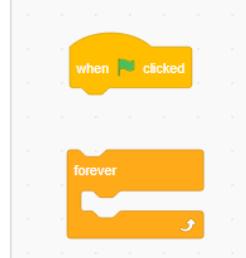
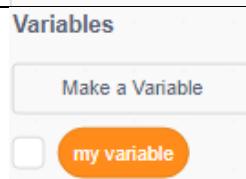
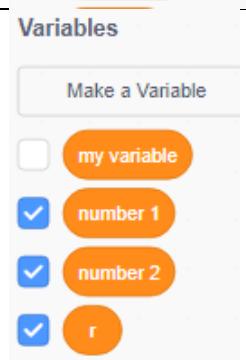
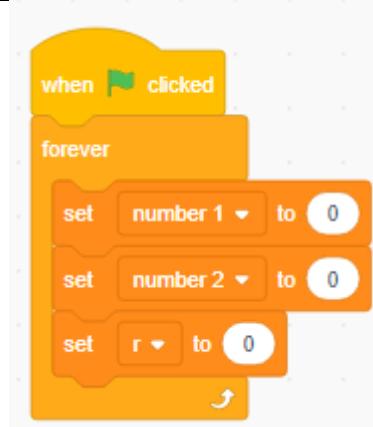


How to create a maths quiz on scratch

	First go to the control section and select the green flag. After that select the forever piece of code
	Go to Variables and click on Make a variable
	You are going to create three variables : Number 1 Number 2 R (which stands for result)
	Then select 3 set my variables to pieces of code and place in the forever section.
	Clicking on the arrow next to my variable you will see the options: Number 1 Number 2 And r Set them in the positions shown here



```
when green flag clicked
forever
  set [number 1 v] to [pick random (1) to (10)]
  set [number 2 v] to [pick random (1) to (10)]
  set [r v] to [0]
```

Next go to **operators**. You are now going to programme what each variable can do. In this case it will be to pick a random number from 1 to 10 although you can change the 10 to a **maximum** of 12 but no higher.

Do this for variable **Number 1** and **number 2**.



```
when green flag clicked
forever
  set [number 1 v] to [pick random (1) to (12)]
  set [number 2 v] to [pick random (1) to (12)]
  set [r v] to [0]
```

Here I've set this to 12 on both. This is code to tell the sprite to pick random numbers up to 12. We want this for the times tables up to 12.



```
when green flag clicked
forever
  set [number1 v] to [pick random (1) to (10)]
  set [number2 v] to [pick random (1) to (10)]
  set [r v] to [0]
```

After that, go to **operators** and select the green = icon. (Make sure it is the one with the rounded edges.



```
when green flag clicked
forever
  set [number1 v] to [pick random (1) to (10)]
  set [number2 v] to [pick random (1) to (10)]
  set [r v] to [0]
  (number1 * number2)
```

Then go back to the **variables** tab and place in **number 1** and **number 2** in the correct spaces. This means that the sprite will now randomly select two numbers to multiply together. Place this into the space with 0 in it.

```

when green flag clicked
forever
  set [number1 v] to [pick random (1) to (10)]
  set [number2 v] to [pick random (1) to (10)]
  set [r v] to [number1 * number2]
  ask [What's your name?] and wait
  join [apple v]
  join [apple v]
  join [banana v]

```

From sensing select the **ask and wait** code. Go to operators and select **two join pieces of code**. (they will have the words apple and banana on them)

```

when green flag clicked
forever
  set [number1 v] to [pick random (1) to (10)]
  set [number2 v] to [pick random (1) to (10)]
  set [r v] to [number1 * number2]
  ask [What's your name?] and wait
  join [apple v]
  join [apple v]
  join [banana v]

```

Join the two join pieces of code so that you have three spaces which say apple , apple, banana.
Insert this **green code** into the **blue ask** code as seen in the following diagram.

```

when green flag clicked
forever
  set [number1 v] to [pick random (1) to (10)]
  set [number2 v] to [pick random (1) to (10)]
  set [r v] to [number1 * number2]
  ask [join [number1 v] join [X v] join [number2 v]] and wait

```

Once this is done return to the variables tab and insert **number 1** and **number 2** into the spaces shown in the **blue ask and wait** piece of code. In the middle section place an **X** . This piece of code generates your multiplication sum.

```

when green flag clicked
forever
  set [number1 v] to [pick random (1) to (10)]
  set [number2 v] to [pick random (1) to (10)]
  set [r v] to [number1 * number2]
  ask [join [number1 v] join [X v] join [number2 v]] and wait

```

From the controls panel select the **, if then, else** code. Go to operators (green) and select the **=** code (you want the one with =50 on it). Collect the blue **answer** code from sensing and finally gather the **'r'** variable code from variables.

```

if [diamond v] then
  [answer v = 50]
else
  [r v]

```

```

when green flag clicked
forever
  set number1 to pick random 1 to 10
  set number2 to pick random 1 to 10
  set r to number1 * number2
  ask join (number1) join (x) (number2) and wait

```

```

if answer = r then
else

```

```

when green flag clicked
forever
  set number1 to pick random 1 to 10
  set number2 to pick random 1 to 10
  set r to number1 * number2
  ask join (number1) join (x) (number2) and wait
  if answer = r then
  else

```

```

say Hello! for 2 seconds
say Hello! for 2 seconds

```

Place answer and r into the green = 50 code and carefully place in the space between if and then .

You are now going to code what happens when the answer to the maths question is given.
 Go to looks and select two say hello for 2 seconds.
 On the first one put something positive for when the answer is correct.
 On the second piece of code write something to say that they didn't get it right.

```

when green flag clicked
forever
  set [number1 v] to [pick random (1) to (10)]
  set [number2 v] to [pick random (1) to (10)]
  set [r v] to [number1 * number2]
  ask [join (number1) [join (x) (number2)] and wait]
  if [answer] = [r] then
    say [correct] for [2] seconds
  else
    say [wrong] for [2] seconds
end

```

Place these two pieces of code into the if else block as shown in the diagram.

```

when green flag clicked
forever
  set [number1 v] to [pick random (1) to (10)]
  set [number2 v] to [pick random (1) to (10)]
  set [r v] to [number1 * number2]
  ask [join (number1) [join (x) (number2)] and wait]
  if [answer] = [r] then
    say [correct] for [2] seconds
  else
    say [wrong] for [2] seconds
  end
  hide variable [number1 v]
  hide variable [number2 v]
  hide variable [r v]
end

```

You are all set up and ready to go but finally you need to hide the variables you have made from the main screen. To do this you need to go to variables and click on the blue ticks next to number 1 number 2 and r as you do this you will notice that the icons on the main screen have now disappeared.

```

when green flag clicked
forever
  set [number1 v] to [pick random (1) to (10)]
  set [number2 v] to [pick random (1) to (10)]
  set [r v] to [number1 * number2]
  ask [join (number1) [join (x) (number2)] and wait]
  if [answer] = [r] then
    say [correct] for [2] seconds
  else
    say [wrong] for [2] seconds
  end
end

```

Finally, enlarge the main screen and you are ready for an amazing maths quiz. If you manage to complete all of these steps, do you remember how to add code to include a greeting from your sprite? The blocks are flexible so you are able to slot in extra code easily. Good luck.