# learn-co.de Worksheet

## Accessing The Site:

1. You need to go to **learn-co.de** in a web-browser.
2. Then click **join class**.
3. Type in **oxford** all lowercase and press **enter**.

When you have completed this, the page should look similar to the next page of this worksheet.

## Using The Site:

You can write code on the **left hand side** of the page.

If you click **run**, which is green and in the top right hand corner, your code will run.

**When you have completed a task successfully**, Rory the robot will pop up and let you know, and you can click along to the next task!

All of these instructions will appear on your screen too. Press the pink **X** to start.

# TASK 1

## Turning a Rectangle into a Square

So this is the code we are going to use to draw a rectangle:

```
rect(10,15,200,100)
```

Try typing that into the left hand side and click run, this should draw a rectangle that is 10 pixels **across**, 15 pixels **down**, 200 pixels **wide**, and 100 pixels **high**

**Pixels** are what we use to measure things on a computer, one **pixel** is really small!

You told the computer 5 things:

1. What **shape** you were drawing.
2. How far **across** the page you wanted to draw it
3. How far **down** the page you wanedt it
4. How **wide** you wanted it
5. How **tall** you wanted it

Your task is to draw a **square**, but you must use the same **rectangle** code.

***Hint:*** *to make a square, draw a rectangle that has the same width and height values (e.g. 100 and 100).*

**When you have completed the task, Rory the Robot will pop up and let you know, and then click next task.**

# TASK 2

## Circle

Now you have mastered the rectangle it's time to have a go at the circle.

The circle works in a very similar way to the rectangle, you need to tell the computer:

1. What **shape** you are drawing.
2. How far **across** the page you want to draw it
3. How far **down** the page you want it
4. What **radius** *(how wide)* it should be

Just like before, an example is:

```
circle(100,120,50)
```

*Why don't you try typing that in? Remember to click **run**!*

*That will draw a `circle` that is `100` pixels across, `120` pixels down, and has a `50` pixel radius*

*Can you draw a circle in the top corner? (thats `0` pixels across and `0` pixels down)*

***Remember, when you have successfully completed the task, Rory the Robot will pop up to let you go to the next task***

# TASK 3

## Circle and a Square

Okay, let's try to put those two things together!

When you want to do more than one thing, you have to put them on different lines.

You'll notice at the side, the lines have numbers, these indicate which order the computer will follow your instructions.

It will start with line 1 and then do line 2 and so on...

A square has already been drawn for you, can you write a second line of code which draws a circle that is just sitting on top of the square, and is exactly the same width?

# TASK 4

## Jump up!

Shapes are more fun when they move, even more so when they make a game!

Unfortunately, the game isn't quite finished yet, so we need you to finish it!

When you click run, you should see a ball rolling along a road, soon there will be obstacles that the ball needs to jump over.

First, let's see if we can make the ball jump! Try the following code:

```
jump()
```

Type that in *(with no capital letters!)* and see if the ball jumps!

**You need to press run to check your code works!**

**Remember, when you have successfully completed the task, Rory the Robot will pop up to let you go to the next task**

# TASK 5

## Follow me!

Now we want to make the ball jump when you press the up arrow.

To do this, we have to tell the computer what to do when the up arrow is pressed, look at the code below

```
def up_pressed():
    jump()
```

This tells the computer that when up is pressed, the ball should jump

Have a go at typing that in, be careful that you include all the right punctuation, don't use any capital letters and you need to include some spaces at the beginning of the second line.

**You need to press run and then press the up arrow to check your code works!**

**Remember, when you have successfully completed the task, Rory the Robot will pop up to let you go to the next task**

# TASK 6

## Duck!

Well done! You're almost there, the game is almost finished!

We want to be able to do one last thing, and that is to duck under obstacles.

Rory the robot remembers that the code to duck is `duck()` but he has lost the instructions on how to make it work with the down arrow key!

Can you figure it out?

**You need to press run and then press the down arrow to check your code works!**

**Remember, when you have successfully completed the task, Rory the Robot will pop up to let you go to the next task**

# TASK 7

## Time to play!

Well, you've done it, you've finished making the game

So you've earned the chance to play it!

Your challenge is to score more than 1000, but feel free to close the challenge complete box and keep playing!