

GLOSSARY (KEYWORDS)



8.1

| Keyword | Definition |
|--------------------|--|
| Hyperlink | Used to move around the presentation or to an external source when clicked on |
| Interactive | Accepts an input from the user for it to work |
| Consistent | Using the same layout, colour scheme throughout the graphic |
| Format | The way in which something is arranged or set out. |
| Transition | The visual effect that occurs when you move from one slide to the next during a presentation |
| Animation | A special effect that applies to a single element on a slide such as text, a shape or an image |
| Navigate | To move around |
| Mood board | A visual tool to help generate ideas |

8.2

| Keyword | Definition |
|------------------------------|---|
| Composition | The way the components of a layout are visually combined and arranged. |
| Visualisation diagram | a rough drawing or sketch of what the final static image product is intended to look like |
| Transparency | An image that is clear and can take the effect of any images behind it |
| Tool | Objects that can help graphic designers complete their work |

8.3

| Keyword | Definition |
|-------------------------------|--|
| Decomposition | Breaking a problem down into more manageable chunks |
| Algorithm | Step-by-step instructions to solve a problem |
| Abstraction | Removing unnecessary details to simplify it |
| Computational thinking | Problem solving techniques that imitates the process computer programmers go through |

GLOSSARY (KEYWORDS)



8.4

| Keyword | Definition |
|------------------|---|
| Variable | A piece of memory that stores a value that can be changed |
| Sequence | the order in which instructions. occur and are processed |
| Selection | The use of decisions |
| Objective | The end goal |
| Debug | Identify and remove errors |

8.5

| Keyword | Definition |
|-------------------------|---|
| Binary | Number expressed in the base-2 numeral system |
| Denary | Number expressed in the base-10 numeral system |
| Hexadecimal | Number expressed in the base-16 numeral system |
| Byte | A group of 8 binary digits |
| Losing precision | When the result produces a value with a precision greater than the maximum allowed digits |

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8.1

MOOD BOARDS

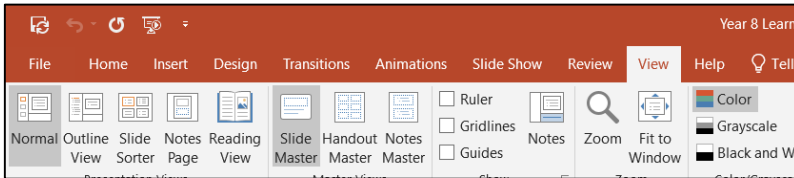
Purpose: visual tool to generate ideas

Content:

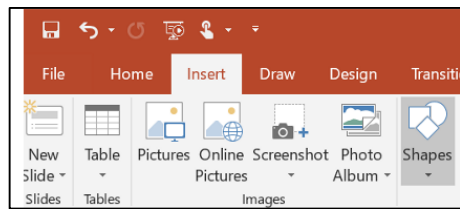
- Images
- Colours
- Fonts
- Sound
- Video
- Material



POWERPOINT



Use a master slide to set a consistent colour scheme and layout for your story

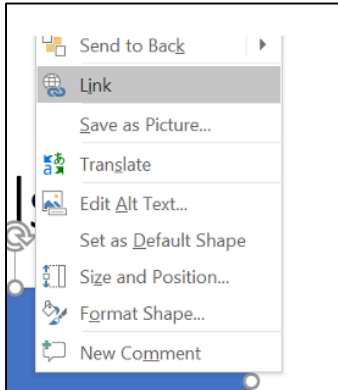


Insert a shape: Click Insert → shapes

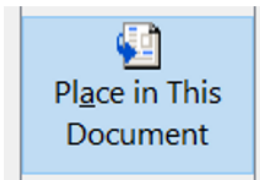
Add text to your shape: Click on the shape and start typing



