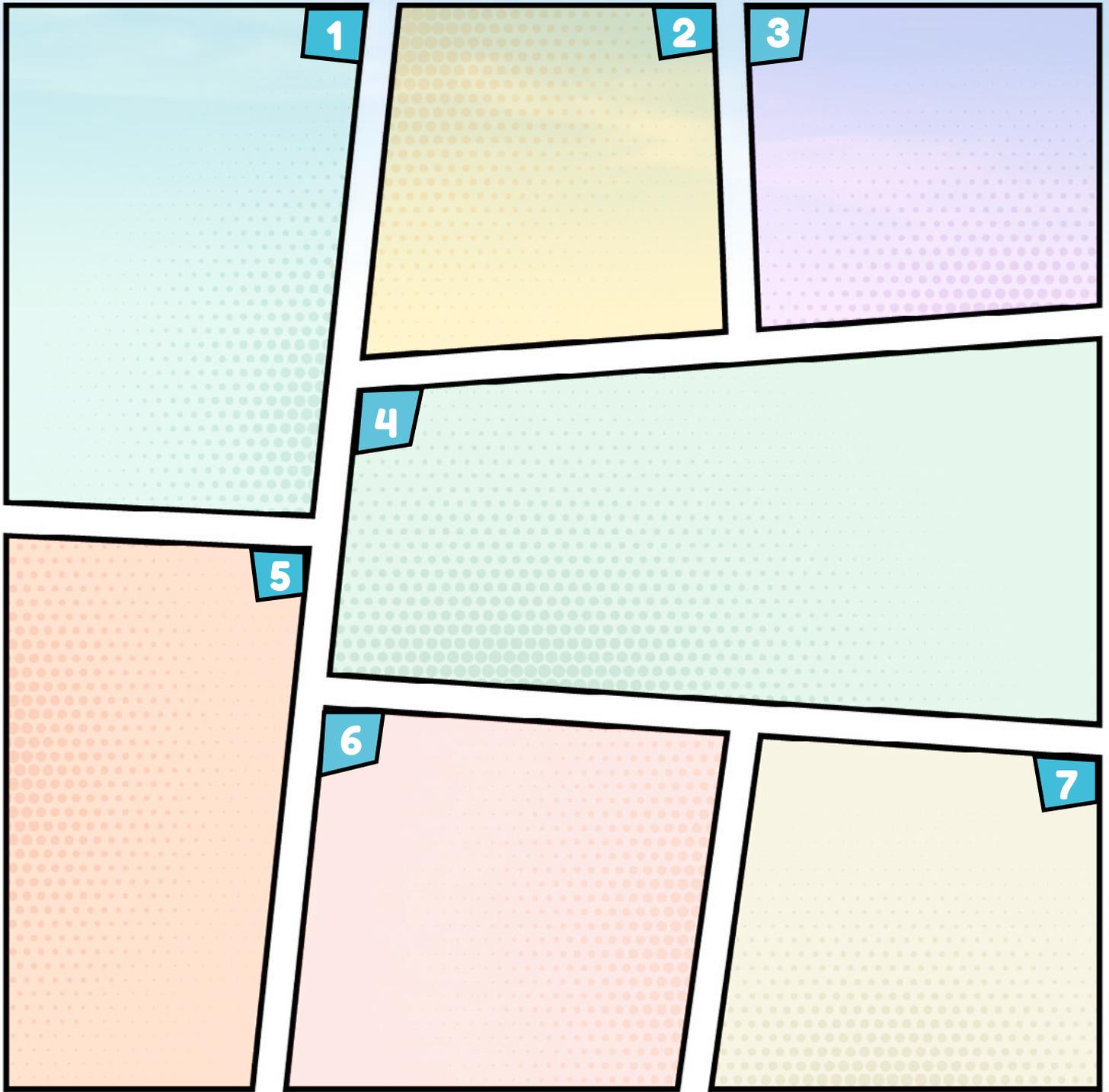
# STEP 5 – ROBOT WORLD

What will your robotic animal get up to? There are many popular cartoons and films that feature robots (**Transformers**, **Rescue Bots**, **Little Robots** and **Wall-E** to name just a few!). Build a story around your animal robot by creating a cartoon strip using the template on the next page. Practice drawing and decide on your story before you create it in the cartoon.

If you have printed this booklet you can draw directly into the boxes. If you are using your own paper you can scan or send in pictures and we can add them to the next page.

