

INSPIRE COMPUTING

International

Student Book

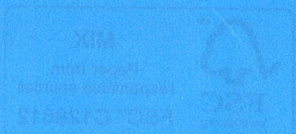
YEAR 2

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Series editor: Paul Clowrey



Pearson



Published by Pearson Education Limited, 80 Strand, London, WC2R 0RL.
www.pearson.com/international-schools

Copies of official specifications for all Pearson Edexcel qualifications may be found on the website:
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Designed and typeset by PDQ
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First published 2023

25 24 23
10 9 8 7 6 5 4 3 2 1

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN 978 1 292 40422 6

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Glossary

Welcome to Inspire Computing

We are all living in a continually evolving digital world. By supporting learners in becoming confident and knowledgeable users of technology we can ensure you are prepared for the future.

Inspire Computing makes important topics accessible for all learners. You will understand how to stay safe online while still enjoying the freedom to explore the World Wide Web. You will delve deeper into understanding algorithms through creative approaches, exploring networks and systems, and create and film exciting animation projects!

Each topic includes easy to understand theory, real-world examples, and ideas for further investigation. You will also have the chance to show off your knowledge and understanding through supportive assessments and student checkpoints!

Key objectives

What you will know or be able to do by the end of the unit.

Unit 1

What digital technology do we use?

Years ago we did not have digital technology, but now we use it to do many different things. In this unit you will learn what digital technology is and how it has changed over time. Then you will think about what devices might be like in the future.

You will learn how to save and load your work, and how to draw pictures and shapes on a computer. You will plan a new digital device to help solve a problem, and present your digital device to your class.

Key objectives

- To understand that laptop, desktop and tablet computers are types of personal computers that meet different needs.
- To identify what a digital device is.
- To understand how to save and load work.
- To make digital content, for example drawing a digital picture.
- To recognise different types of digital technology.
- To understand how digital technology has changed over time.

Introduction

Here you can find out what this unit will be all about.

In this lesson you will:

This is what you will know or be able to do by the end of the lesson.



Key vocabulary


Important words to know.


Starter


An introduction to the activity or information to start a discussion.

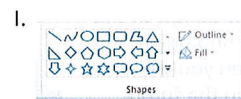
Lesson 6

Using software to draw shapes

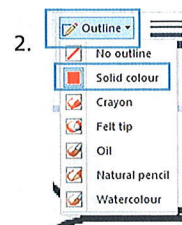
 In this lesson you are going to learn how to draw and colour shapes.

 **Key words:** colour, digital image, shape

 Tell a partner two things you remember about the Paint software from Lesson 2.



Look at the toolbar. Select the **shape** you want to draw. It will turn blue.



Pick the outline for your shape. Select 'Outline'. Select 'Solid colour'.

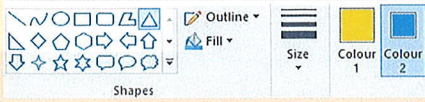
Key vocabulary

Some tricky words are in **bold**. Find out what these mean in the Glossary at the back of the book.



Activity 1

What shape would be drawn if the screen looked like this? What colours would it be?



Draw the shape.

Sometimes it is easier to start a new file instead of trying to rub lots of things out.



Tell your partner one thing you enjoy using in this software.



I can add shapes to my digital image.



I can change the colour of objects.

29

Activity

You may need to write or draw an answer. You may create a game or work with Scratch. You may work with a partner or on your own.

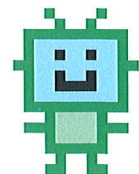
Look out for these boxes for extra information and for key reminders.

Refresher

To make sure that learning is secure.

Checklist

A handy list with the key parts of this lesson.