To add a hyperlink: Right click the shape → link

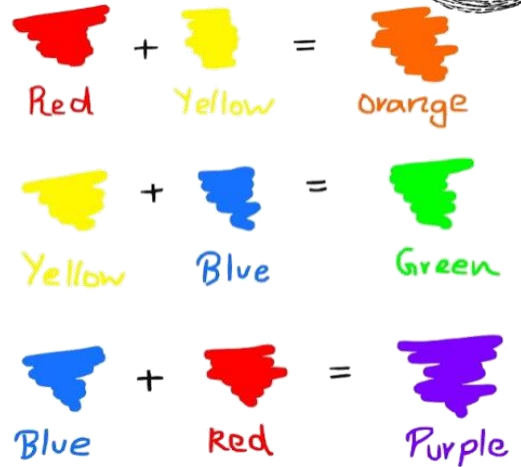
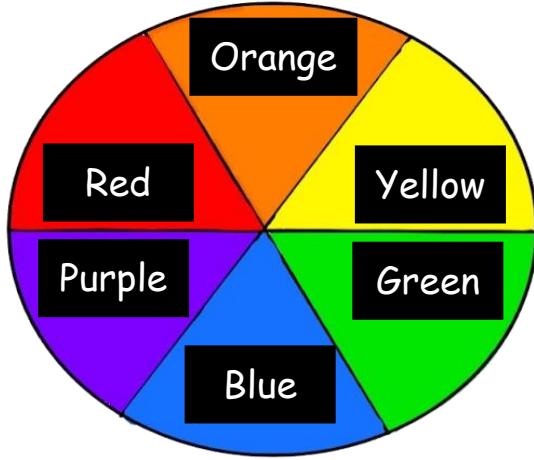


Click: Place in this document



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8.2



| | |
|--------|-------------------------------------|
| Red | Love, passion, danger, action |
| Yellow | Happiness, joy, caution, creativity |
| Blue | Calm, freedom, relaxation, trust |

COMPOSITION

The layout of images, text and shapes in digital print media needs careful consideration - this is known as **composition**.

Leading lines: using lines to draw attention to the main subject

Symmetry: the layout of one side is identical to the other side

Rule of thirds: the intersection of the lines define the most important parts



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8.2

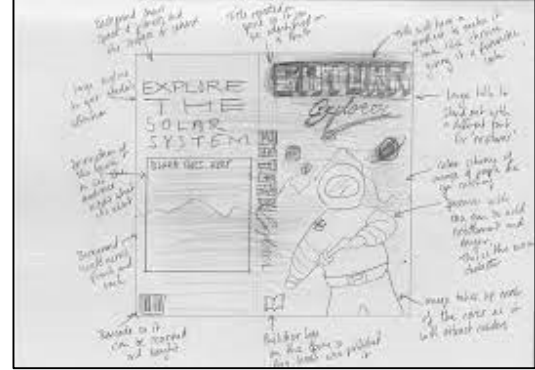
VISUALISATION DIAGRAMS

Purpose:

A rough sketch to show what the final product will look like

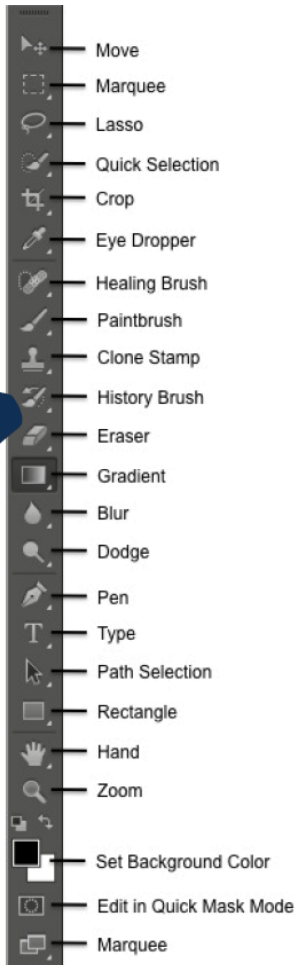
Content:

- Colours
- Typography
- Layout
- Images
- Annotations



PHOTOSHOP

Photoshop tools

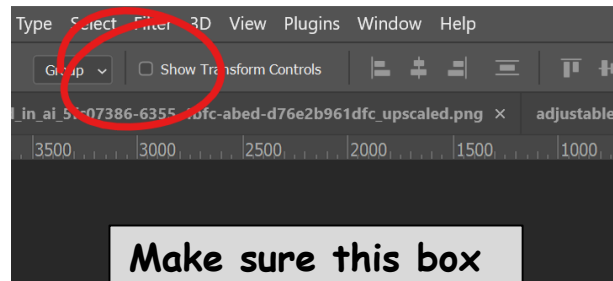


WHAT IS A VISUAL IDENTITY?

