

Play Code Learn

DINOSAUR LOOPS



Lesson Two: Algorithms: Sequential Instructions

Lesson Two Learning Outcomes

Learning Intention:

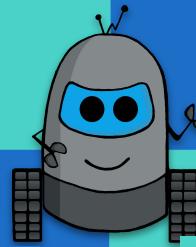
...how to create a successful algorithm.

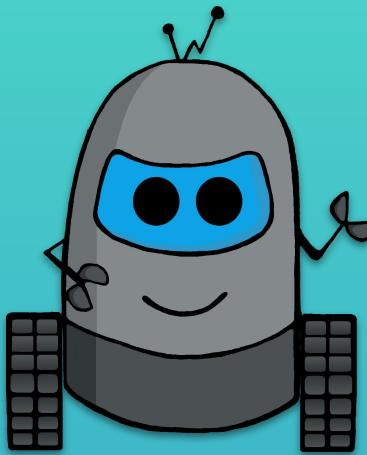
To learn how to write instructions clearly.

To understand the term algorithm and what it means.

To learn the concepts of computational thinking.

To practise how to write step by step algorithms.



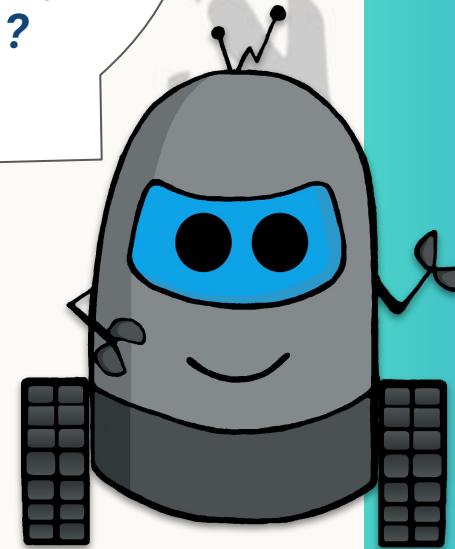


Logical sequential instructions

Discussion: Logical instructions

**What are logical
instructions?**

*When do you think it may be
important to give clear, step by
step instructions to someone?*



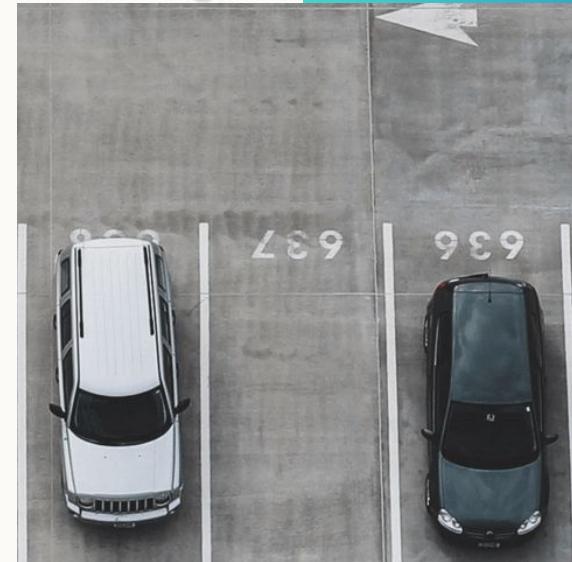
Discussion: Logical Instructions

Imagine you are helping someone to park their car into a small parking space.

*What **instructions** would you need to give?*

*What could happen if your **instructions** are not clear?*

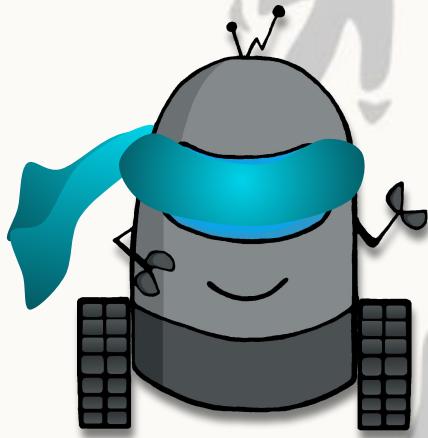
What could happen if you tell them to stop or put the brake on before they move into the space?



