Computing Systems and Networks – IT around us

YEAR 2
Term 1

Knowledge Building Blocks:

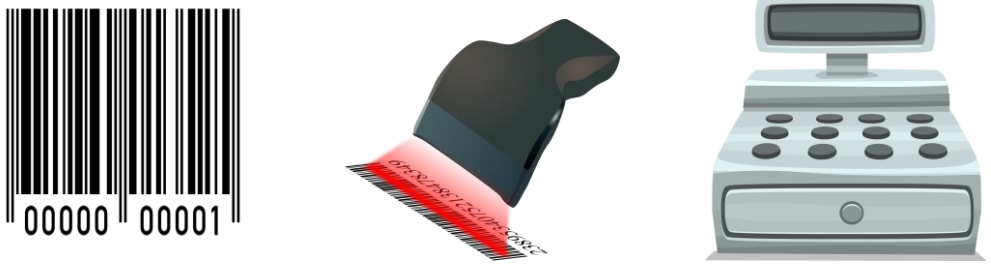
- To recognise different types of computer used in school.
- To describe some uses of computers.
- To identify some uses of computers.
- To recognise the features of information technology.
- To identify information technology in school.
- To identify information technology beyond school.
- To talk about uses of information technology.
- To say how rules for using information technology can help us.
- To explain how information technology benefits us.
- To recognise that choices are made when using information technology.
- To show how to use information technology safely.

Examples of Information Technology:

Key Vocabulary:

computer
information technology
rules
benefits
Safely
devices
sort
shop
IT
environments

Information Technology in a Shop:



Digital 5 a Day:

Creating Media – Digital Photography

YEAR 2
Term 2

Knowledge Building Blocks:

- To recognise that some digital devices can capture images using a camera.
- To capture a digital image.
- To talk about how to take a photograph.
- To recognise that photographs can be saved and viewed later.
- To take photographs in both landscape and portrait format.
- To make choices when composing my photograph.
- To view photographs on a digital device.
- To recognise features of 'good' photographs.
- To decide which photographs to keep.
- To identify how a photograph could be improved.
- To explain the effect of light on a photograph.
- To hold the camera still to take a clear photograph.
- To use zoom to change the composition of a photograph.
- To consider lighting before taking a photograph.
- To recognise that photographs can be changed after they have been taken.
- To recognise that some images are not accurate.
- To use filters to edit the appearance of a photograph.
- To improve a photograph be retaking it.

Photographing Devices:






How to capture a good photograph:

1. Hold the device firmly with both hands.

2. Point the camera lens at the subject.

3. Look into the viewing window or screen.

4. Move the device until you can see everything clearly.

5. Press the capture button.

Key Vocabulary:

digital device
image
capture
camera
photograph
photographer
saved/viewed
landscape/portrait
composing
light
zoom
composition
filters
appearance
retake
focus
flash
artificial
editing
adjust
tool
colour

Creating Media – Making Music

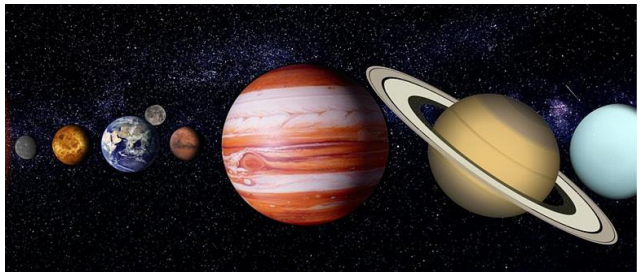
YEAR 2
Term 3

Knowledge Building Blocks:

- To identify that computers can be used to play sounds of different instruments.
- To identify that the same pattern can be represented in different ways.
- To experiment with musical patterns on a computer.
- To experiment with different sounds on a computer.
- To compare playing music on instruments with making music on a computer.
- To use a computer to create a musical pattern.
- To use a computer to compose a rhythm and a melody on a given theme.
- To use a computer to play the same music in different ways (e.g. tempo).
- To evaluate a musical composition created on a computer.
- To improve a musical composition created on a computer.

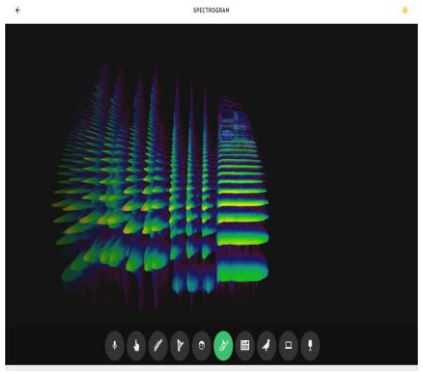
Composer:

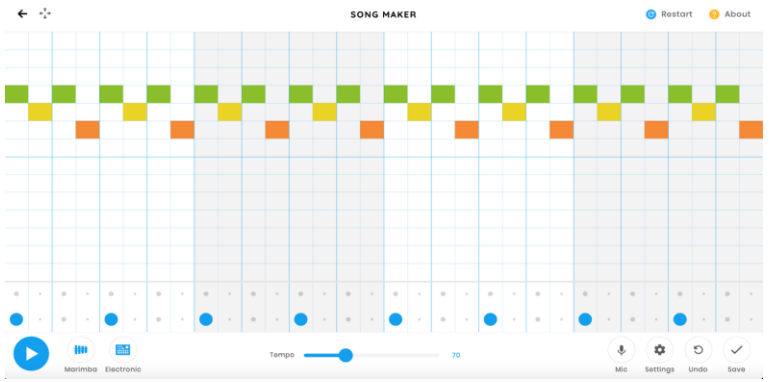
Gustav Holst
'The Planets'



Application:

Chrome Music Lab





Key Vocabulary:

computers
sounds
instruments
pattern
musical
sounds
compare
compose
rhythm
melody
tempo
composition
emotions
percussion
pitch
notes
pulse

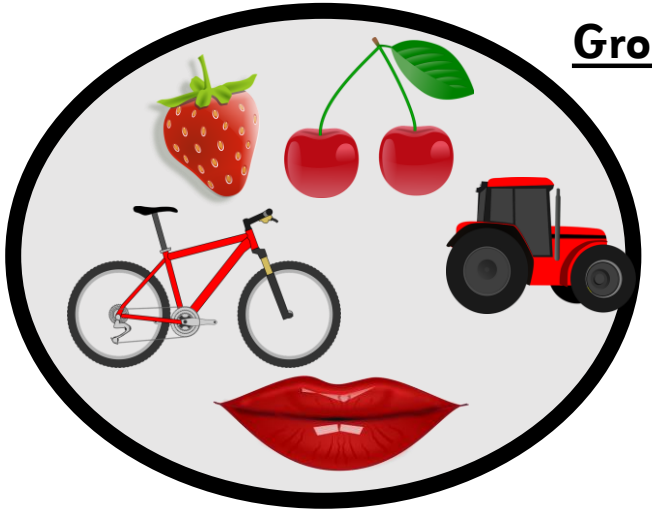
Data and Information – Pictograms

YEAR 2
Term 4

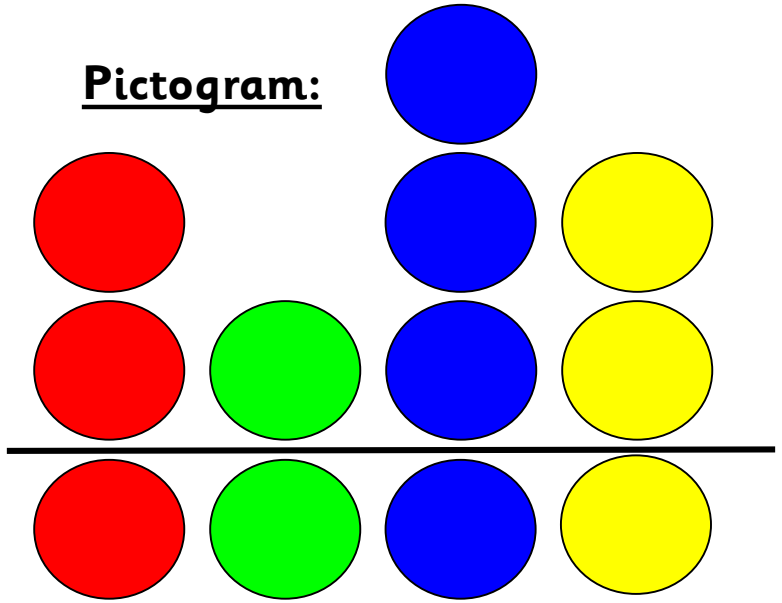
Knowledge Building Blocks:

- To use a tally chart to collect data.
- To show I can enter data onto a computer.
- To recognise that people, animals and objects can be described by attributes.
- To use a computer to view data in different formats.
- To use pictograms to answer single-attribute questions.
- To compare objects that have been grouped by attribute.
- To suggest appropriate headings for tally charts and pictograms.
- To use a computer to answer comparison questions (graphs, tables).
- To construct (complete) a given comparison question.
- To use a computer program to present information in different ways.
- To explain that we can present information using a computer.
- To give simple examples of why some information should not be shared.

