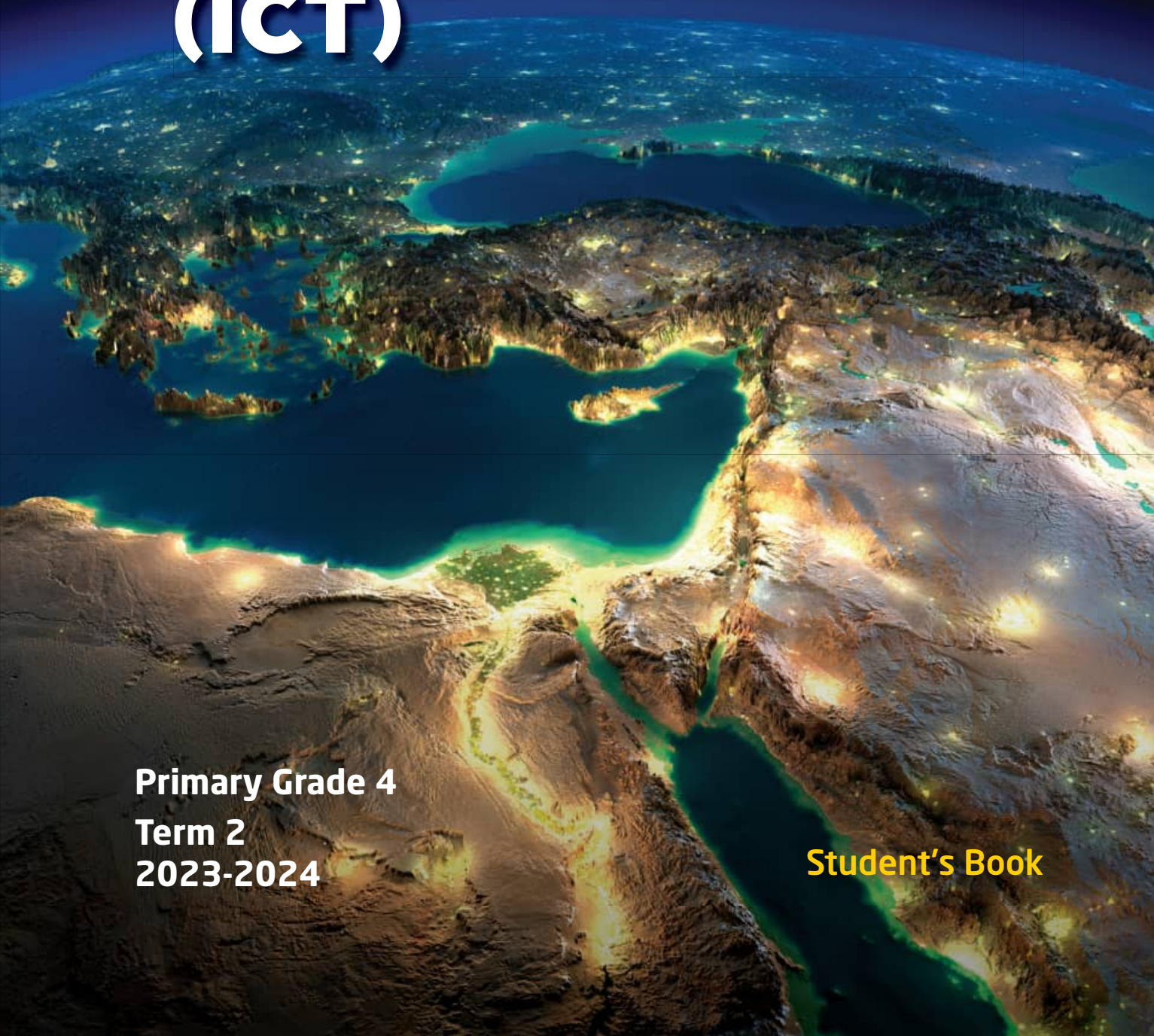
INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)



Primary Grade 4

Term 2

2023-2024

Student's Book

Introduction

تشهد وزارة التربية والتعليم والتعليم الفني مرحلة فارقة من تاريخ التعليم في مصر، فقد انطلقت إشارة البدء في التغيير الجذري لنظامنا التعليمي بدءًا من مرحلة رياض الأطفال حتى نهاية المرحلة الثانوية (التعليم 2.0). لتبدأ أول ملامح هذا التغيير من سبتمبر 2018 عبر تغيير مناهج مرحلة رياض الأطفال والصف الأول تلاها الصفين الثاني والثالث الابتدائي. وفي 2021 بدأنا في تغيير منهج الصف الرابع الابتدائي وسنستمر في التغيير تباعًا للصفوف الدراسية التالية حتى عام 2030، إذ نعمل على إحداث نقلة نوعية في طريقة إعداد طلاب مصر ليكونوا شبابًا ناجحين في مستقبل لا يمكننا التنبؤ بتفاصيله.

وتفخر وزارة التربية والتعليم والتعليم الفني بأن تقدم هذه السلسلة التعليمية الجديدة، فضلًا عن المواد التعليمية الرقمية التي تعكس رؤيتها عن رحلة التطوير. ولقد كان هذا العمل نتاجًا لكثير من الدراسات والمقارنات والتفكير العميق والتعاون مع الكثير من علماء التربية في كل من المؤسسات الوطنية والعالمية لكي نصوغ رؤيتنا في إطار قومي إبداعي ومواد تعليمية ورقية ورقمية فعالة.

وتتقدم وزارة التربية والتعليم والتعليم الفني بكل الشكر والتقدير لمركز تطوير المناهج والمواد التعليمية ومديرته وفريقها الرائع على وجه التحديد، كما تتقدم بالشكر لمستشاري الوزير وكذلك مديري عموم المواد الدراسية، وكذلك تخص بالشكر والعرفان مؤسسة ديسكفري التعليمية، ومؤسسة ناشيونال جيوجرافيك للتعليم، ومؤسسة نهضة مصر، ومؤسسة لونجمان مصر، ومنظمة اليونيسف، ومنظمة اليونسكو، والبنك الدولي لمساهمتهم في تطوير إطار المناهج الوطنية بمصر، وكذلك أساتذة كليات التربية المصرية لمشاركتهم الفاعلة في إعداد إطار المناهج الوطنية في مصر. وأخيرًا تتقدم الوزارة بالشكر لكل فرد في قطاعات وزارة التربية والتعليم الذين ساهموا في إثراء هذا العمل.