- Refers to the visual elements used to represent a company, organisation, or product

What is the purpose of a visual identity?

- Recognition/Familiarity: Visual identity helps in creating a distinct and recognisable image for a brand.
- Establish a brand: Plays a crucial role in establishing the brand's personality, values, and positioning in the market.
- Develop brand identity: Can lead to a sense of loyalty and connection with consumers.
- Visual Communication with Audiences/Consumers: Serves as a powerful tool for communication with audiences and consumers.



Make sure this box is ticked!!



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8.3

Decomposition



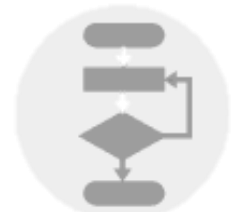
Breaking a problem down into more manageable chunks.

Abstraction



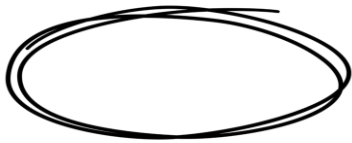
Removing unnecessary details to simplify it

Algorithms



Step-by-step instructions to solve a problem

FLOWCHARTS



Start and stop

The beginning and end points in a sequence.



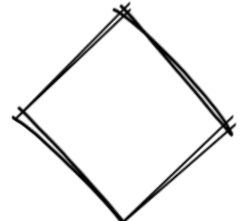
Process

An instruction/command to do something.



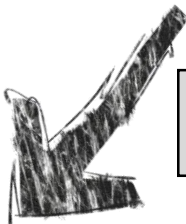
Input or Output

Data received or sent from the computer.

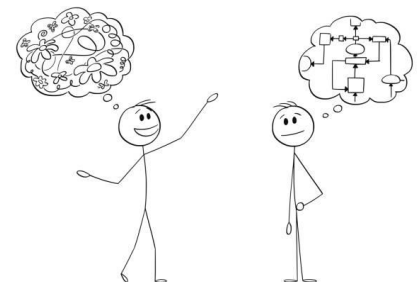


Decision

Different possible outcomes



Use arrows to show direction of flow



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8.4

Score goals

Kill enemies

Escape



Race

GAME OBJECTIVES

Build

Collection

Capture/destroy

Solve a puzzle



Looks

Use these blocks to change the appearance of your sprite, such as changing its costume or its size. You may also apply colour effects, or make a speech or thought bubble appear from your sprite.

Motion

Use these blocks to move or rotate your sprite, or to access its position as a number.

Events

Use these blocks to trigger when algorithms should run. Use the 'Green Flag' block to run code when the program runs.



Control

Use these blocks to adjust the flow of instructions from one block to another.

Access repeat loops and if blocks here.

Sound

Use these blocks to play sounds, drums and notes.

Different sprites come with different sounds, or you can add your own via the 'Sounds' Tab.

SCRATCH



Sensing

Use these blocks to sense for interaction between sprites or with a user of the program.

Use these with 'Control' blocks to make your program react to its environment somehow.

Pen

Use these blocks to turn on or off a pen line that draws behind a moving sprite, or to change the appearance of the pen. Finally, use the 'stamp' block to add a picture of the sprite to the stage at its present position.

Data

Use these blocks to create, access and change the values of variables.

Use lists to store related variables in a single place.

More Blocks

Create your own blocks here that can carry out common, repeated tasks.

You can also access blocks for interacting with external equipment, such as Lego Robotics kits.

Operators

Use these blocks to carry out calculations on numbers, to generate random numbers or to compare numbers.

