Unit: 5.1 Coding

Learning intention: To design and create efficient programs using sequence, selection, repetition and variables.

Simulating a physical system

observe the system

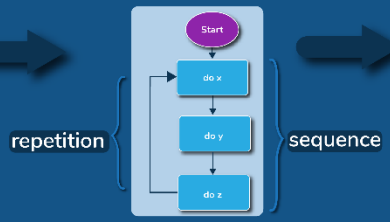
decomposition

- break down a task into components

abstraction

- removing unnecessary details

create the algorithm



code, test, debug

Functions

Simplifying for efficiency

original code

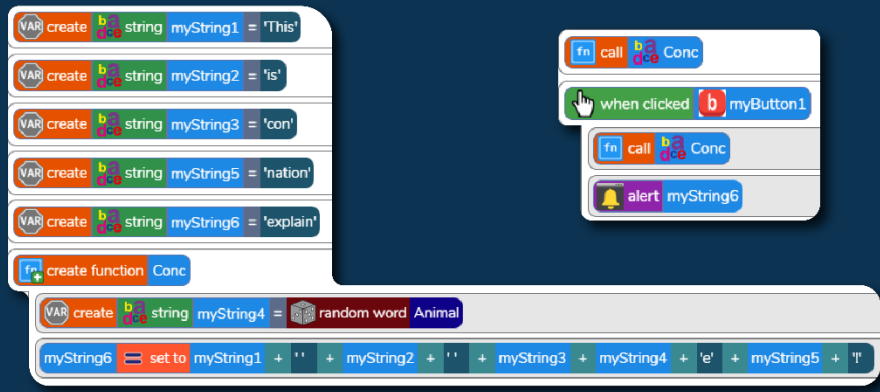
simplified code

Simplified code runs faster and uses less processing memory, it is said to be more efficient.

Variables

- The value can be changed in the code.
- Values are only stored while the program is running.
- Values should be initialised when the variable is created to prevent errors.

What value for myString4 would make sense?



Unit: 5.1 Coding

Reference guide to objects and attrubutes in 2Code Gorilla

purple mash

object attributes

	button	number	input	text	character	food	animal	car	shape	turtle	hotspot
name	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
tags					✓	✓	✓	✓			
image					✓	✓	✓	✓		✓	
x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
y	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
allow off screen					✓	✓	✓	✓			
rotation style							✓	✓			
movement type					✓	✓	✓	✓			
angle								✓	✓	✓	
speed					✓	✓	✓	✓	✓		
scale					✓	✓	✓	✓	✓	✓	
show/hide				✓	✓	✓	✓	✓		✓	✓
draggable					✓	✓	✓	✓		✓	
text	✓										
text size\style	✓	✓	✓	✓							
colour text/background/border	✓	✓	✓	✓					✓		✓
width & height											✓
value		✓	✓								
sides									✓		

2simple

Unit: 5.2 Online Safety

Learning intention: To learn about online threats, sources of support and responsibilities.

Support

- Use the helping hand model to think of five adults who you trust to help you if you have a worry.
- Also think of friends who could help you to get support.
- To add more details use the leaflet by scanning the QR code.

Outer Circle

Organisations who can help.
For example, Childline and emergency services.

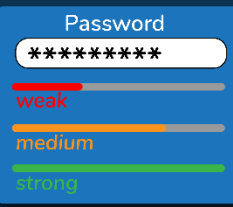
Responsibilities

- Behave respectfully to other people.
- Think about your safety.
- Think about the safety of others.
- Think! Could something you post cause harm to anyone?
- Report inappropriate content.
- Trust 'uncomfortable' feelings.

Secure Passwords

Things to consider

- Don't use one password for everything
- 6+ characters
- UPPER and lower case
- Combine letters, numbers and special characters



Images

- Check copyright before using.
- Include artist, webpage, date.