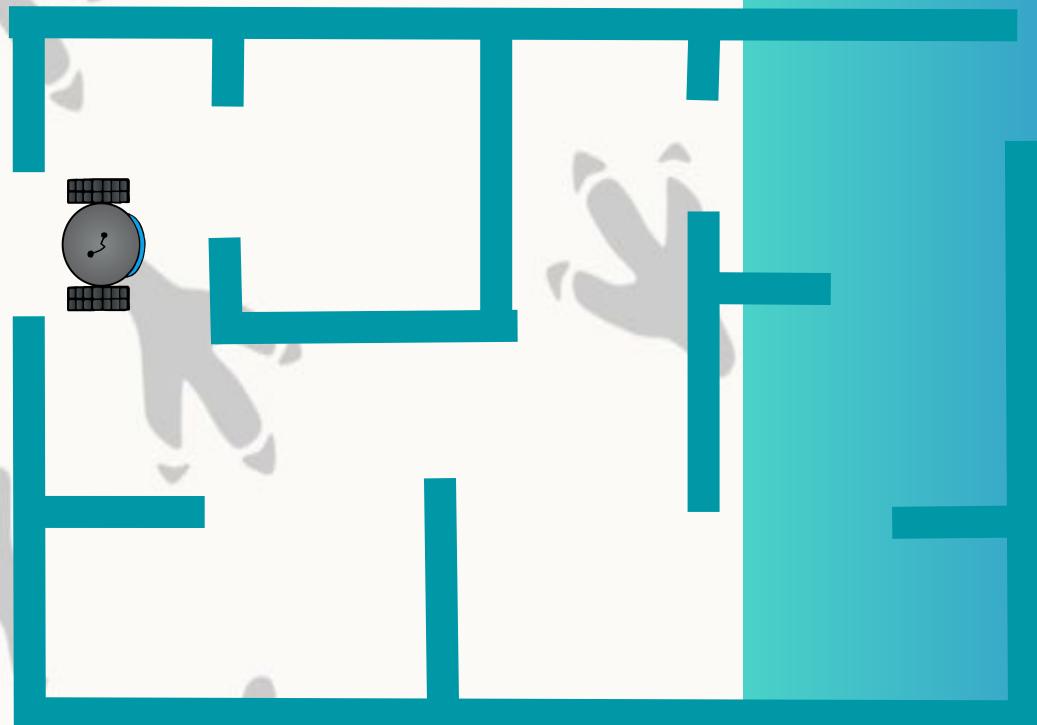
[GIF By MINI Deutschland](#)

Logical Sequential Instructions

Activity: Code the maze

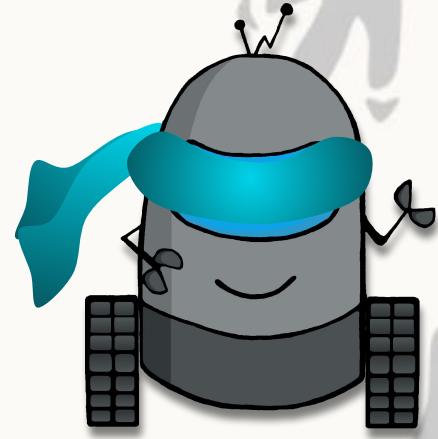


Can you guide a blindfolded person through a maze?



Logical Sequential Instructions

Activity: Code the maze



You can only use these commands:

For each step that you want the person to move you need to use one command:



move forward,



move backward,



turn left
($\frac{1}{4}$ turn)



or turn right.
($\frac{1}{4}$ turn)

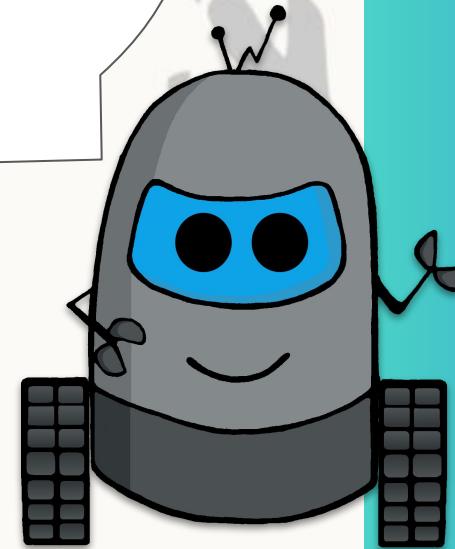
Hint: Left or Right turns
Stand still and spin $\frac{1}{4}$ of a circle!

