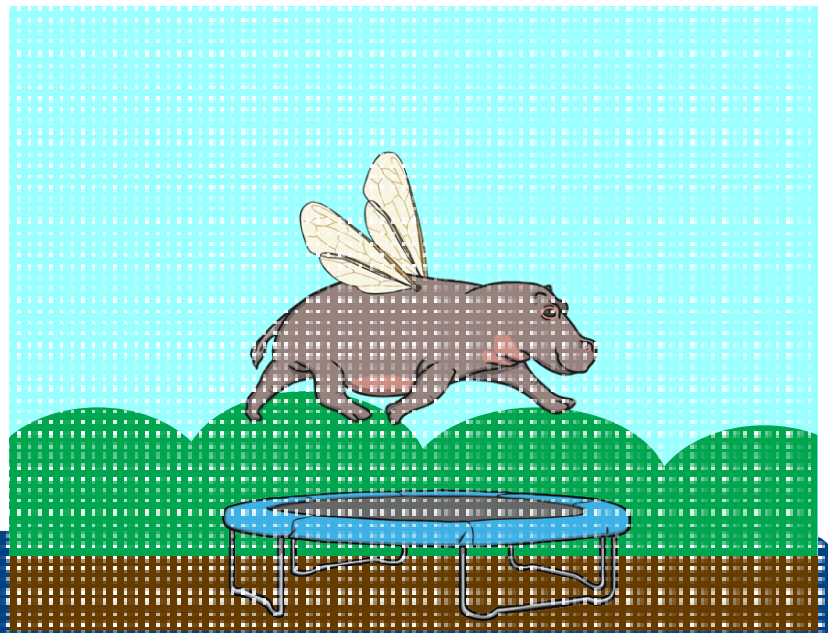


Bouncing Animals

Trampolines are great fun! The Scratch animals think so too.

Can you use your knowledge of loops to make some of the animal sprites in Scratch bounce up and down 10 times on the trampoline?

What sort of loop will you need to use?



Task 1: Getting Started

Choose the **Blue Sky** backdrop from the backdrop library. Select the Trampoline sprite from the sprite library and position it near the bottom of the **Stage**. Select the **Hippo** sprite from the sprite library and position it on top of the trampoline

Task 3: Add a sound effect

Can you add a sound effect when the **Hippo** lands on the trampoline?

To Think About:

What would you change to make the sprite bounce forever? How could you make the sprite bounce until something else happened?

Task 2: Make the Hippo jump up and down

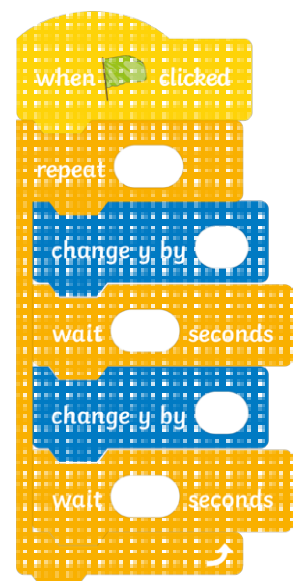
Look at the algorithm. Can you add the missing numbers that would make the hippo jump up and down on the trampoline 10 times?

Top Tip: Remember that Scratch is built on a coordinate grid. To move a sprite up and down you will need to change the **y** coordinate.

To move up
use positive numbers.



To move down
use negative numbers.



Bouncing Animals

Challenge 1:

The **Hippo** sprite has two costumes. Can you change the costume so that the **Hippo** sprite looks different as it bounces?

Challenge 2:

Can you make the **Hippo** bounce off the trampoline after 10 bounces and land on the floor beside the trampoline?

Challenge 3:

Can you change the speed of the bouncing? How can you make the **Hippo** bounce more quickly or more slowly.

Challenge 4:

Can you add another sprite to the trampoline and have the two friends bouncing together?

Challenge 5:

Customise your program. Try out different backdrops and animal sprites until you find one that you really like.

