Ready-Ed Publications

STUDENT WORKBOOK

Digital Technologies:

For Years 3 - 4

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Contents

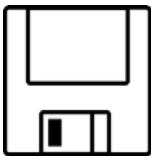
To access videos and websites providing background to this book go to:

https://www.readyed.net/digital-technologies-for-years-3-4/

Pages that are linked to online content will have this symbol on them:

Digital Technology with Peripheral Devices

Computer peripherals are devices that work with a computer. As technology has advanced, many different peripheral devices have been invented. Read this brief history.



The Floppy Disc: The floppy disc was invented in 1971 by IBM and was the first memory disc created. It was nicknamed "floppy" because it was flexible. The small, flat, plastic disc was used to store computer data which was written on the disc and could be read from its surface. It was the first portable storage disc, making it possible to move data between computers.

CD/Compact Disc: In 1985, the compact disc/CD become popular as digital storage media. They are read by laser disc readers in computers. They have bigger and more efficient storage than floppy discs and could store computer files, videos and pictures.

USB Flash Drive: In 2012, the USB flash drive overtook the popularity of CDs. USB drives have flash memory to store files and are a special type of computer chip. They are smaller, can read data faster, and store more information than floppy discs or CDs. USB drives are easy to use for storing and transferring data and work with many devices like computers, music players and video consoles.

Printer: In 1938, a dry printing process was first invented with a process called electrophotography, later called xerox. In the 1970s, high-speed laser printers were developed, combining laser technology and xerox. Modern printers are used in homes, businesses and schools. They offer functions like copying, scanning and printing and changing the size, layout and colour of a document. They make printing quick and easy.

Keyboard: The invention of the typewriter in 1868 was the first step toward creating the modern keyboard. Technological developments converted typewriter technology to computer keyboards. In the 1930s, the keyboards were "keypunching" by using typewriter and telegraph machine technology to input and print the data. By 1948, electromechanical typewriters connected to computers could type onto a magnetic strip and print. Today, keyboards have many functions, shortcuts and additional uses and shortcuts.

Activity 2 Peripheral Devices Scavenger Hunt

❑ Go for a scavenger hunt through your house and write down all the peripheral devices you can find that connect to a computer. Talk to your parents to see if they have different equipment to add to your list. For example, a web cam for Zoom meetings. Draw a picture of each device and write where you found them in your house.

Try not to list the same type of device more than once.

E.g. Device: My keyboard
Location: My Bedroom

Activity 6 What Is Digital Data? Word Search

❑ Find the digital data words in the word search below.

A	L	Z	C	D	S	I	W	Y	K	A	M	L	X	G
Q	O	P	F	I	W	O	Q	P	G	F	P	G	Q	T
M	S	Y	L	M	P	T	E	M	D	R	Q	T	T	R
M	G	U	Z	A	M	N	L	D	I	M	S	A	W	A
C	O	T	C	G	H	R	X	N	I	B	E	O	I	K
H	Z	N	J	E	M	L	T	T	V	V	G	G	Y	B
O	T	U	I	S	H	E	J	E	B	Y	V	U	X	U
C	R	F	B	T	R	S	D	N	U	O	S	M	E	F
A	K	D	N	Y	O	Y	R	N	E	T	S	C	S	
K	E	Y	B	O	A	R	D	S	C	W	U	F	U	I
G	M	D	D	J	Z	N	H	E	X	O	E	C	D	U
A	T	Q	Z	O	U	Q	T	L	M	W	S	I	X	L
T	E	K	N	W	K	V	P	H	L	O	T	P	X	B
A	O	N	W	I	H	M	T	F	M	Y	A	N	H	R
N	L	M	K	O	R	A	C	V	L	H	V	P	Z	I

KEYBOARD MONITOR IMAGES PRINTER

SOUNDS VIDEOS FILES MOUSE

❑ After finding all the words above in the word search, sort them into two groups: digital data and peripheral devices.

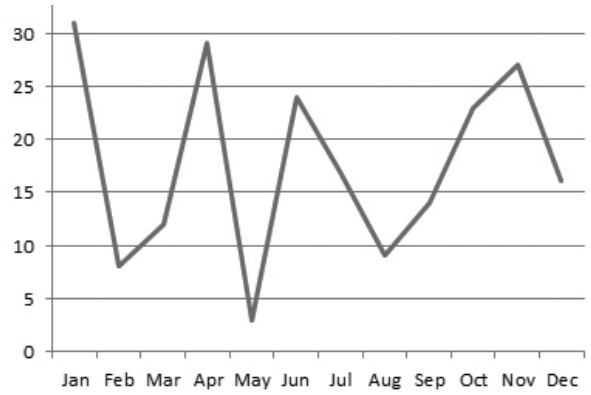
Digital Data	Peripheral Devices

Activity 10 Representing Data 1

❑ Here are 3 different types of data that are presented in different ways. Look at each graph and write down the positives (good things) and negatives (bad things) of using this type of graph to show the information.