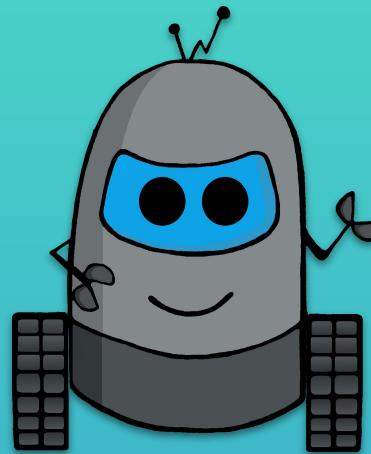
Discussion: Logical instructions

What did you learn?

*Which **instructions** worked the best?*

Did you have any problems?



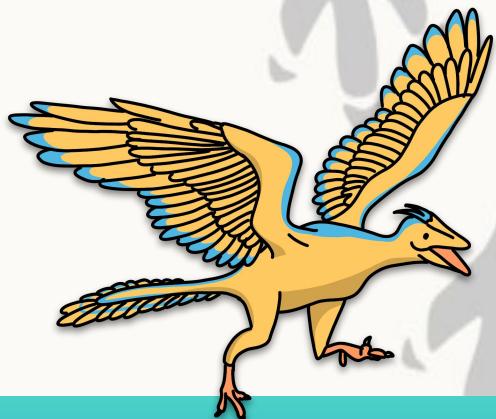


Sequential Instructions & Algorithms

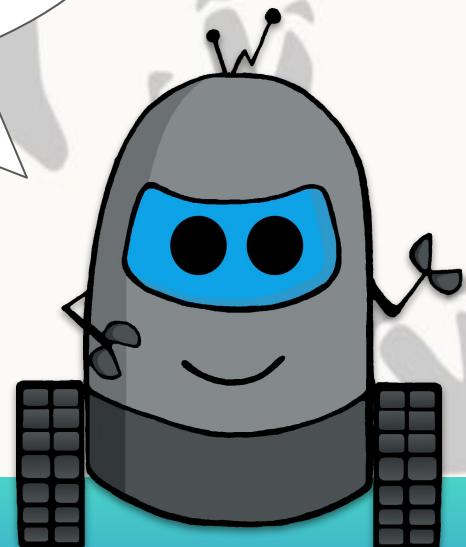
Sequential Instructions

Discussion: Step by step instructions

*Did you know that
instructions that are
given in a step by step
order are known as a
sequence?*