إن تغيير نظامنا التعليمي لم يكن ممكنًا دون الإيمان العميق لدى القيادة السياسية المصرية بضرورة التغيير، فالإصلاح الشامل للتعليم في مصر هو جزء أصيل من رؤية السيد الرئيس عبد الفتاح السيسي لإعادة بناء المواطن المصري. ولقد تم تفعيل تلك الرؤية بالتنسيق الكامل مع السادة وزراء التعليم العالي والبحث العلمي، والثقافة، والشباب والرياضة. إن نظام التعليم (2.0) هو جزء من مجهود وطني كبير ومتواصل للارتقاء بمصر إلى مصاف الدول المتقدمة لضمان مستقبل عظيم لجميع مواطنيها.

كلمة السيد وزير التربية والتعليم والتعليم الفني

أبنائي الطلاب .. زملائي المعلمين

بكل فخر واعتزاز يسعدني أن أشارككم تلك المرحلة الحاسمة في ملحمة التنمية الشاملة المستدامة، ويشارك فيها جميع أطياف الشعب المصري العظيم، وهذا يستدعي أن يكون لدينا منظومة تعليمية قوية تنتج جيلًا قادرًا على مواجهة التحديات الكبرى التي يشهدها العالم في الوقت الحاضر، وأن تكون له الريادة في امتلاك مهارات المستقبل؛ ولهذا فإن الدولة المصرية تحرص على ترسيخ العلم من خلال بناء منظومة تعليمية على قدر عال من الجودة، تمكن أبناءها من مهارات العصر وتجعلهم قادرين على خوض مسارات التنافسية الإقليمية والعالمية في وقت يشهد العالم فيه ثورات صناعية متعاقبة.

وهذا يحتم علينا أن يكرس نظامنا التعليمي التأكيد على المهارات والفهم العميق وإنتاج المعرفة، وذلك من خلال بناء منظومة مناهج حديثة تتواكب مع التغيرات الحادثة على كافة الأصعدة، وتؤكد على التربية من أجل تنمية المهارات والقيم وعلى تكامل المعارف، وتعدد مصادر التعلم، ودمج التكنولوجيا لإثراء العملية التعليمية وتحسين نواتجها، وأن تتضمن أهم القضايا المعاصرة على كافة المستويات.

وعلينا أن نتكاتف جميعًا لمواصلة رحلة التطوير الدائم في ركائز التعليم، وتوفير أساليب الحداثة في منظومتنا التعليمية، والاهتمام بعناصرها، ودعمها بكل ما يسهم في ريادتها، للوصول إلى نظام تعليمي متميز.

تمنياتي لأبنائي الطلاب ولزملائي المعلمين بدوام التوفيق.

أ.د. رضا حجازي

وزير التربية والتعليم والتعليم الفني

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THEME 3 DIGITAL CITIZENSHIP

Essential Question: How can ICT tools benefit our lives?

LESSON	TOPICS	SKILLS INTEGRATION		
		Life Skills	Values	Issues and challenges
LESSON 1 Explorer in Action	• The use of digital technology in daily life • Virtual communities • Digital citizenship	**Learning to know:** critical thinking; formulate questions	**Academic values:** appreciation of technology	**Globalization issues:** digital citizenship
LESSON 2 Digital citizenship	• Digital citizenship • The safe and ethical use of ICT tools	**Learning to be:** sharing **Learning to live together:** communication	**Co-existence values:** tolerance and acceptance of others	**Globalization issues:** digital citizenship **Citizenship issues:** awareness of rights and responsibilities
LESSON 3 Positive impacts of ICT	• The benefits of ICT • Education 2.0 and the Egyptian Knowledge Bank • Ways to support ICT in the learning process.	**Learning to be:** sharing **Learning to live together:** communication	**Work values:** proficiency; cooperation	**Globalization issues:** technological awareness **Discrimination issues:** Equal access for people of determination
LESSON 4 Internet communication	• Online communication • Difference between synchronous and asynchronous communication	**Learning to know:** critical thinking **Learning to live together:** communication	**Academic values:** appreciation of technology	**Globalization issues:** civilizational communication
LESSON 5 How to use e-communication	• E-communication etiquette • Video chats, email, and other forms of online communication • ICT proficiency	**Learning to be:** empathy **Learning to do:** cooperation	**Co-existence values:** respect	**Globalization issues:** civilizational communication
LESSON 6 Online learning environments and sources	• Virtual labs, interactive maps, and other online environments • The use of online sources in academic research	**Learning to do:** negotiating **Learning to know:** problem solving	**Work values:** perseverance	**Globalization issues:** digital citizenship
LESSON 7 Planning digital searches	• How to plan and conduct research online • How to present information using online sources • How to tell the difference between reliable and unreliable sources	**Learning to do:** productivity **Learning to know:** creativity	**Personal values:** independence **Academic values:** objectivity, curiosity, and honesty	**Citizenship values:** participation in scholarly research
LESSON 8 Synchronous and asynchronous communication	• Communication that involves ICT tools • How to use synchronous and asynchronous communication with teachers and classmates • How to report findings using digital tools	**Learning to do:** decision making **Learning to know:** critical thinking	**Work values:** transparency and integrity **Personal values:** independence	**Citizenship values:** participation in scholarly research

THEME 4 SOFTWARE PROJECTS

Essential Question: How can different software programs help us?

