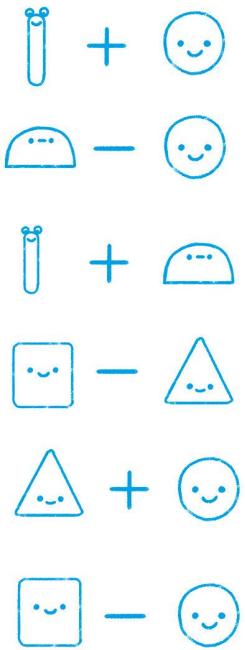
45 min
Science
Workshop

Ages 3-8

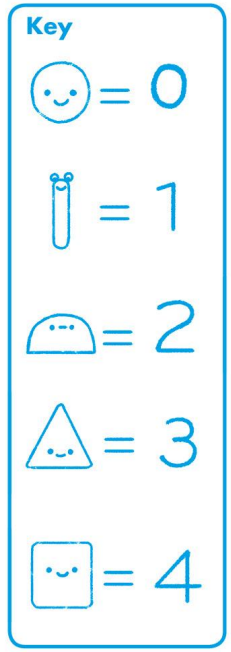
Learn-Through-Play Workshop



This OKIDO downloadable workshop is designed for families and can be easily delivered in the home by YOU. It is designed in collaboration with the British Science Association and follows learning to facilitate Early Years and KS1 development using easy-to-find objects from around the home.

This 45 minute learn-through-play workshop includes:

- Watch an episode of Messy goes to OKIDO together
- Discuss the science with easy-to-follow pointers around the subject
- Complete a make-and-do science activity
- Reinforce the learning with a fun, follow-up worksheet



Theme - **Technology and engineering**

Subject - **Coding**

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Watch and learn together

Together with your child, watch this 10-minute episode of Messy goes to OKIDO - 'A Sock Too Far'.
Link to A Sock Too Far episode

In this episode Messy wonders how the washing machine works to clean his socks. So off he goes to OKIDO to see if he can get some help.

Here we find out that inside machines and robots are tiny computers. These computers are programmed with something called 'code' – It's a bit like a secret language for computers – and it's how we give computers instructions for what to do.

Talk about the science

Right after watching, ask your child some questions about what they've seen:

- What is the Camperbot programmed to do usually?
- What does Messy programme the robot to do?
- What do they do with all the extra socks that the robots make?

Now reinforce the understanding of code:

- What does coding look like? - It's a sequence of number, letters and symbols.
- Look around your home and notice machines that may include coded computers.

If your child asks a question that you don't know the answer to - just investigate together to find out!

Don't worry - all the information you need to know is explained in the episode :)

New words: Code, sequence, programme

Now make your own code and a coding wheel

You will need:

- Two different sized paper plates
- Scissors
- Pens
- Split pin

Now is a great time to work on learning the alphabet for younger children and how about reciting it backwards for older children? How about reciting the alphabet whilst standing on one foot :)?

- Write the alphabet around the edge of the larger plate
- Have your child draw a different mark, symbol or shape underneath each letter
- Cut a slot into the smaller plate that will allow you to see one letter and it's associated symbol through the slot
- Find the centre of each plate and fasten together with a split pin, putting the smaller plate on top

Slowly move the top plate around to reveal each coded letter - this is your coding machine which you can use to create secret messages.

Experimenting and data collecting

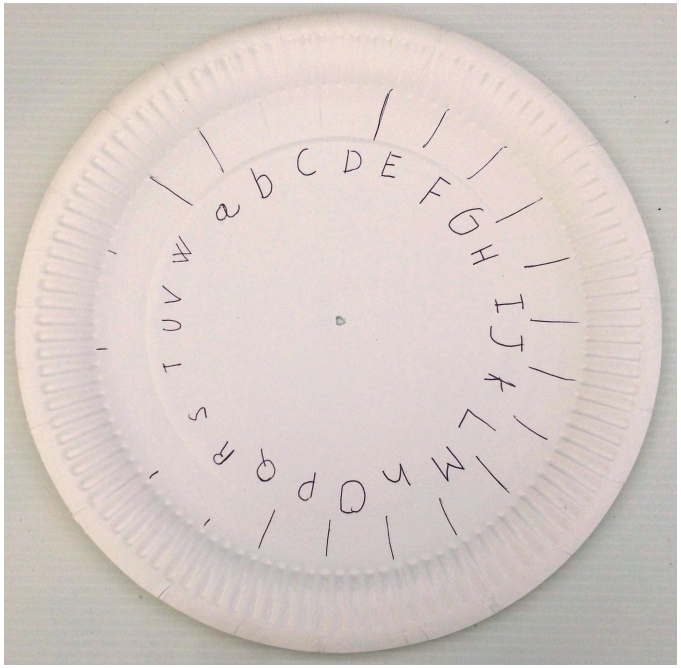
You can experiment with:

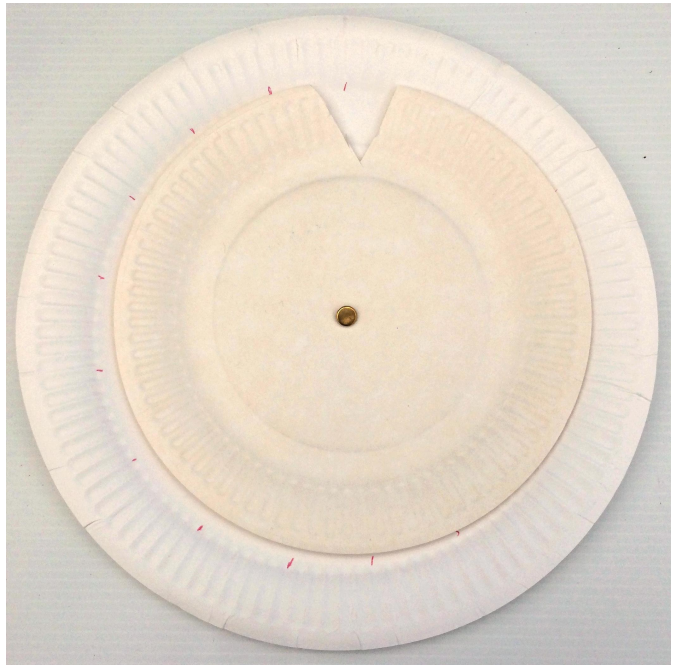
- Name your coding wheel
- Making more than one coding wheel
- Try easier and more complex coding shapes
- Write your child's name in their code and have them 'crack' it using the wheel
- Next, have them write some other words or sentences for you to crack

Older children can write the alphabet themselves but be sure to help them spread the letters evenly around the plate, giving enough room to draw a code symbol underneath. For younger children you can draw the symbols for them and have them colour them in.

A blackboard is very effective for writing and cracking coded words and sentences.

Try and encourage your child to keep this coding machine. They will no doubt make more as they grow and it's fun to see how their skills have developed as they've grown. When it's time to throw it out - dismantle and recycle!



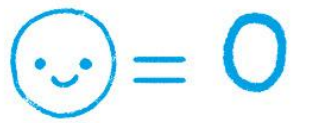



my coding wheel

Maths puzzles

Use the code to help you complete the maths puzzles.