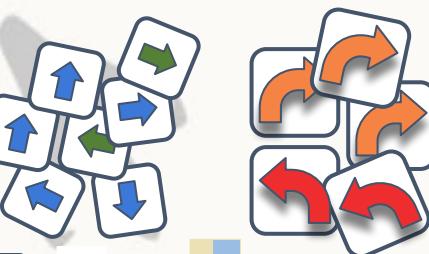
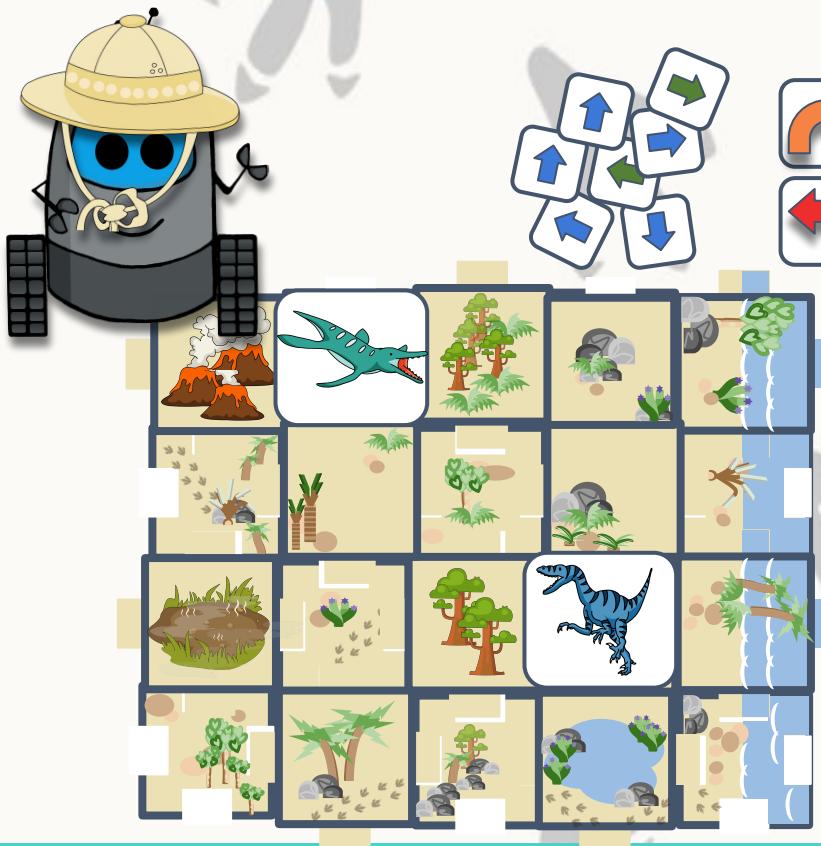
**They are
sequential
instructions!**



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Sequential Instructions

Activity: Dinosaur Loops



It's your turn to practise writing **sequential instructions** with the Dinosaur Loops kit!

Start by making a dinosaur land with the tiles.

Then, get all of the cards ready...



Sequential Instructions

Activity: Dinosaur Loops



Use the Dinosaur Loops booklet to help to teach you how to write **sequential instructions** using the Dinosaur Loops kit.

Pages 1 to 8 will tell you what to do.

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Play Code Learn: Dinosaur Loops

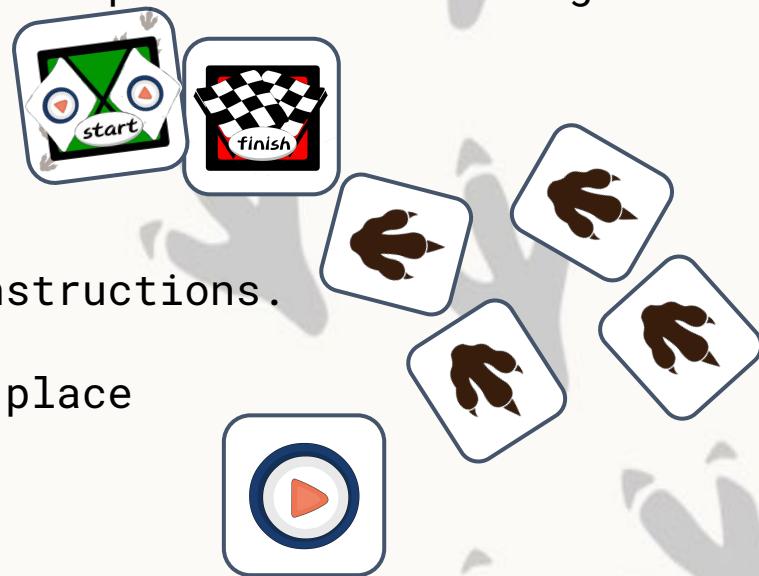


Sequential Instructions

Activity: Dinosaur Loops

To be successful when writing **sequential instructions**, you need to:

- **Break the task down** into small parts - this is called **decomposition** (de-com-po-si-shun) in computational thinking.
- **Decide** on an origin and destination.
- **Plot** the path using the footprints.
- **Use** clear **sequential** step by step instructions.
- When ready to try the **instructions**, place the run card at the top.



Hint: Remember there may be more than one solution to the problem!



