

I'm spending the week thinking all about this clever language which we use to tell computers what to do. Much like climbing trees or cooking profiteroles, coding SOUNDS like it's really difficult - but in fact you can learn the basics quite easily!

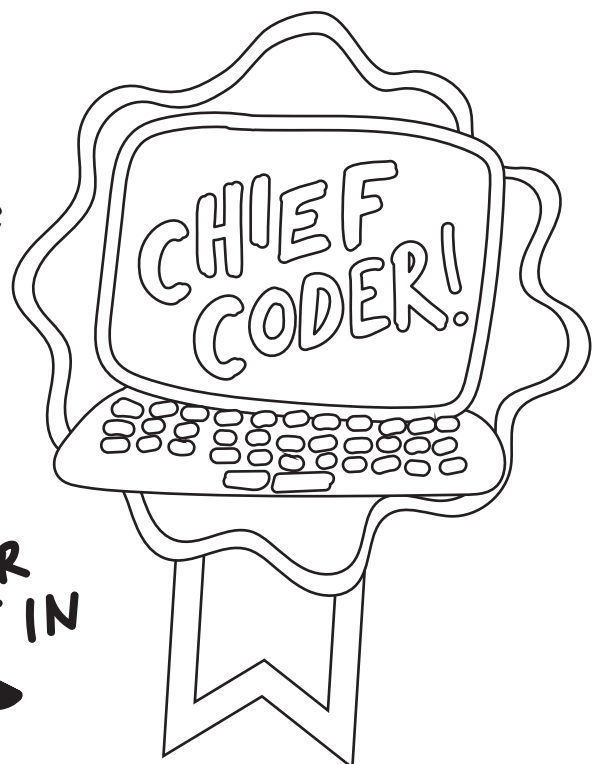
If you want to be a coding cat too, I've put together some activities to get you started!

And guess what? After you have finished them, you can colour and cut out this badge which says CHIEF CODER on it, because that is what you'll be!

Stay pawsome!

Banjo x

COLOUR
ME IN
→



BINARY CODE BRACELETS!

Did you know BINARY CODE is the simplest form of computer code? It's a way of representing information using ones and zeros ('binary numbers').

All letters, numbers and characters are turned into eight-digit binary numbers by the computer. For example, the letter 'a' is represented as 01100001.

Use the binary chart below to learn how to write your name in binary code:

a	01100001	n	01101110
b	01100010	o	01101111
c	01100011	p	01110000
d	01100100	q	01110001
e	01100101	r	01110010
f	01100110	s	01110011
g	01100111	t	01110100
h	01101000	u	01110101
i	01101001	v	01110110
j	01101010	w	01110111
k	01101011	x	01111000
l	01101100	y	01111001
m	01101101	z	01111010

How to make a binary bracelet:

- To get started, you'll need beads in two colours for the 1s and 0s. You'll also need a piece of string or a pipe cleaner.
- Decide which colour bead represents 1s, and which colour bead represents 0s.
- Using the chart, find the first letter of your name. You'll use the beads to represent this letter in binary code.
- Tie or twist a knot into the end of your string or pipe cleaner.
- Add the beads to the string or pipe cleaner. Repeat steps 3-5 until your whole name is spelt and on your bracelet.
- Tie the bracelet on your wrist. If you have a lot of letters in your name, it might become a necklace!

This spells 'BANJO' in binary code!

If you don't have the materials needed to make a bracelet in the house, that's okay! You can also turn this activity into a spy game. Why not write someone a secret message using the binary system?

ESCAPE THE MAZE

Have you ever tried to find your way around a maze? I LOVE putting my mind to work to find the fastest way to the exit. You don't need to travel anywhere to find a maze, you can make one at home using just a deck of cards. Grab a grown-up or sibling for this as it's best enjoyed with 2 people!