Grouping:



Pictogram:



Tally:

Key Vocabulary:

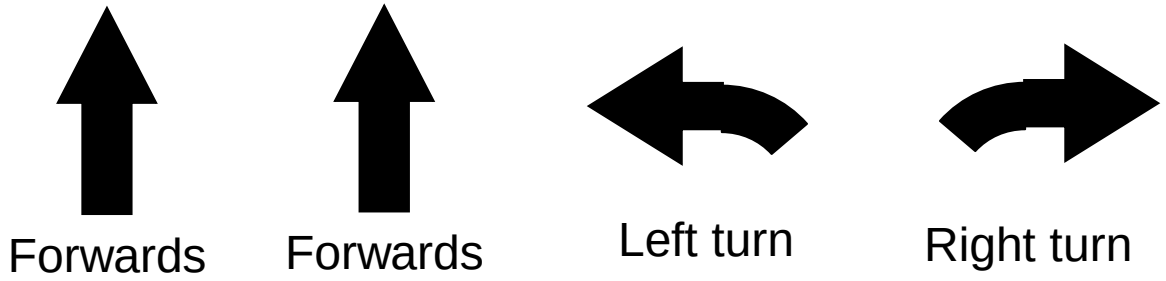
tally chart
data
collect
attributes
formats
pictograms
questions
grouped
headings
comparison
graphs
tables
counting
more than
less than
most
least
data collection
conclusions
findings

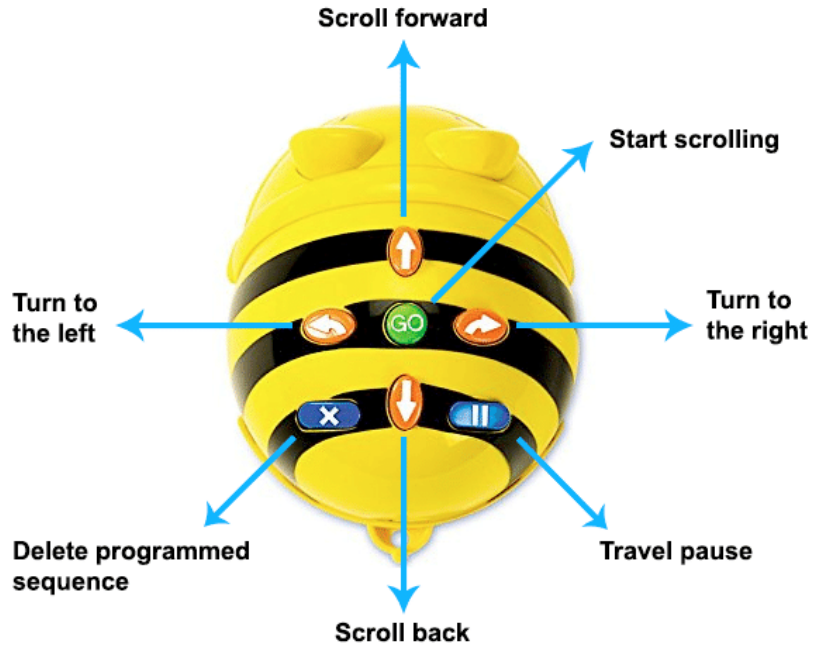
Programming A – Robot Algorithms

YEAR 2
Term 5

Knowledge Building Blocks:

- To describe that a series of instructions is a sequence.
- To choose a series of words that can be enacted as a sequence.
- To explain what happens when we change the order of instructions.
- To recall that a series of instructions can be issued before they are enacted.
- To choose a series of instructions that can be run as a programme.
- To recognise that you can predict the outcome of a programme.
- To create a programme.
- To trace a sequence to make a prediction.
- To run a programme on a device.
- To debug a program that I have written.





Key Vocabulary:

series
instructions
sequence
enacted
order
programme
predict
outcome
trace
device
debug
language
algorithm
design/create/test
code
artefacts
Decomposition
forwards/backwards
turn
right/left
route
obstacles