LESSON	TOPICS	SKILLS INTEGRATION		
		Life Skills	Values	Issues and challenges
LESSON 1 Explorer in Action	• Different kinds of software • HApplying ICT applications in (research, games,..) • How ICT tools are helping animals around the world	**Learning to do:** productivity; setting goals **Personal values:** accountability; setting expectations	**Work values:** cooperation **Personal values:** compassion	**Environment and development issues:** environmental responsibility; sustainable development
LESSON 2 Problem-solving skills	• The steps involved in problem-solving • How to analyze and solve problems	**Learning to know:** critical thinking; problem solving	**Work values:** cooperation	**Citizenship issues:** belonging **Environment and development issues:** social participation
LESSON 3 Presenting information to others	• Tools and techniques for presenting information • Design concepts	**Learning to do:** decision making **Learning to be:** sharing	**Academic values:** curiosity	**Environment and development issues:** environmental pollution; sustainable development
LESSON 4 Digital applications	• How to evaluate sources found via search engines • Problem-solving • How to use Word and Excel	**Learning to know:** critical thinking; creativity	**Personal values:** independence	**Globalization issues:** technological awareness
LESSON 5 Algorithms	• The concept of algorithms • How a search engine uses algorithms • How to solve a problem using an algorithm	**Learning to live together:** means of communication **Learning to know:** problem solving	**Academic values:** appreciation of mathematics	**Globalization issues:** digital citizenship
LESSON 6 The principles of coding	• The concept of coding • Coding and how it helps to solve problems	**Learning to know:** creativity	**Work values:** proficiency **Academic values:** appreciation of mathematics	**Globalization issues:** civilizational communication
LESSON 7 Graphic art	• How to use graphic editors • How to add and edit photos • How visuals can help a presentation	**Learning to live together:** reviewing goals	**Work values:** perseverance	**Globalization issues:** technological awareness
LESSON 8 Creating a PowerPoint presentation	• Important elements of a presentation • PowerPoint features	**Learning to live together:** means of communication **Learning to do:** creating a set of instructions	**Work values:** perseverance **Personal values:** independence	**Globalization issues:** technological awareness

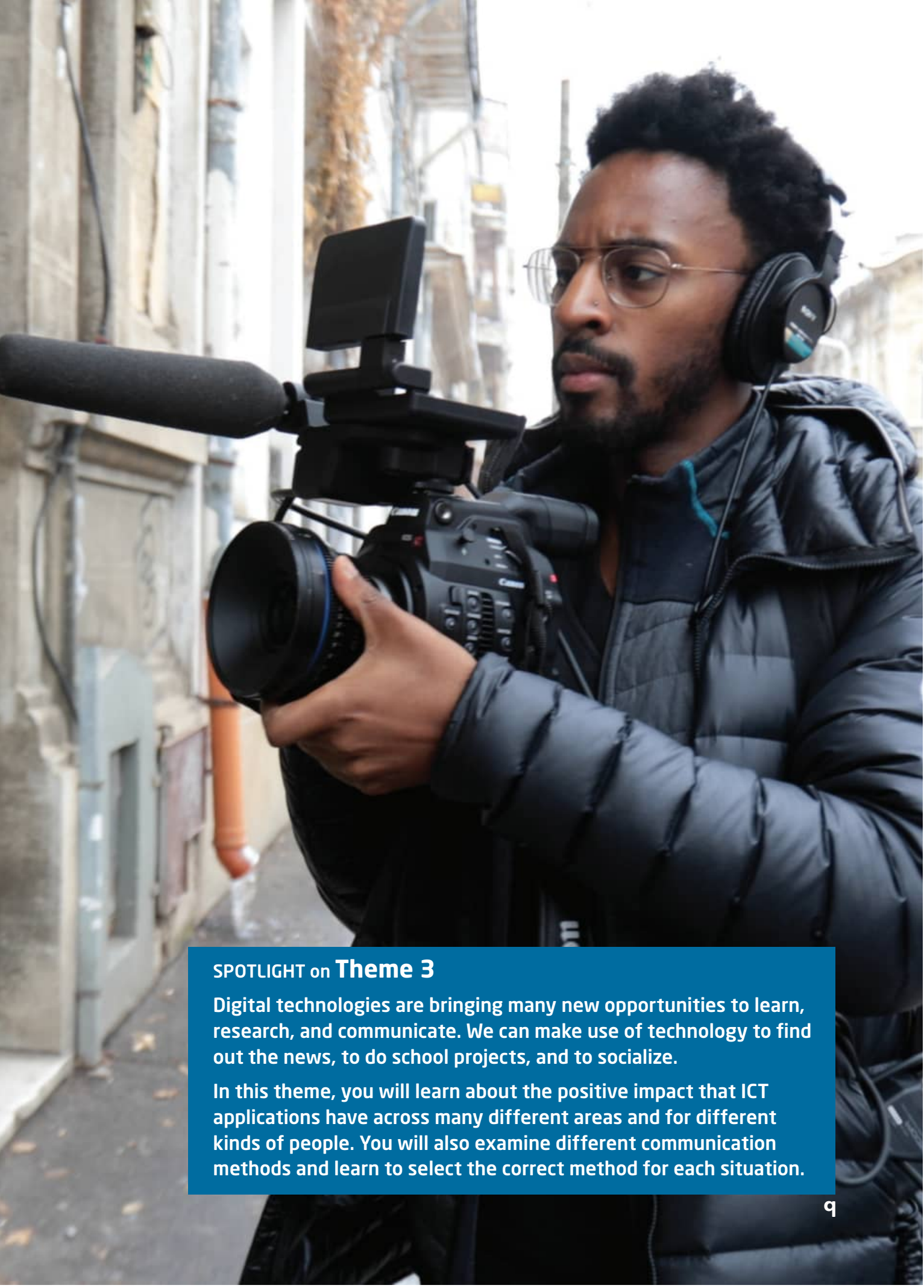
THEME 3

Digital citizenship

ESSENTIAL QUESTION:

How can ICT tools benefit our lives?

William Tyner on location



SPOTLIGHT on **Theme 3**

Digital technologies are bringing many new opportunities to learn, research, and communicate. We can make use of technology to find out the news, to do school projects, and to socialize.

In this theme, you will learn about the positive impact that ICT applications have across many different areas and for different kinds of people. You will also examine different communication methods and learn to select the correct method for each situation.

