Unit 3 – Scratch

Scratch – Simple Programming

Creating Shapes

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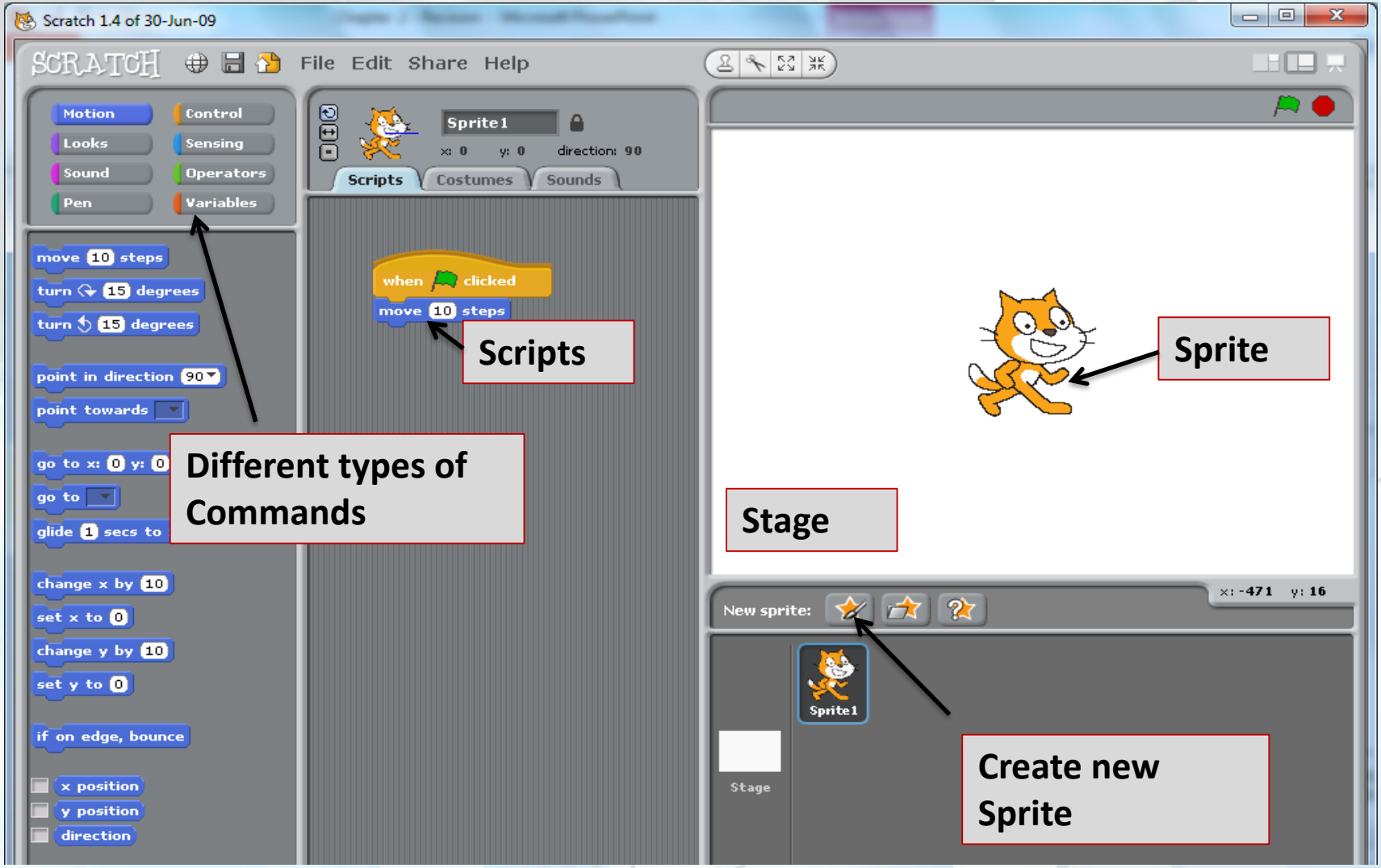
Unit Overview

Objectives
Understand why computer programming scripts are used.
Understand the layout of the Scratch software.
Understand the use of basic motion and repeat commands.
Understand the use of Variables as place holders for information.

