

Hi! Welcome to the uCode@UWG YouTube channel.

Today, we will create our own number guessing game. In this process we will learn how to input and output data, compare and contrast decisions, and create your own variables

Here is a list of items that we need to figure out what to do. So let's take a look at the first two items.

First, we need to create a variable to hold a random number. You can do this by going to the color palette with the **Scripts** tab opened and you scroll all the way down until you see **Data**.

Once you click on **Data**, a screen will pop-up and you can enter a variable name. In the pop-up, make sure to select 'For all sprites' and click **Okay**.

So, let's give it a try.

Make sure you click 'For all sprites' and press **Okay**.

Let's go ahead and set this variable to a random number. I can go ahead and drag this over to my script and pick the random number. For this purpose I will use 1 - 30.

Let's go ahead choose what we want our sprite to say as well. I went ahead and typed in my game introduction. I also gave it a time limit.

Next, we can go ahead and create the guessing variable. You can do that the same way you used to create a random number and you can label it as *guess*.

By the way, make sure you unclick this variable because we do not want it show up on a game. We only want the guessing variable to show up on the game.

So, now we want to go ahead and work on our guessing variable some more. We want to ask the gamer to choose an answer and to wait. We do this by going to the **Sensing** option and clicking on **Ask**.

After typing in our question, we want to go ahead and set the guessing variable to a random answer. So let's go ahead and do that. Let's go ahead and connect these two and figure out our starting option for our game.

I choose the 'when (green flag) clicked' to the start game because that is mostly how all games on Scratch are started.

Now, I am going to click the green flag to see if our game works so far... and it does.

We are done with our variables and we are going to start working on our *if-then* statements. This is basically the bulk of the game.

There are three possible guessing choices for this game. It could either be: the guess is equal to (=) the answer; the guess is less than (<) the answer; or the guess is greater than (>) the answer.

So, let's go ahead and pull out three if-then statements.

For the first one, we want *guess* to equal the answer. We can go ahead to the operators and click on the green object that shows the equal to (=) sign and let's go ahead and go to **Data** and this way we can put both of our variables in the slots available.

(guess = thinkingof).

If these two equal each other, than that makes this statement correct. We can go ahead and make this sprite say that the answer is correct. After you have typed in what you wanted the sprite to say when the answer is correct. Make sure you pick a time limit, normally is a second or two.

We are done with the first sprite, so we can go ahead and connect this one and we can work on our second one.

For the second, we want *guess* to be greater than the answer. Let's go ahead and do that one the same way I did the last one. Choose the greater than (>) sign. Go back to your variables.

(guess > thinkingof)

Since the guess is greater than the answer, we want this sprite to say that the answer is too large or too high. So, let's go ahead and click on this and type in "Too high". So, for this part I typed in that the sprite will say "No, that's too high." when guessing variable is actually higher than the *thinkingof* variable.

By the way, you can figure out your random *thinkingof* variables by going to the *thinkingof* and clicking on it and it lets you know that it is 29. So, let's go ahead and go back and finish our last *if-then* statement.

This one will be less than and you do the same thing. The *guess* variable will be viewed less than the *thinkingof* variable. For this one, that will make this statement know that it is too high. So, let's go ahead and make our sprite say that.

Make sure all of you tile links are the same.

After we've made our sprites say, "No, that is too low." We can go ahead work on the last description that the sprite will say. This is our game over sprite.

So, we can go ahead and go to **Looks**, go to **Say**, and we want a joint something because we have more than one thing to put. So we want to go ahead and click on **Join**, so we have two different things going on at one time.

So, what would be the correct answer? The first one would say 'Game Over' letting the gamer know they lost they game.

Now that I've typed in my last description, we can go ahead and input our answer from the *thinkingof* variable. So, basically this sprite is complete, but we have a few little tricks we have to put in to make sure that these happens every single time the game is played.

One more thing, we also have to add the **Stop All** key to the first *if-then* statement because this makes the game stop completely after the gamer has won. So, let me go ahead and reconnect that.

We can go ahead and add our repeat sequence as well so that this happens every single time that the game is complete.

This is basically how you create the number game.