LESSON 1 EXPLORER IN ACTION

Objectives

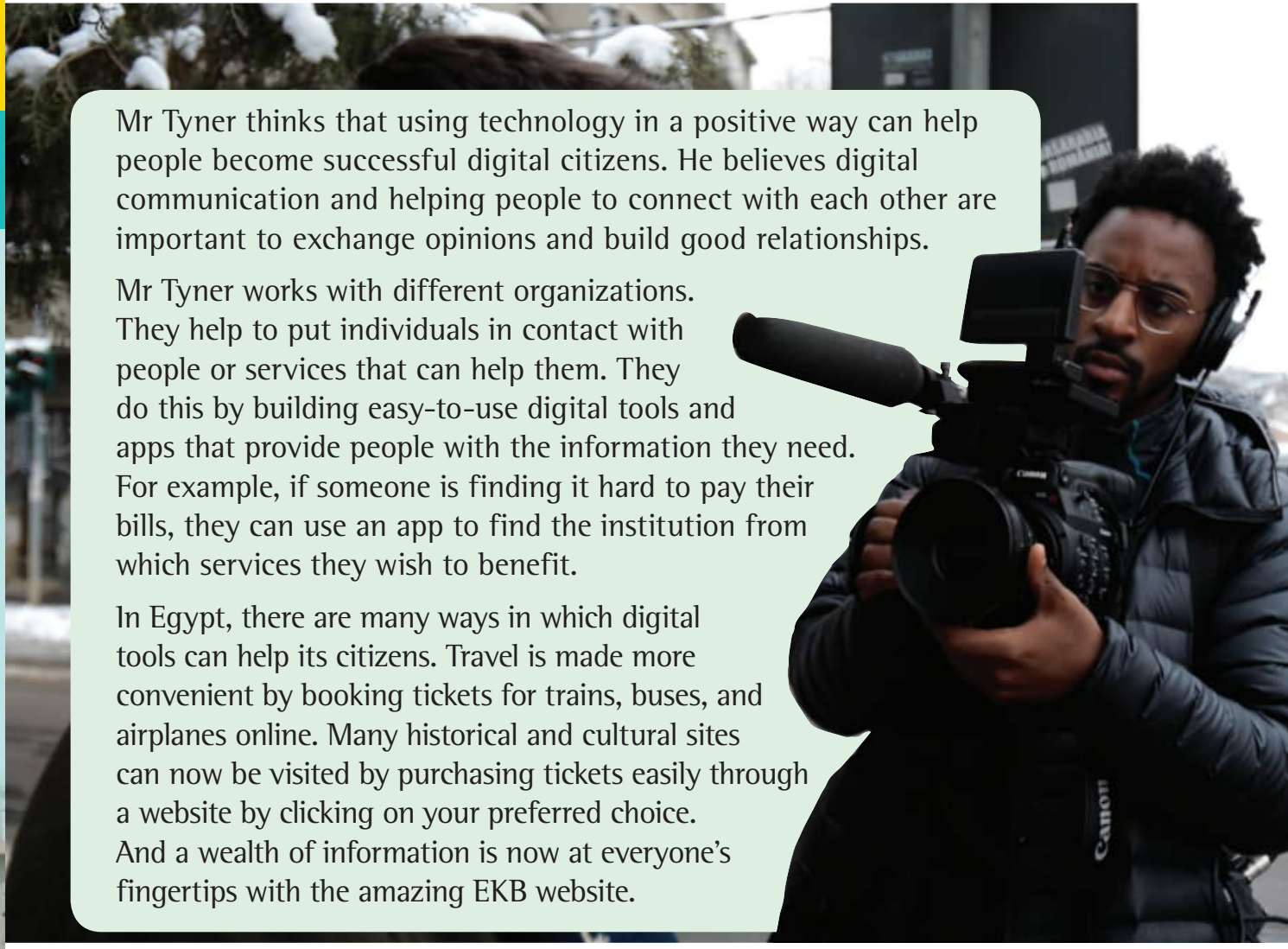
By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Explain how digital technology helps us by making different tasks easier.	☐ Very well	☐ OK	☐ Need more work
• Explain the features of digital citizenship.	☐ Very well	☐ OK	☐ Need more work
• Describe "digital technology" and give some examples.	☐ Very well	☐ OK	☐ Need more work

Engage

What different kinds of digital technology do you use every day? What do you use the digital tools for?

Learn

William Tyner is a cultural anthropologist, technologist, and filmmaker. He uses different types of digital technology in many aspects of his work. He works to find real solutions to problems that benefit local communities.



Mr Tyner thinks that using technology in a positive way can help people become successful digital citizens. He believes digital communication and helping people to connect with each other are important to exchange opinions and build good relationships.

Mr Tyner works with different organizations. They help to put individuals in contact with people or services that can help them. They do this by building easy-to-use digital tools and apps that provide people with the information they need. For example, if someone is finding it hard to pay their bills, they can use an app to find the institution from which services they wish to benefit.

In Egypt, there are many ways in which digital tools can help its citizens. Travel is made more convenient by booking tickets for trains, buses, and airplanes online. Many historical and cultural sites can now be visited by purchasing tickets easily through a website by clicking on your preferred choice. And a wealth of information is now at everyone's fingertips with the amazing EKB website.

Video

Watch the video about William Tyner's work. What ICT tools did they use?

Explore

You don't need to be part of a technology project to have experience of digital citizenship. All schools encourage students to learn about how to use technology responsibly, safely, and intelligently. How does William Tyner use ICT tools in a way that makes him a digital citizen? What interests you most about William Tyner's work, and why?

Review

1. Think of examples of using ICT tools in daily life.
2. How can ICT tools be used by organizations and governments to help local communities?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

LESSON 1 EXPLORER IN ACTION

Life Skills

1 Read and answer

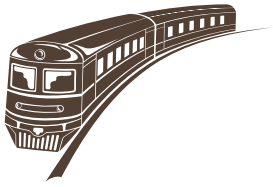
Apps and websites can help make things more accessible to all of us. What apps and websites do you or your parents use regularly?

Graphic Organizer

2 Read and complete

Read the names in the box, then label each image with the correct name.

Egyptian Knowledge Bank Ministry of Tourism and Antiquities
Ministry of Education Ministry of Health and Population
Egyptian National Railways

	_____ _____
	_____ _____
	_____ _____
	_____ _____
	_____ _____

Critical Thinking

3 Think and answer

Look at the following situations and decide which organization from Activity 2 would help you find out the information.

1. The library in your local area is closed, and you need to look for some reference books.

   _____

2. You want to know when your school exams are.

   _____

3. One of your neighbors needs help booking a train ticket.

   _____

4. Your family wants to book tickets to visit The Egyptian Museum in Cairo.

   _____

5. You want to register your data or the data of a member of your family so you can get the Covid 19 vaccine.

   _____

4 Think and answer

Imagine you are going to do an interview with someone from your community to find out more about an issue that affects people in the city or neighborhood in which you live. Plan your interview.

Choose a topic that you're interested in:

_____

Decide what information you want to find out:

_____

_____

Write three detailed questions:

_____

_____

_____

_____

Possible solution to the issue:

_____

_____

LESSON 2 Digital citizenship

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Explain what it means to be a digital citizen.	☐ Very well	☐ OK	☐ Need more work
• Explain key concepts of digital citizenship.	☐ Very well	☐ OK	☐ Need more work
• Discuss how to use ICT tools ethically, responsibly, and safely.	☐ Very well	☐ OK	☐ Need more work

Engage

What do you think it means to be a digital citizen?

Learn

Digital citizenship is the ability to use digital technology ethically, responsibly, and safely. This helps you to enjoy and take advantage of digital technology, and protects your **digital footprint**.

In Term 1, you learned some techniques that are part of digital citizenship. You learned how to:

- be **ethical and responsible** by treating others online with respect, and by crediting sources you find online.
- stay **safe** online by setting strong passwords and choosing websites you visit wisely, using updated software, and monitoring online screen time.

Digital footprint: Your digital footprint is a record of what you do online, including the sites you visit and the things you post; it can also include things that others post about you. This is why it's important to share information about yourself and others safely and responsibly.

As a digital citizen, you have certain rights and responsibilities.

Rights	Responsibilities
You have the right to not have your digital footprint copied or shared without your consent. If you upload videos, songs or stories you've created to the internet, you have the right to protection from piracy. (Piracy is the illegal circulation of content to be shared or sold to others.)	You must never commit piracy, with the aim of sharing or selling digital content to others.
You have the right to engage with others online. This includes communicating with family, teachers, and friends. It may also include posting positive ideas to help your community, and expressing your opinions in a way that doesn't offend others.	You should always show positive behavior in your communication online. A good rule is to share with your classmates and friends things you are comfortable saying face to face and positive things.
You have the right to provide and to access information and entertainment online while respecting intellectual property rights, and crediting the resources from which you took the information.	Be sure to evaluate what you're viewing or about to share. Ask: Is the source information safe to view and share? Is the source material a result of **piracy**?
You have the right to use the internet when you need or want to, while respecting the law.	Evaluate how you're using the internet. Is what you're looking at a productive use of time? Does it bring you joy, or does it cause you stress? Is the material safe? A good online/in-person balance is important for your well-being.

Explore

Imagine you've done one of the following:

- Thought of ways to connect people of determination in your community to volunteers who wish to help them in challenging everyday tasks
- Filmed a video explaining how to reduce community waste

How would you responsibly and effectively share this information online? Discuss with a partner.

Review

1. Explain the rights and responsibilities of digital citizenship.
2. Give examples of how you use ICT tools ethically, responsibly, and safely.

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

Comprehension

1 Look and write. Then answer the question

Complete the chart. Read the rights of digital citizenship. Provide an example of how you can use each right responsibly.

Rights	Example
1. You have the right to engage with others online.	_____ _____
2. You have the right to gather and post information and entertainment online.	_____ _____
3. You have the right to use the internet when you want to.	_____ _____

Create a new right that can be connected to digital citizenship. How can you use this right responsibly?

_____

_____

2 Think and write

Provide an example of how you can achieve each of the following:

1. being a good digital citizen

_____

_____

2. leaving a positive digital footprint

_____

_____

3. sharing with your colleagues and friends information published on the internet

_____

_____

4. avoiding piracy

_____

_____

Critical Thinking

3 Think and answer

Think about what you have learned about digital citizenship. Read the scenarios below. Explain how you would handle each one.

1. You read a blog that talks about the best food to eat for breakfast. However, you disagree with the blogger's opinion. You want to write a response to share your thoughts on what you think is a healthier and tastier breakfast option. How do you express your opinion in a positive way?

2. You've noticed lately that your friend is constantly online. He/She seems cranky and tired. Who do you talk to about this? What do you say?

ICT and me

4 Think and answer

Can you think of a time in your daily use of ICT tools when you or someone you know was a good digital citizen? Discuss this situation with your teacher and classmates.

LESSON 3 Positive impacts of ICT

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Explain how ICT tools can aid me socially, intellectually, and educationally.	☐ Very well	☐ OK	☐ Need more work
• Discuss the efforts made by the Egyptian government in providing safe and reliable digital resources.	☐ Very well	☐ OK	☐ Need more work
• Discuss how technology provides support for people of determination.	☐ Very well	☐ OK	☐ Need more work

Engage

How have ICT tools made your life easier?

Learn

As a digital citizen, you use ICT tools to learn, to share, and to communicate.

In 2018, the Egyptian government provided digital tools and resources that can help you enjoy your time through digital books, activities, and watching videos and TV channels presented by experts in educational materials.
Its goal is to implement a skill-based education, and ensure that all students can access learning materials equally.

Digital devices can help a non-verbal person communicate and to learn languages at school, using pictures. For students who can't leave their home due to health or other issues, digital devices can provide them with the connection they need to teachers, and the material they need to learn.

Digital devices can also be beneficial when unexpected events affect us, making us unable to leave our homes.

In addition to providing Egyptian citizens with access to learning materials in the digital library, the EKB holds webinars for teachers, students, and parents. The webinars provide guidance and tips on how to register on the website and use it.

Egyptian Knowledge Bank
بنك المعرفة المصري

Video-sharing platforms

You can use video-sharing platforms to learn or to teach new things. For example, if you want to learn how to create healthy meals, you can search for a video to show you how, step-by-step! If you have a skill you'd like to share online, you can use a video-sharing platform to post your own video, too. Remember to ask your teacher or a member of your family before you post anything online.