Outcomes		Time
Task 1	Create shapes in Scratch using basic commands.	
Task 2	Create shapes in Scratch using the repeat command.	
Task 3	Create a script containing suitable variables.	
Task 4	Create a simple Program to create all the shapes from the previous tasks	

Starter (Feature of Scratch)



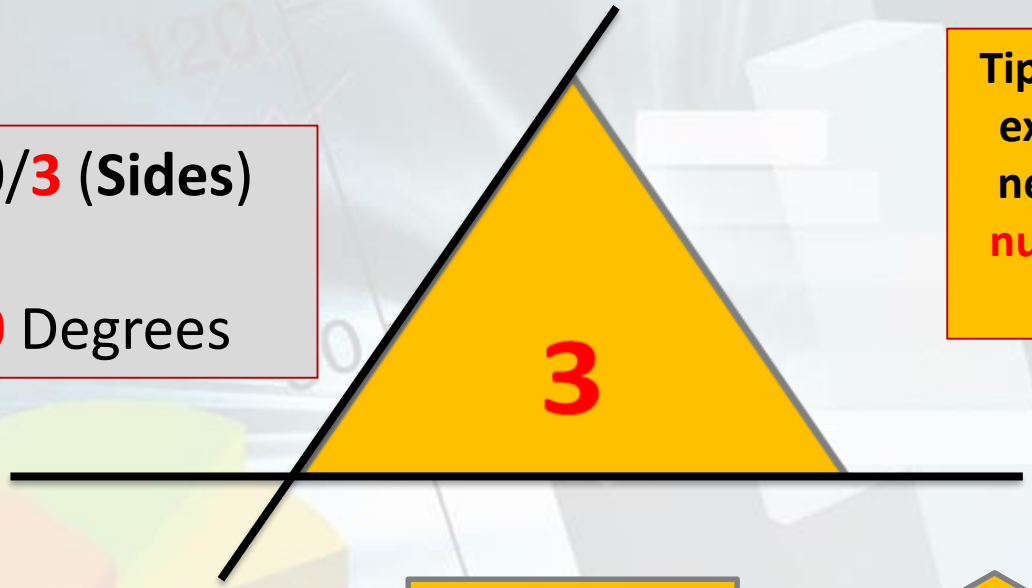
Starter (Label the Shapes)

Triangle	Decagon	Dodecagon	Square
Octagon	Heptagon	Pentagon	Hexagon

Starter (Working out Exterior angle)

360/**3** (**Sides**)

120 Degrees



Tip: To work out the exterior angle you need to divide the number of sides by 360 degrees.

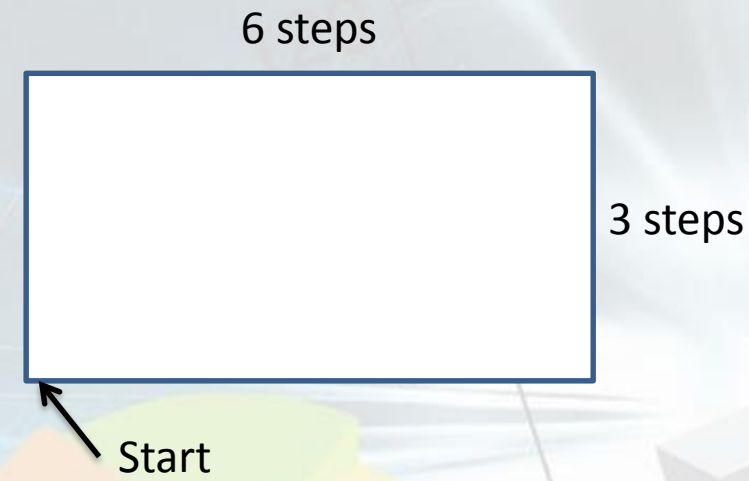
Work out the exterior angle for the following shapes

Degrees

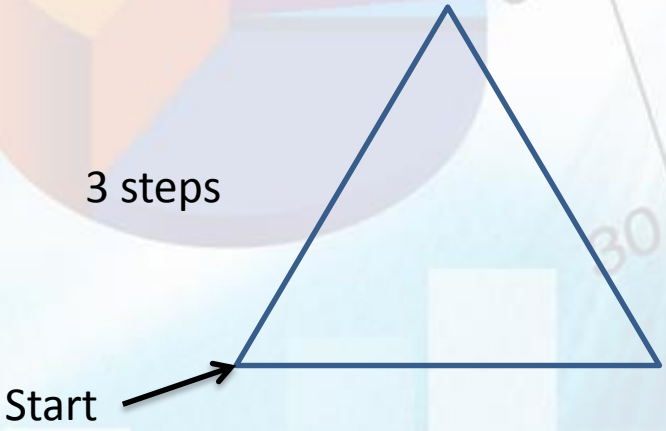
Degrees

Degrees

Starter – Complete the missing instructions



Steps	Actions
1	3 steps forward
2	Rotate 90 degrees
3	6 steps forward
4	
5	
6	
7	
8	Finish

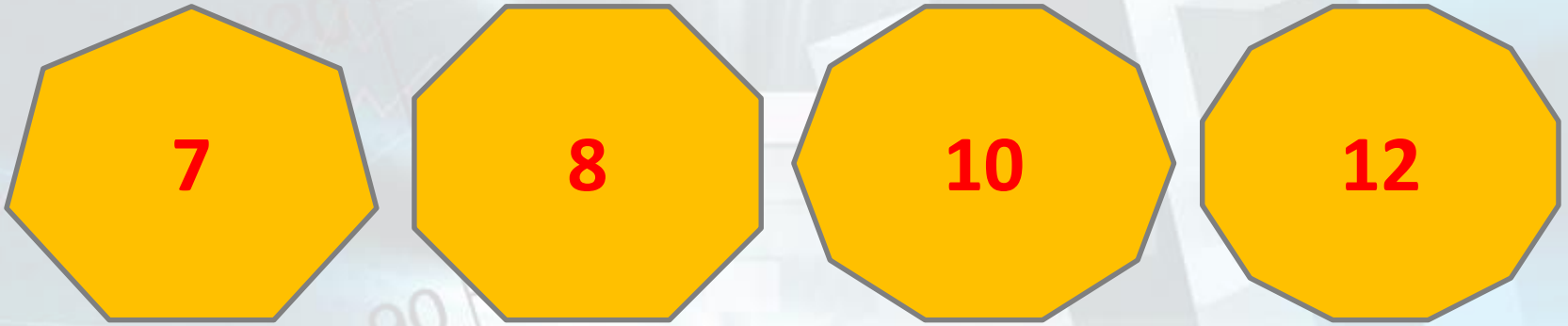


Steps	Actions
1	Rotate 120 degrees
2	3 steps forward
3	
4	
5	
6	
7	Finish

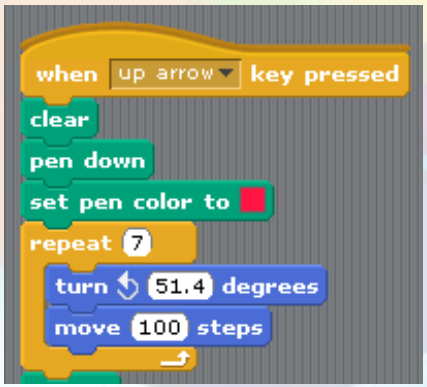
Task 1 – Create the following shapes

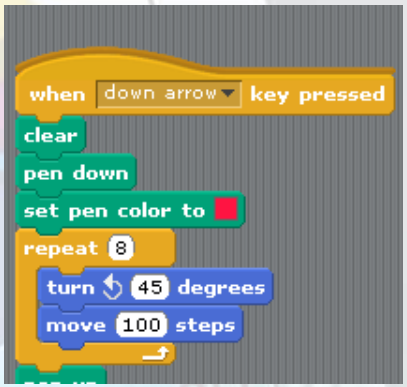
1. Create the following **shapes** in scratch using basic commands.