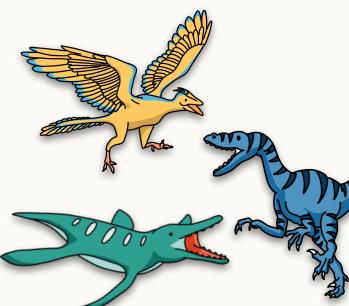
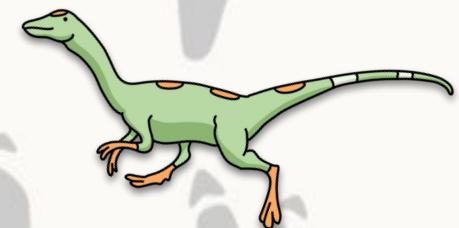
Sequential Instructions

Activity: Dinosaur Loops



Beginner - Use the arrow cards to write **instructions** to get Explorer Ed from the start flag to the finish flag.

Intermediate - Use the arrow cards to write **instructions** to get Explorer Ed from the start flag to the finish flag, visiting at least one dinosaur along the way.



Advanced - Use the arrow cards to write **instructions** to get Explorer Ed from the start flag to the finish flag, visiting 3+ dinosaurs along the way.

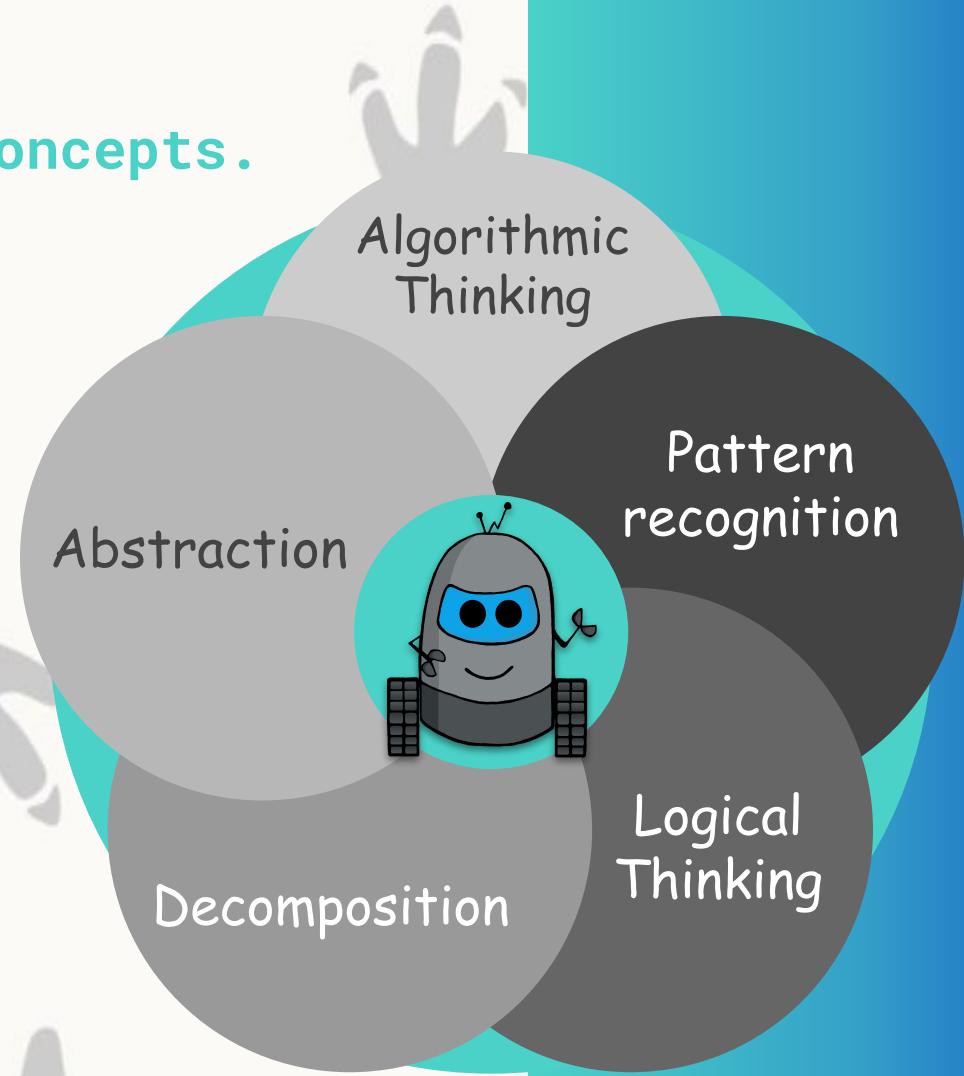
Test and trial the instructions - *was Explorer Ed successful?*

Sequential Instructions

Computational Thinking Concepts.