Quotes & Citations

"Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy" [1]
"nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis" (Ipsum, 2025)

Bibliography & References

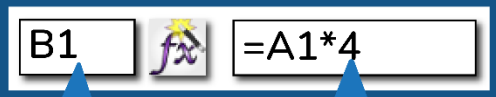
[1] Publication title, Author Name, Publisher, Date
or
Surnames and Initials, Date, Title, Publication, Edition
or
Author name, Date, Web Address

Unit: 5.3 Spreadsheets

Learning intention: To use formulae and advanced features of a spreadsheet to analyse data.

Formula bar

Begin all formulae with the equals symbol '='

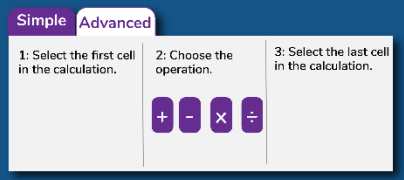


Copy and Paste

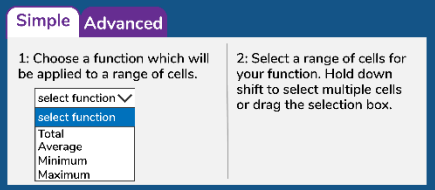
- copy: Ctrl + C
- cut: Ctrl + X
- paste: Ctrl + P
- on tablets: press and hold, then drag the blue border.

Formula Wizard

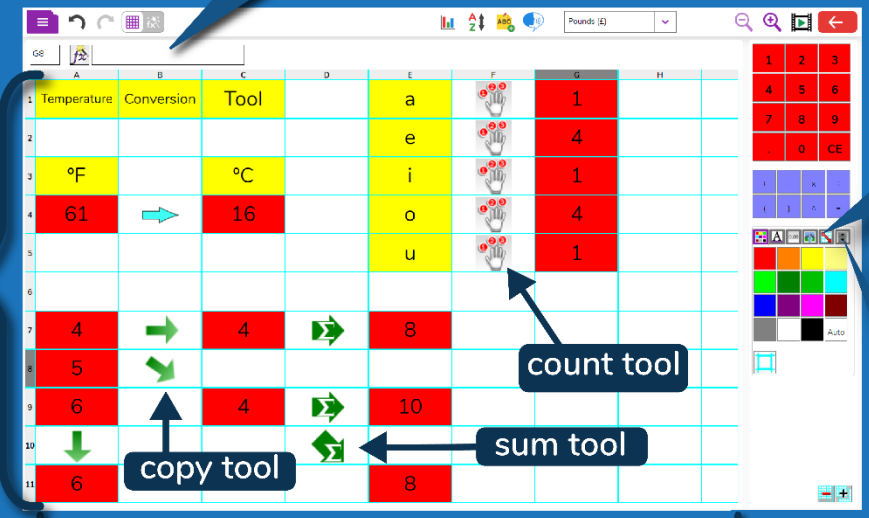
Automatically perform calculations.



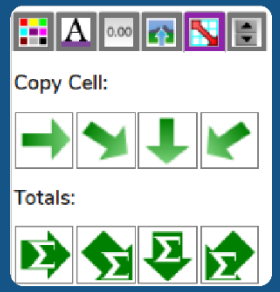
Includes averaging and totalling calculations as well as + - x ÷



Spreadsheet



Totals



Controls

Unit: 5.4 Databases

Learning intention: To create and interrogate databases.

Data

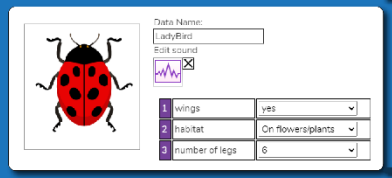
A collection of information, especially facts or numbers, obtained by observation, questions or measurement to be analysed and used to help decision making.

Database

A set of data that can be held in a computer in a format that can be searched and sorted for information.

search

database record

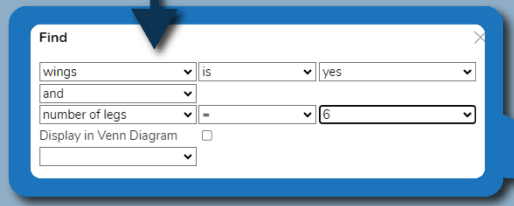


fields

Searching

Use
- 2 AND
- 2 OR

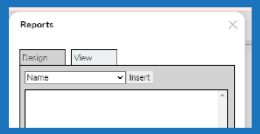
to combine field searches to answer complex questions.