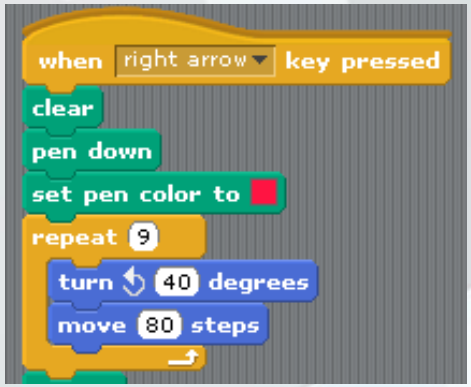
Task 2 – Repeat Command

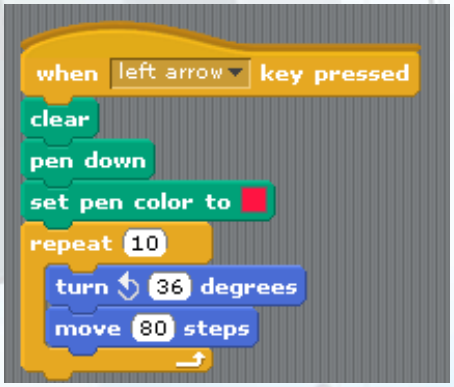


1. Create the following **shapes** in scratch using the **repeat command**.



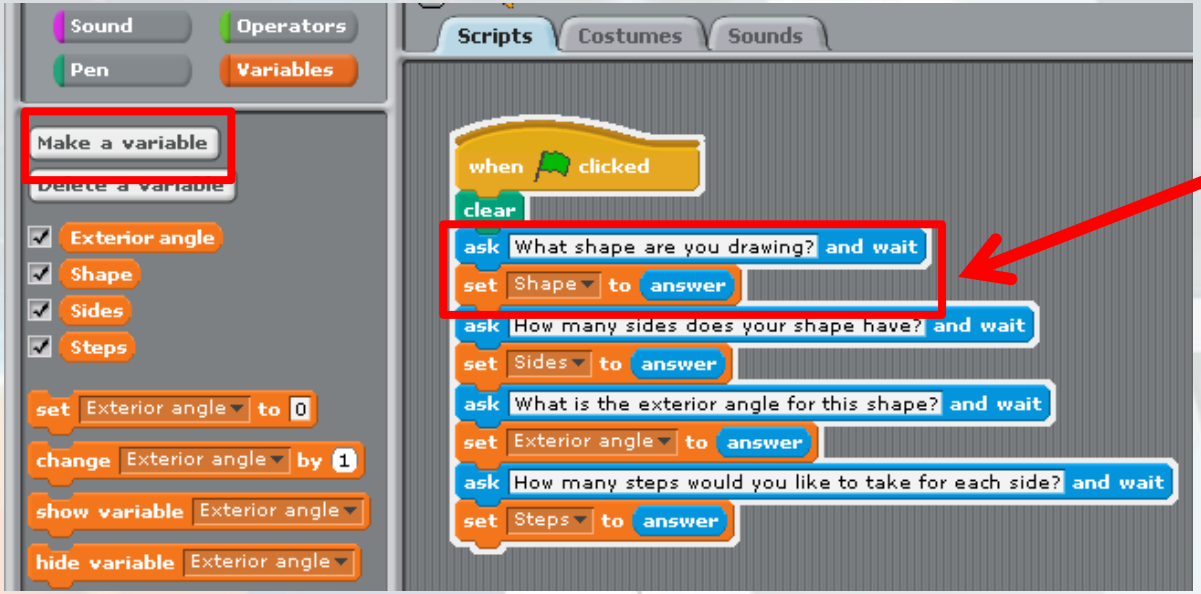






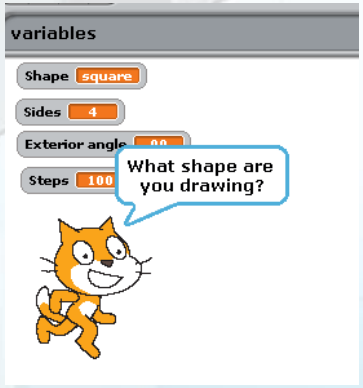
Task 3 – Variables

- **Variables** act as "**place holders**" for data in a computer program.