Today you have explored how to write precise **sequential instructions**.

Which computational thinking concept do you think this links to?

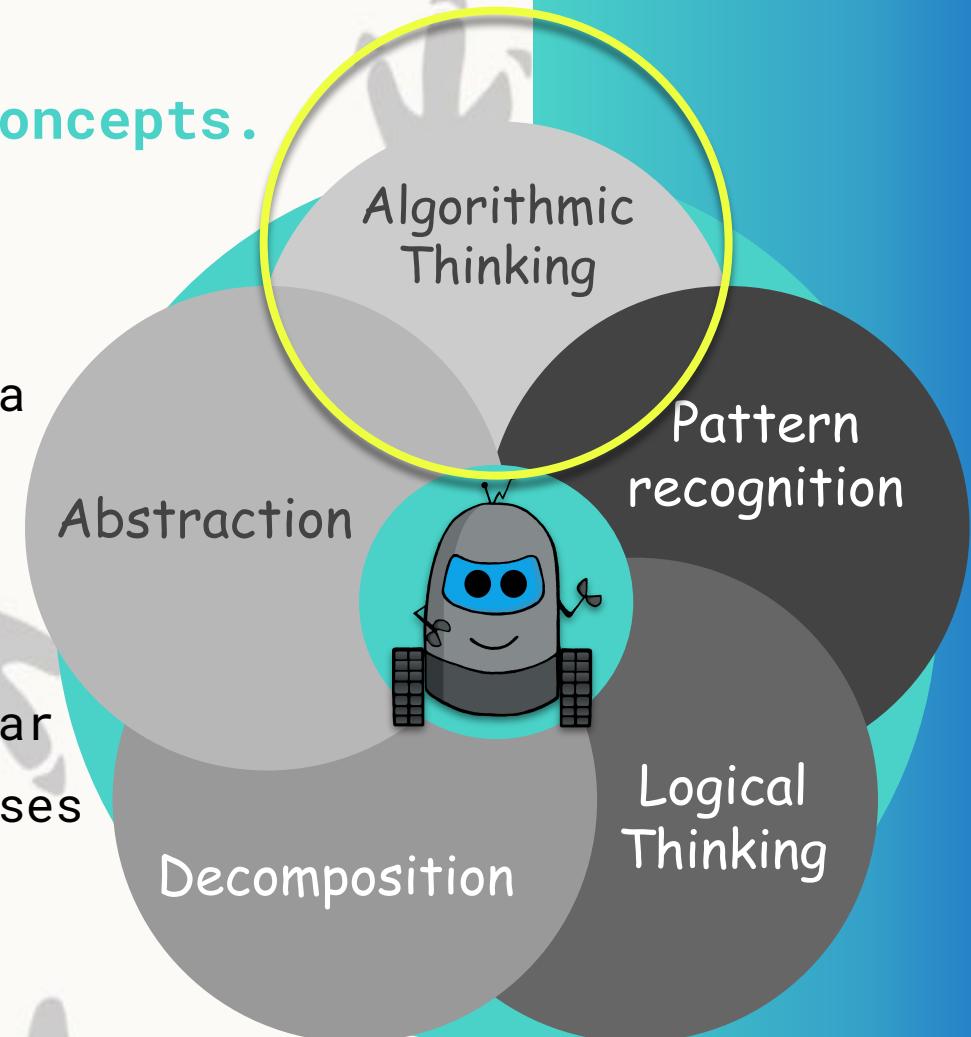


Sequential Instructions

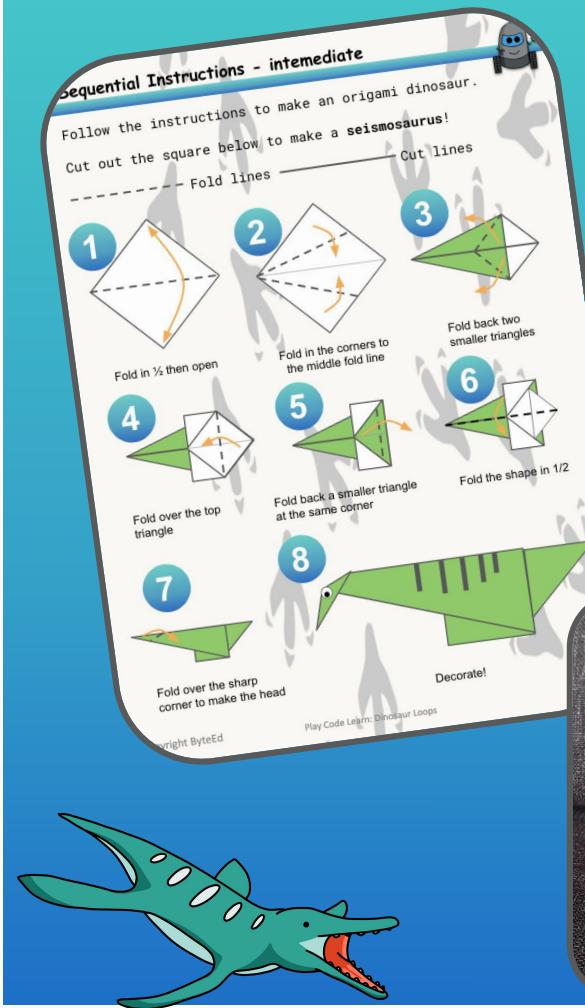
Computational Thinking Concepts.

Sequential instructions are a very important when writing **algorithms**.

An **algorithm** is a set of clear instructions that a humans uses to help to develop computer programs.



Extension Activity

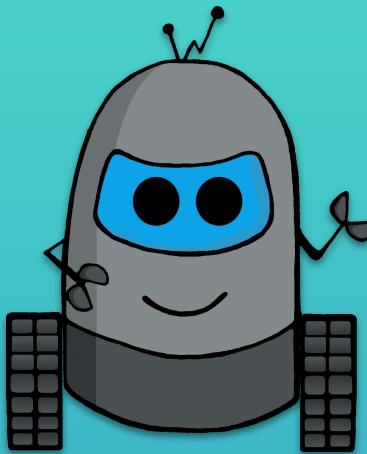