I can:

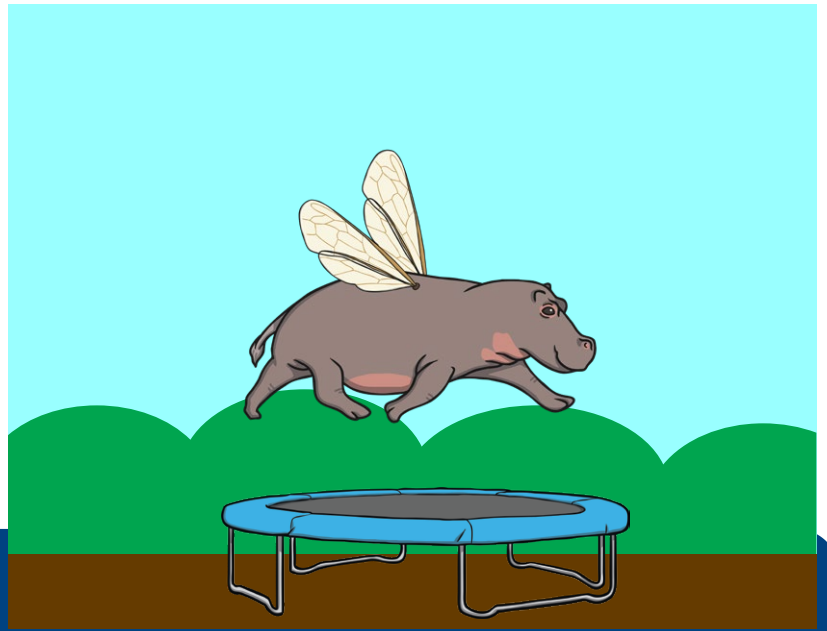
- select a backdrop and a sprite;
- use the y coordinate to move a sprite up and down;
- add sound effects;
- change costumes to make a sprite look different;
- change the speed of a sprite;
- use a repeat loop to repeat instructions in an algorithm.

Bouncing Animals

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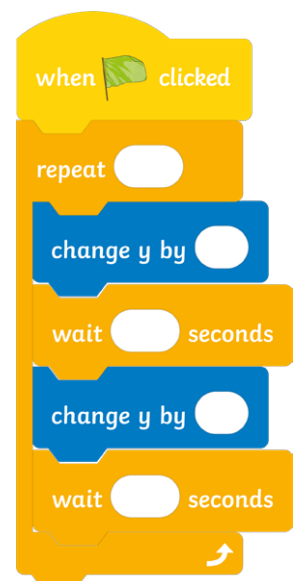
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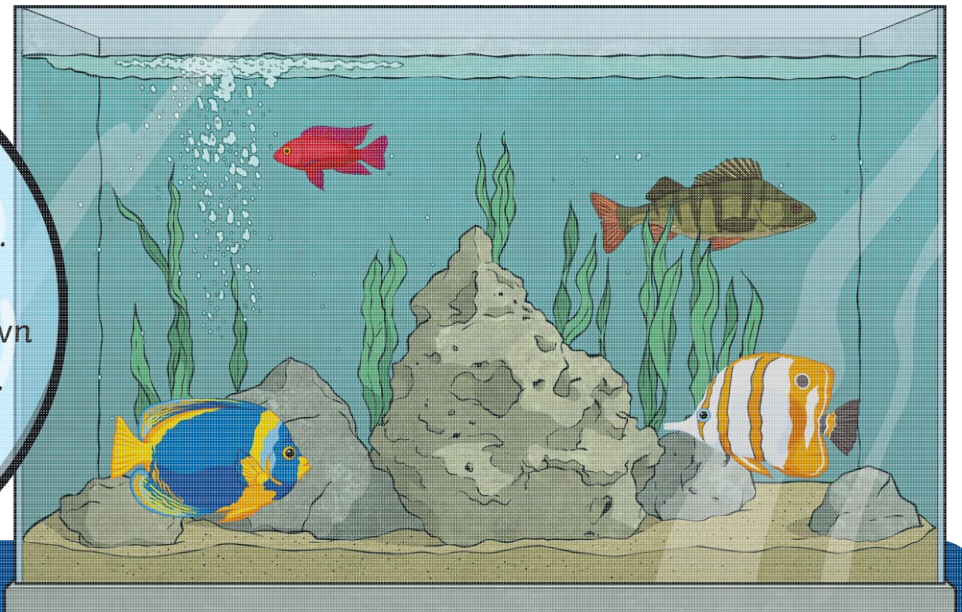
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Virtual Fish Tank

People find it very relaxing to watch fish swim around in a fish tank. Use what you have learnt about loops to create your own virtual fish tank in Scratch. Then sit back and enjoy watching your fish swim around.