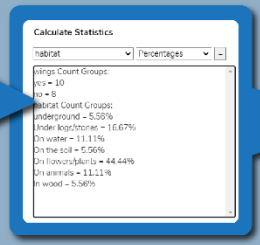


- table
- search
- sort, group, arrange
- statistics and reports
- charts

Table view

combine text and data to formulate a report

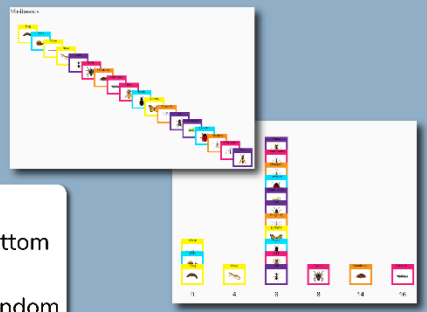




Sort: Up Down
<field>

Group:
<field>

Arrange:
Tiled Top Bottom
Left Right Random



purple mash

2simple

Unit: 5.5 Game Creator

Learning intention: To design and create a 3D game.

Designing a Game

Things to consider
- theme
- story
- aim
- extension; further levels
- completion
- playability and fun
- instructions
- constructive feedback

Scene elements

ground, ceiling, sky, walls

water, fire, objects

other elements

lighting

background music

wall height 1

editing methods

samples

use clipart

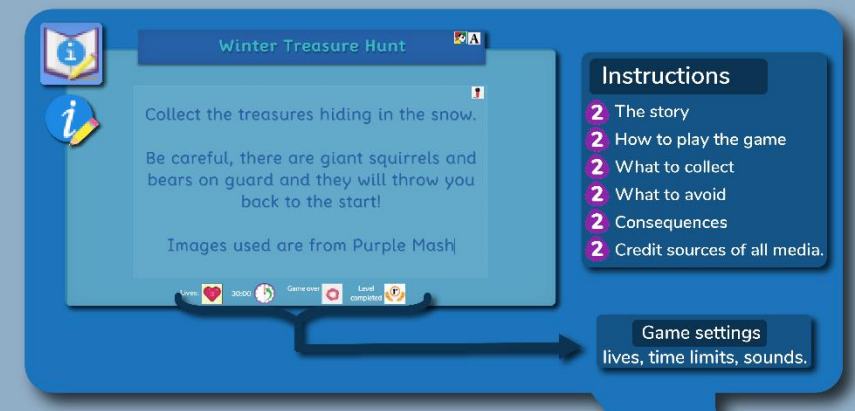
webcam

Choose file upload image

draw

draw floor

erase walls



Instructions

- The story
- How to play the game
- What to collect
- What to avoid
- Consequences
- Credit sources of all media.

Game settings
lives, time limits, sounds.

preview level

Quest:

collection objects and baddies

copy to all objects

use clipart

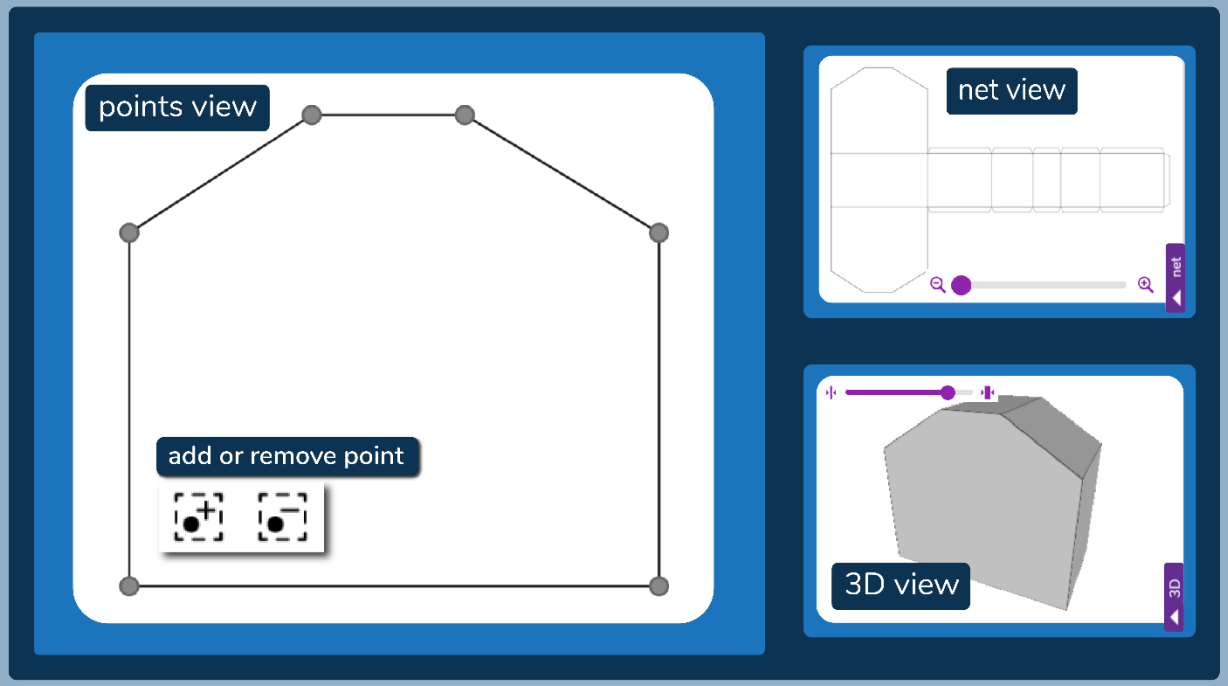
webcam

drawing tools

Choose:
- Movement
- Action
- Sound effects
- Points gained (collection objects)
- Damage done (baddies)

Unit: 5.6 3D Modelling

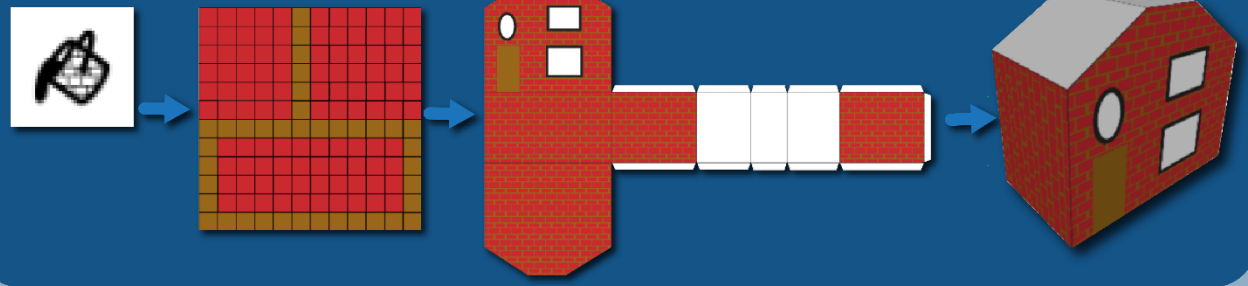
Learning intention: To design for a purpose in 3D using a computer aided design tool.



3D Printing

- Print the net on paper by exporting as a .pdf file
- Export as a .stl file and print using a 3D printer