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8.4

Start up screen

when space key pressed

switch backdrop to level 1

when clicked

switch backdrop to Game start screen

Create a backdrop for your loading screen

BEE INVASION

Collect the honey whilst avoiding the humans



PRESS SPACE BAR TO START

Movement - with arrows Main character

when clicked

forever
if key up arrow pressed? then
point in direction 0
move 5 steps

when clicked

forever
if key left arrow pressed? then
point in direction -90
move 5 steps

when clicked

forever
if key down arrow pressed? then
point in direction 180
move 5 steps

when clicked

forever
if key right arrow pressed? then
point in direction 90
move 5 steps

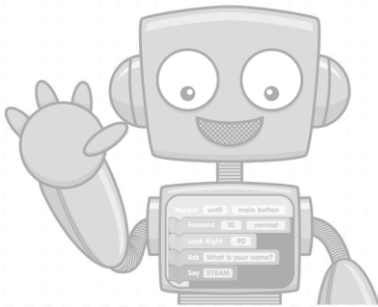
Movement - automatically Enemy

when clicked

forever

move 5 steps

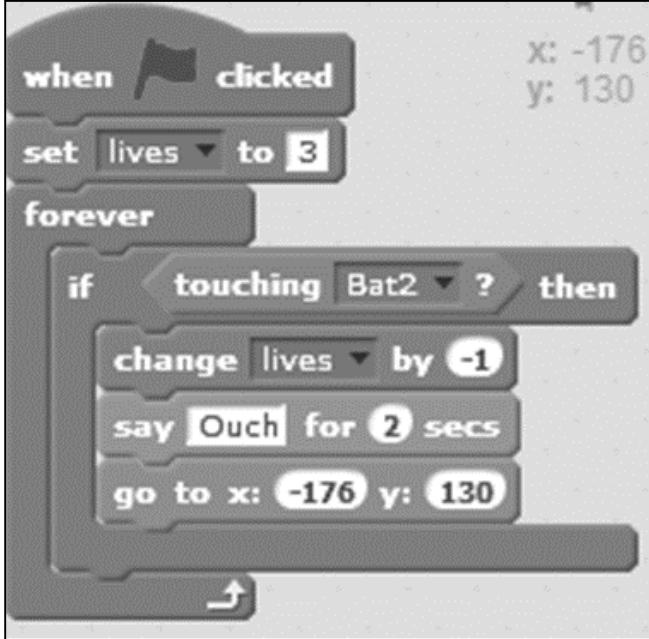
if on edge, bounce



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8.4

Adding lives Code on the main character



```
when clicked
  set lives to 3
  forever
    if touching Bat2 ? then
      change lives by -1
      say Ouch for 2 secs
      go to x: -176 y: 130
```

x: -176
y: 130

*Change Bat2 to the name of your enemy

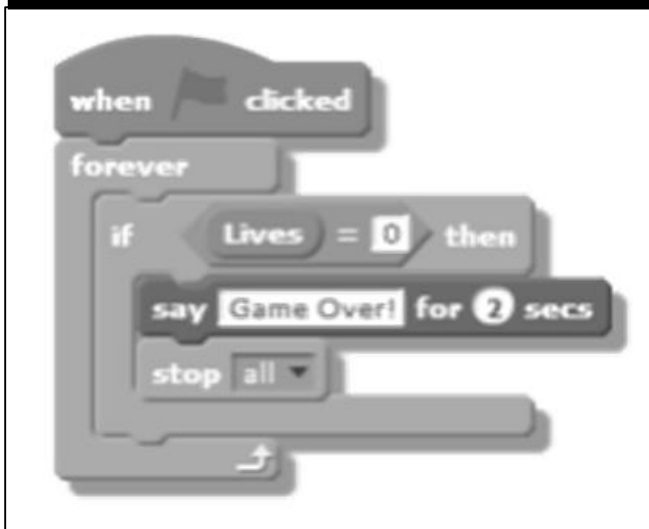
Adding lives Code on the object collected



```
when clicked
  show
  set Score to 0
  forever
    if touching Astronaut ? then
      hide
      change Score by 1
      wait 5 secs
      show
```

*Change Astronaut to the name of your main character

Ending the game



```
when clicked
  forever
    if Lives = 0 then
      say Game Over! for 2 secs
      stop all
```

*Add to main character

Ideas to expand your game:

- Adding multiple levels when a certain score is reached
- making the enemy move faster when a certain score is reached
- Adding a help screen
- Making the enemy move by a second player (using WASD keys)

Everybody in this country should learn to program a computer... because it teaches you how to think

Steve Jobs, co-founder and CEO of Apple Inc. (1955 - 2011)