Task 1: Setting up your tank

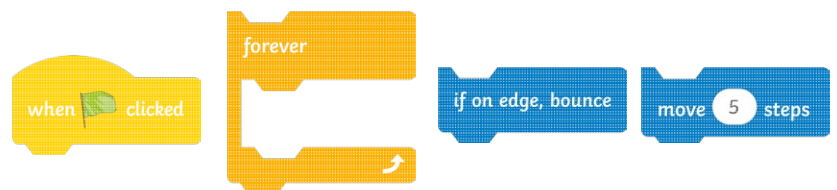
Choose an underwater backdrop in Scratch. Select the **Fish** sprite. Right-click on the **Fish** sprite and choose duplicate to create more fish in your tank. Go to the **Costumes** tab in the **Block Palette** and choose different costumes to change the appearance of the fish in your tank.

Task 2: Changing the size of your fish

Make your fish smaller by changing the size of your fish in the **Size** box underneath the **Stage**.

Task 3: Making your fish swim forever

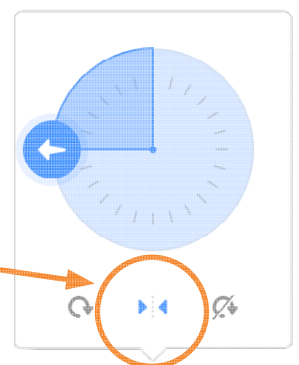
Use the blocks below to make each fish swim forward 5 steps at a time and bounce when it reaches the edge.



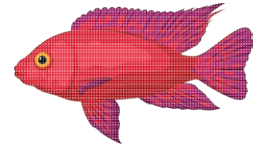
Test your fish tank and think about ways to make it even better.

Top Tip:

To stop your fish swimming upside down, click on the **Direction** box underneath the **Stage** and choose the middle option, **Left/Right**, to make the fish swim left and right.



Virtual Fish Tank



Challenge 1:

How could you change the speed of your fish? Can you make some fish swim faster than others?

Challenge 2:

Can you make your fish swim all over the tank instead of just backwards and forwards? Try adding a **turn** block into your algorithm and investigate what happens when you make the turn smaller and larger.

Top Tip: Add the **turn** block before the **forever** loop.

Challenge 3:

Can you make the fish change direction if they collide with one another?

Challenge 4:

Why not try creating some new fish sprites for your virtual fish tank? Use the **Paint Editor** in Scratch to design your own colourful fish to add to the tank. Choose the **Paint** option from the **Choose a Sprite** menu in the **Sprite Pane** to access the drawing and painting tools.

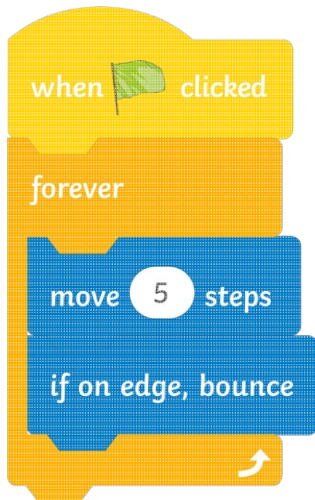
I can:

- select a backdrop and a sprite;
- change a sprites costume;
- change the size of a sprite;
- use a forever loop to repeat instructions in an algorithm;
- change the speed of a sprite;
- make sprites interact when they touch one another.

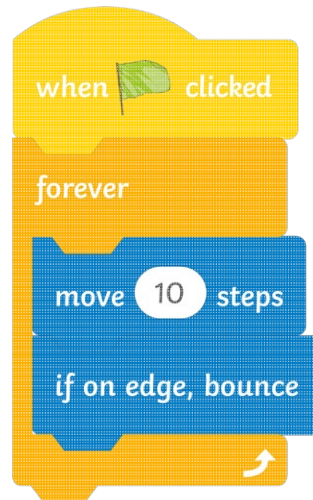
Virtual Fish Tank Answers

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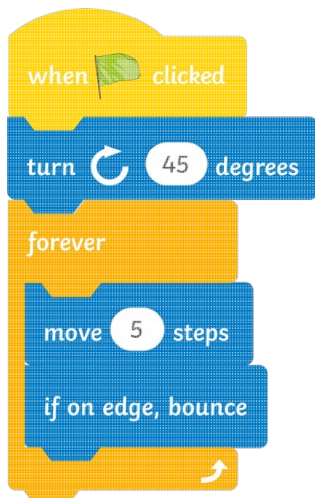
Task 3: To make the fish swim forever