You'll need:

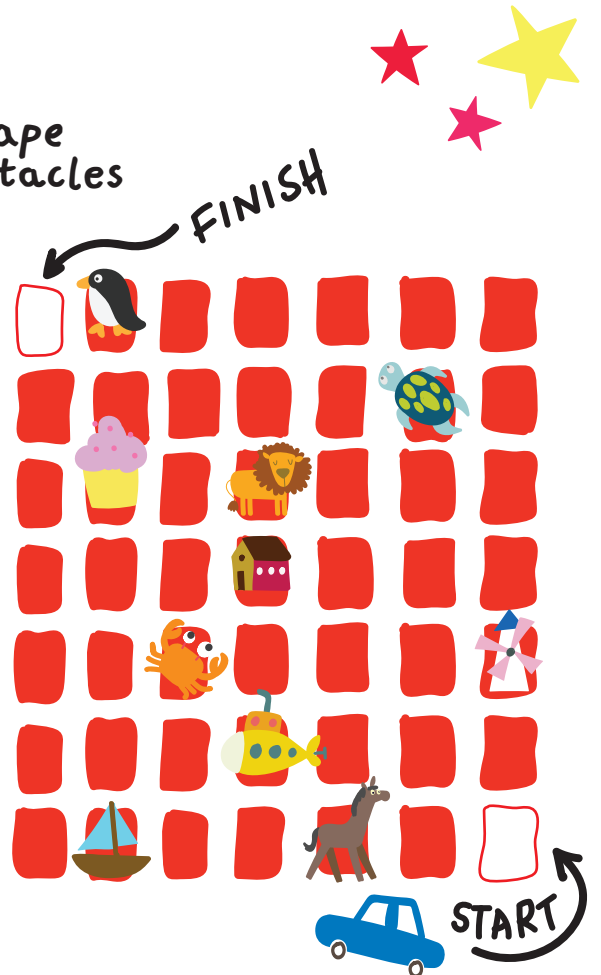
- a deck of cards
- masking tape or another floor-safe tape
- 10 small toys or small objects for obstacles
- a small toy car to act as your ROBOT

Set-up:

1. Create a 7 x 7 grid by placing the cards face down with gaps between them, and use the masking tape to secure the deck of cards to the floor.

2. Turn over the card in the top left corner and the one in the bottom right corner. They are the start and end of your maze!

3. Then lay your little toys on top of some of the cards (being sure to leave lots of them empty). These are the obstacles that must be avoided when travelling through the maze!



How to play: The purpose of this game is to get from start to finish by avoiding all the 'obstacles'.

1. There will be two roles in the game: the PROGRAMMER who gives instructions to escape the maze and the ROBOT who will move the toy car around it.

2. The robot can only move onto the cards which have no obstacles on them.

3. Examples of instructions that the programmer can give are: 'move forward 2 cards', 'turn', 'move backwards 1 card' etc.

4. After each instruction, the robot will move and the programmer will have to make a decision as to what the next instruction should be.

5. Play several times with different set-ups and see if you can get quicker at it!

IF/THEN GAME!

Commands are what we call the instructions that we give to computers when we are coding.

Did you know programmers write commands that tell computers to do things which depend on other things? An example of this in my world would be: if it is sunny, then I have a nap in the shade.

Just like that, the programmer tells the computer that IF one condition exists, THEN it needs to do something.

One of my favourite physical activities, the If-Then Game, is a great way to learn about this basic way to programme something. It's a bit like Simon Says - but with a twist!

How to play:

- ★ Find a big, open space.
- ★ Choose one person to be the PROGRAMMER. The rest of the players are the COMPUTER.
- ★ Begin with a practice command. The Programmer gives the Computers a command (e.g., If I lift my right arm, then you hop on your right leg!) and the Computers follow the command.
- ★ Now the game begins. The Programmer gives Computers a command. They follow the command.
- ★ Keep the commands going - they can be as tricky as you like! Can the Computers keep up...?

I would like to programme a computer so that it can...