Pattern Fill tool



Design Documentation

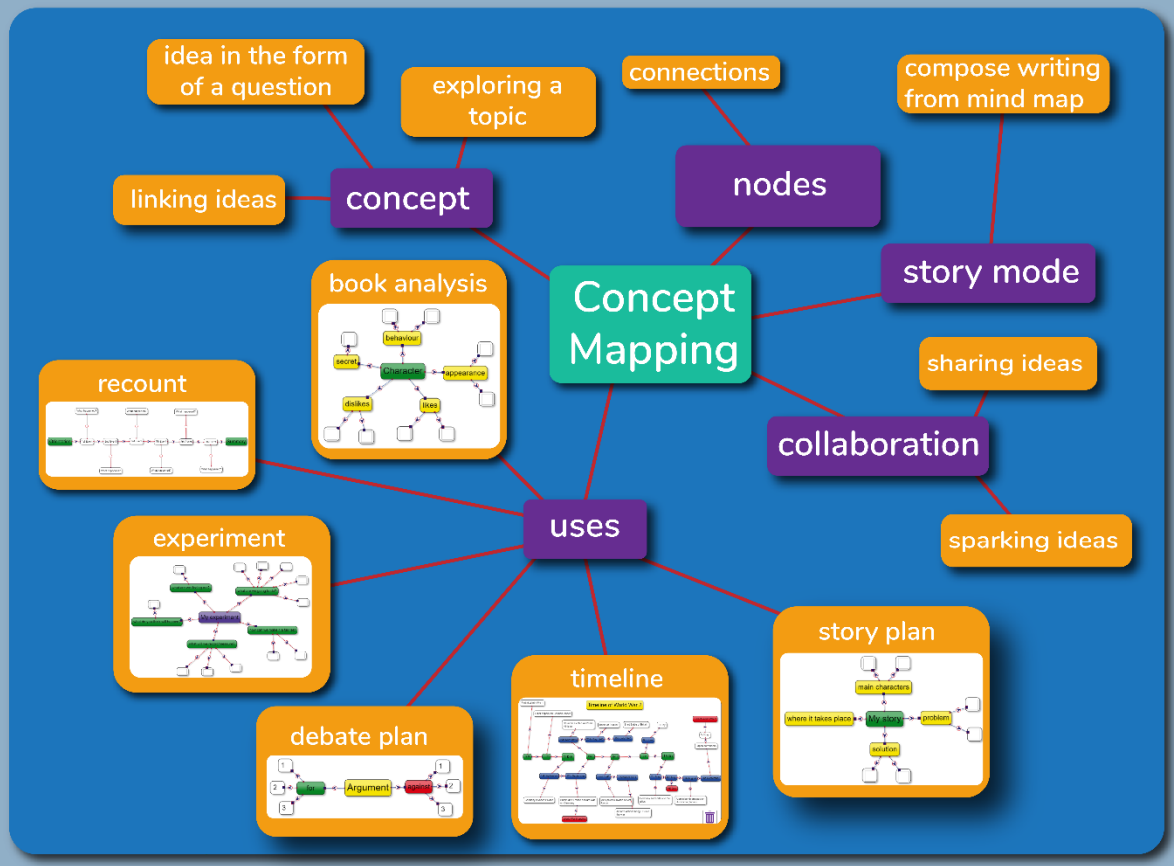
- Purpose
- User\Customer
- Ideas; moodboard, notes, sketches
- Colour palette
- Patterns
- Design net