Challenge 1:



Challenge 2:

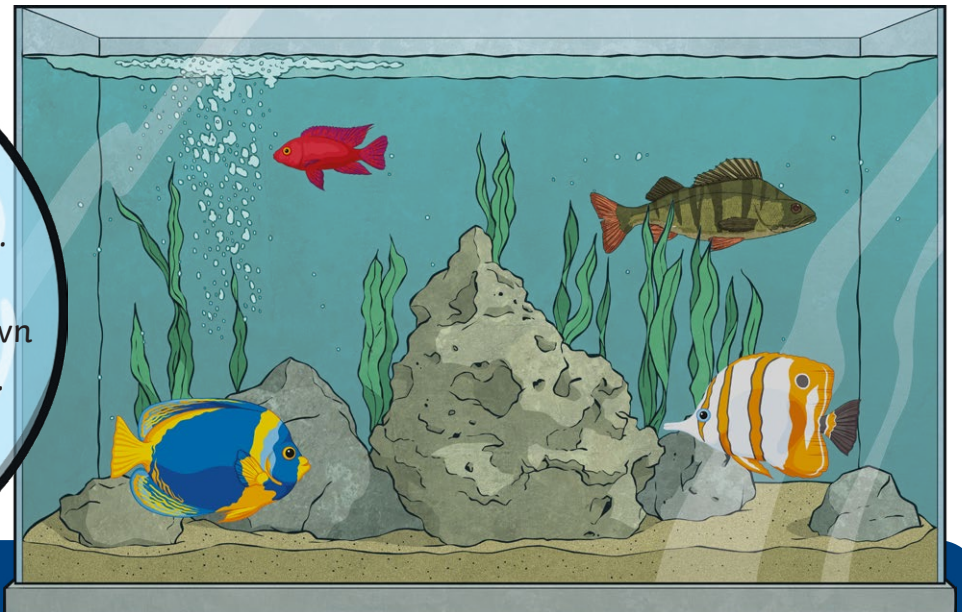


Challenge 3:



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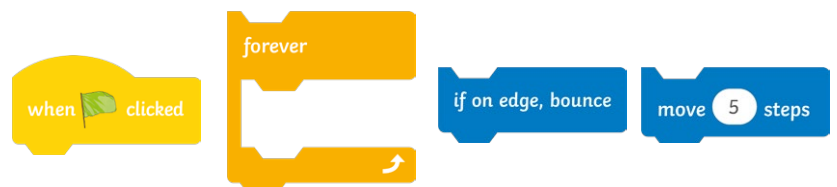
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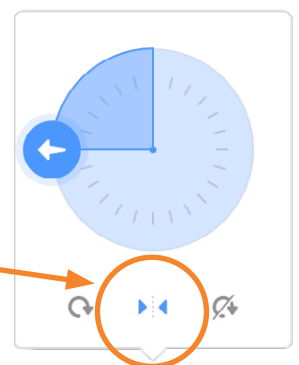
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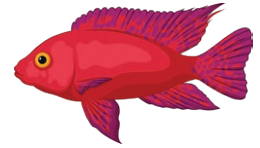
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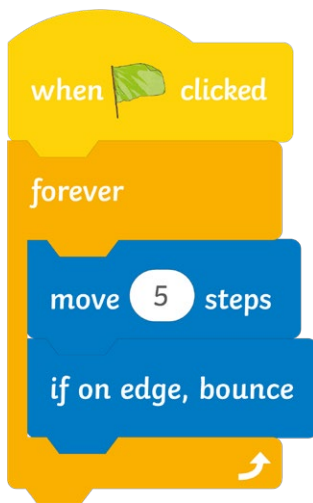
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Task 3: To make the fish swim forever



Challenge 1:



Challenge 2:



Challenge 3:

