





Unit 1

What digital technology do we use?





Years ago people 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 make, save and access digital images. You will use images to prepare a talk about what you have learned.

Key objectives

-  To understand that laptop, desktop and tablet computers are types of personal computers that meet different needs.
-  To describe how we use digital devices.
-  To make digital content.
-  To name different types of output.

By the end of the unit you will:



-  be able to identify different digital devices
-  understand what different digital devices do
-  use different digital devices
-  understand some of the history of digital devices.


 **Interesting fact!** The first computer weighed the same as ten elephants. It was so big it filled a room!

Lesson 1

What is digital technology?



-  In this lesson you will learn what digital technology is
-  **Key words:** digital, input, microchip, output, processor

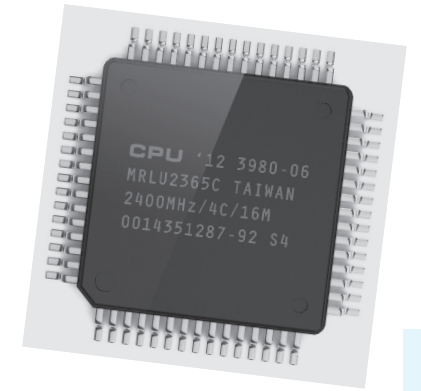
-  What is **digital** technology?
Talk about your ideas with a partner.
Draw pictures and write some words to show your ideas.

Look at the pictures. They all show digital technology.



Digital technology is any device that has a **microchip**. Another word for a microchip is a **processor**.


This is what a microchip looks like. A microchip is a bit like a brain. It is the part of a digital device that 'thinks'.




When we use digital technology, we give the microchip instructions. This is called **input**. The microchip uses these instructions to do something. This is called **output**. The output could be a picture on a screen, or sound from a speaker.

The microchip in a calculator works out the answer to a sum.

When you press a button on a TV remote, a microchip in the television tells the screen what to show and the speakers what sound to play.

 Digital technology is anything that has a microchip that uses instructions to do something.

 Think about the words and pictures you wrote at the start of the lesson. Were any of your ideas about digital technology correct?



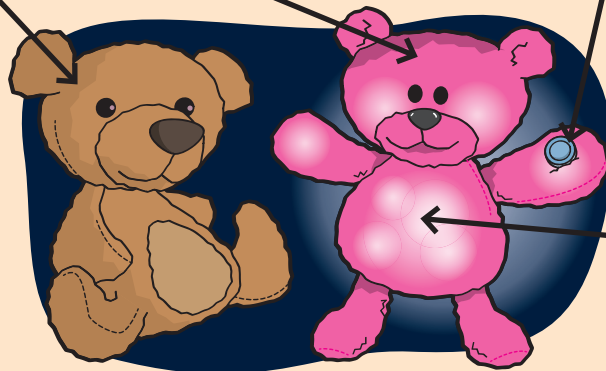
Activity 1

Look at the toy bears. Which bear is a digital device?

soft and cuddly

press button to make bear speak

lights



Activity 2

Look at the picture. Read the words. What parts does this digital device have?

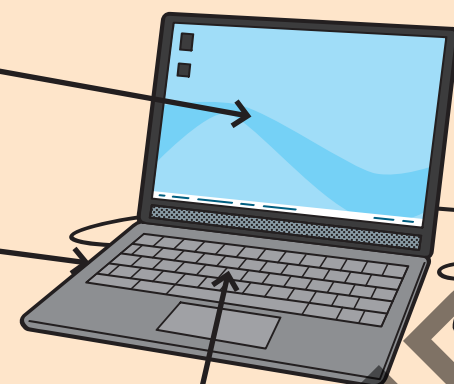
screen

speaker

buttons

wires

plug



Look at the pictures.

Are these things digital devices? How do you know?

Say or write your answers.



If a device uses power or has batteries, it is likely to be digital technology.



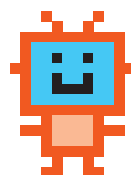
I can say what digital technology is.





I can name some of the outputs of digital technology.


Lesson 2

Exploring how to draw pictures with a computer



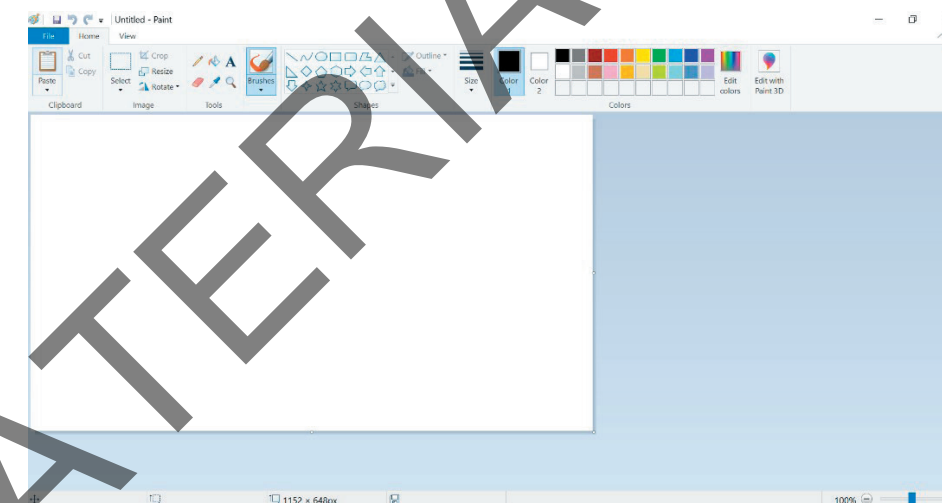
 In this lesson you will learn how to make a digital image.

 **Key words:** app, hardware, keyboard, monitor, software

 **Hardware** means all things you can touch on a digital device. A **monitor**, **keyboard** and **speakers** are all hardware.


Software means the tools we use on digital devices. Another name for software is an **app**.

You can use software to play games and draw pictures on digital devices.



<ICISB_YI_012>

<ICISB_YI_013>

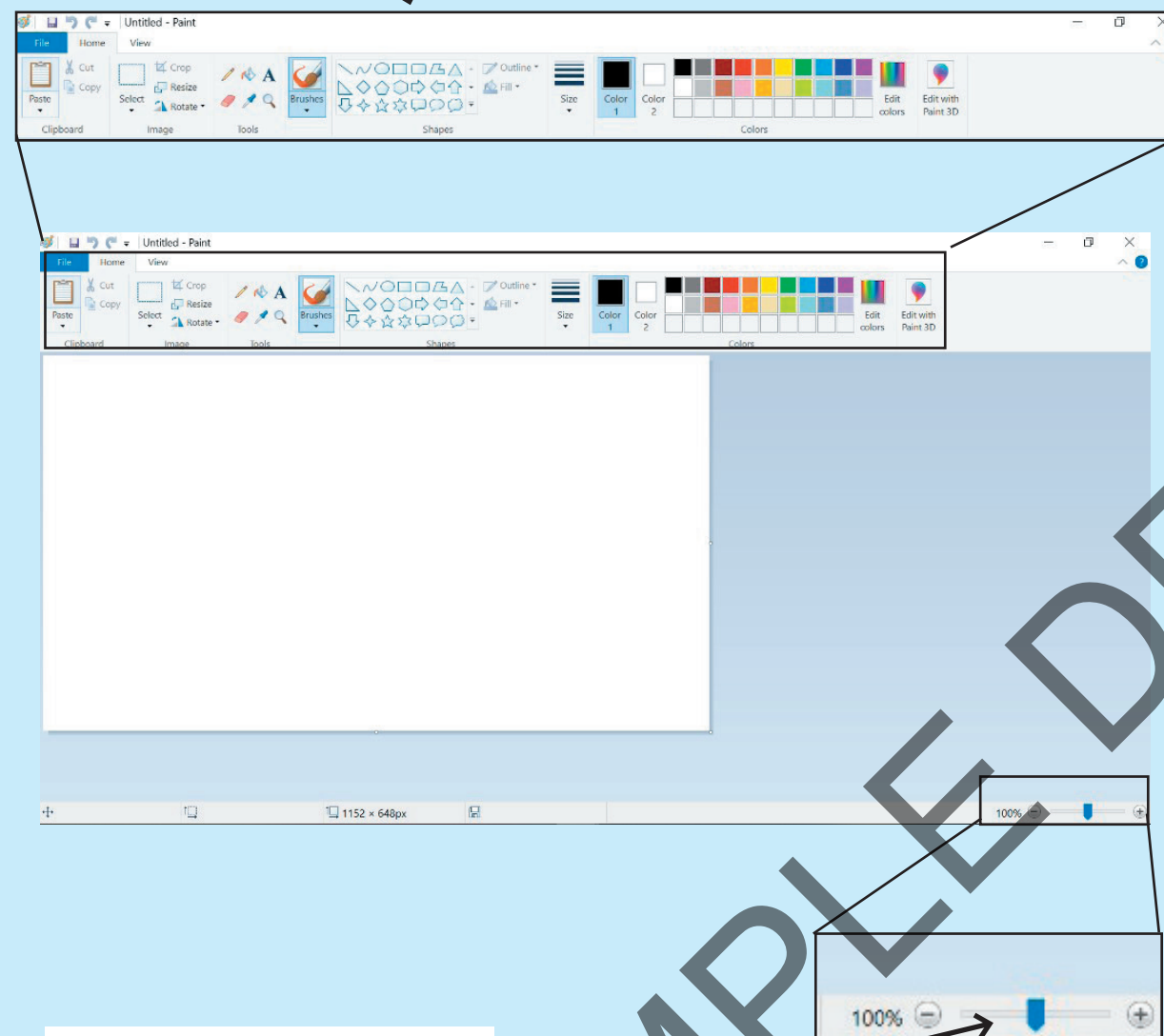
 In a group, talk about software that you have used at home.

Talk about software you have used at school.

Using software

Look at this software. It can be used to draw a picture.

This is the toolbar. It has lots of buttons.



Click and drag to zoom in or out.



Activity 1

Look at the software with a partner.
Find out what these tools do.

<ICISB_YI_014-I8>

Find out how to do the tasks below.

Pick a colour to draw with.

Draw shapes.

Add text.

Change the pencil to a brush.

Save a picture.



Tell your partner one thing you learned about the software.



I can say what some of the tools can do.




I can make a digital image.


Lesson 3

Sorting digital technology



 In this lesson you will sort digital devices into groups.

 **Key words:** laptop, smartphone

 Can you remember what digital technology means?

In a group, talk about the digital technology you know. Share your ideas with the class.



Activity 1

Look at the pictures of digital devices on page 13. How many of these do you know already?



washing machine



smartphone



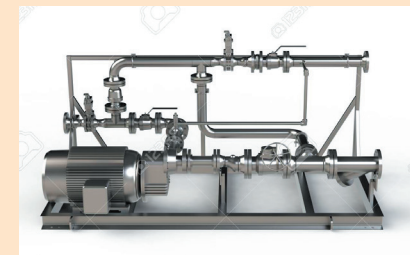
games console



remote-control car



laptop



microwave



printer



Activity 2

Sort the devices on page 13 into the three groups below.

Write or draw your answers on some paper.

The first one has been done for you.

Things for
play

Things for
work

washing machine

Things
for work and
play

There are other ways you could sort these things:

- things that move / things that do not move
- things with a screen / things that do not have a screen
- things with buttons / things that do not have buttons.



Activity 3

With a partner, talk about other ways you could sort the devices.



Tell your partner how you sorted a device into one of the groups. Do they agree with how you sorted it?



I can think about what makes devices similar.



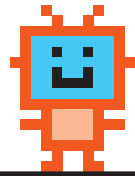
I can think about what makes devices different.





I can sort devices into different groups.


Lesson 4

Saving and loading work



 In this lesson you will learn about saving and loading work.

 **Key words:** load, save

 In a group, talk about what saving and loading means. Do you know?

What is saving and loading?

Look at this software. It can be used to draw a picture.

When you click **Save**, the computer makes a **file** which has all the information about your work.

When you **load** (or open) a file, you are telling the computer to show all the information that is in the file.

Saving means that we don't lose anything when we switch off a device. This means we can go back to it later.

Saving a file

1.

<ICISB_YI_024>

To save a new picture, click 'File'. Then click 'Save as'.

2.

<ICISB_YI_025>

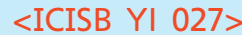
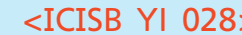
Choose a good filename. The filename should describe the picture and say who drew the picture. A good filename will help you find your file later. Type in the filename.


3.

<ICISB_YI_026>

If you make any more changes to your picture, you can click on the Save tool. You do not need to name the file again.

Loading a file

1.  <ICISB_YI_027>
Click 'File'.
Click 'Open'.
2.  <ICISB_YI_028>
Find the file you want. Click 'Open'.

 Remember to save your work often. Always save when you have finished or are going to turn the computer off.



Activity 1

Answer the questions in your notebook.

1. Look at the filenames. Which is the best filename for a picture of a house?
 - hioiklkjpodjpoklks
 - Anna
 - house picture
 - Ella house picture

2. What can you do if you forget to save your work?

- You have to start again.
- A teacher will be able to get it back.
- A friend will be able to get it back.
- The device will get it back if you turn it on and off again.

3. What happens when you click Save?

- A paper copy of your work is printed.
- A file for your work is made on the device.
- The device will load information from a file.
- The device will switch off.



Tell a partner why it is important to save your work.



I know how to turn a device on and use an app.




I can load and save my work.





I understand why it is important to save my work properly.

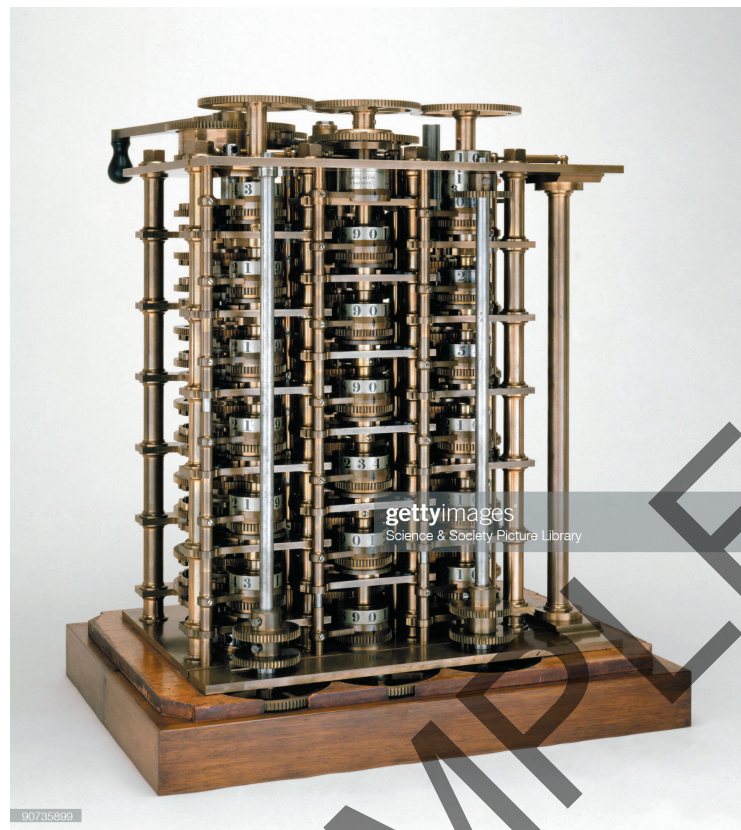
Lesson 5

The history of the computer

 In this lesson you will find out about the first ever computer.

 **Key words:** personal computer

 When do you think the first computer was made? Share your ideas with a partner.



This is the first ever computer. It was made by Charles Babbage in 1823.

A **personal computer** is a computer used by one person at a time. Sometimes we call it a PC.

This is the first personal computer. It was made in 1973 by John Blankenbaker.



Activity 1

Draw a computer that was made a long time ago. Add labels to show what each part does.



Personal computers today are very different. Look at how these computers have changed over time.



Can you see how the computers have got smaller?
Today, computers also have more computing power.
This means they can do things much more quickly
than old computers.

New computers also cost less money. This means
more people can buy them.



Activity 2

Talk to your partner about personal computers that you use at home and at school. How are they different? What do you use them for?



Activity 3

Imagine a computer in 100 years' time.
What will it look like? What will it do? Draw a picture and write a sentence to describe it.



I understand how computers have changed over time.



I can name some of the main parts of a computer.



I understand the term **personal computer**.

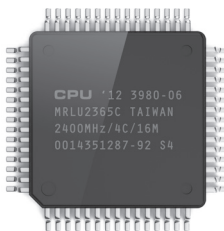
Unit 1

Mid-unit assessment

Write your answers in your exercise book or on a piece of paper.

1 Which of these photos shows a processor?

A



B



C



D



(1 mark)

2 Which of these words is another name for a processor?

A keyboard

B tablet

C microchip

D monitor

(1 mark)

3 You see this tool in the software used to draw pictures.

Which sentence says what this tool does?



A It draws lines.

B It fills a part of the drawing with colour.

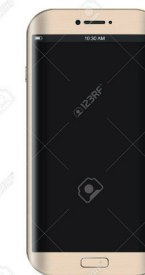
C It picks a colour to use.

D It rubs out drawings.

(1 mark)

4 Which of these devices can be used for both work and play?

A



C



B




D





(1 mark)

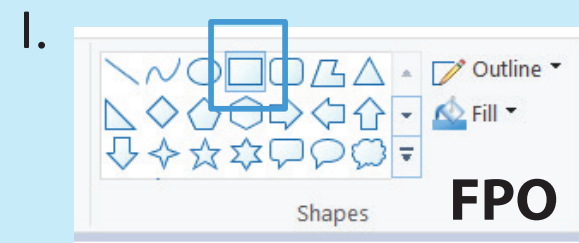
Lesson 6

Using software to draw shapes

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

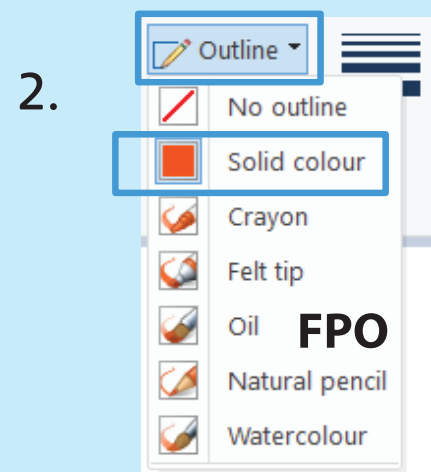
 **Key words:** colour, digital image, shape

 Can you remember what you learned about the Paint software from Lesson 2? Tell your partner one thing you remember.

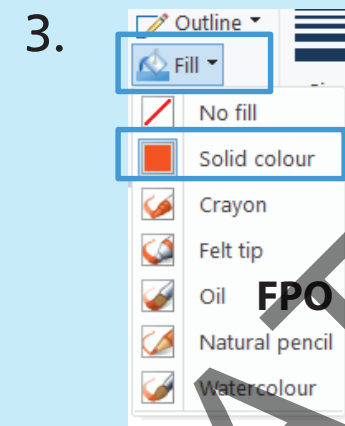


Click the **shape** you want to draw.

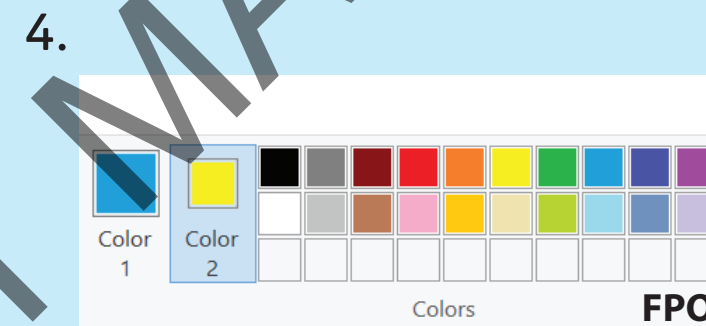
It will turn blue.



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

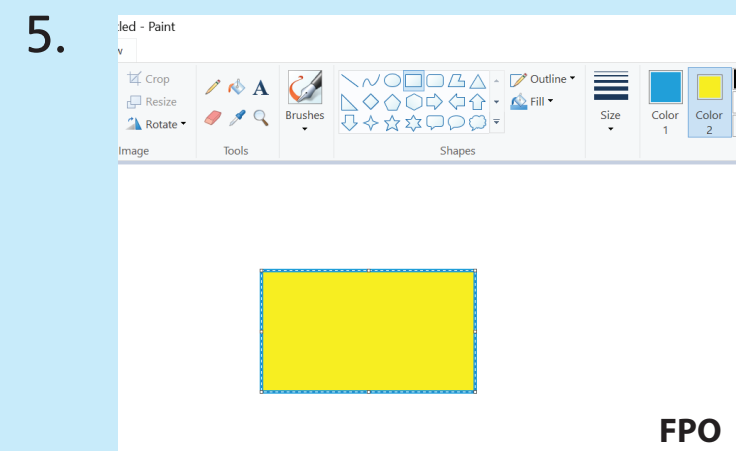


To choose the colour inside the shape, click 'Fill'. Then click 'Solid colour'.



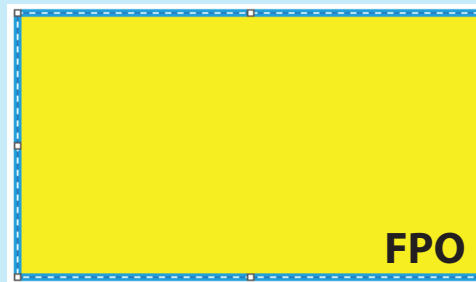
Pick the colour you want the shape to be.

Colour 1 is the outline colour. Colour 2 is the colour inside the shape.



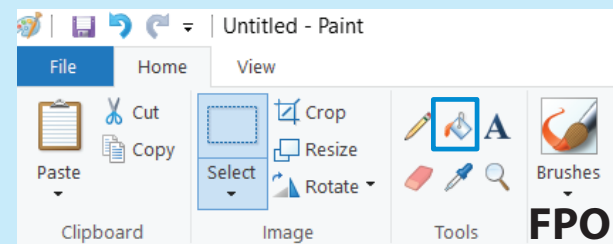
To draw the shape, click the left button on the mouse and drag. Let go of the mouse button.

6.



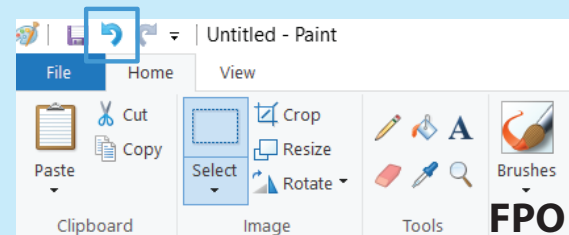
The shape is now a dotted line with little squares in the outline. Click on a square and drag it to change the shape.

7.



To quickly change the colour of an object use the Fill tool. Click the Fill tool. Click the colour you want. Click on the shape to fill with that colour.

8.

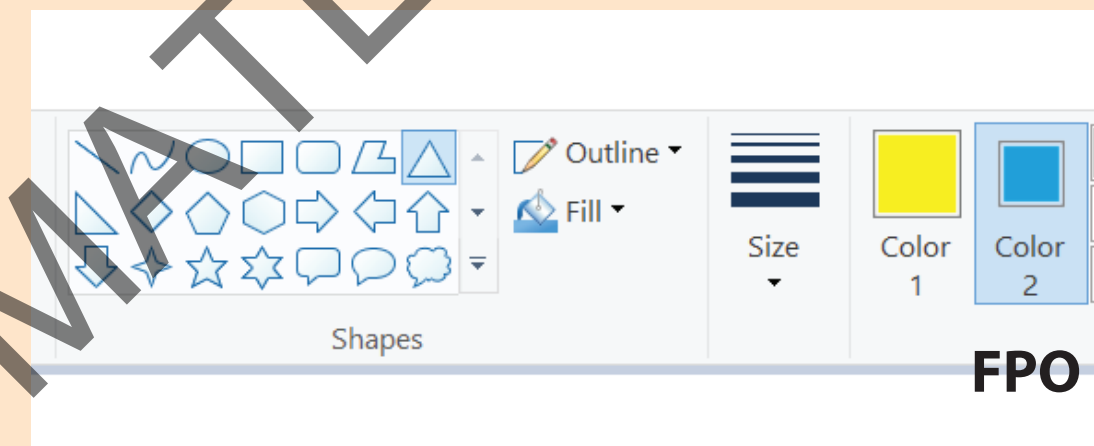


If you make a mistake, click the Undo button, or use the Eraser tool.



Activity 1

What type of shape would be drawn if the screen looked like this?



Draw the shape.



Sometimes it is easier to start a new file by clicking 'File' then 'New' 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.

Lesson 7

Planning a digital device

 In this lesson you will think of new devices to solve problems.

 **Key words:** problem, solve

 Look at the images below.
In a group, talk about the **problem** that each digital device was invented to **solve**.

Then ...



Now ...




Solving problems with technology

Washing clothes by hand takes lots of time and is hard work! Today clothes can be cleaned using a washing machine.

Before traffic lights were invented, people had to direct traffic to stop cars from crashing.

Old telephones were very big and had to be plugged in all the time. This meant you had to stay in one place to talk on the phone. Today, phones are much smaller. You can call people from anywhere.

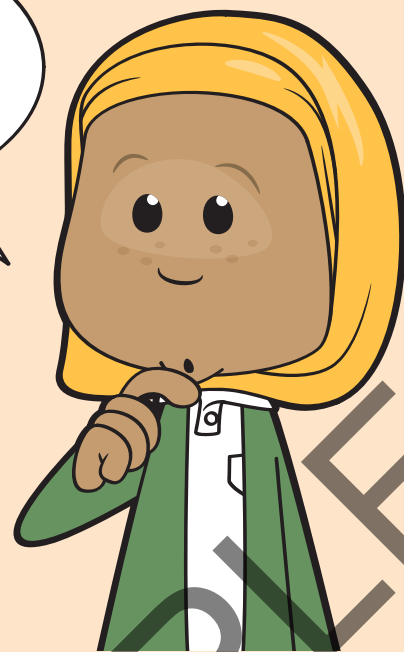
 New devices solve problems or make things easier.



Activity 1

1. Think of things you find hard to do, or that take a long time. Make a list with a partner. Write or draw your ideas.
2. What problem do you want your new device to solve? What do you want it to do? Tell your ideas to your partner.
3. What will the device need to be able to do the job? Draw a picture.

If it is going to tidy up, it will need arms and a claw to grab things.



4. How will you tell the device what to do: buttons, touchscreen, keyboard, microphone, speakers, arms, wheels?
Add labels to your picture. Write some sentences.



Tell your partner the best thing about your idea.



I can think of a device to solve a problem.





I can label my plan for my device.


Lesson 8

Drawing a picture using different brushes and pens



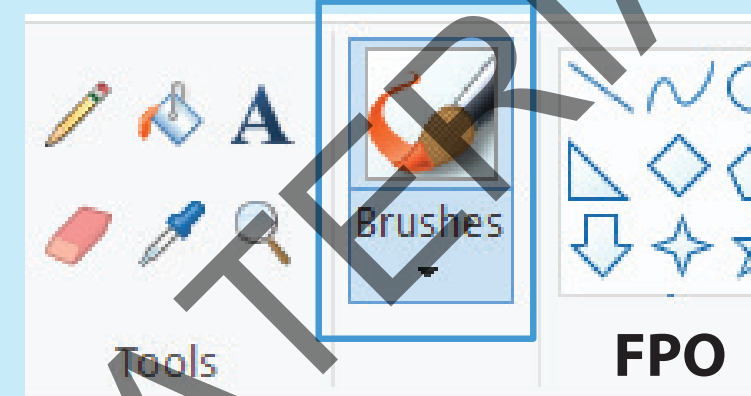
 In this lesson you will learn how to use different brushes to change a picture in drawing software.

 **Key words:** brush, pen

 Can you remember what you learned about the Paint software from Lesson 6? Tell your partner one thing you remember.

In this lesson, you are going to learn how to use different **brushes** to add detail to a picture.

1.



Click on the Brushes tool.

2.

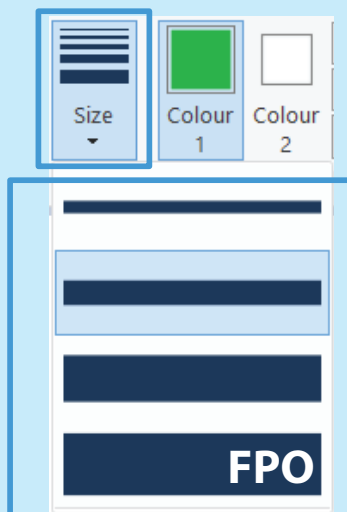


Click on a brush to use it.

What does it look like when you paint with it?

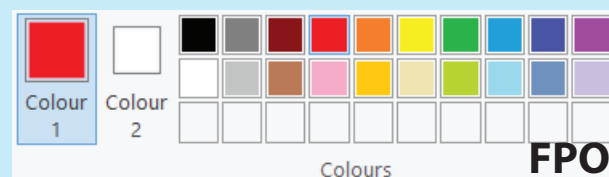
Try different brushes. Which do you like best?

3.



To change the size of the brush, click the Size tool. Click on a different line.

4.



Click 'Colour 1'. Click the colour you want the brush to paint.



Think about the brushes you have used. Which brushes would you use to draw a detailed picture? Why?



You may need to use a brush a few times to get interesting effects.



I know how to select different brushes and pen styles.



I know how to change the size and colour of brushes and pens.





I can use brushes and pens to make a digital image.


Lesson 9

The history of the mobile phone



 In this lesson you will learn about how mobile phones have changed over time.

 **Key words:** mobile, modern, phone

 Have you ever used a **mobile phone**? What did it look like? What did you use it for?
Talk about your ideas in a group.



Activity 1

Mobile phones have changed a lot over time.
In a group, look at the pictures.

Which is the oldest mobile phone? Which is the newest? How do you know?



How have mobile phones changed?

Look at the pictures of the mobile phones. How are the phones different?

Old mobile phone

makes calls and sends messages

bigger and heavier



small screen with no colour

buttons

larger battery

Modern mobile phone

connected to the internet

smaller and lighter

smaller battery



can do lots of different things

big colour touchscreen

easy to use

camera



Activity 2

In your group, talk about how you think phones will change in the future. Draw your ideas. Add labels.



Tell your partner a difference between an old mobile phone and a **modern** mobile phone.



I know what a mobile phone is and what it is used for.






I know how mobile phones have changed over time.

Lesson 10

Lesson Head



-  In this lesson you will present your digital device to the class.
-  **Key words:** app, brush, colour, digital, digital image, hardware, input, keyboard, laptop, load, microchip, mobile, modern, monitor, output, pen, personal computer, phone, problem, processor, save, shape, smartphone, software, solve

-  You are going to present your digital device to the class.
Talk to your partner about what makes a good presentation.
Write your ideas.



Activity 1

Plan your talk. Think about what you are going to say.

- What does your device do?
- What problem does it solve?
- What does it look like? (Point to the different parts.)
- Which part of your picture do you like the best? Why?

Practise your talk.

Words you can use

digital, microchip, processor, input, output, hardware, monitor, keyboard, software, app, smartphone, laptop, save, load, personal computer, shape, colour, digital image, problem, solve, brush, pen, mobile, phone, modern

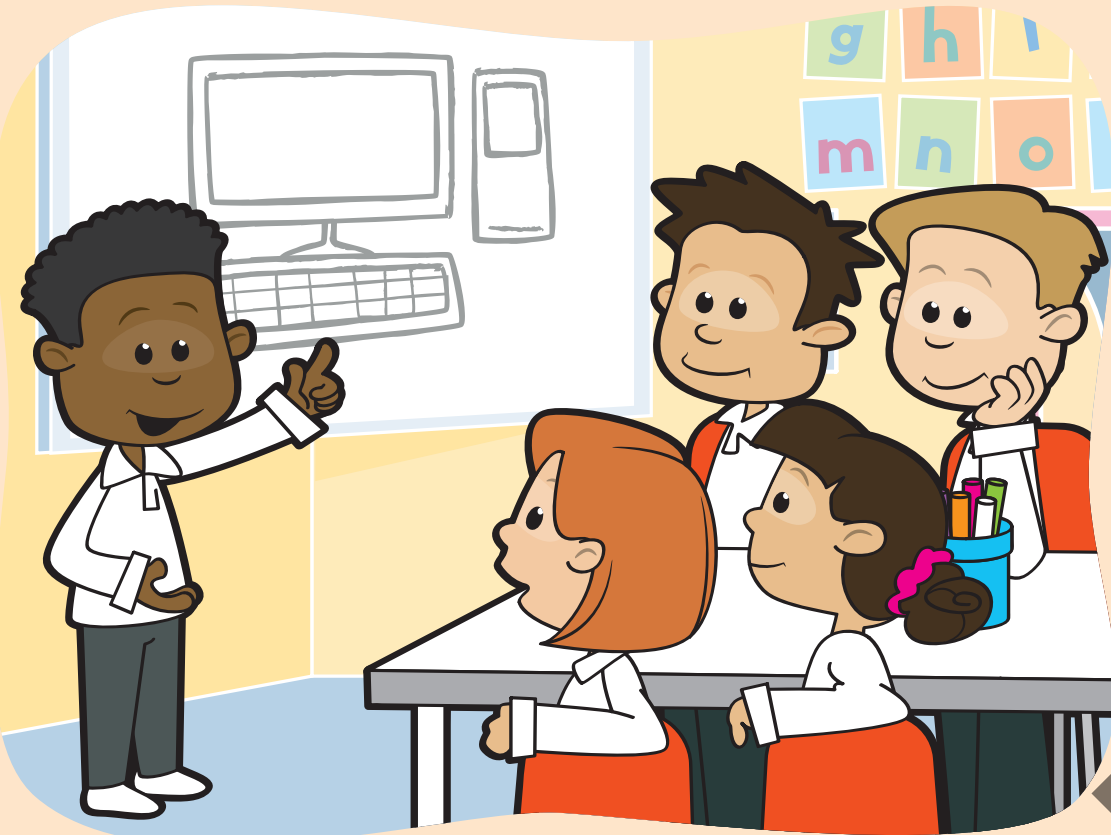
Tips for presenting

- Speak clearly and slowly.
- Look at the people you are talking to.
- Smile!



Activity 2

Give your talk!



With a partner, talk about these questions.

- What is the best thing you learned about digital technology?
- What would you like to spend more time learning about?
- What could you have done better in your presentation?

Unit 1

End-of-unit assessment

Write your answers in your exercise book or on a piece of paper.

- 1 Someone has clicked on these buttons in a drawing app:

<image reuse ICISB_YI_038 screenshot of Paint software zoomed in to show selections: Shapes = rectangle, colour 1 = blue and colour 2 = yellow. Similar to ICISB_YI_038 but only the top half of this a/w, not the rectangle below.>

What will the shape be?

- A a triangle
- B a circle
- C a star
- D a rectangle

(1 mark)

- 2 People used to use this piece of equipment at home every week. What device was invented to replace it?



- A traffic lights
- B mobile phones
- C microwaves
- D washing machines

(1 mark)

- 3 Look at the pictures. Which ones are digital devices?



(3 marks)

- 4 In the Paint software, what does the tool with different lines on it do?

<image ICISB_YI_060c screenshot of Paint software, zoomed in to show Size menu, i.e. 4 horizontal lines of increasing thickness>

- A It makes the lines thicker.
- B It makes the lines longer.
- C It rubs out lines.
- D It selects all the lines on the page.

(1 mark)

- 5 Write a good filename for some artwork you have made in class.

(1 mark)



- 6 Mobile phones have changed over time. Write sentences or draw a picture to explain what has changed.

(3 marks)



Read the sentences. Do you agree? Think about what you have learned.




- I can identify different digital devices.
- I understand what different digital devices do.
- I can use different digital devices to make content.
- I understand some of the history of digital devices.

Unit 2






Using apps and software safely

In this unit you will learn about some multi-role devices. You will explore software applications (apps) that are used on devices. You will find out about apps that connect to the internet and how to use them safely. Then, you will make a short video about online safety and share it with other children.

Key objectives

-  To know about different apps.
-  To be able to select and use the right software.
-  To understand how to stay safe online.

By the end of the unit you will:

-  know what multi-role devices are
-  understand how to use apps in a safe way
-  know the differences between online and offline worlds
-  know what to do if something online upsets you
-  be able to plan and record a video about online safety.

Lesson 1

Finding out about multi-role devices



In this lesson you will:

- explain what digital technology is
- learn about some multi-role devices.



Key words: device, digital technology, multi-role, single-role



Talk to a partner about digital **devices** you have used at home or at school. How many different devices can you name?

Remember: **digital technology** is any device that uses electricity and stores information.

A **multi-role** device is a device that can do more than one job.



This is a single-role device. It can only be used to make phone calls.

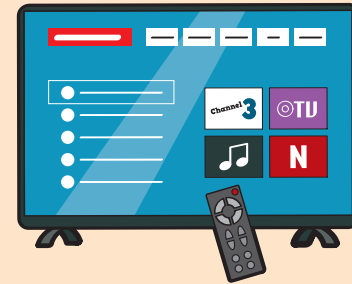


Smartphones are multi-role devices. This means you can use them to do different things. You can use smartphones to play games, look at web pages, send emails and make phone calls.



Activity 1

Look at these digital devices.



With a partner, talk about how you use these devices.

Is each device a multi-role device or a single-role device?



Activity 2

How many multi-role devices do you use?
How many single-role devices do you use?
Talk to your partner about which type of device you use more.



Talk to your partner about a multi-role device you use at school. What do you use it for?



I can explain what digital technology is.




I know the difference between a single-role device and a multi-role device.





I can name some multi-role devices.

Lesson 2

Recording digital video

 In this lesson you will record a video of a moving object.

 **Key words:** digital video, in frame, record

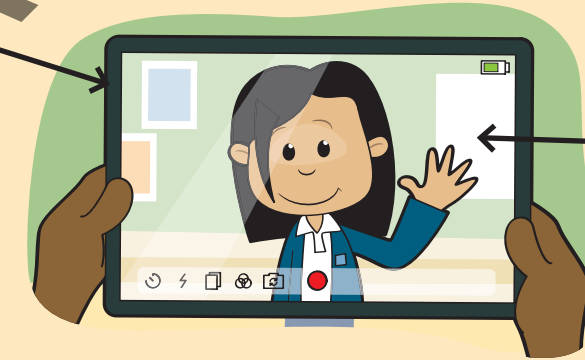
 Talk to your partner about the device you will use to record your digital video. Will you use a multi-role device or a single-role device?

Using a camera app

Look at the picture. It shows a camera app on a tablet. The camera app is recording video.

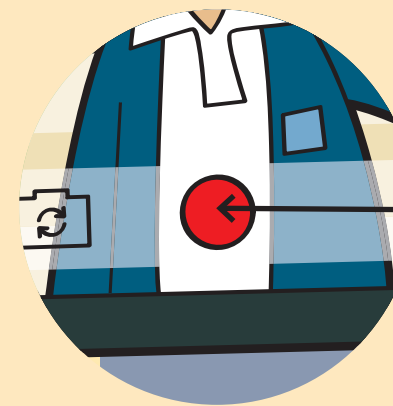
The line around the sides of the screen is called the frame.

The line around the screen is called the frame.



Everything inside the frame will be recorded in the video.

When you use a camera app, keep what you are recording **in frame** (inside the frame).



This is the **record** button. The record button tells the camera app to start saving the video.

Press the button to start recording. Press the button again to stop recording. The video is saved as a digital file on your device.

Before you start recording video:

- Always ask people if they agree to be filmed, before you record them.
- Use a plain or simple background, to help the viewer see what is happening.
- Find a place where there is lots of light. The camera needs light to work properly.

To make a good video, try to:

- keep the object or person in frame
- move slowly and smoothly
- hold the device steady.

**Activity 1**

With a partner, make a video of a moving object. For example, you could record a rolling ball. Is it easier to keep the object in frame when you are close to the object or far away?



What was easy about recording video?

What was difficult?

What will you do differently next time you record video?



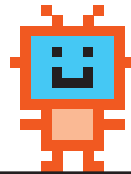
I can use a device to record a digital video.




I can keep the object or person in frame.


Lesson 3

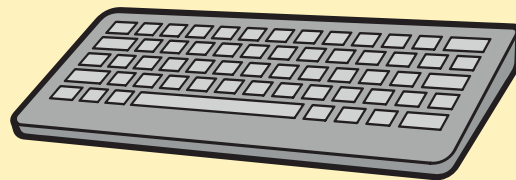
Using multi-role devices at home



 In this lesson you will learn how we use multi-role devices at home.

 **Key words:** applications, apps, multi-role

 With a partner, look at each device and say what it is. Is it a **multi-role** device?



Activity 1

Think about the multi-role devices in these rooms in your home:

bedroom

kitchen

living room

Multi-role devices have software **applications (apps)**. The apps mean we can use the device to do more activities.





Activity 2

We can group together apps that we use for similar activities.

Work with a partner. On a piece of paper, make four boxes with headings, like this:

watch TV	use the internet	play games	take photos

Think about the apps you can use for these different activities. Write the names of the apps on your paper.

Which is your favourite app? Why?



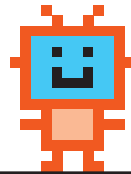
With a partner, talk about multi-role devices. Why can multi-role devices do different activities?




I understand how we use multi-role devices at home.


Lesson 4

Recording a video about multi-role devices



 In this lesson you will record a short video about a multi-role device.

 **Key words:** multi-role device, record, subject

 Draw a **multi-role device**. Add labels to show what it can do.



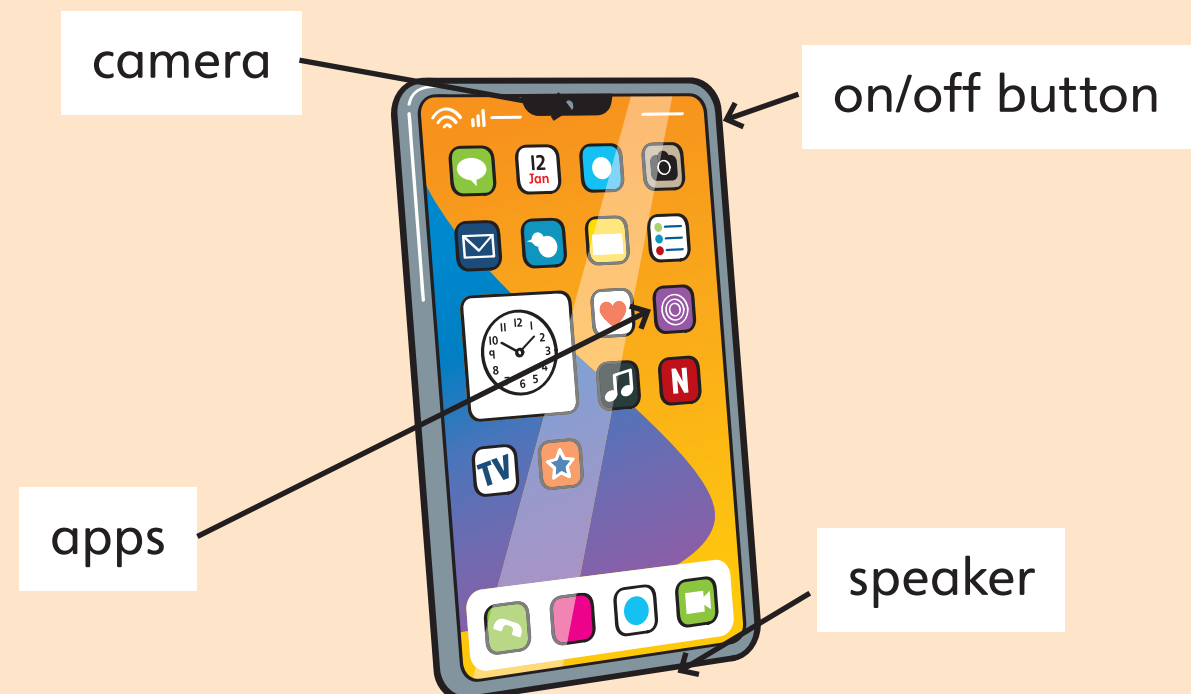
Activity 1

Work with a partner. Plan your video about a multi-role device.

Choose a multi-role device. Think about what you will say about it.

- What is the device called?
- What does it look like? How can you describe the device to someone who has not seen one before?
- What activities can you do on it?

Here is an example of a multi-role device you could talk about:





Activity 2

Talk with your partner about recording videos. Write a list of three things that you can do to record a good video.



Activity 3

With a partner, **record** your video. One person records the video and one person talks about the device.

If you have time, swap roles.

Tips for making a video

- Work in a place that is quiet and has lots of light.
- Focus the camera on the **subject** of the video. The subject is the person who is talking.



Play your video.

- Did you use a clear voice to describe the device?
- Did you say some facts about the device?
- Did you hold the camera steady?

Talk about what you did well.

Talk about what you can do better next time.



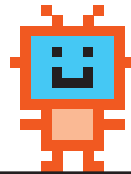
I know which app to use to record a video.




I can record a video.


Lesson 5

The online world and the offline world



 In this lesson you will learn about the differences between the online world and the offline world.

 **Key words:** internet, offline, online

 With a partner, talk about these questions:

- What do you think **offline** and **online** mean?
- What devices can you use to go online?
- What devices cannot be used to go online?

The online world is all the things you can see when you use a device connected to the internet.



Things you can do online:

- send messages
- play video games with someone in another country
- look at pictures of animals from all over the world.

The offline world means things that you can see around you. You do not need a device or the internet to see them.



Things you can do offline:

- write a letter
- play a game in the park
- look at birds through the window.



Activity 1

With a partner, read the list of activities.

- draw a picture on paper
- send a message with an app
- look at pictures on websites
- play football with friends
- watch a video about how ice-creams are made
- eat an ice-cream

Which ones do you do online? Which ones do you do offline? Make two lists.

online

offline

When you are online, not everything you see is true.

I saw a dinosaur in the park!



Explain to your partner how you know if something is happening online or offline.



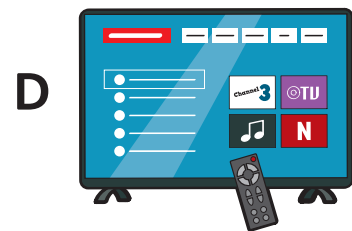
I know the difference between the online world and the offline world.

Unit 2

Mid-unit assessment

Write your answers in your exercise book or on a piece of paper.

1 Which of these things is a single-role device?



(1 mark)

2 Which of these words matches the device in the photo?

- A keyboard
- B tablet
- C microchip
- D monitor

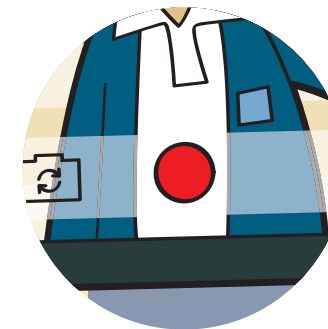


(1 mark)

3 What does the word 'online' mean?

- A Online means it is connected to the internet.
 - B Online means the device is on.
 - C Online means it is not connected to the internet.
 - D Online means the device is on but it looks off.
- (1 mark)

4 Look at the picture. What happens when you press the red circle button?





- A The device turns off.
- B The device stops recording.
- C The device starts recording.
- D The app closes.


(1 mark)

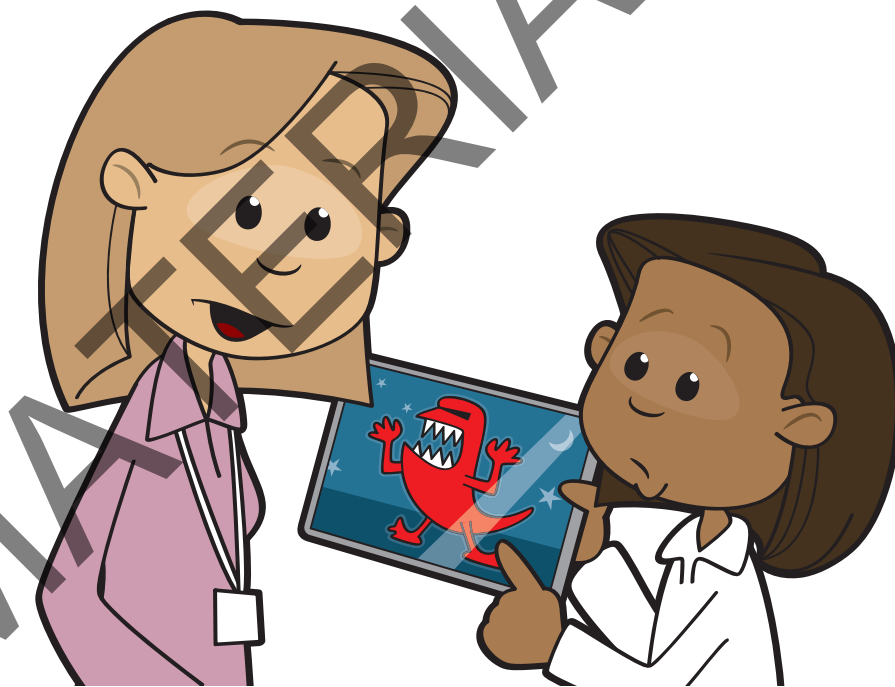
Lesson 6

Staying safe online

 In this lesson you will learn what to do if you see something online that upsets you.

 **Key words:** trusted adult, upset

 Talk to a partner about what 'online' means. Make a list of things you can do online.



When we use devices, we sometimes see things we do not like. If you see something that **upsets** you, always tell a **trusted adult** straight away. Do not show your friends what you have seen. It might upset them too.



Activity 1

Imagine your friend reads a message that upsets them. With your partner, talk about what you should do.



Remember! If you see a message that upsets you:

- do not reply
- keep the message to show to a trusted adult
- tell a trusted adult.



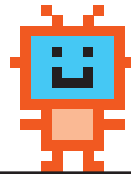
Make a poster for other students. Explain what to do if something online upsets them.





I know what to do if I see something online that upsets me.


Lesson 7

Meeting people online who we do not know



 In this lesson you will learn that not everyone online is who they say they are.

 **Key words:** friend, online communication, safe, stranger

 Work with a partner. Talk about what you should do if something upsets you online.



Communication means talking to another person. **Online communication** is when you are talking to someone using the internet.

It is easy to pretend to be someone else when you are online. This is because other people cannot always see you.

If you cannot see someone online, you cannot be sure who they are. A person you do not know is called a **stranger**.

To be **safe** online, only communicate with people you know in real life, like your **friends**.

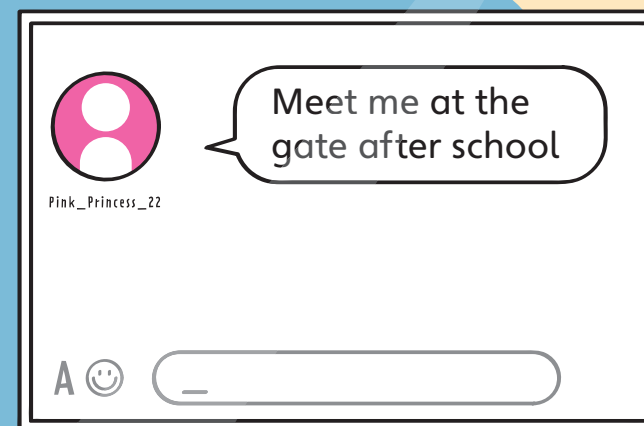


Activity 2

Tell your partner what someone you do not know is called.

When you are online you may get messages from people you do not know.

Never reply to messages from strangers. Always tell a trusted adult about the message.



Activity 3

Read this message. What should you do? Tell a partner.



Why is it hard to tell who people are online?
Tell a partner.




I know that not all people online are who they say they are.

Lesson 8

Using apps in positive ways



 In this lesson you will:

- learn how to use apps in a positive (good) way
- why we should not use apps in a negative (bad) way.



Key words: apps, negative, online, positive



What do you remember about how to stay safe when you play games online? Tell a partner.



<image ICISB_YI_076a: messaging app logo> <>



Messaging apps are used to send messages to people.

These are **positive** ways that we can use messaging apps. We can:

share things we like

send a photo of a family day out

send a funny joke or a picture

chat to friends

talk about homework

invite a friend to a party

These are **negative** ways that people might use messaging apps. They might:

send a rude joke

send text or pictures that might upset someone

make fun of someone

say unkind things

**Activity 1**

Tell a partner three positive ways to use messaging apps.

When you use messages in a positive way you can help someone feel good and happy.

When you use messages in a negative way you can make someone feel sad and lonely.

Remember: if you see a message you do not like, tell a trusted adult.



Tell your partner a negative way to use a messaging app.

Explain what you should do if someone uses an app in a negative way.



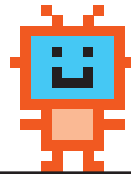
I can explain how to use an app in a positive way.




I know why we should not use apps in a negative way.


Lesson 9

Planning a video about staying safe online



 In this lesson you will plan a video about how to stay safe online.

 **Key words:** app, online, plan, safe, script, upset

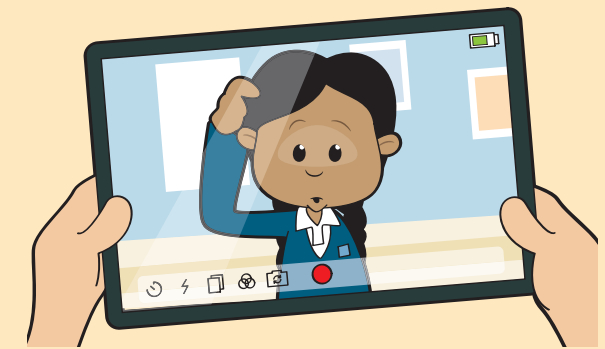
 In a group, talk about all the things you have learned about staying **safe online**.

It is a good idea to make a **plan** before you record your video.

The plan will help you to remember what to say.

A plan for what you will say in a video is called a **script**.

It is difficult to make a good video if you do not have a script.



Activity 1

In your group, plan your script for your video. Think about these questions:

- What should you do if you see something online that **upsets** you?
- Is everything you see online real?
- What should you do if you see a message that you don't understand?
- How can you use messaging **apps** in a positive way?
- What should you *never* do with messaging apps?
- What should you do if you get a message that makes you feel sad?



Activity 2

Practise saying your script. Take it in turns to speak.

Tips for presenting in a video

- Speak clearly and slowly.
- Look at the device.
- Smile!



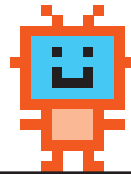
Read your script. Is there anything you want to change?





I can plan a video about how to stay safe online.


Lesson 10

Recording a video about staying safe online



 In this lesson you will record a video about how to stay safe online.

 **Key words:** app, in frame, online, record

 What tips can you remember for recording a good video? Write a list or draw pictures. Look at page 64 if you are not sure.



Activity 3

With a partner, plan how to record your video. Think about these questions:

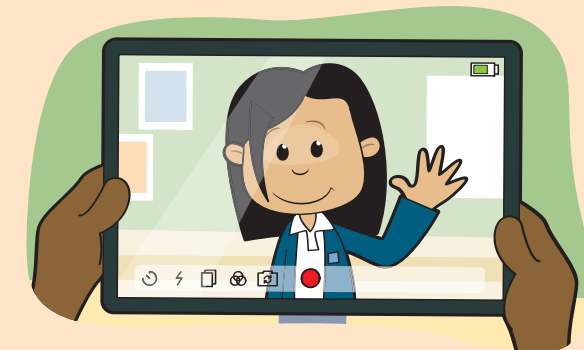
- What app will you use?
- Where will you record the video?
- Who will say each part of the script?



Activity 4

Record your video!

Take turns to speak.
Take turns to record the video.



Tips for recording a video

- Talk clearly.
- Work in a quiet place.
- Make sure there is lots of light.
- Give lots of information in your video.
- Keep your subject in frame.
- Move the camera slowly.



Watch your video with a partner. Answer these questions:

- What did the video teach people about online safety?
- What was good about the video?
- What could be better in your video?
- Did you leave out any information from your video?



I can record a video about how to stay safe online.

Unit 2

End-of-unit assessment

Write your answers in your exercise book or on a piece of paper.

- 1 Which of the following activities is an online activity?
A playing in the park
B looking at videos on a web browser
C eating an ice-cream
D talking to your friends at the playground
(1 mark)
- 2 What should you do if you get a message that make you feel sad?
A reply
B show your friends
C delete it and forget about it
D tell a trusted adult
(1 mark)

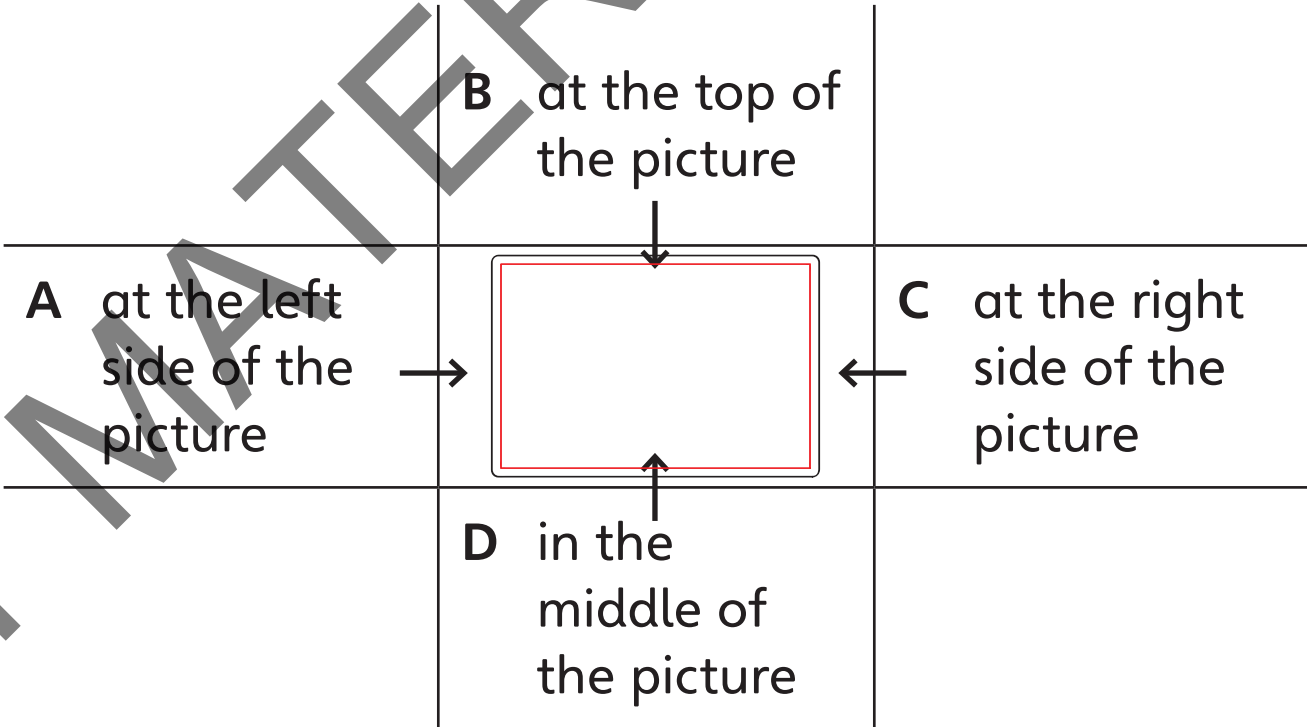
3 Write **two** ways that children can use messages in a positive way. (2 marks)

4 What is the name for the space inside the red lines on this tablet?



(1 mark)

5 When you are making a video, where should you keep the person or object you are trying to film?



(1 mark)

6 Before you starting recording someone, what should you always check first?

- A They give you permission to record them.
- B You are using your own device.
- C You are connected to the internet.
- D They are wearing blue.

(1 mark)

- 7 Write a tip to help you get a good video when you are recording a moving object.
- (1 mark)

- 8 Here is an example of a video someone has made of their dog:



What advice would you give to help them make a better video?

- A Move faster.
- B Be closer to what you are filming.
- C Get a microphone to help you.
- D Use a different device.

(1 mark)



Read the sentences. Do you agree? Think about what you have learned.

- I know what multi-role devices are.
- I understand how to use apps in a positive way.
- I know the differences between the online world and the offline world.
- I know what to do if something online upsets me.
- I can plan and record a video about online safety.

Unit 3

My animation project

In this unit you will look at stop-motion animations and learn how they are made. You will learn what onion skinning is and how it can be used to make better animations. Next, you will plan your own animation by making a storyboard. You will make backgrounds and models to use in your animation. Finally, you will record and edit your animation.

Key objectives

- 🎯 To be able to choose and use animation software.
- 🎯 To save, open and change digital content.
- 🎯 To name some different types of output.
- 🎯 To enter and edit text.
- 🎯 To use sensible filenames.


By the end of the unit you will:

- ✓ know what stop-motion animation is
- ✓ use stop-motion animation software
- ✓ use onion skinning to make an animation better
- ✓ plan an animation using a storyboard
- ✓ make models, backgrounds and title cards
- ✓ record and edit a stop-motion animation
- ✓ give feedback about a stop-motion animation.


Lesson 1


Learning about stop-motion animation



 In this lesson you will:

- find out what stop-motion animation is
- look at some stop-motion animations.

 **Key words:** character, film, model, stop-motion animation

 Talk with a partner. What can you remember about recording a video? What devices can you use? What apps can you use?

Different types of films

Many films are made by recording video of real people, animals and places.

Cartoons are films that are made using lots of pictures. The pictures are drawn or made on a computer. Each picture is a bit different from the one before. When the pictures are shown one after the other, the **characters** look like they are moving.



<Image ICISB_YI_080: a still from a cartoon animation>

Stop-motion animations are made with **models** that can be moved. Each time a model is moved, a photo is taken. When all the photos are put together and played quickly, it makes a film.

<image ICISB_YI_081: a still from a well-known stop-motion animation >



Activity 1

Point to the model in the picture of the stop-motion animation.



Activity 2

Look at these pictures with a partner. How are they similar? How are they different? Are they all stop-motion animations? How do you know?

<image ICISB_YI_082: stop-motion still of Wallace and Gromit>

<Image ICISB_YI_085: still from a film/tv show with real people/animals>



How can you tell if a film is a stop-motion animation? Tell a partner.

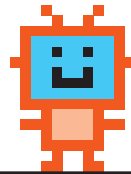
Have you ever seen a stop-motion animation film? Talk to your partner about what you can remember.






I know what stop-motion animation is.

Lesson 2

Using stop-motion animation software



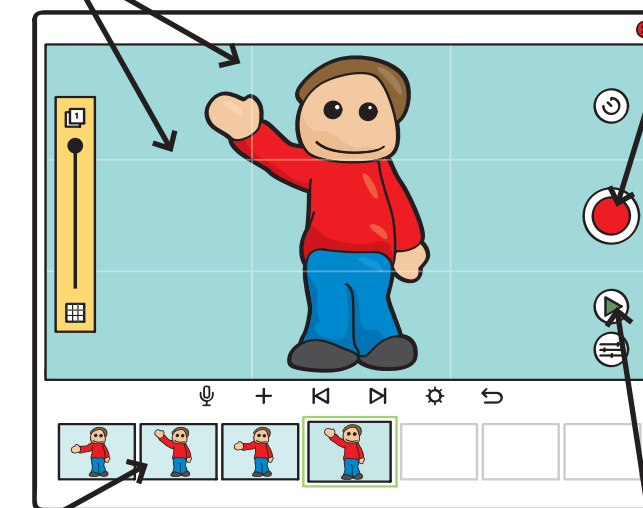
-  In this lesson you will learn how software is used to make stop-motion animations.
-  **Key words:** app, frame, photograph, software

 With a partner, talk about stop-motion animation. How are they made?
Can you name any stop-motion animations?

To make a stop-motion animation, you use a stop-motion animation app. In the app, you take a lot of **photographs** of a model. You move your model a little bit before you take each photo. Each photo you take is called a **frame**. When you put all the frames together, the model looks like it is moving. Look at this app. It can be used to make stop-motion animations.

a grid to help you line up your models

record button so you can take a photo



all the photos you have taken so far

play button so you can watch your animation so far

Remember: an **app** is a type of **software**.

**Activity 1**

Look at the stop-motion app with a partner.
Find out how to:

take pictures

add text to a picture

play the pictures you have taken

Try to keep the camera still. Only move the model.

**Activity 2**

Make a stop-motion animation of your name
being written on a piece of paper.



Talk about the app you used today with
a partner.

What did you like about the app?

Was there anything you did not like about the
app? Why?



I know how software is used to make stop-
motion animations.


Lesson 3


Working as a team to make a stop-motion animation



 In this lesson you will:

- work as part of a team
- start to record a video diary.

 **Key words:** animator, camera person, clip, director, job, props, props manager, video diary

 Lots of people work together in a team to make stop-motion animations.

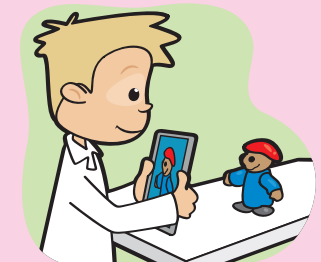
They all have different **jobs**.

In a group, talk about what different jobs are needed in a stop-motion animation team. Write a list.

Animation jobs

These are some of the jobs needed to make a stop-motion animation:

- The **director** is the team leader. The director makes sure everyone knows what to do.
- The **camera person** controls the camera. The camera person knows how to use the device very well and how to get the best shots.
- The **animator** moves the **props** and the characters in a stop-motion animation.
- The **props manager** looks after the props, models and costumes that are used in the animation.



Activity 1

What job is each student doing in the picture? Explain how you know.



Activity 2

Work in a group.

Think about the different jobs in a stop-motion animation team.

Which person in your group is best for each job?

Give each person in your group a job.

In this unit you will record a **video diary**.

A video diary is a set of short video **clips** that show you talking about what you have done.

Think about these questions when you plan your video diary:

- What have you learned so far?
- What did you find difficult?
- What problems did you solve as a team?
- What will you do next?
- How will you use what you have learned in your animation?



Activity 3

Record a short clip for your video diary. Say which job you have in your team. Explain why you have that job.



Record another clip for your video diary. Say why it is important to work as part of a team.



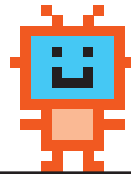
I can work with other students in a team.



I can record a video diary.

Lesson 4


Finding out about onion skinning



 In this lesson you will:

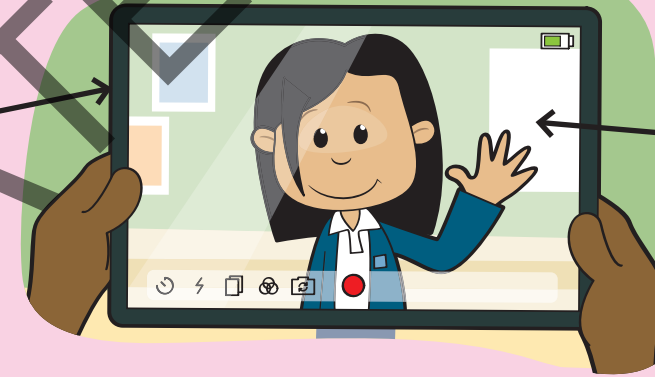
- learn how to use onion skinning when you make animations
- learn to make small changes to your models.

 **Key words:** frame, onion skinning

 Work in a group. What do you think **onion skinning** means? Talk about your ideas.

When you take a photo with a device, the edge around the screen is called the frame.

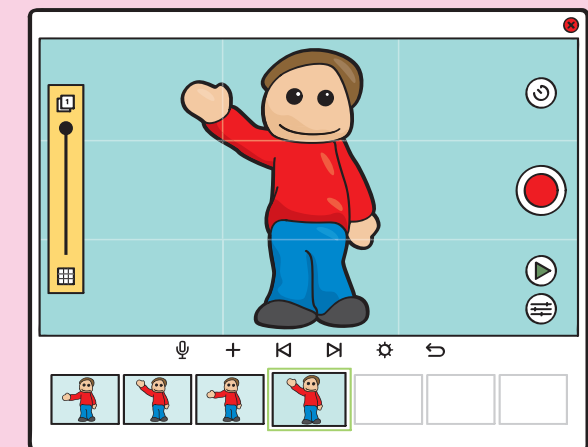
frame



picture

In stop-motion animation, a **frame** also means one of the pictures in the animation.

Each photo in the animation is called a frame.

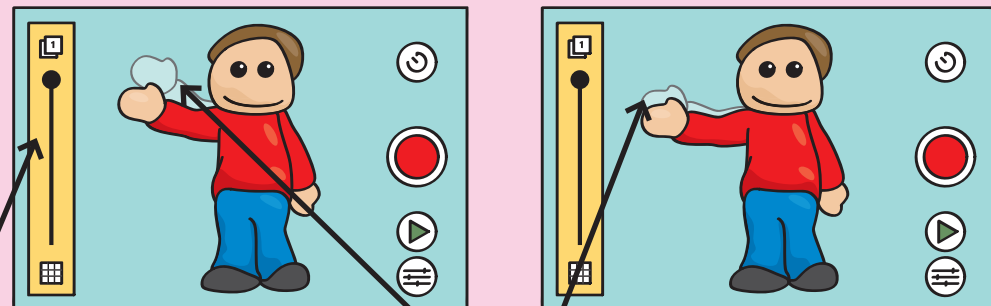


Each photo in the animation is called a frame.

Onion skinning

Onion skinning is a tool in stop-motion animation software.

Onion skinning lets you see the last frame you took on the screen. It helps you to make sure the camera is in the right place. You can use it to see the best way to move your models so that the animation is smooth.



This is the onion skinning tool.

Use the onion skinning tool to show the last frame.



Activity 1

Look at the frames in the pictures above.

- The model has been moved a lot in the first frame.
- The model has been moved less in the second frame.

Which frame do you think will be better in the animation?



Activity 2

With a partner, look at the stop-motion animation software.

Make a short stop-motion animation of a pencil moving across your table. Use the onion skinning tool to help you.

Tips for stop-motion animation

- Keep the camera still and only move the pencil.
- Make small movements.
- Take lots of photos.



Look at your animation of the pencil. Record a short clip for your video diary.

What is good about your stop-motion animation?

What will you do differently next time?



I know what onion skinning is.




I can use onion skinning to help me make small movements.


Lesson 5

Using a storyboard to plan an animation



 In this lesson you will use a storyboard to plan your animation.

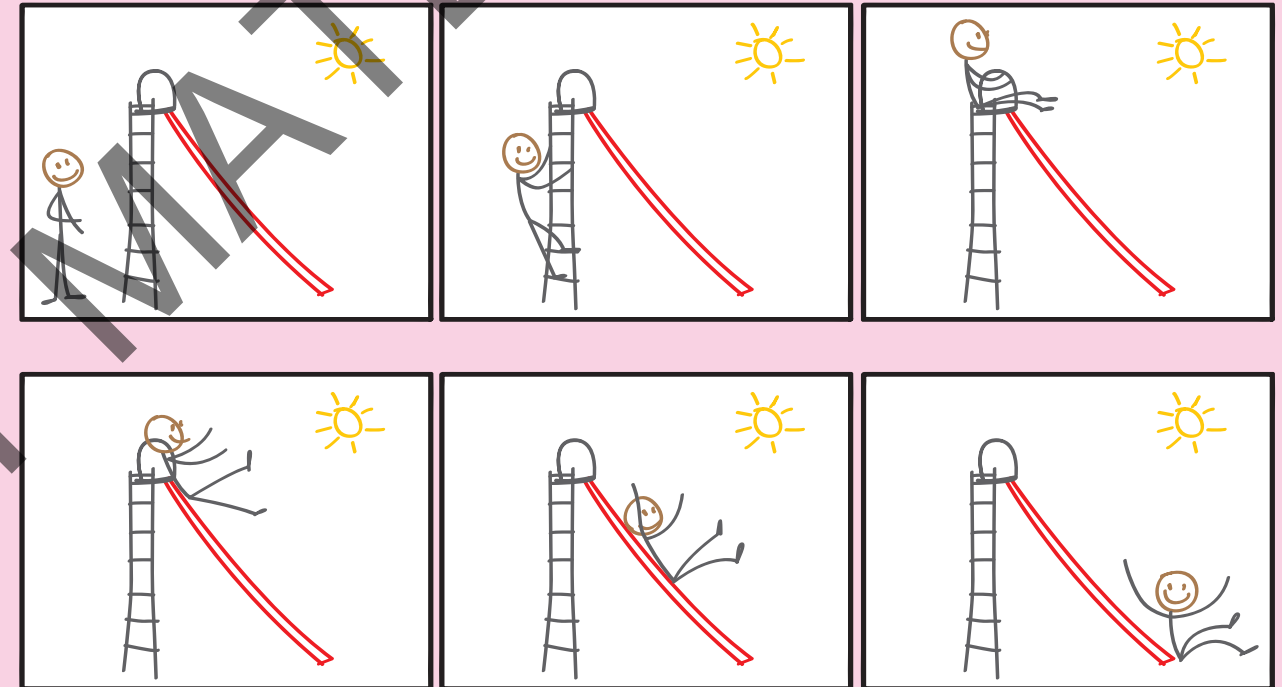
 **Key words:** model, order, sequence, step, storyboard

 Think of two things you should do before you record your animation.

Write or draw your ideas.

Share your ideas with a partner. Are your ideas similar or different?

Before you start making your animation, you need a plan. A **storyboard** is a plan for an animation. A storyboard shows every **step** of the animation. It helps animators to plan each step carefully.



Activity 1

Look at the storyboard above.
Can you see how the pictures tell a story?
Tell the story to a partner.

Read these steps for making an animation of a character on a slide:

- Walk to the slide.
- Go up the steps.
- Sit down at the top of the slide.
- Push down the slide.
- Stand up at the bottom of the slide.
- Walk away from the slide.

The storyboard shows all these steps. The storyboard helps the animator to plan the movement of the **model**.



Activity 2

Think about an animation of a character on a swing or a seesaw.

With a partner, talk about the steps you need for this animation.

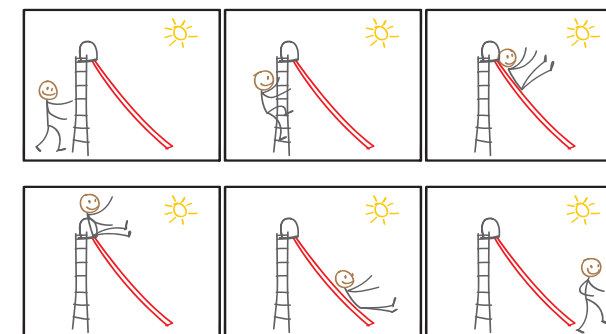


Activity 3

Work as a team. Choose which animation you will make: a character on a swing, or a character on a seesaw.

1. Talk about the steps the animation will need.
2. Make a list of all the steps in the animation.
3. Draw a picture for each step of the animation.
4. Put the pictures together to make a storyboard.

The **sequence** means the **order** of the steps. The sequence on your storyboard must be correct. If the steps are not in the correct order, your animation will not make sense!



Record a short clip for your video diary. In your clip, explain why a storyboard is useful for planning animations.



I can use a storyboard to plan an animation.

Unit 3

Mid-unit assessment

Write your answers in your exercise book or on a piece of paper.

1 Which of these is used to create a stop-motion film?

- A models
- B actors
- C the internet
- D a keyboard

(1 mark)

2 How do you make a stop-motion film?

- A Record a video.
- B Take lots of photos.
- C Take one photo.
- D Print photos.

(1 mark)

3 What is the job of a director?

- A to look after the props
- B to control the camera
- C to be the team leader
- D to move the props

(1 mark)

4 What is the job of an animator?


- A to look after the props
- B to control the camera
- C to be the team leader
- D to move the props

(1 mark)

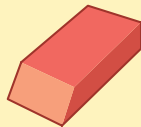
Lesson 6

Making a background



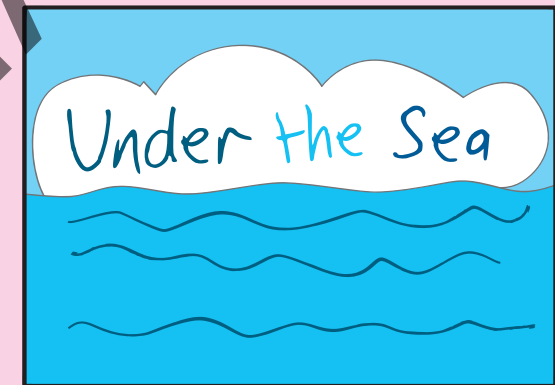
 In this lesson you will make a title card and a background for your animation.

 **Key words:** background, setting, title card

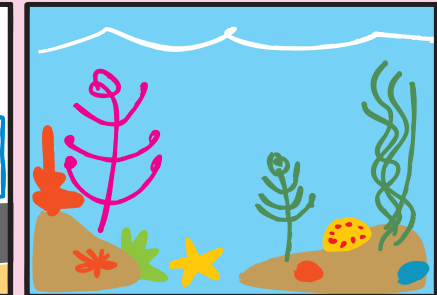


Tell a partner what you can remember about making a digital image. What software did you use? What did the different tools do?

Films and animations often start with a **title card**. The title card tells you what the film is called. This is a title card:



The **setting** is the place where a film or animation takes place. The **background** of your stop-motion animation must show the setting clearly. Here are some settings:





Activity 1

Work in your team.

Think of a title for your animation. Listen to everyone's ideas.

Choose a setting for your animation. How will your background show the setting?



Activity 2

Work with your team. Use software to make a title card and a background for your animation.

What tools will you use?

Who will make the title card? Who will make the background?

I like art, so I will draw the background.

I will use my neat handwriting to write on the title card.

I will colour in the title card carefully.



Don't forget to use the undo tool if you make a mistake. It looks like this



Record a short clip for your video diary. Say one way that your background shows the setting clearly.



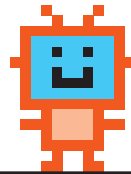
I can use software to make a title card for my animation.





I can use software to make a background that shows my setting.

Lesson 7

Lesson Head



-  In this lesson you will make models for your stop-motion animation.
-  **Key words:** animation, model, modelling clay, position



Animation models need to have moving parts. With a partner, talk about the best materials for your models.

What materials could you use? Are some materials better than others?

Making models and props

Look at this picture from a stop-motion **animation**.

<image ICISB_YI_082: a still from a stop-motion animation (Wallace and Gromit) (reuse from page 102) >

The animators have made the **models** and props in this animation.

Modelling clay is a good material for making a model because it changes shape easily.

Cardboard is a good material for making props because the props do not need to move.



Activity 1

In your team, talk about the models you will make for your animation.
Talk about the best materials to use.

It is very important to make your models the right size.

This big model character looks very silly on the small slide!

Check that your character and props are similar sizes.



Record a short clip for your video diary. Talk about the models you have made.

Is the size of your models right for your animation? Explain why.

What materials have you used for your models? Can you change the models without breaking them?



I can make models to use in my animation.



Activity 2

Work as a team to make the models for your animation.

Keep the models somewhere safe.



Activity 3

Now that you have made your models, practise animating them.


Move your models into different **positions**.

Move them carefully so they do not break.


Lesson 8

Making a stop-motion animation



 In this lesson you will make a stop-motion animation.

 **Key words:** background, model, onion skinning, title card

 In your team, talk about each person's job to help make the animation.

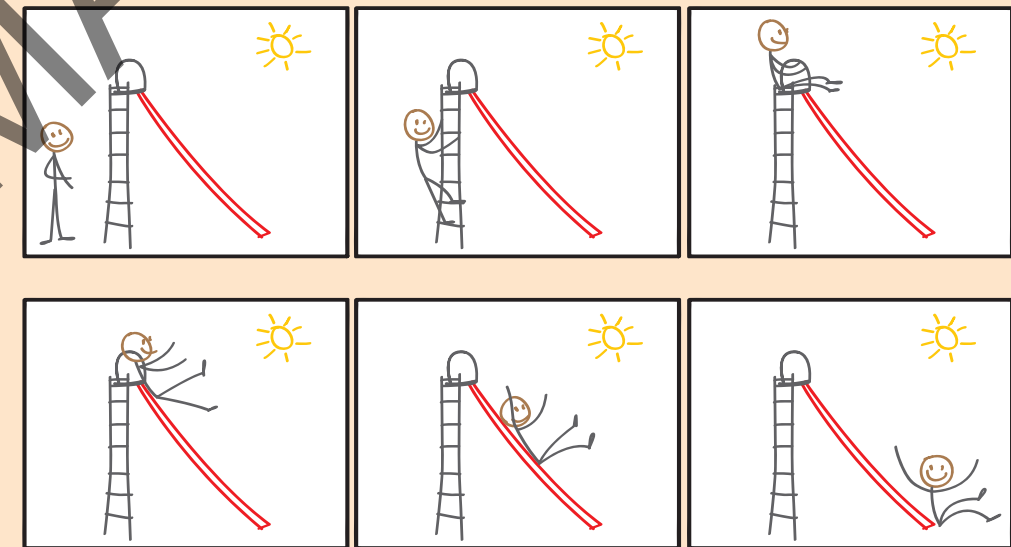


Activity 1

With your team, look at the storyboard you made in Lesson 5.

Check that the storyboard tells a story.

Make changes to the storyboard if you want to.



Activity 2

Make your stop-motion animation.

Look at the tips.

Ask your teacher for help if you need to.

Tips for making a stop-motion animation

- Look at your storyboard to help you order the events.
- Get your **models** and props ready.
- Use your **title card** and **backgrounds** at the right time.
- Use **onion skinning** to help you put your camera and models in the right positions.
- Make small changes to the models and take lots of photos.

Save your animation file. For the filename, you could use the name of your film.



In your team, talk about how you worked together. What went well? How could you work better together?

Look at your animation so far. Are there any parts that are not smooth? You might need to take more photos.

How can you change what you are doing to make your stop-motion animation better?





I can make a stop-motion animation.


Lesson 9

Editing a stop-motion animation



 In this lesson you will learn how to edit a stop-motion animation.

 **Key words:** delete, edit

 Talk to your team. Will you work in a different way today? What job will each person do this time?

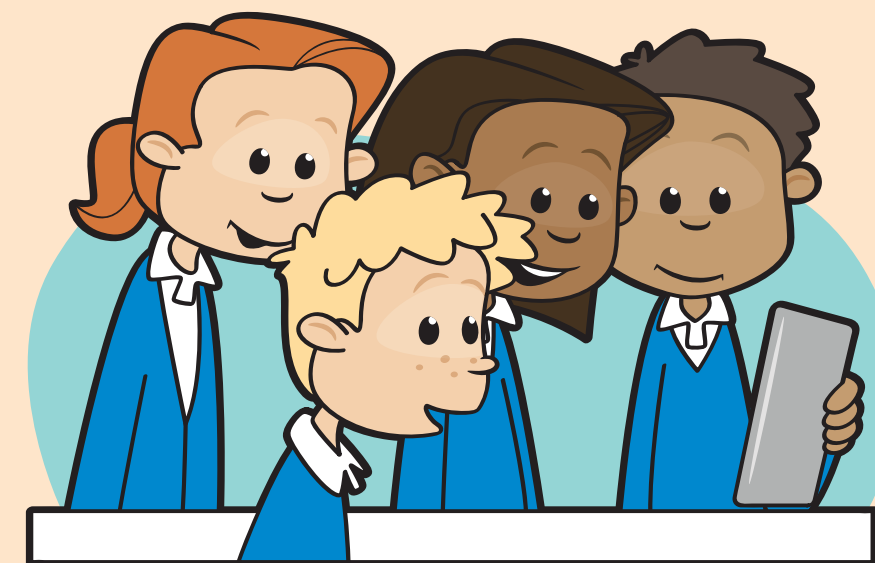


Activity 1

Edit your animation. Editing means making changes so the animation is the best it can be. Watch your animation with your team. Look carefully.

Talk about these questions:

- Is there a title card?
- Are any parts of the animation not as smooth as the rest?
- Are all the steps from your storyboard in your animation?
- Do you need to **delete** any frames?
- Do you need to add any frames?



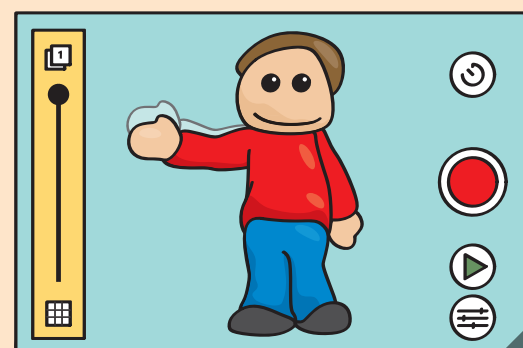
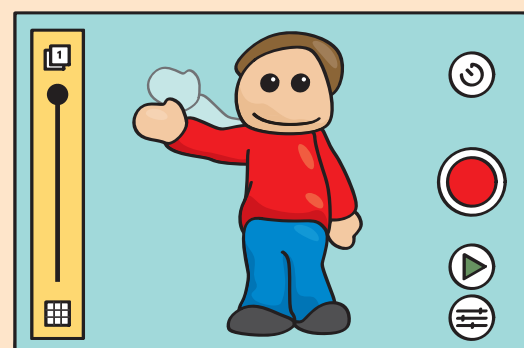


Activity 2

Edit your film.

To take out a frame, tap or click on the frame and choose **delete**.

If you want to add a frame, use the onion skinning tool. This will help you to put your models in the right positions.



Record a short clip for your video diary. Talk about your title card.

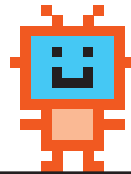
How long does your title card appear on screen? Will people have time to read it?




I can edit a stop-motion animation.


Lesson 10

Watching stop-motion films and giving feedback



 In this lesson you will watch your animation and give feedback on it.

 **Key words:** feedback, output

 Find a space to watch your animations. Make it look like a cinema!

What types of **output** do you need to show the animations?

An animation is fun and easy to watch if:

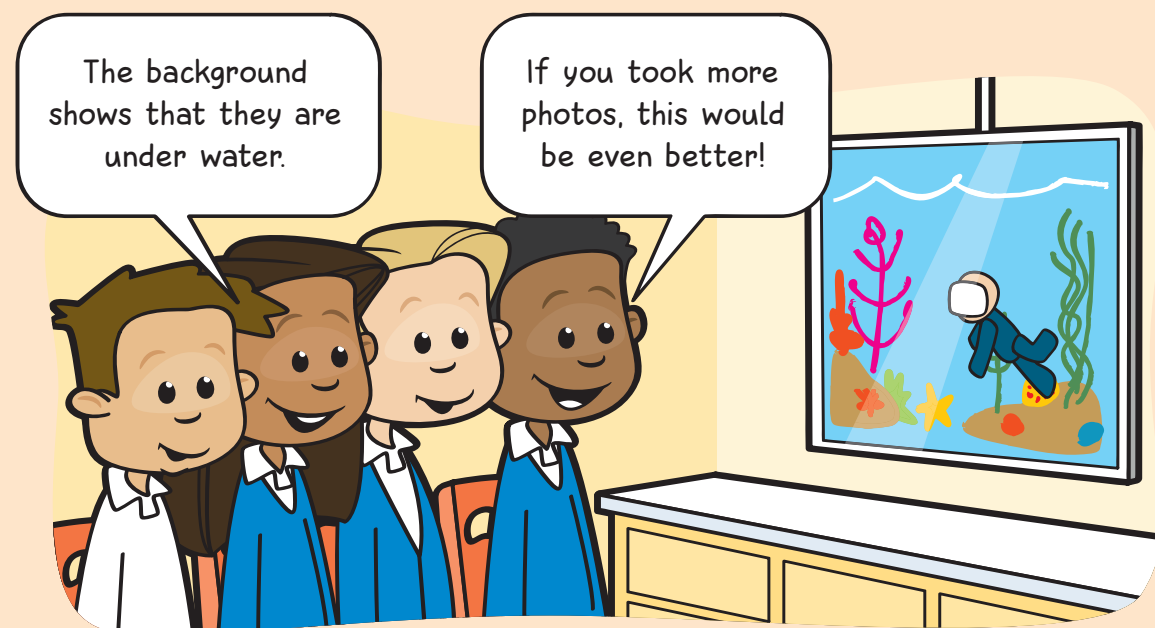
- there is a title card to show what the animation is called
- the character moves in a smooth way
- we can tell who the character is
- the background helps to show the setting for the animation
- we understand what the animation shows.



Activity 1

When we watch something, we can give **feedback** on it. Giving feedback means saying what we liked about something. It also means giving some ways that it could be even better. Watch all of the groups' animations. Think of some feedback for each animation. Say:

- one thing that you liked about the animation and why
- one thing that could make it even better.





Think about the animation you made with your team. Talk about the feedback that you got.

Record a short clip for your video diary.

Talk about:

- what you enjoyed about making the animation
- what was difficult about making the animation
- what problems you had in your team what you could do to make your animation even better.



I can give feedback on animations.

Unit 3

End-of-unit assessment

Write your answers in your exercise book or on a piece of paper.

1 What is the word for a single photo used in a stop-motion film?

- A picture
- B diagram
- C frame
- D app

(1 mark)

2 What is the name of the tool which lets you see the last photo you took?

- A onion skinning
- B lemon skinning
- C editing
- D blending

(1 mark)

3 How could you create a smoother stop-motion film?

- A Use a different model.
- B Use a different device.
- C Take fewer photos.
- D Take more photos.

(1 mark)

4 How else could you create a smoother stop-motion film?

- A Make smaller movements.
- B Make big movements.
- C Use more models.
- D Use fewer models.

(1 mark)

5 What is another name for the background in a stop-motion film?

- A model
- B layer
- C setting
- D frame

(1 mark)

6 Which sentence explains what a title card is?

- A It tells you the name of the film.
- B It tells you who made the film.
- C It tells you how long the film will be.
- D It tells you what the film is about.

(1 mark)

7 What does this tool do?

- A It deletes a photo.
- B It undoes your last action.
- C It takes a photo.
- D It copies a photo.



(1 mark)

8 In a stop-motion film, you need to make sure the photos are in the correct sequence. What does the word **sequence** mean?

- A device
- B colour
- C order
- D background

(1 mark)



Self-assessment Checklist

Read the sentences. Do you agree? Think about what you have learned.

- I know what stop-motion animation is.
- I can use stop-motion animation software.
- I can use onion skinning to make an animation better.
- I can use a storyboard to plan an animation.
- I can make models, backgrounds and title cards.
- I can record and edit a stop-motion animation.
- I can give feedback on an animation.