Socializing

You can socialize online as well. You can work with classmates outside of school on a project, virtually. You can video chat with your friends. You may even join an online group that shares your interests. Some common interests could include sports, movies, and games, like chess. Remember to ask an adult's permission before you join a group or communicate with someone online.

Common communication apps are the messaging app WhatsApp®, the social media platform Facebook®, and the virtual meeting app Skype®.

Explore

Think about a skill or talent you have that could help others. Explain what it is. How might you use a video-sharing platform to provide information about it? Share your ideas with the class.

Review

1. Explain the positive impacts of ICT tools on Egyptian students' lives.
2. How can ICT tools help people of determination? Why are these tools so important?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

Comprehension

1 Look and complete

Complete the chart. Provide examples of how ICT can help citizens in the following areas.

Communication with friends and family	_____ _____
Learning / Sharing information	_____ _____
Entertainment	_____ _____
Education	_____ _____
Support for people of determination	_____ _____

2 Read and write

Explain how platforms like the Egyptian Knowledge Bank help students in the following areas:

- their experience with ICT tools
- skills development

_____
_____
_____
_____
_____
_____
_____
_____

Critical Thinking

3 Think and answer

1. In what ways are these devices different?

desktop computer: _____

_____

_____

laptop computer: _____

_____

_____

cell phone: _____

_____

_____

2. Write examples of situations where you might choose to communicate using the following apps, and explain why.

WhatsApp® messenger: _____

_____

Facebook® community group: _____

_____

Skype® call: _____

_____

Research

4 Write a summary

Learn how to make "Umm Ali". Search online to find step-by-step instructions on how to make it. Write the steps below. Remember to choose reputable, safe platforms. Be sure to credit your source.

_____

_____

_____

_____

_____

LESSON 4 Internet communication

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Discuss how to use the internet to communicate with family and friends, and other citizens.	☐ Very well	☐ OK	☐ Need more work
• Explain the differences between synchronous and asynchronous communication.	☐ Very well	☐ OK	☐ Need more work
• Determine the ICT tools needed to communicate via the internet.	☐ Very well	☐ OK	☐ Need more work

Engage

How do you use the internet to communicate with family and friends? Do you always use the same tools to communicate?

Learn

You can use the internet to communicate synchronously and asynchronously.

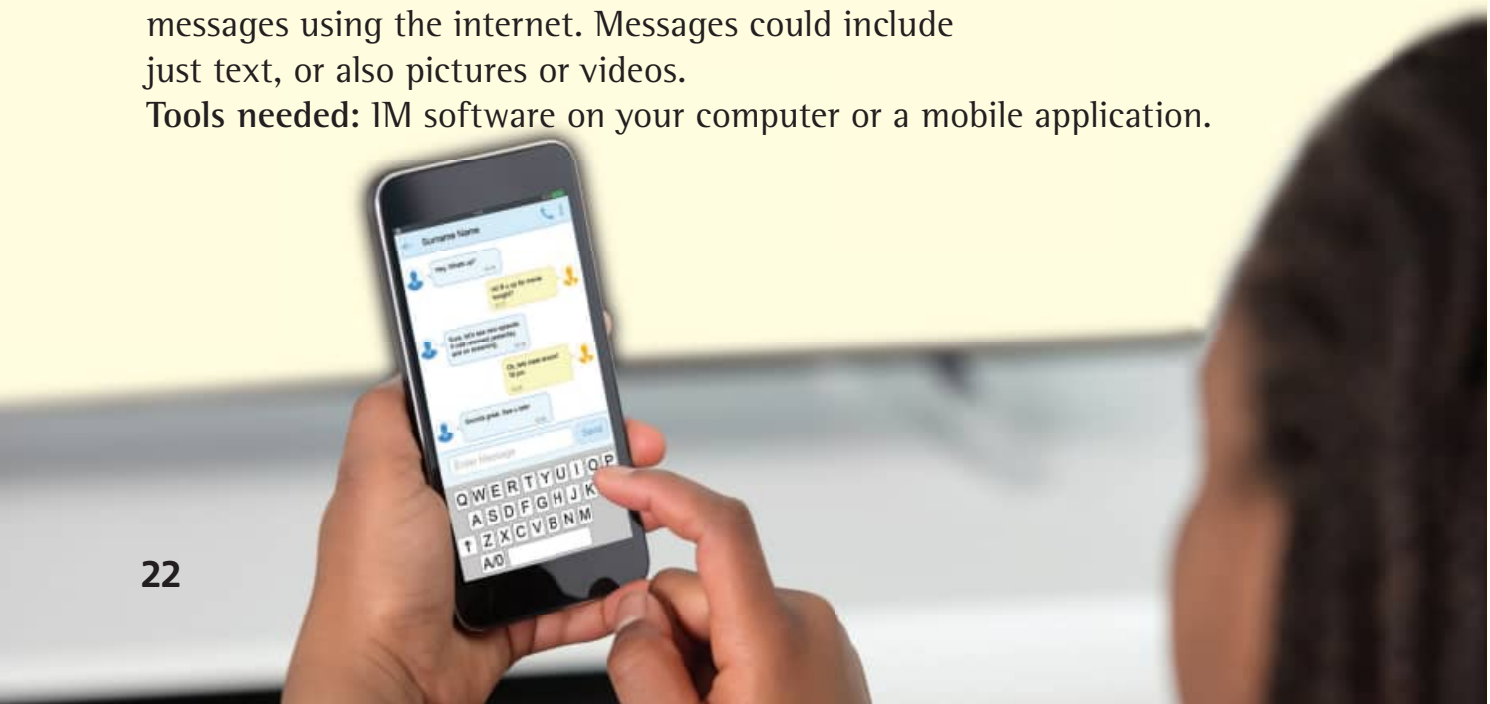
Synchronous communication: communication that occurs in real time, with instant responses – exchanging information or files between two people at the same time using various digital tools, for example: video chats, live television shows, instant chat rooms.

Asynchronous communication: communication that does not require an instant response – transferring information or files between two people or more not necessarily at the same time using various digital tools and resources, for example: sending a file via email, recorded educational programs.

