ALGO'S ADVENTURES
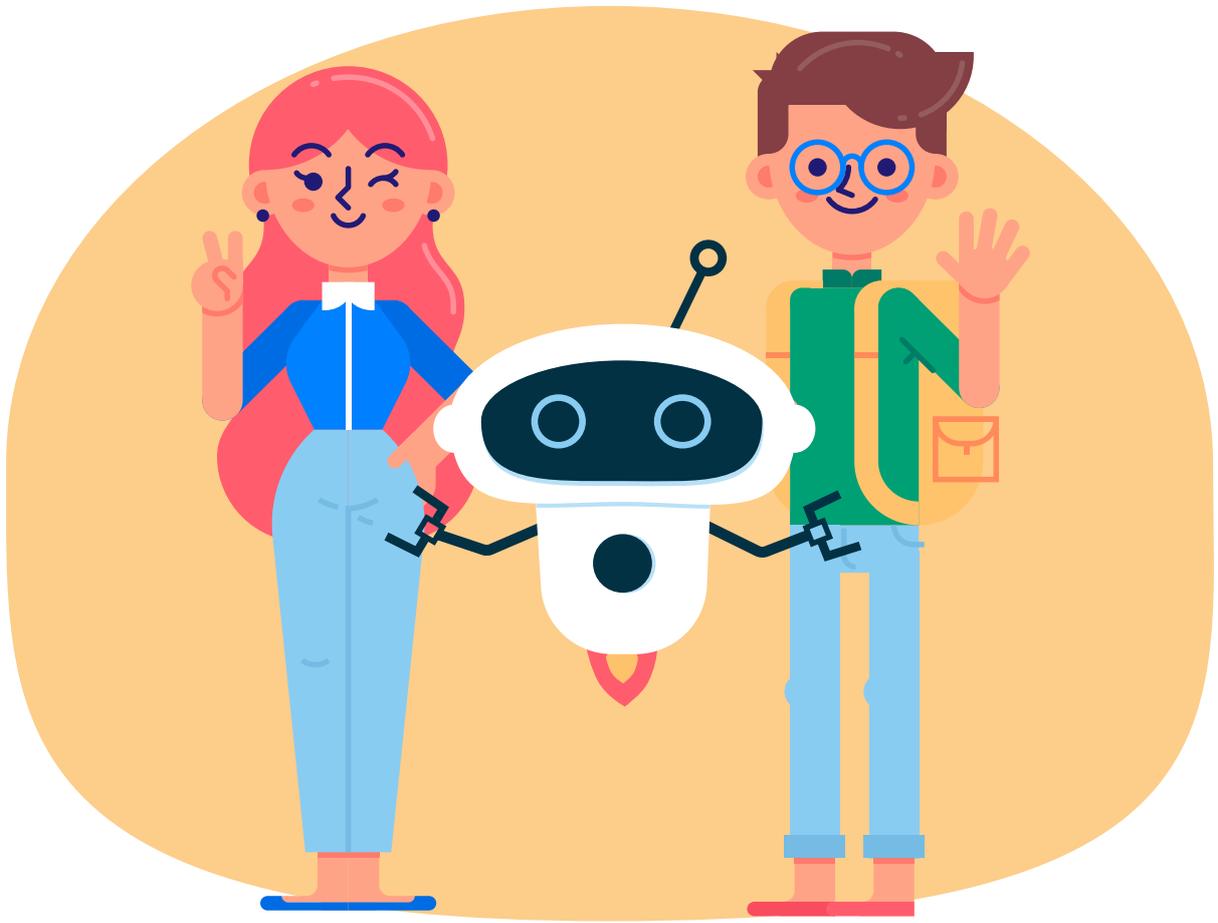
Name: _____

Class: _____

What is computational thinking?

Think about the importance of being able to code in today's society. Do you want to learn how to code? Why or why not? Write your thoughts down in the box below.

To learn how to code, first you need to understand how a computer thinks! This is also called **computational thinking**. This problem-solving method is made up of four different skills and it's what makes a computer so powerful.
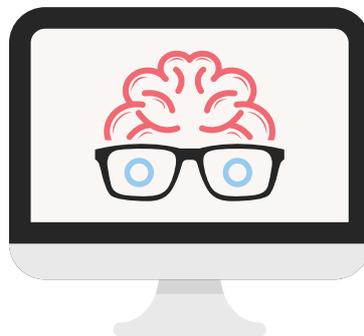
Go online and research what the names of each skill is.