Key

 = 0

 = 1

 = 2

 = 3

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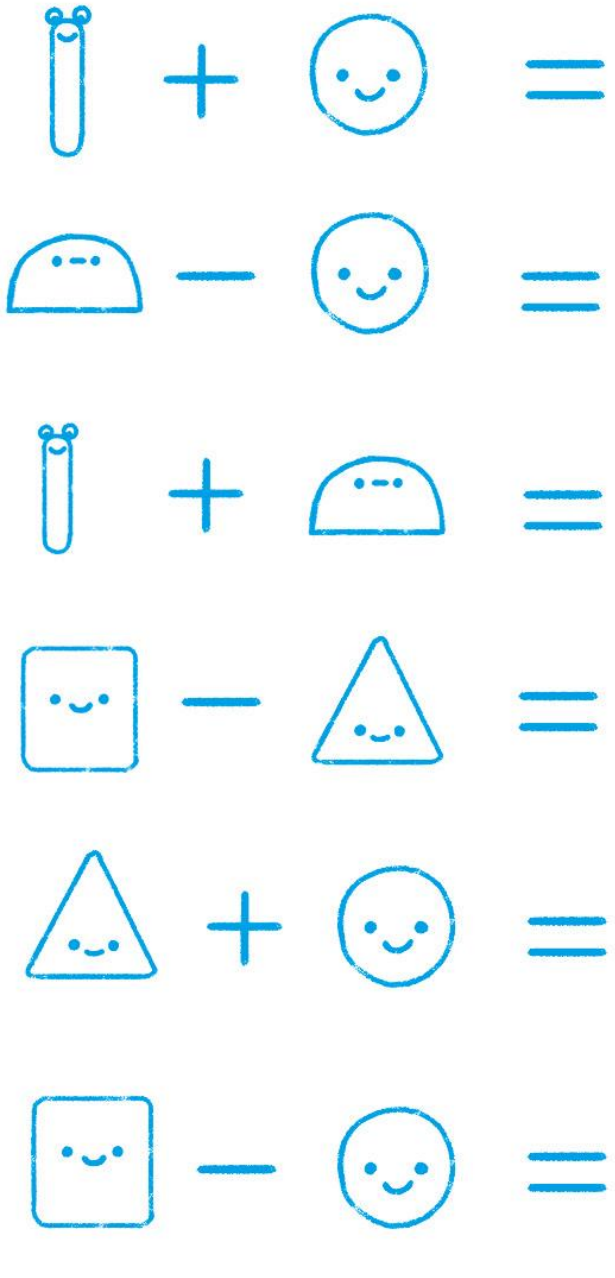
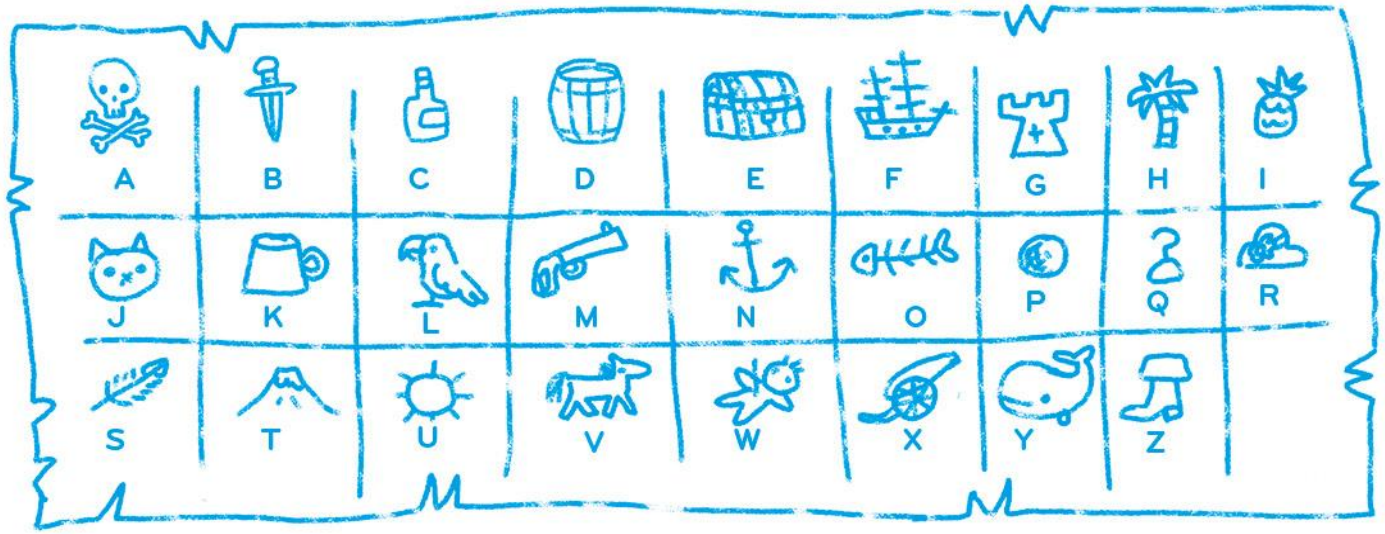
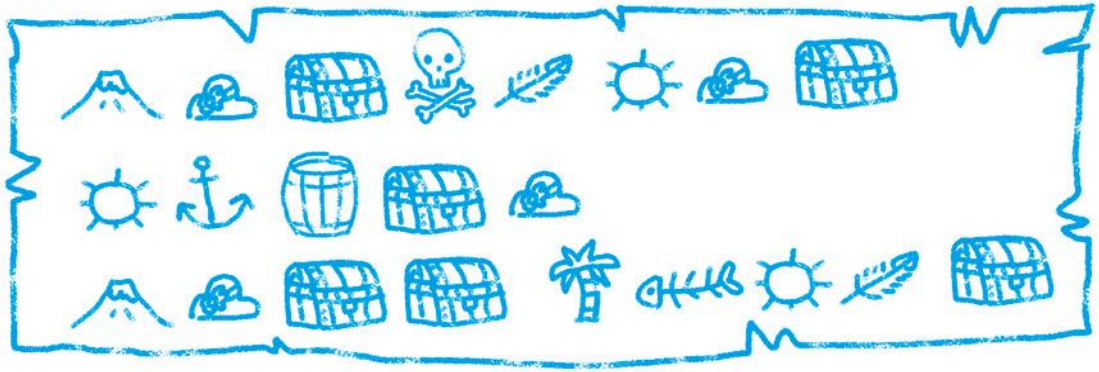


Pirate Treasure hunt

A-HOY there me hearties! It's a known fact that pirates use codes, especially when it comes to burying treasure! Find the hidden treasure by decoding the following directions using this decoder table:



Directions



Draw an X on this map to mark where the pirate treasure is hidden!