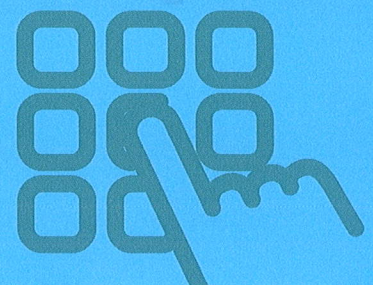
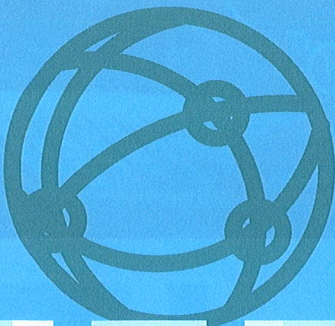
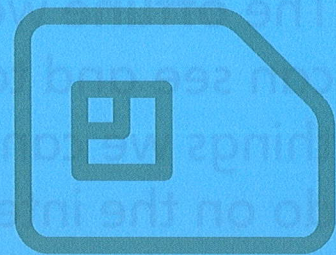
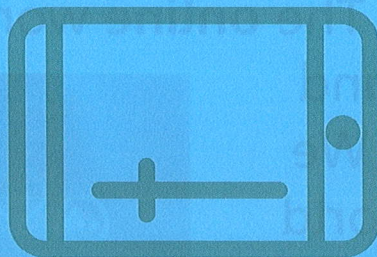
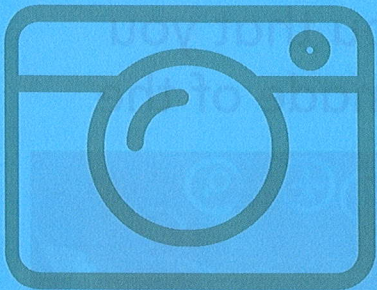
Unit 1

Online services

In this unit you will learn about online and offline shopping. You will see how they are similar and how they are different. Then you will learn about your digital footprint. You will find out how to stay safe online. Finally, you will learn how to crop, resize and change digital images. You will use these skills to create a poster to help other students at school stay safe online.

Key objectives



-  To understand the online services offered by shopping sites.
-  To know the similarities and differences between online and offline shopping.
-  To know how to stay safe online.
-  To know where to go for help if something online makes you feel upset.
-  To safely search for images online.
-  To be able to resize and crop digital images.
-  To design and make a digital poster.






Lesson 1

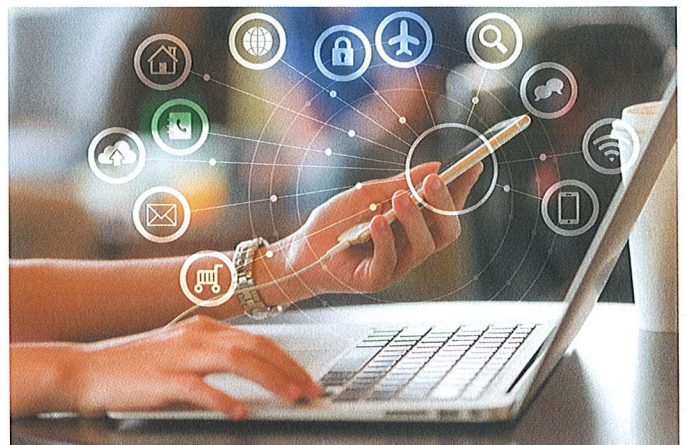
What are the differences between online and offline shopping?

-  In this lesson you will learn the differences between online and offline shopping.
-  **Key words:** device, offline, online

 In Year I we looked at online activities and offline activities.

In your notebook, draw and label an activity that is online and an activity that is offline.

The **offline** world is the world around you that you can see and touch. The **online** world is made of the things we can see and do on the internet. We get to the online world using a **device**.





Offline shopping means going to a shop. You might go to a supermarket, pick up an item, pay for it and leave with it. You cannot go to an offline shop if it is closed.