Unit: 5.7 Concept Maps

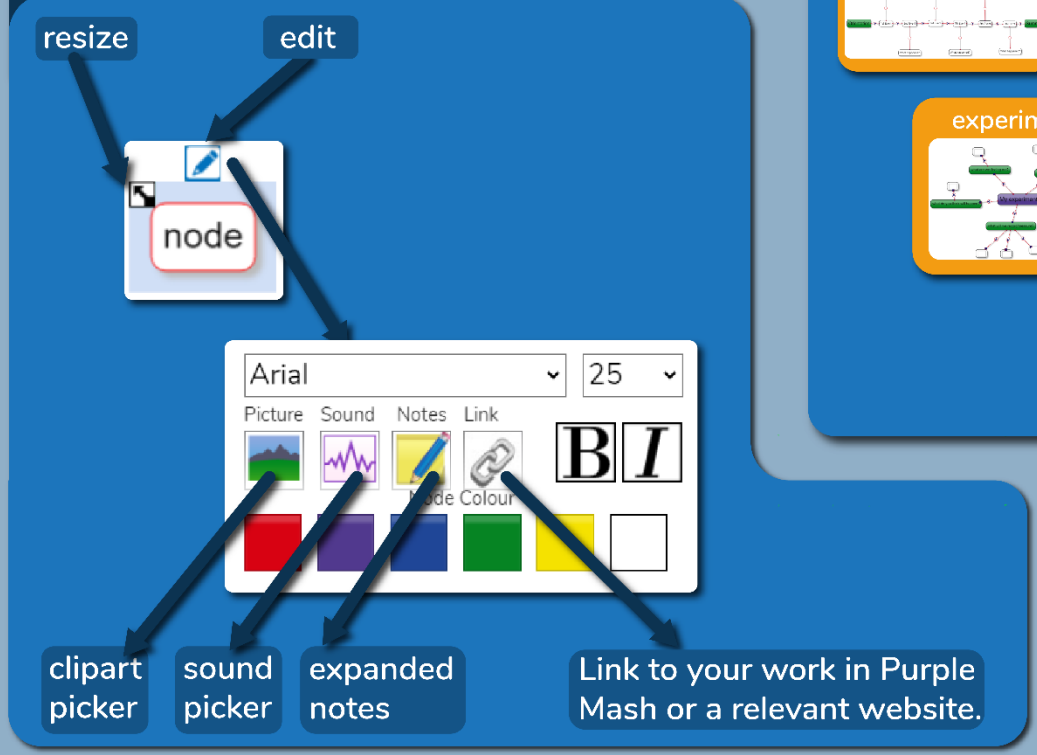
Learning intention: To use mind mapping to represent concepts and develop ideas collaboratively.

Concept Map

- Tool for organising and representing knowledge about a concept.
- Forms a web of interconnected ideas called 'nodes'.
- Sometimes called a mind map or thought shower.

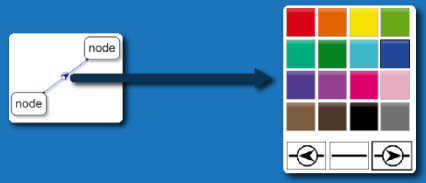


Nodes



Connections

Represent a relationship or link between two nodes.



Unit: 5.8 Word Processing

Learning intention: To use the features of a word processor to enhance writing and presentation of digital artefacts.

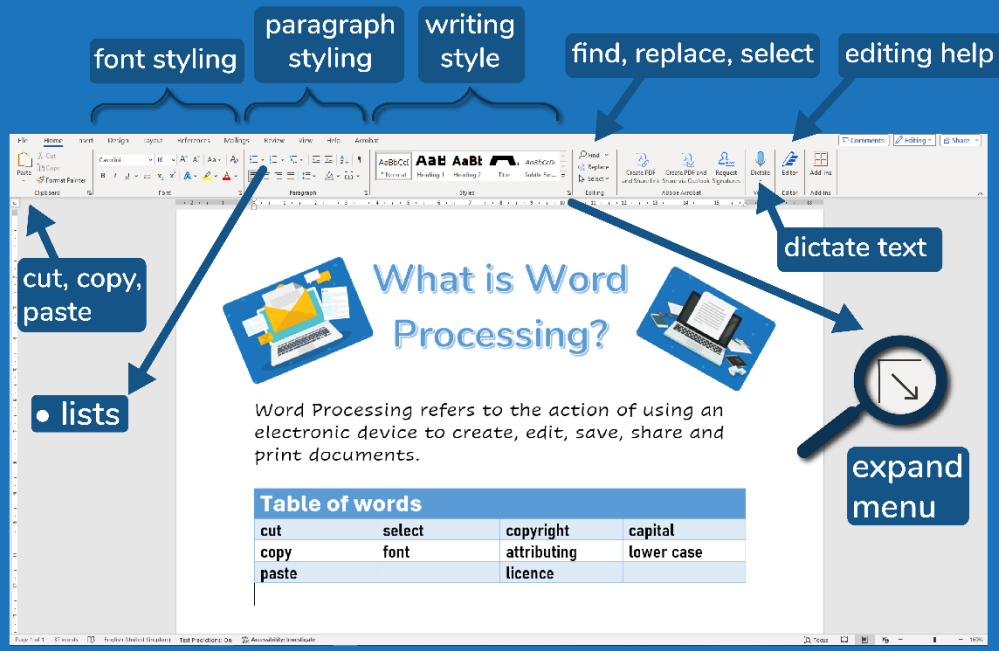
Copying and Pasting

- Keyboard shortcuts (Ctrl + C, Ctrl + X, Ctrl V).
- Touchscreen; use long press then select then cut, copy, paste.

