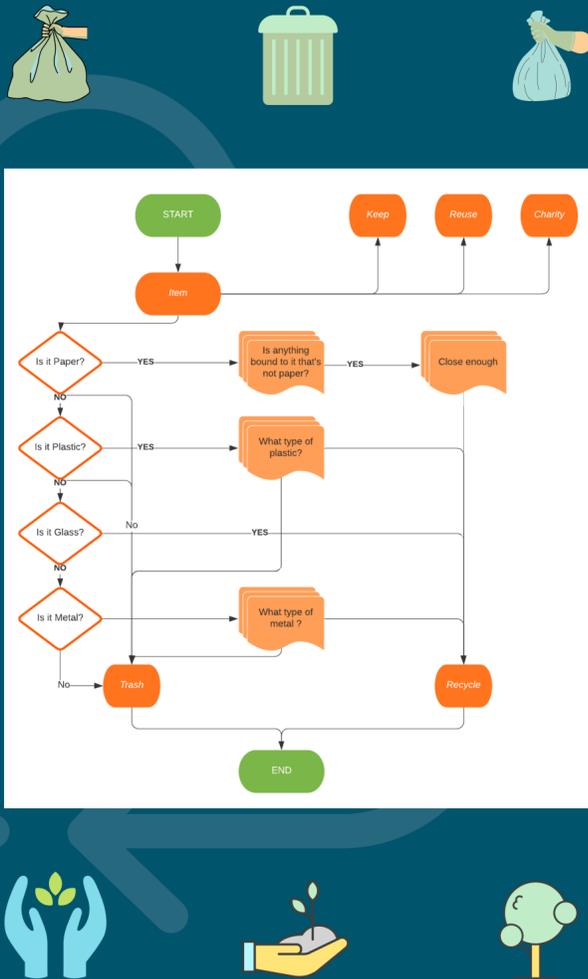




# 01 Activity Guidance and Instructions

- 01 Have a think about all the things that you might want to recycle in the kitchen or your bedroom.
- 02 SORT your possessions or items into categories - or groups such as toys, books, shoes or clothes.
- 03 Identify the things that you'd like to KEEP, RECYCLE or even REPURPOSE.
- 04 Write a list of your items or possessions onto a TABLE, or use a SPREADSHEET.
- 05 Make a recycling flowchart to show the PROCESS involved in what you plan to do with your possessions or items with a START and an END.



# 02 Computer Science\*

## ALGORITHM

An algorithm is a precisely defined procedure – a sequence of instructions, or a set of rules, for performing a specific task

## SEQUENCE

To place program instruction in order, with each executed one after the other.

## SORTING

Sorting on a computer is a type of algorithm. A sorting algorithm will put items in a list into an order, such as alphabetical or numerical order. For example, a list of customer names could be sorted into alphabetical order by surname, or a list of people could be put into numerical order by age.

## ABSTRACTION

Abstraction is about simplifying things; identifying what is important without worrying too much about the detail.

Abstraction allows us to manage complexity.

# 03 IT Skills\*

## PROCESS

A process is a program that is running on your computer.

The term "process" can also be used as a verb, which means to perform a series of operations on a set of data.

## SEARCH ENGINE

A search engine allows you to search the internet once you have access to your a web browser. A search engine like Google uses algorithms to provide search results based on what you ask for.

You can sort a search engine further - through filtering by images or news or videos, for example.

## SPREADSHEET

Spreadsheets are used to store information and data. Once we have our information in a spreadsheet we can run powerful calculations, make graphs and charts and analyse patterns.

## FLOWCHART

Flowcharts use symbols to represent different types of instructions.

Flowcharts use symbols to represent different types of instructions.

Symbols are used to construct the flowchart and show the step-by-step solution to the problem.

See the example Recycling Flowchart above.

# 04 Links to additional resources and activities

**A** COMPUTING AT SCHOOL HOME LEARNING <https://www.computingatschool.org.uk/homelearning>

**B** BAREFOOT COMPUTING <https://www.barefootcomputing.org/>

**C** HOME LEARNING RESOURCES FROM PARTNERS  
Raspberry Pi Foundation <https://www.raspberrypi.org/learn/>  
NCCE <https://teachcomputing.org/home-teaching/>  
STEM Learning <https://www.stem.org.uk/home-learning>

**D** BBC TEACH VIDEOS ON SORTING + SEARCHING  
Algorithms - <https://bit.ly/algorithmsvid>  
Sorting Algorithms - <https://bit.ly/sortingalgorithmsvid>  
Searching Algorithms - <https://bit.ly/searchingalgorithmsvid>

**E** FLOWCHARTS  
BBC Bitesize (1): <https://bbc.in/2VdrUw5>  
BBC Bitesize (2): <https://bbc.in/3epMsJ8>

\* Some definitions taken from Quick Start Computing Guide - <https://community.computingatschool.org.uk/files/8220/original.pdf>