The answer to each question will be stored in the relevant variable.

The answer to the question "What shape are you drawing" will be stored in the shape variable.



Task: Create variable to store the answers from the following questions:

1) What shape are you drawing?
2) How many sides does your shape have?
3) What is the exterior angle for this shape?
4) How many steps would you like to take for each side?

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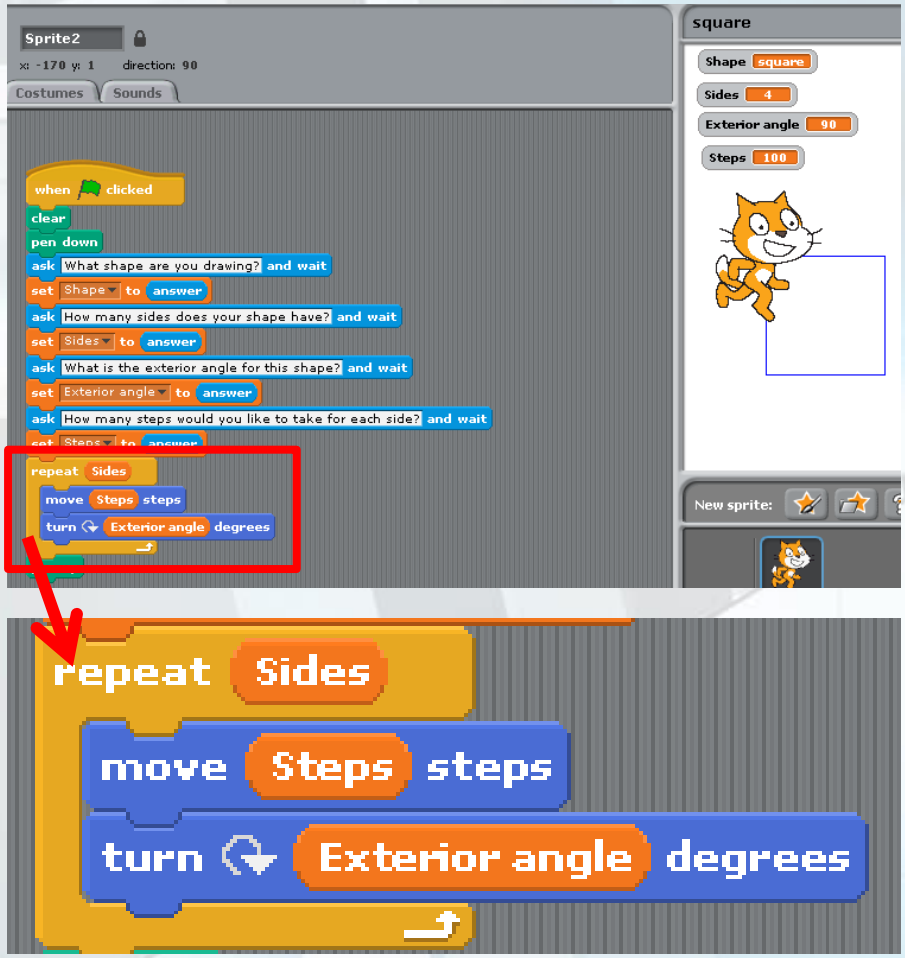
Tasks 4 – Create a simple Program to create all of the shapes from the previous tasks

1. **You program needs to include:**
   1. Control command to start the script
   2. Variables to store information about the shape (shape, sides, angles, steps etc.)
   3. Repeat command
   4. Pen up and Pen down command

2. **You can add additional script to you program.**



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Plenary – Refer to the Lesson Objectives

Objectives

Understand why computer programming scripts are used.
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Plenary Task (Q&A)

Peer assess each other scripts.
Discuss the advantages for creating a program to create shapes.
Questions: Do you know why a repeat commands is used?
Question: What is the purpose of variables?