Origami Dinosaurs

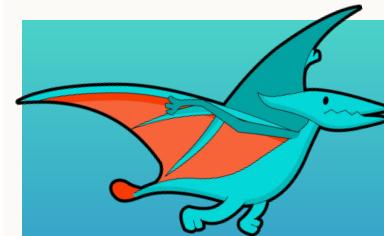
Let's practise
following
instructions.

Can you follow the
instructions to make
paper origami
dinosaurs?





Reflection

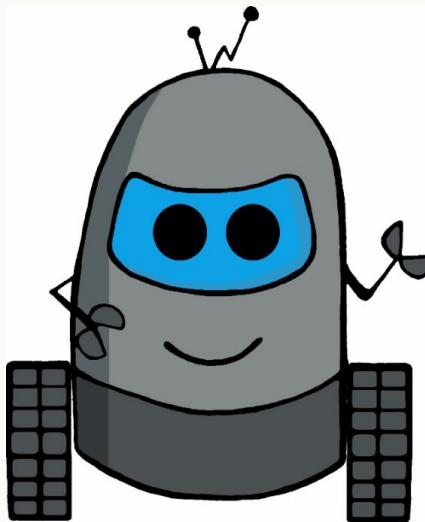


Reflection: Lesson Two

Learning Intention:

...how to create a successful algorithm.

How do you feel about today's lesson?



What were the key takeaways from the lesson today?

What would you like to learn more about?

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Thank you!