Data Set 1: Student Birthdays (Line graph)

31	8	12	29	3	24	17	9	14	23	27	16
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec



Positives of line graph	Negatives of line graph

Data Set 2: Favourite Fruits (Pictograph)

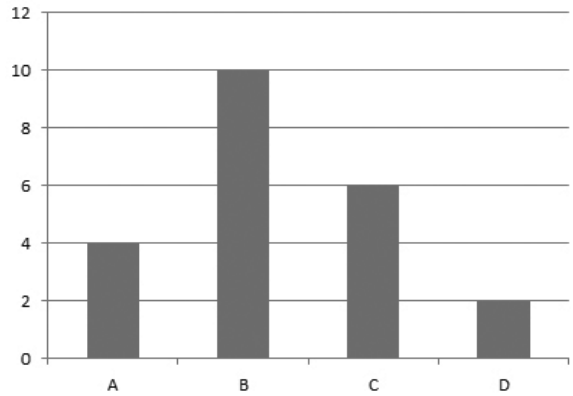
Apple - 5, Banana - 3, Orange - 2, Pineapple - 1

Fruit	Votes
Apple	
Banana	
Orange	
Pineapple	

Positives of pictograph	Negatives of pictograph

Data Set 3: Students' Test Scores (Bar Graph)

A - 4, B - 10, C - 6, D - 2.

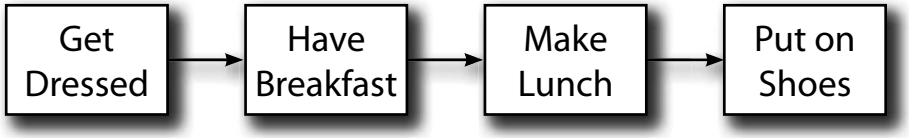


Positives of bar graph	Negatives of bar graph

Activity 14 Advanced Algorithms

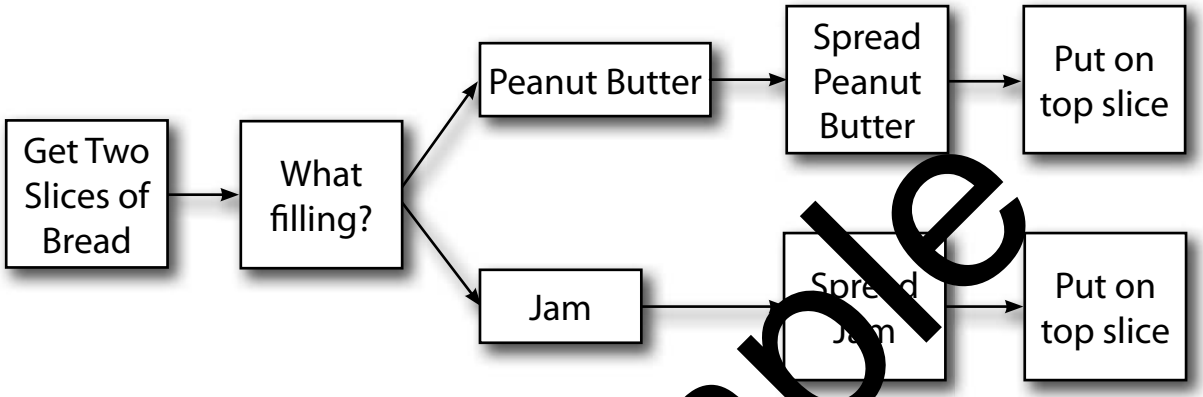
❑ Label the following algorithms as either simple or branching.

1. Getting ready for school.



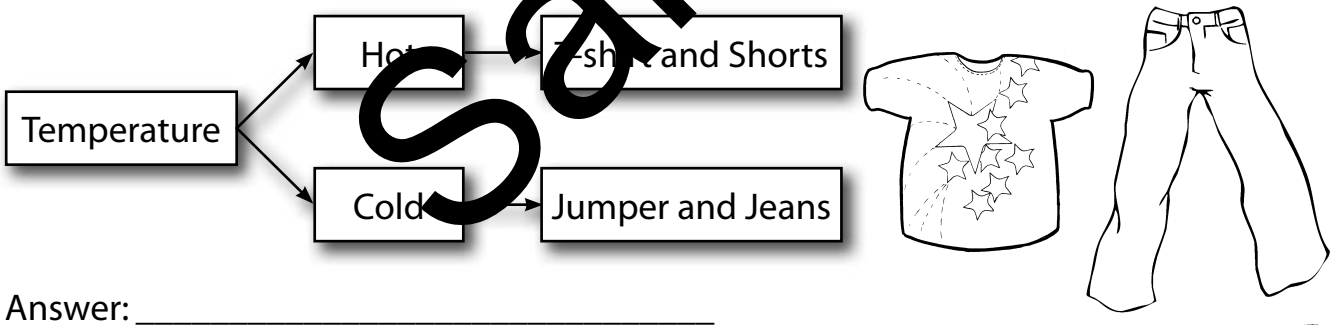
Answer: _____

2. Making a sandwich, choose between peanut butter and jam.



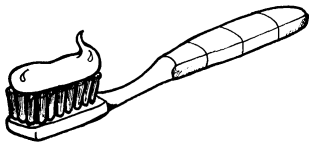
Answer: _____

3. Choosing clothes.



Answer: _____

❑ Fill in your own algorithm to brush your teeth with words and images. Label it as "Simple" or "Branching".



Activity 22 Digital Ethics and Safety 1

❑ Read these stories and come up with answers to the problems.

Olivia was working on a presentation about global warming for her homework. She had left it until the last minute and was running out of time to finish her work before it was due. She didn't want to be embarrassed or get in trouble for not handing it in on time, so she decided to copy and paste the some information from a website into her homework and pretend it was her own.

What should Olivia have done instead and why?

Declan really wanted to see the next movie with his favourite hero and couldn't wait for it to come to Netflix. His friend told him that he had found a version they could illegally download from the internet and watch it before it was officially available. Declan really wanted to see the movie, so they decided to download and watch the illegal copy.

What should Declan have done instead and why?