Capital letters

- all upper case.
- upper case while pressed.
- tablet; double-tap all upper case.

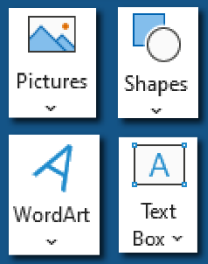
Main screen - Home tab



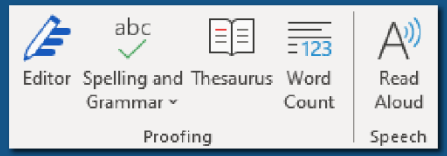
Selecting Text

- Double-clicking a word: select whole word.
- Click left-hand margin: selects the line.
- Mouse down and drag: selects text dragged over.
- Click start of selection, use shift + arrow to selects precisely.

Insert



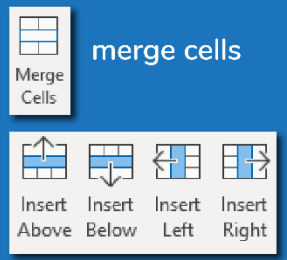
Review



Images — Picture Format

- consider copyright
- credit all sources
- crop
- resize
- wrapping
- transparency
- layering

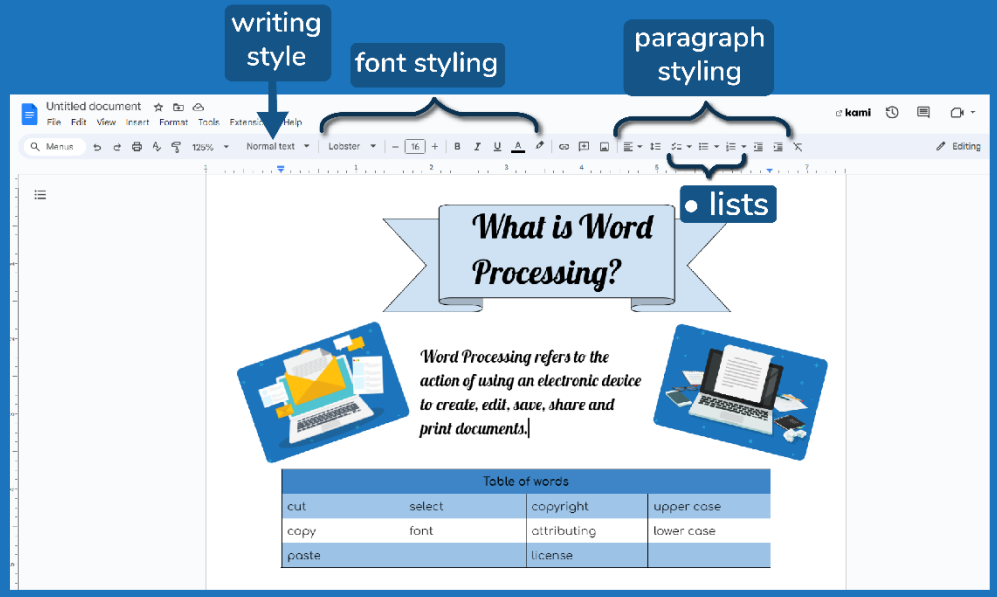
Tables — Table Design — Layout



Unit: 5.8 Word Processing

Learning intention: To use the features of a word processor to enhance writing and presentation of digital artefacts.

Main screen - Home tab



Copying and Pasting

- 2 Keyboard shortcuts (Ctrl + C, Ctrl + X, Ctrl V).
- 2 Touchscreen; use long press then select then cut, copy, paste.

