Introduction to variables

What's a variable?

Variables are used to store information, like game scores and time.

A **variable** is like a box with information inside. You give it a name (like 'score') and then you can get the computer to look in the box whenever you want the information to be used. For instance, you can tell the computer to add a point every time you hit a target in your game or display a message when you get to ten.

What you'll build

In *Level 4 – Introduction to variables*, you can use variables to build some fun games.

Let the player earn points by popping balloons or catching coconuts.

Earn points or lose points by choosing different foods.

Count items and add up totals in a shopping game.

Make a pirate treasure-hunt game where you can earn points, lose points and have your entire score wiped out if you are unlucky!
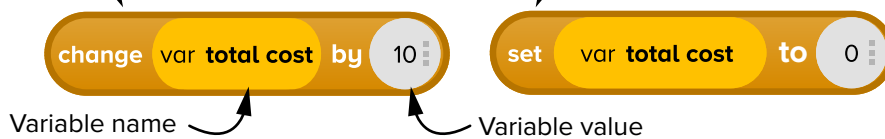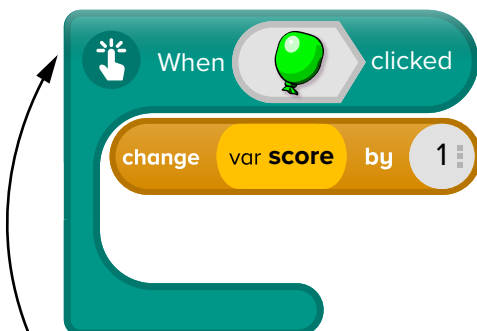
Your blocks

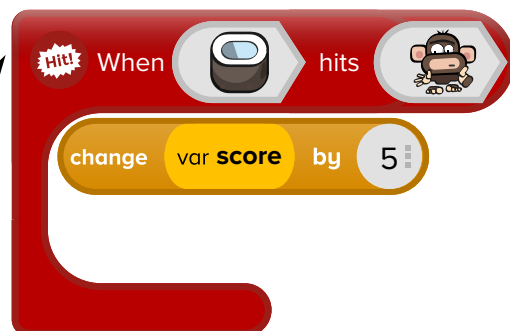You can **change** and **set** different values using variables.

Change command → **change** var **total cost** **by** 10

Variable name ↗   Variable value ↗

Set command ↘ **set** var **total cost** **to** 0

You will write code to say **when** to set or change the variable. This could happen:

When [balloon] clicked
change var **score** by 1

As the result of an **input**, like a click event

Hit! When [sushi] hits [monkey]
change var **score** by 5

When a certain **condition** is met, like a hit event

Introduction to variables

Match each term to its meaning

| Change |

An object used to store a simple piece of information, such as a score or the time taken

| Set |

To adjust a variable by a specific amount

| Variable |

To specify a particular value for a variable

Free code challenge

In our free code area you can get creative and design your own app using variables.
Try making a game where a player starts with 3 lives and must try not to lose them!
Use one variable to keep score, and another variable to keep count of how many lives the player has left.
They could lose a life when they click on the wrong object, or if two objects hit each other.
Remember that the lives variable would have to change by -1 each time the event occurs!

You can use the space below to plan your app!

Variable word game

The variables you will be using in this unit store numbers, but did you know that variables can be used for other types of information too, like words?

Imagine a sentence as a set of variables. Every time you change a variable, the meaning of the sentence changes. Let's test how this works in a variable word game!

We will start with this sentence:

The green zebra ate the smelly apples

var **colour**   var **animal**   var **adjective**   var **food**

Now follow the instructions and write the new sentences, changing one variable each time!

| Set var **colour** to 🟣 | The _____ zebra ate the smelly apples. |

| Set var **animal** to butterfly | The pink _____ ate the smelly apples. |

| Set var **adjective** to yummy | The _____ _____ ate the _____ apples. |

| Set var **food** to ice cream | The _____ _____ ate the _____ _____. |

Which image matches your final sentence?
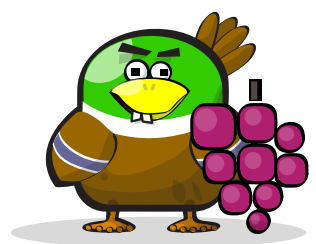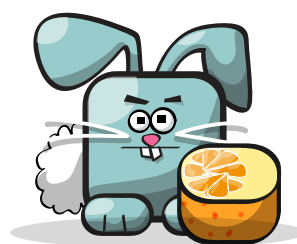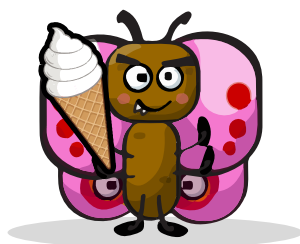
Challenge: Which variables will you have to change in the sentence to describe the other three pictures?