A_____

Removing unnecessary details from a problem and focusing on what's important.

D_____

Breaking big problems into smaller, easier to manage problems.

Creating step-by-step instructions to solve a problem.

Computational Thinking

Analysing and looking for repeating sequences and patterns.

A_____

P_____ R_____

WHY LEARN CODING?

Computational thinking: Abstraction

Look at the items in each collection and write a word or phrase that can be used to describe them.

(1)

(2)
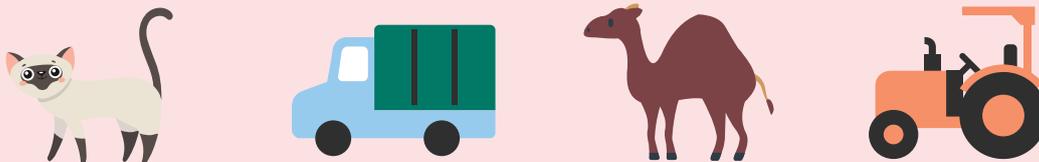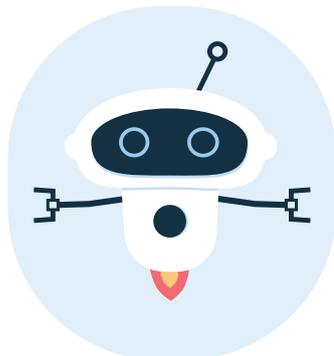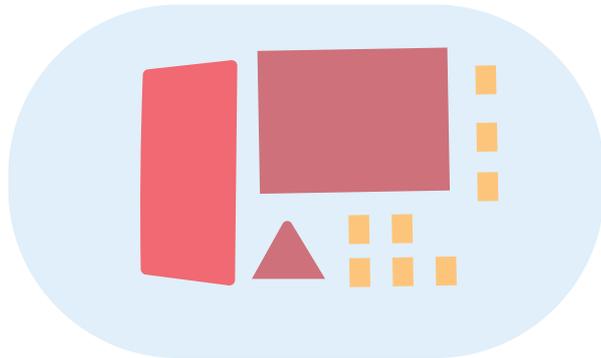

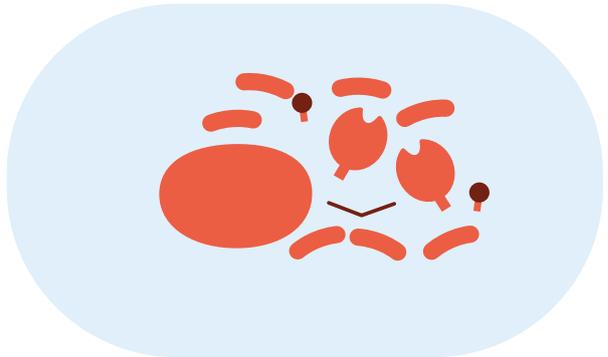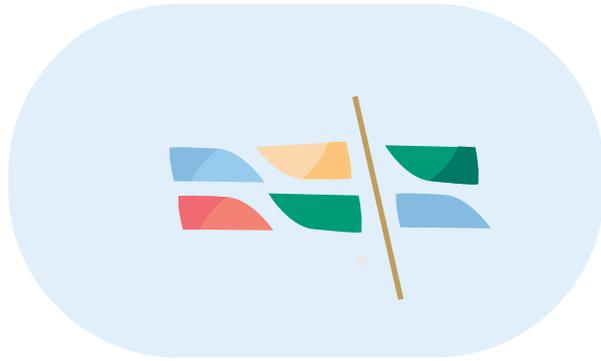
(3)

(4)

(5)

(6)

WHY LEARN CODING?

Computational thinking: Decomposition
Activity 1

To be like a computer, you need to be good at building things. Everything and anything can be broken up into smaller pieces!
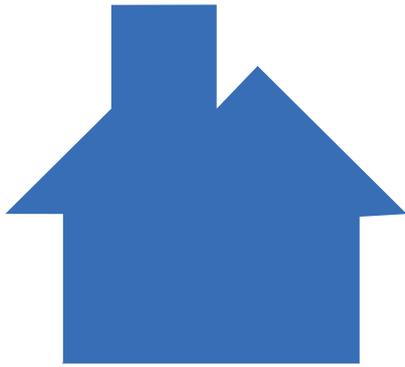
Look at the items below. Compare the object on the left to its pieces on the right. Can you identify which are the missing or additional pieces?
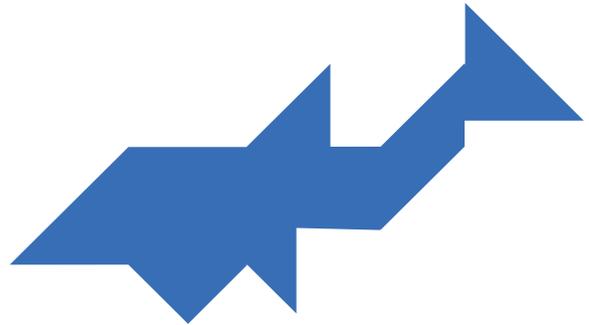
Computational thinking: Decomposition Activity 2

Cut the pieces out of the tangram below and try to see if you can construct the objects on the following page using your pieces.
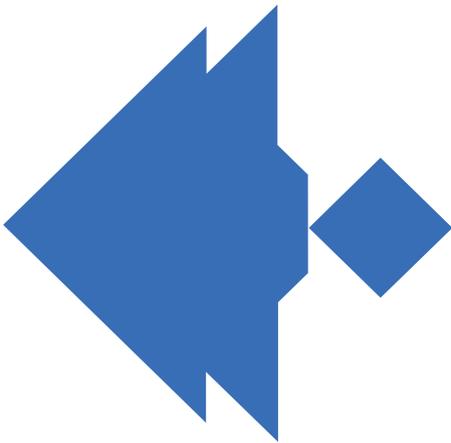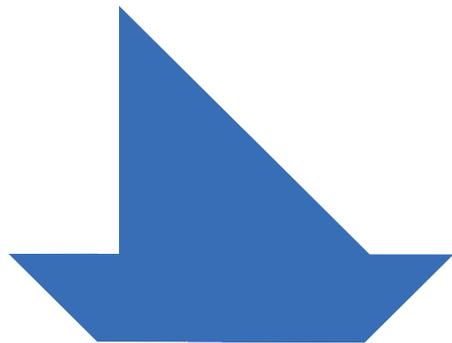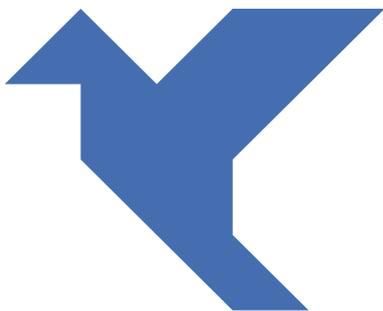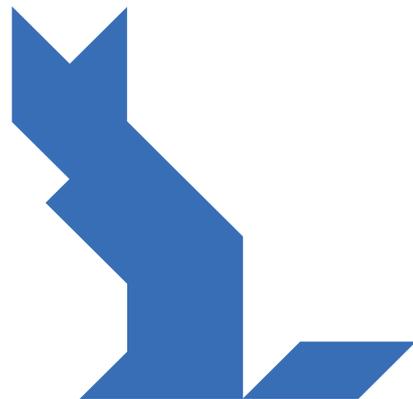
WHY LEARN CODING?

House

Shark

Fish

Boat

Bird

Cat

Computational thinking: Algorithm

Algo has been separated from his friends and needs to find them! Use the map on the following page to complete this activity.

In the boxes below, write the steps Algo needs to take to reach each friend. He must begin at START. He can move **up**, **down**, **left** and **right** on the map. Once you have reached each friend, end the sequence with "STOP" to stop Algo from moving any further.
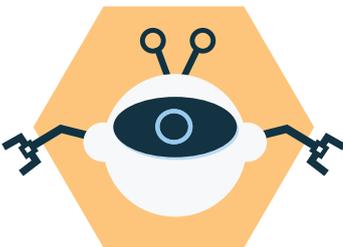
Can you find the route with the least amount of steps? Good luck and watch out for the obstacles!