Synchronous communication

Video chats: These allow you to communicate live with one or more people via your mobile device or computer.
Tools needed: Device with a camera and speakers, and an **application**, or video chat software.

Instant messaging (IM): This allows you to send messages using the internet. Messages could include just text, or also pictures or videos.
Tools needed: IM software on your computer or a mobile application.



Cell phone application

A cell phone application is an application that runs on your mobile device. It allows you direct access to different programs such as email, instant messaging, social network pages, and video chats. Some applications could be pre-installed on your mobile device. Others need to be downloaded.

Chat rooms: These allow you to communicate in a group. They usually focus on just one particular subject. For example, people may use a chat room to maintain a discussion on a particular study subject.
Tools needed: web browsers for internet access or a mobile application e.g. Internet Explorer® or Google Chrome®.

Asynchronous communication

Email: This allows you to send and receive messages. Emails are a little more formal than IMs. For example, you could email your teacher about a school project. You could also use email to reach out to a government agency or an official.
Tools needed: internet browser to access an email website, or an email application on your mobile device.

Explore

Think about a community issue that you are passionate about. Provide an example of how you would use synchronous communication to share your thoughts on this issue with others. Then provide an example of how you would use asynchronous communication to deliver your message as well. Share your ideas with the class.

Review

1. In your opinion, what are the advantages of both synchronous and asynchronous communication?
2. What ICT tools do you enjoy using, or would you like to try in order to communicate? What tools do you enjoy the most?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

Comprehension

1 Look and complete

Complete the chart. Put the different forms of internet communication in the correct column.

chat room email
instant messaging (IM) video chat

Synchronous communication	Asynchronous communication
_____	_____
_____	_____
_____	_____

2 Look and write

Look at the chart in Exercise 1. How can each form of communication help you to communicate your views, ideas, and feelings to others? Provide an example of when you might use each one to do so.

chat room

_____

_____

email

_____

_____

instant messaging (IM)

_____

_____

video chat

_____

_____

Critical Thinking

3 Think and answer

What is the digital equivalent to each of the following scenarios? Choose from the forms of internet communication you've learned in this lesson. Explain your choices. (Note: There may be more than one suitable form to choose from.)

getting immediate help: _____

_____

formally reporting a crime: _____

_____

helping a neighbor with a household chore or job:

_____

_____

finding a lost pet: _____

_____

comforting someone: _____

_____

ICT and Me

4 Think and answer

1. What is your favorite computer or mobile application? Why?

_____

_____

_____

_____

_____

_____

2. How have you used, or how would you use, each form of internet communication in this lesson?

_____

_____

_____

_____

_____

_____

_____

_____

_____

LESSON 5 How to use e-communication

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Discuss e-communication etiquette.	☐ Very well	☐ OK	☐ Need more work
• Explain how to use e-communication.	☐ Very well	☐ OK	☐ Need more work
• Use some digital tools to communicate with others.	☐ Very well	☐ OK	☐ Need more work

Engage

How do you show proper etiquette when communicating online?

Learn

How to use ICT tools to communicate

MAKING VIDEO CHATS

To start a call, you create a link to send to the participant(s). If you're joining a call, you click on a link and wait to be "let in" by the person who initiated it. Or you answer the call by clicking on the phone/video icon.

Make sure your microphone and camera are on. Sometimes, the person in charge of the call may mute people's microphones. You can also mute your microphone or turn off your camera at any time.

If your camera is on, anyone who is on the call will be able to see you. Be properly dressed and behave as if you were out in public. Take your turn when speaking. Make sure there is nothing in your background that indicates your address or any personal information that you do not want to share.

CHAT ROOMS

In a chat room, you can simply type and submit your comment. You can reply to messages too. Some participants may reply to your message. Remember, anyone who has access to the chat room will be able to read your messages. Be polite, helpful, and positive.

INSTANT MESSAGING

Click on the name of the person you'd like to chat with. Type your message and click the "Send" icon. Instant messaging is a fun, casual way to communicate. You may use phrases instead of full sentences, emoticons, or even images to communicate, but it's still important to show manners.

EMAIL

It's common to use emails in more formal situations – such as creating an EKB account and writing to your teacher. To send an email to someone, type their email address in the "To:" field. Provide clear subject information in the subject line.

When writing an email, be sure to use proper grammar. Be polite and clear. Use greetings and endings. If you're sending attachments, be sure the information you're sending is safe and accurate.

Explore

Review your response to the Explore question in Lesson 4. Write an email to your teacher to discuss the community issue you're passionate about. Explain to your teacher why the issue means a lot to you.

Review

1. Explain important factors to consider when using each type of ICT tool above.
2. Why do you think proper etiquette is an important part of communicating successfully online?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