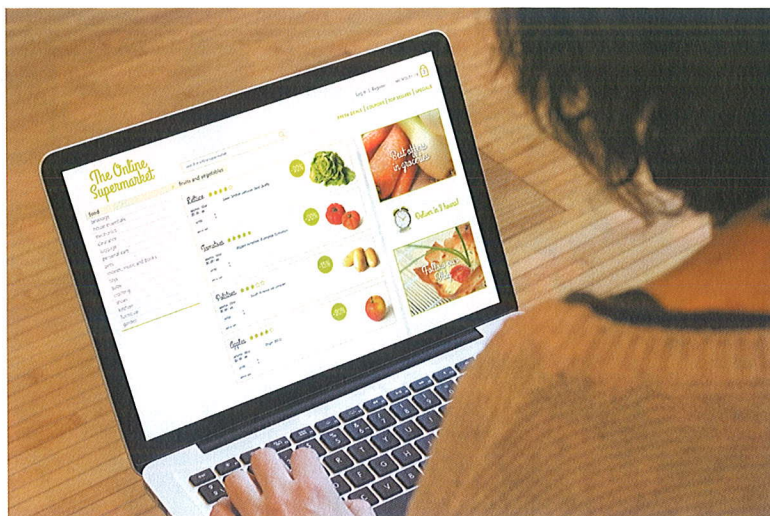
Here are some good things about offline shopping:

- You can see what items are like before you buy them.
- You can try clothes on to see how they look and feel before you buy them.
- You have your items as soon as you buy them.



Activity 1

Can you think of any problems with offline shopping? Talk about your ideas with a partner.



Online shopping is when you buy things on the internet using a device. This can be done anywhere with an internet connection. People can buy things from all over the world from their houses.

Here are some good things about online shopping:

- Online shops are open all the time.
- You can read about items before you buy them.
- You have a lot of choice.
- If one shop has run out of an item, you can easily buy it somewhere else.
- You can get items delivered to your home.



Activity 2

Can you think of any problems with online shopping? Talk about your ideas with a partner.



Are these examples of online or offline shopping? How do you know? Talk about your ideas with a partner.

A Ravi finds a game he wants to play on his dad's phone. His dad uses an app to buy the game.

B Mei and her big sister go to a clothes shop. Mei puts on a jumper to see if it fits before buying it.

C Ahmed's family has a takeaway for dinner. His mum orders the food on her tablet.

D Ava sees a book she wants to read at the bookshop. Her older brother goes into the shop to buy it for her.

E Sofia wants a new gaming console for her birthday. Her mum reads about gaming consoles on the internet before buying one in an online shop.



I understand the difference between online and offline shopping.



I can list some things that are good about online and offline shopping.



I can list some of the problems with online and offline shopping.

Lesson 2



What do people buy online and offline?



In this lesson you will make a survey to find out what people buy online and offline.



Key words: data, offline, online, survey



Can you remember the different kinds of **online** and **offline** shops?

In a group, talk about the online and offline shops you know. Share your ideas with the class.

In this lesson we are going to make a **survey** to find out how our families buy things. A survey is when you ask people questions and then you look at the results (the **data**).

To make a good survey, you must ask the right questions. For example, if you want to know how people shop, then you will need to think of questions about shopping.



Activity 1

Talk with a partner. What questions might you ask in a survey about online and offline shopping? Write down three possible questions in your notebook.



Good survey questions should have answers for people to choose from. A choice like 'other' or 'none' can be useful too. Here are some examples of good survey questions:

A survey about shopping

Do you buy your clothes online or offline?

online offline

Do you buy food online or offline?

online offline

What items do you buy online?

toys books other none



Activity 2

Look again at your three questions from Activity 1. Do they have answers for people to choose from? If not, can you rewrite them with different answer choices?



Activity 3

Ten people were asked this survey question:

Was your last computer game bought from an online shop or an offline shop?

online offline don't know

Here are the results from this question:

- 9 people answered 'online'
- 1 person answered 'offline'
- 0 people answered 'don't know'

Talk with a partner. Do more people buy games in online shops than in offline shops? Do the answers surprise you?



Tell your partner how you turned your questions from Activity 1 into good survey questions.



I know what makes a good survey question.



I can write good questions to use in a survey.

Lesson 3



How to find, save and crop images



In this lesson you will learn how to find, save and crop images.



Key words: crop, images, safe search




In Year 1 we looked at creating your own text in a word processor. Sometimes we use **images** with our text.

In pairs, talk about how you might find images online.

You can find images using a search engine. It is important to stay safe when you search for images online. Use a **safe search** engine like www.safesearchkids.com.

Tell a trusted adult if you see an image that upsets you.

How to search for and save an image

1. Type your key word or phrase into the search bar.
2. Press the 'Enter' key or select the search icon. 
3. Choose your image.
4. Right-click or long press on your image.
5. Select 'Save image' or 'Save image as'.
6. Find the folder you want to save your image in. Remember to use a good filename.
7. Select 'Save'.



Activity 1

Have a go at searching and saving an image.
Try to find an image of your favourite food.
Try to find an image of your favourite animal.
Remember to save them!

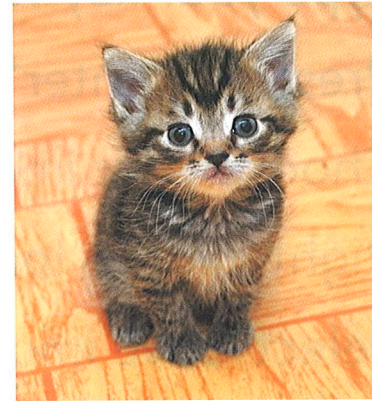
You might save an image that you only want to use part of. To achieve this, you can **crop** images.

Cropping an image is when you cut out unwanted parts of it.

Look at these two pictures. They are the same image, but the second one has been cropped.




uncropped image



cropped image

The cat is the same size in both images. We have only cropped the sides of the photo in the second one.

How to crop images

1. Find your saved image.
2. Open your image in a photo editor.
3. Look for this icon  and select it.
4. Drag and drop the edges of the image to cut out the parts you do not want.
5. Repeat step 4 as many times as you need.
6. Press 'Save'.





Activity 2

Use a safe search engine to search for an image of vegetables, like the image below.

Save the image to your device with a sensible name.

Can you crop the image to show only your favourite vegetable?



Can you crop the image to show only a green vegetable?

Save your new cropped images.



Tell your partner what it means to crop an image. Explain why you might want to do this.



I can search for images online safely.



I can crop a digital image.



I can save a digital image.

Lesson 4



How to edit your pictures



In this lesson you will learn about resizing and filtering images.



Key words: crop, edit, filter, resize



Cropping is one way to **edit** (change) images. Can you remember what cropping is and how to do it from Lesson 3? Tell a partner.

There are other ways to edit digital images. Here are two ways:

- A **filter** (or effects) tool changes how an image looks. For example, you could use it to change a colour image to black and white.
- A **resize** tool changes the size of an image to make it bigger or smaller.