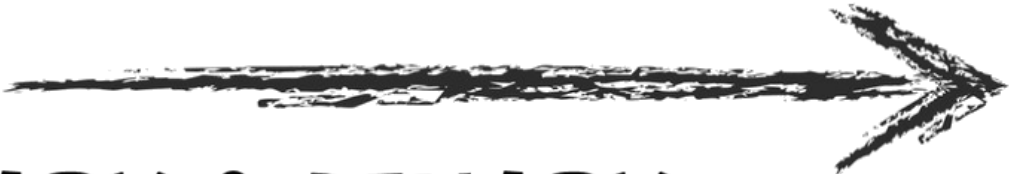


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8.5

UNITS OF DATA

| | | | | | | |
|--------------------------------|---------------------------|-------------------------|----------------------------------|---|---|--------------------------------------|
| 1 Bit 1 binary digit | 1 Nibble 4 bits | 1 Byte 8 bits | 1 Kilobyte 1,024 bytes | 1 Megabyte 1,024 Kilobytes 1,048,576 bytes | 1 Gigabyte 1,024 Megabytes 1,073,741,824 bytes | 1 Terabyte 1,024 Gigabytes |
|--------------------------------|---------------------------|-------------------------|----------------------------------|---|---|--------------------------------------|



BINARY & DENARY

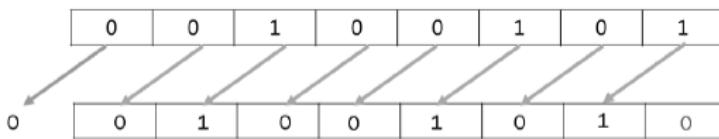
Write the numbers along the top

| | | | | | | | | |
|-----|----|----|----|---|---|---|---|-------|
| 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | = 183 |
| 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | |

Add up where there is a 1

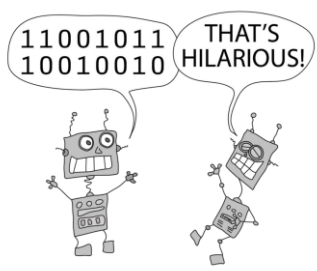
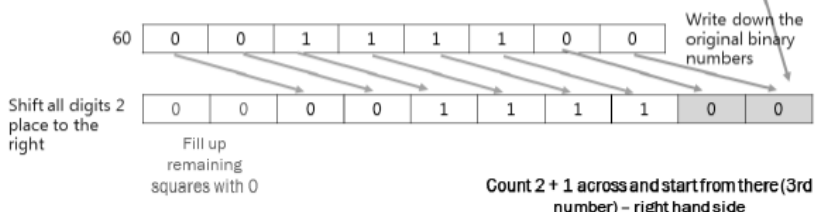
BINARY SHIFT

Left Shift One Place- Start from the LEFT



Right Shift Two places - Start from the RIGHT

Perform a 2 place right shift on 00100101



Count 2 + 1 across and start from there (3rd number) - right hand side

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8.5

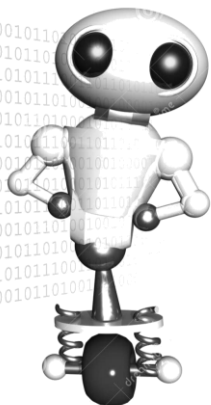
HEXADECIMAL

| | | | | | | | | |
|-------------|-----|----|----|----|---|---|---|---|
| Denary | 12 | | | | | | | |
| Binary | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Nibble | 8 | 4 | 2 | 1 | 8 | 4 | 2 | 1 |
| Hexadecimal | 0 | | | | C | | | |

| | | | | | | | | |
|-------------|------------------------------|----|----|----|--------|---|---|---|
| Denary | $128 + 32 + 8 + 2 + 1 = 171$ | | | | | | | |
| Binary | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 |
| Nibble | 8 | 4 | 2 | 1 | 8 | 4 | 2 | 1 |
| Hexadecimal | A = 10 | | | | B = 11 | | | |

CHART

| | | | | | |
|---|---|---|----|---|----|
| 0 | 0 | 6 | 6 | C | 12 |
| 1 | 1 | 7 | 7 | D | 13 |
| 2 | 2 | 8 | 8 | E | 14 |
| 3 | 3 | 9 | 9 | F | 15 |
| 4 | 4 | A | 10 | | |
| 5 | 5 | B | 11 | | |



1010001010111011010110010110
 101110011011010110101010110
 01101001001000010101010110
 1010001010111011010110010110
 101110011011010110101010110
 01101001001000010101010110
 1010001010111011010110010110
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