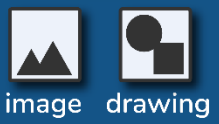
Capital letters

- all upper case.
- upper case while pressed.
- tablet; double-tap all upper case.

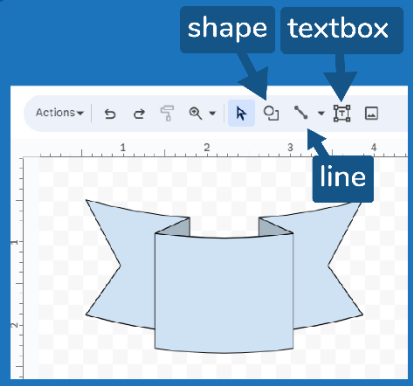
Selecting Text

- 2 Double-clicking a word: select whole word.
- 2 Mouse down and drag: selects text dragged over.
- 2 Click start of selection, use shift + arrow to select precisely.

Insert



Drawing



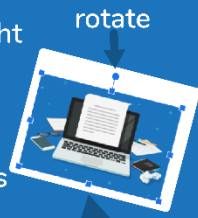
undo (Ctrl + z)

redo (Ctrl + y)

Images

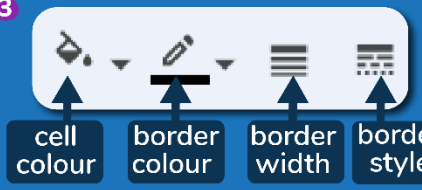
Image options

- 2 consider copyright
- 2 credit all sources
- crop
- borders
- wrapping
- > Recolor



Tables

- 1 select cells
- 2 click
- 3



Format > Table > Merge

Format > Table > Insert row\column

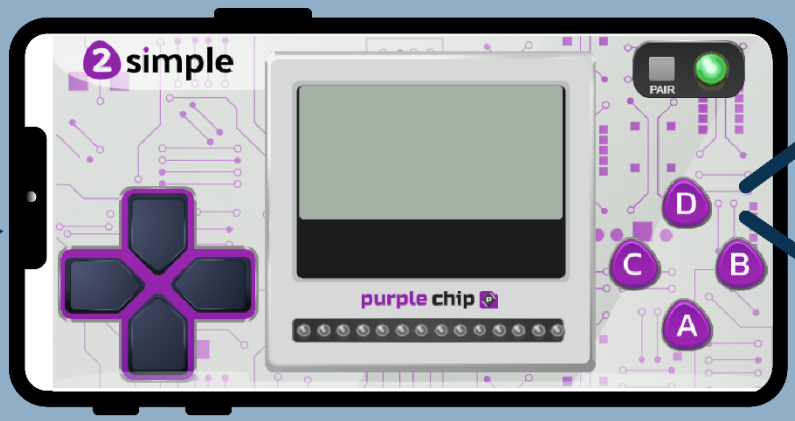
Unit: 5.9 Using External Devices

Learning intention: To create programs which use the tools and functions of external devices to control the program.

link 2Code to device

Events (inputs)

- when chip tilted — movement sensor
- when chip button — touch sensor
- when chip shaken — movement sensor
- when sound detected — sound sensor



Outputs to external device

- flash
- device sound
- vibrate
- chip show text
- chip show image

Outputs to the 2Code program

- sound
- print to screen

control objects:

- dog right
- purpleChicken image set to

set variable values:

- score add 50

2Code structures reminder

Variables

- The value can be changed in the code.
- Values are only stored while the program is running.
- Values should be initialised when the variable is created to prevent errors.

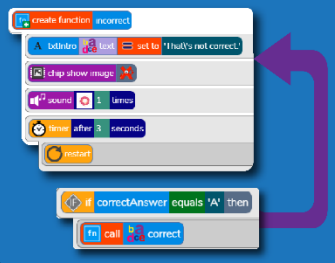
Tabs

- Used to organise code.
- Helps with debugging.

Timer

Function

A block or sequence of code to call when needed, so you don't have to rewrite the code.



Using tags

Hotspots

Selection