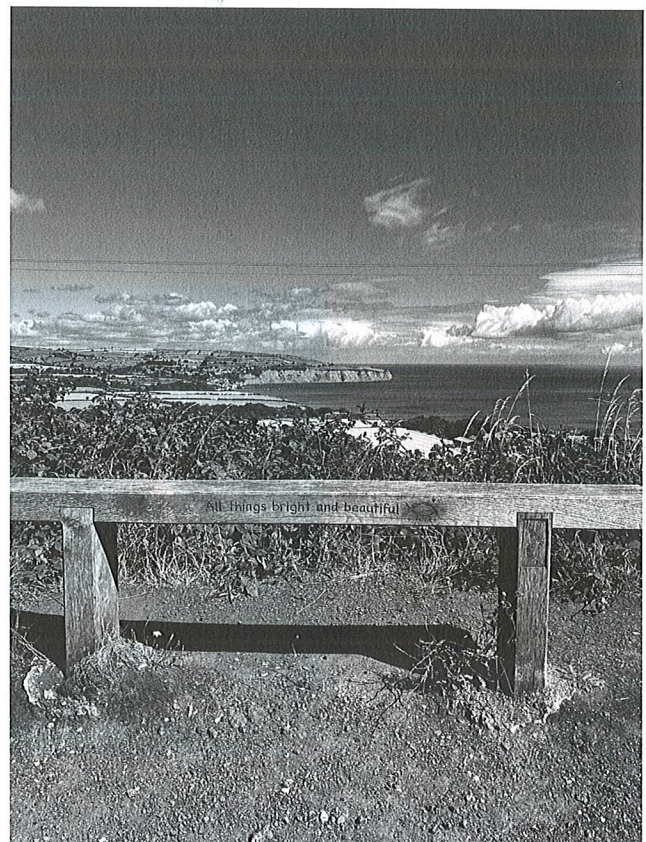
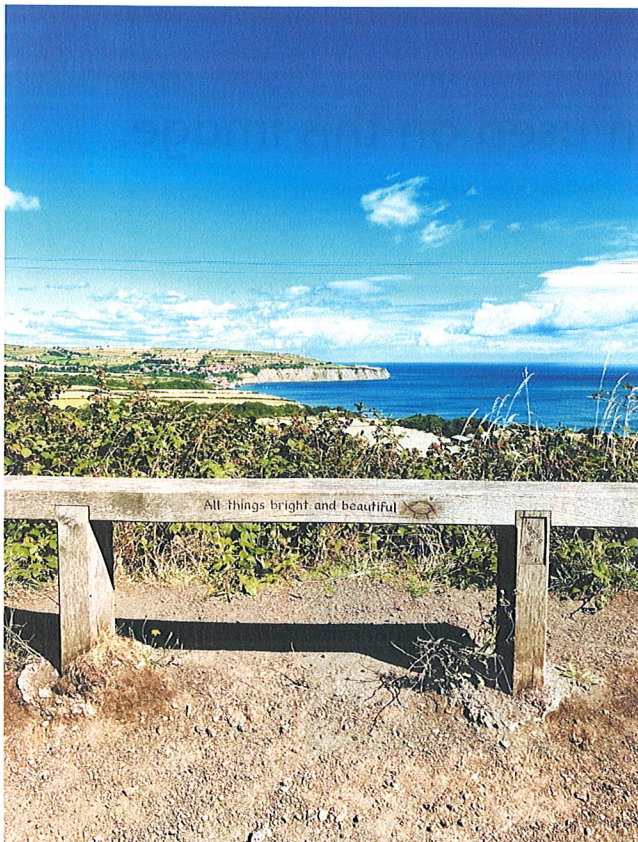
Editing images can be done on your device using photo editing software.



Activity 1

Can you think of any reasons why you might resize an image? Talk to your partner about your ideas.

You can use more than one filter on an image. For example, you could make an image brighter and also change it to black and white.



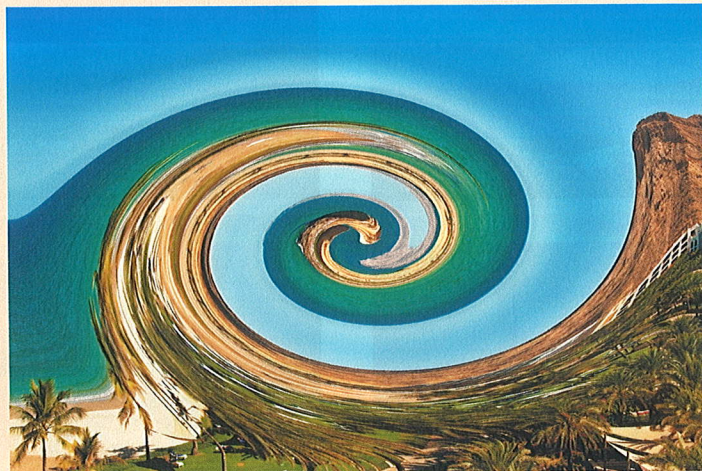


Activity 2

These images have been changed using filters. Have the filters improved the image? Talk to a partner about this.



A mirror filter has been used on this image.



A twirl filter has been used on this image.

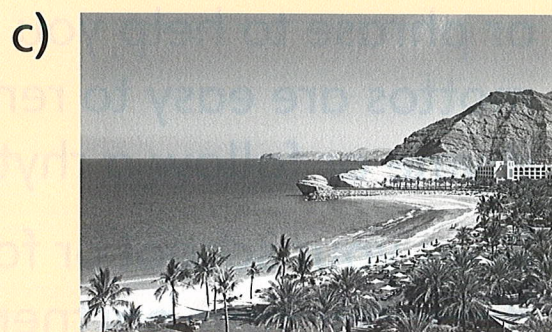


Activity 3

Here are some images that have been edited. What do you think has been done to each one? Talk about your ideas with a partner.



original image



What ways can you change an image? Tell a partner what you know.



I know that images can be resized.



I know how filters can change images.

Lesson 5



Creating an online safety motto



In this lesson you will create a motto to remind everyone how to stay safe online.



Key words: identity, motto, online safety



What is a **motto**? A motto is a short sentence or phrase to help you remember a rule. Some mottos are easy to remember because they rhyme or follow a rhythm.

Does your school or family have a motto? If it does, tell your partner what it is. If it does not, work with your partner to think of one. For example, 'Always try your best.'

An example of a motto is the motto of the Olympic Games: 'Faster. Higher. Stronger - Together'.



Activity 1

Complete the motto below with one of the words given.

'Do not talk to people you do not know, turn away and just say ...'.

hello

bye

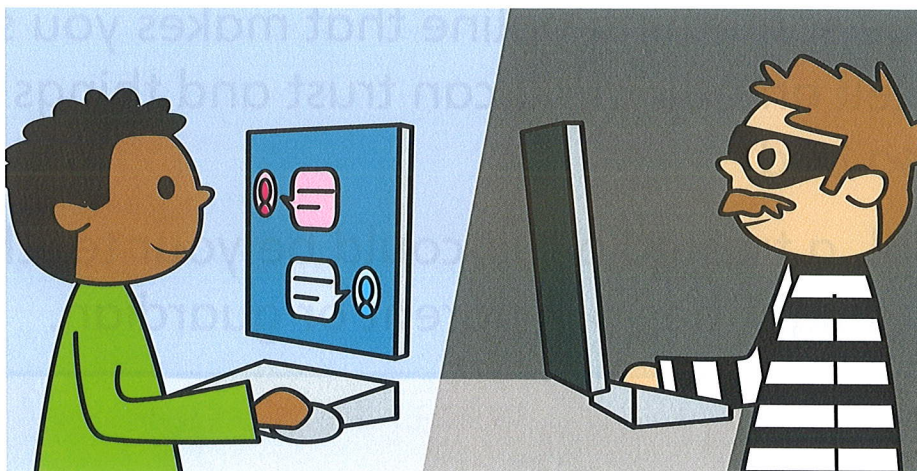
no



Activity 2

How might people use devices in an unsafe way? Talk about your ideas with a partner.

When using the internet, it's important to know how to stay safe. This is called **online safety**.



You can follow some rules to stay safe. These include:

- Do not give out your personal details to strangers online. (Personal details include your phone number, address, birthday and school name).
- Do not share your passwords with anyone.
- Tell an adult you trust if something online makes you upset.
- Do not send unkind messages and tell an adult about any unkind messages you see.

Some people might send unkind messages or tell lies online. They might hide their **identity** by pretending to be someone else.

You need know what to do if you see this kind of bad behaviour online. You can use a motto about online safety to help you remember.

If you see something online that makes you scared or sad, tell an adult you can trust and things will not be so bad.

At school, a trusted adult could be your teacher. At home, it might be your parent or guardian.