Programming B – An Introduction to Quizzes

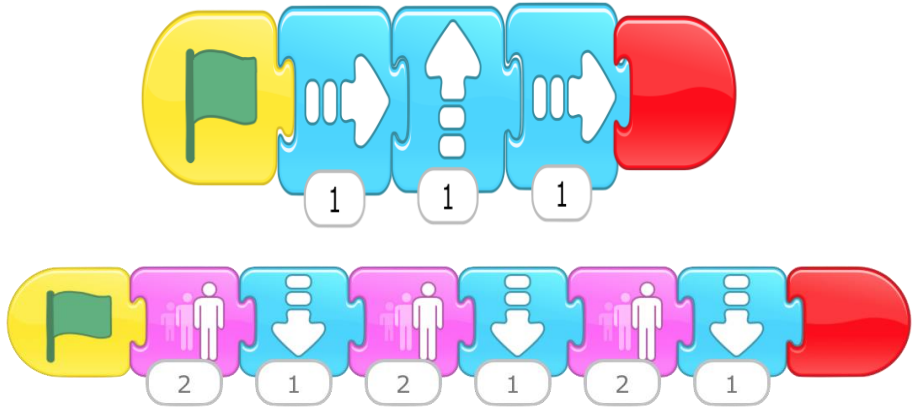
YEAR 2
Term 6

Knowledge Building Blocks:

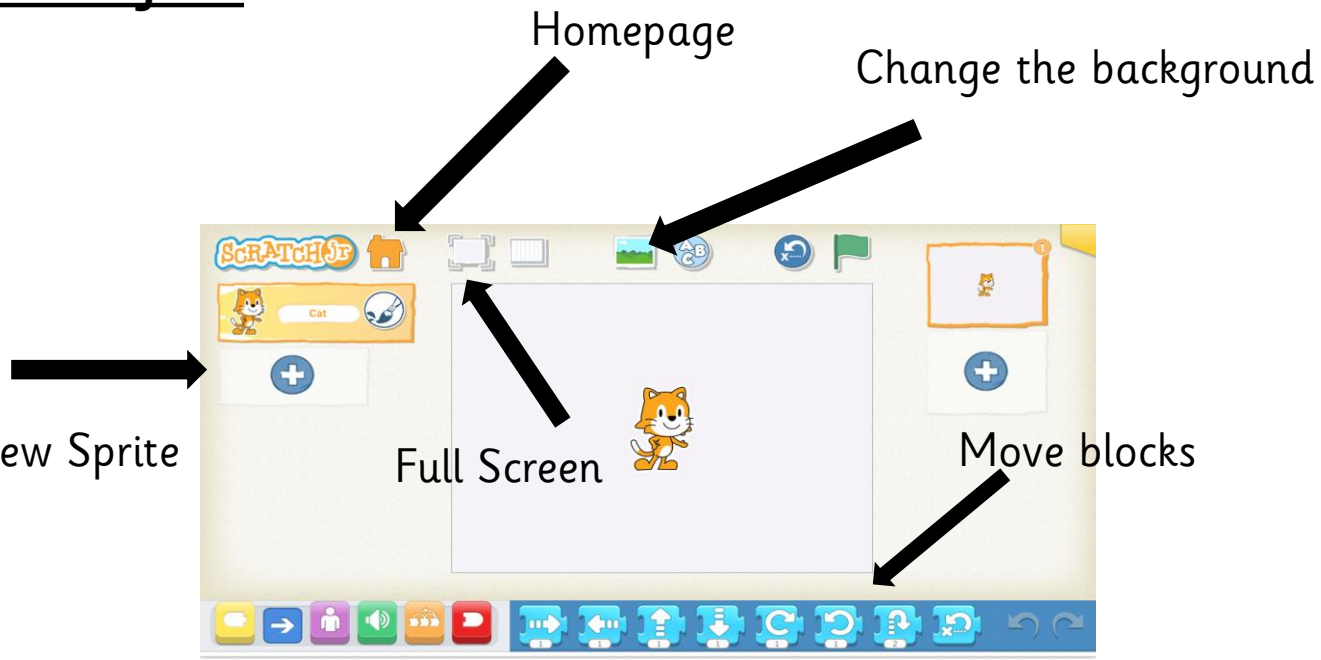
- To describe a series of instructions as a 'sequence'.
- To choose a series of words that can be enacted as a sequence.
- To explain what happens when we change the order of instructions.
- To recall that a series of instructions can be issued before they are enacted.
- To choose a series of commands that can be run as a programme.
- To use logical reasoning to predict the outcome of a programme.
- To trace a sequence to make a prediction.
- To test a prediction by running the sequence.
- To create and debug a programme that I have written.
- To run a programme on a device.

Application:

Sequence and Outcomes:



Scratch Jr Layout:



Key Vocabulary:

series
instructions
sequence
enacted
order
commands
programme
predict
outcome
test
create
debug
device
Scratch Jr.
green flag
blocks
animation
algorithm
Characters/sprite
backgrounds