## PRACTICE DRAWING SPACE





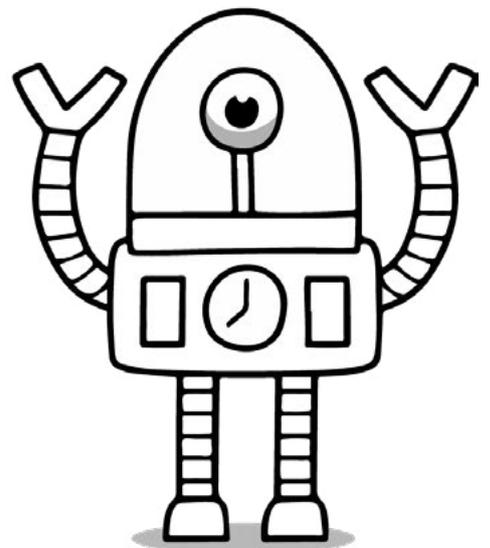
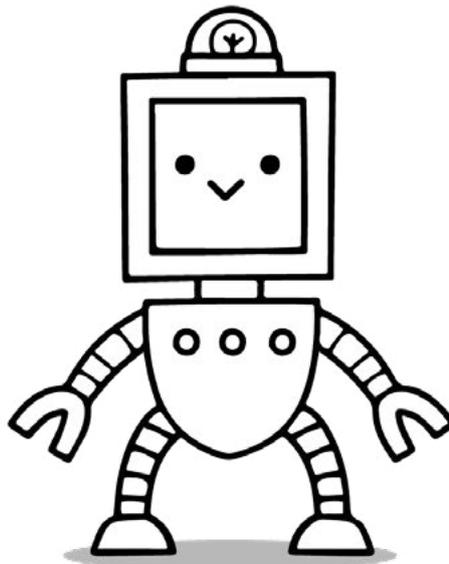
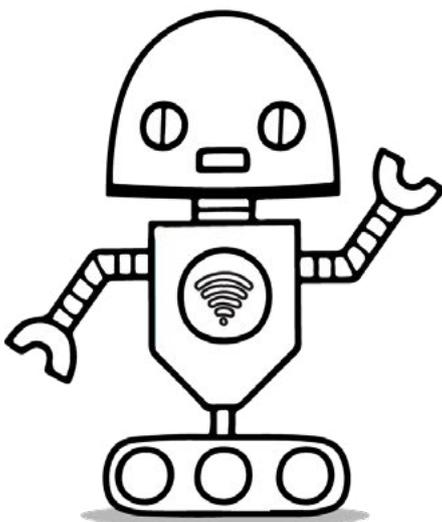
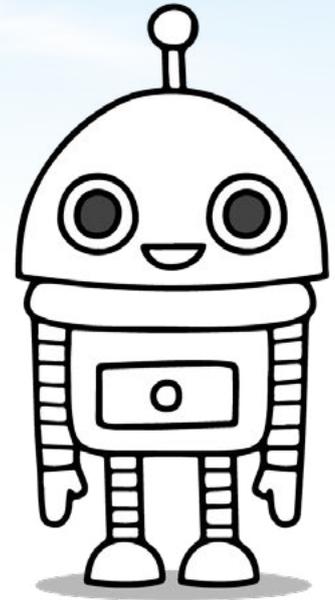
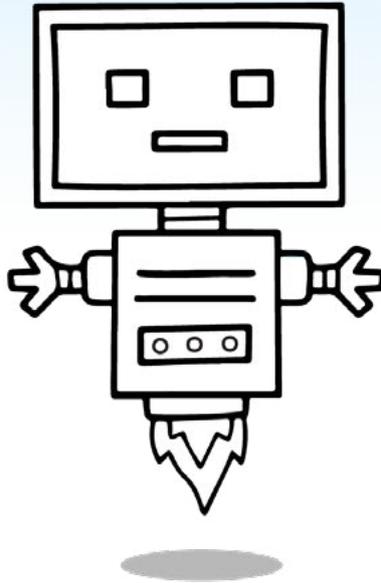
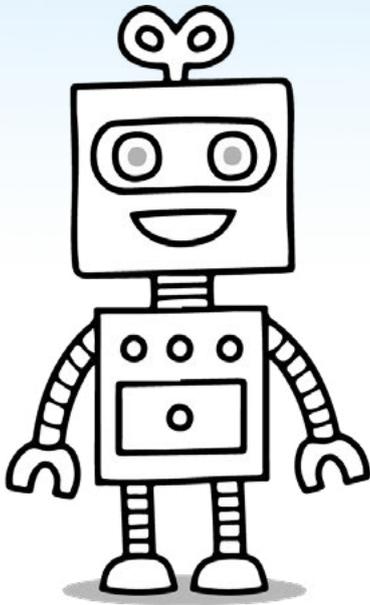
### MYSTERY ANIMAL #6

My nest is called a 'drey' and I spend 75% of my time in trees and shrubs.

Don't forget to record your animal trivia answers on page 15

# COLOUR ME IN!

Why not try coloring in these 6 robots? You can also give them each a different robot name!



# MARTHA'S DETECTIVE BOARD

TRIVIA #	CLUE	ANSWER (A, B or C)	NUMBER OF LETTERS IN THE ANSWER
1	A. grey seal B. otter C. sea lion		
2	A. eagle B. swan C. seagull		
3	A. badger B. beaver C. hedgehog		
4	A. cow B. chicken C. pig		
5	A. rat B. guinea pig C. rabbit		
6	A. squirrel B. bat C. mole		
		<b>TOTAL = secret code</b>	

Amazing – well done! Take a photo of this page and share the secret code with us, along with photos of your animal robot. If you have printed the booklet and filled in the pages, you can scan these in or take photos and then ask your parent/carer to email us: [education@scottishspca.org](mailto:education@scottishspca.org). Don't forget to include your first name, initial of your second name, class, school and local authority. For example I would be Gibson S, P7, Dogtastic Primary School, Edinburgh.

We would love to see pictures of how you have used this booklet and the things you have made so if you are happy for these to be shared on our social media channels then please email the photos to [education@scottishspca.org](mailto:education@scottishspca.org) with the subject "Please share my amazing creations."



Have you cracked Martha's secret code and helped unlock the next booklet? Follow the instructions above and we will let you know!





03000 999 999  
[scottishspca.org/education-resources](https://scottishspca.org/education-resources)



Scottish Society for the Prevention of Cruelty to Animals | Scottish Charity No. SC 006467



**ANIMAL WISE**<sup>®</sup>  
SCOTTISH **SPCA**