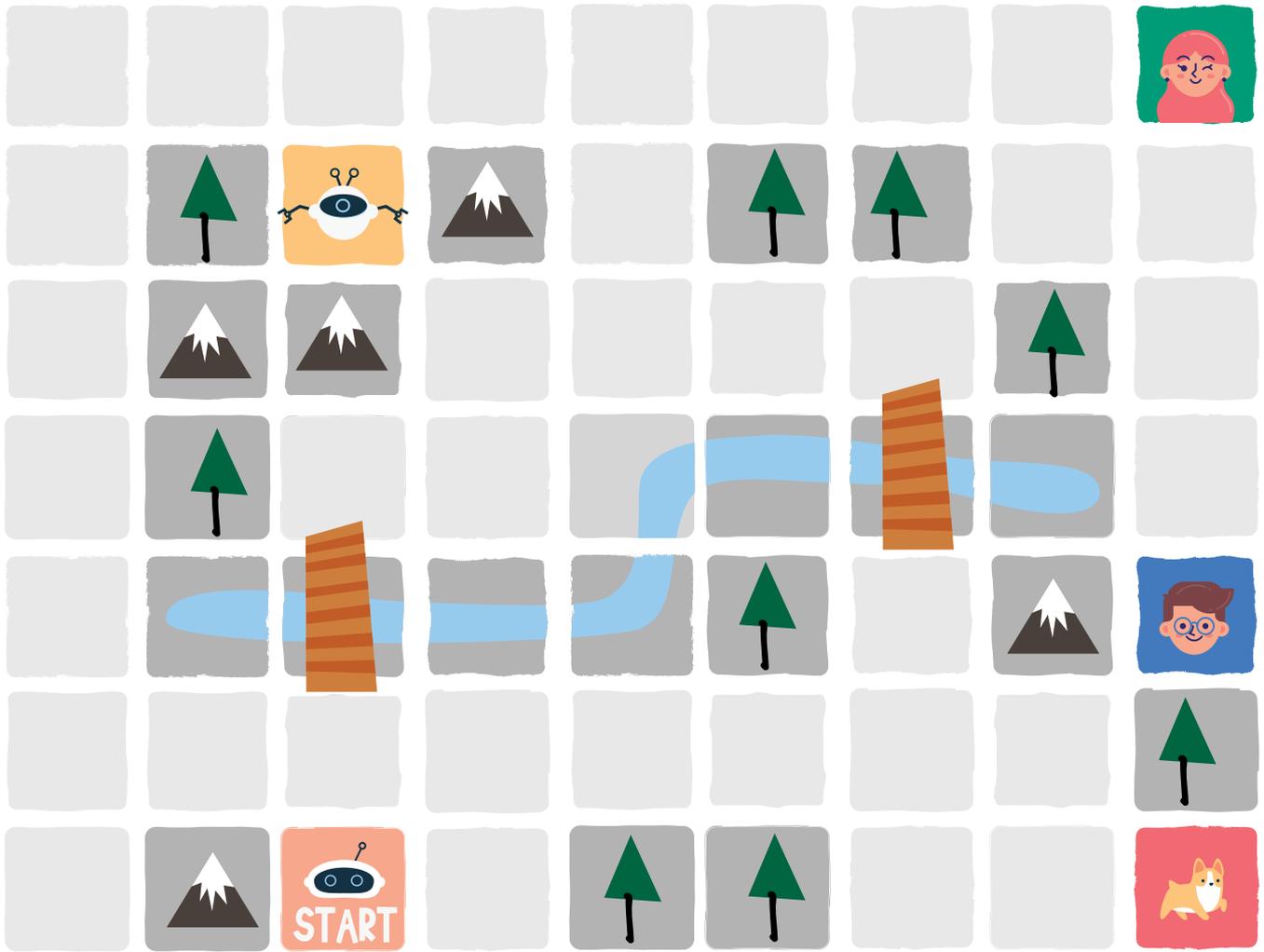STEPS
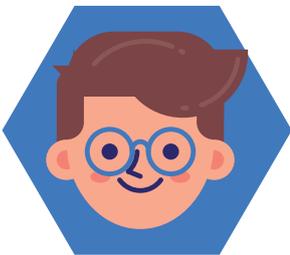
STEPS

STEPS

STEPS

AVAILABLE STEPS

⬆ Move up   ⬅ Move left   🛑 Stop

⬇ Move down   ➡ Move right

Computational thinking: Pattern recognition Activity 1

Computers are great at recognising patterns. Can you be as clever as them? These sequences are made up of a series of repeating patterns. Figure out the missing elements from each sequence and draw them in the blank boxes.

Computational thinking: Pattern recognition Activity 2

Look at the clues below and figure out which friend of Algo each sentence is describing. Write the number of the clue in the box next to the correct robot. The answers do not repeat.

CLUES

1. I am small and I have a twin whose name rhymes with me. Who am I?

2. I am a gentle giant. My greatest wish is to fly like Algo. Who am I?

3. I have a twin with one eye and two antennae. Who am I?

4. I love flying with my rocket booster. Who am I?

5. I have 1 of everything, 1 is my favourite number. Who am I?

ALGO

KOMBI

RINA

KODI

LINA