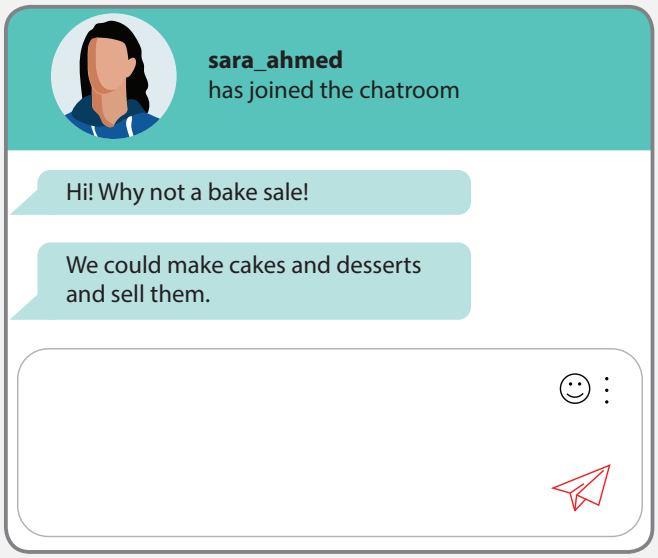
LESSON 5 How to use e-communication

Comprehension

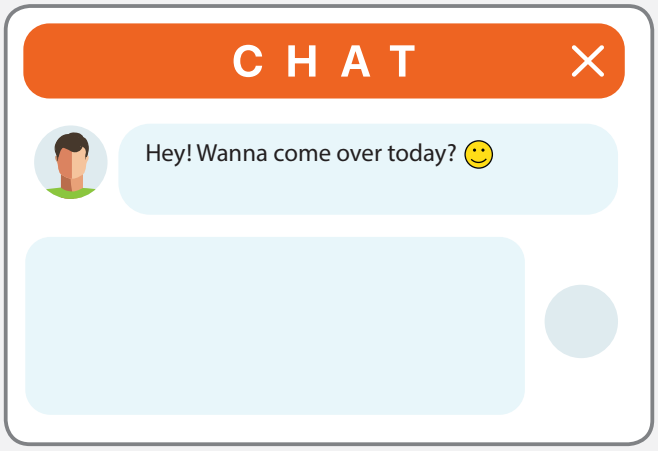
1 Look and write

Read and write responses. Be sure to consider the form of communication being used and to use proper etiquette.

1. You are part of a class chatroom. Your teacher has asked you and your classmates to come up with ideas for a medical fundraiser. Sara shares a suggestion: have a bake sale, with delicious cookies and cakes. You'd prefer a fundraiser that doesn't include unhealthy foods. Post your comment. Be sure to include your username.



2. One of your friends sends you an IM inviting you to come over. You're too tired, and you have a lot of homework to do. Send your friend a response.



Role Play

2 Participate in a video chat

Work with two classmates. Pretend you're on your mobile device or computer, and that you're having a video chat with them. Remember to take turns speaking.

Discuss one of the following topics:

- Your favorite sports team
- Your favorite tv program
- Your favorite foods
- A community or school issue that means a lot to you

3 Think and discuss

After your role play, explain what you feel your strengths were during the chat. Then explain what you felt you could have done better. How could you improve next time?

4 Write an email

Use your notes to write an email to your teacher about your experience.

ICT and Me

5 Think and answer

Which of the following topics would you feel comfortable posting about online? Are there any you would not feel comfortable posting about? Explain why. (Add your own choices.)

- Your concerns about the community
- Your concerns about the school
- Your achievements
- Your family/friends
- Sports
- Entertainment
- Food

LESSON 6 Online learning environments and sources

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Explain the purpose of online learning environments.	☐ Very well	☐ OK	☐ Need more work
• Discuss online learning sources.	☐ Very well	☐ OK	☐ Need more work
• Explore questions with links to other school subjects.	☐ Very well	☐ OK	☐ Need more work

Engage

How have online learning tools helped you to learn about a particular subject?

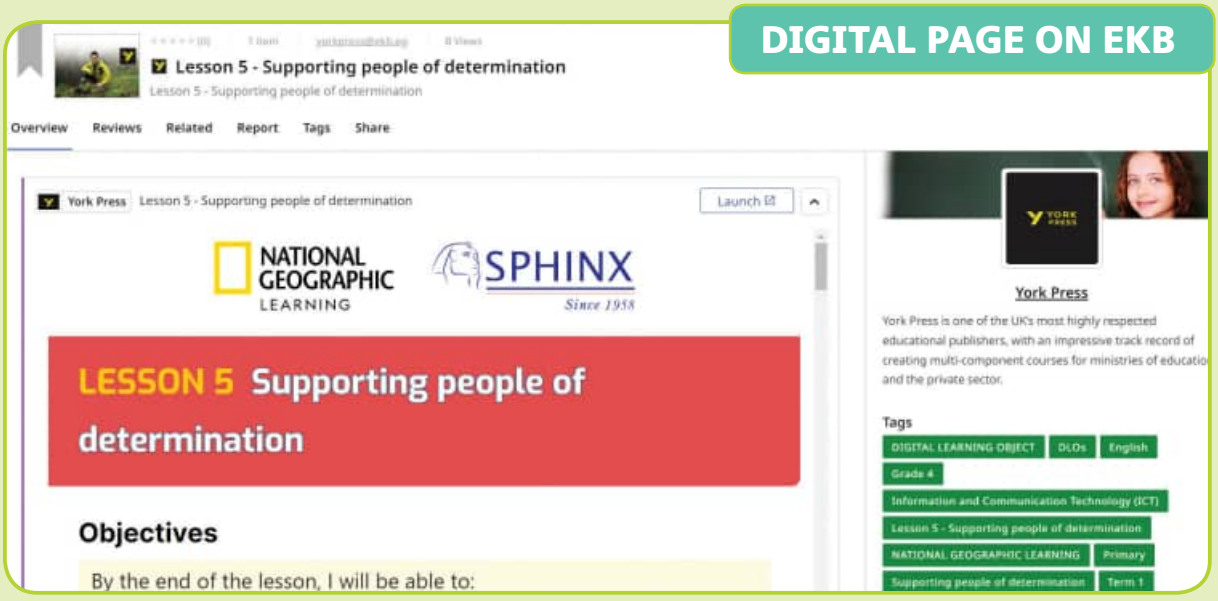
Learn

Online learning environments

Online learning environments, like **Edmodo®**, allow teachers and students to communicate, no matter where they are. Teachers can provide virtual lessons and upload quizzes and homework assignments for students to access. Students can also send messages to their teachers, and post their completed assignments.

Online learning sources

There are multiple online learning sources that can help you to learn about different subjects. Here are just a few examples:



EGYPTIAN KNOWLEDGE BANK

This is Egypt's premiere online library of resources for a variety of subjects. It allows you to research and examine different topics, digital articles, and videos just by clicking on them.

VLABY

A virtual labs platform that enables students and teachers to do lab experiments in an interactive environment. It's not only informative, but fun too!

NATIONAL GEOGRAPHIC KIDS

A popular online source for kids to find information on a variety of subjects, from animals and science, to history and even geography.

MAPMAKER INTERACTIVE

A special interactive feature delivered by National Geographic, Mapmaker Interactive provides online world mapping tools for students and teachers. Map themes, data, and tools are used.

Reliable online digital tools are invaluable sources of information. The Mapmaker Interactive is one of the safest sites for research and data collection.

Explore

Come up with questions about a subject that you would like to research. Some possible subjects/topics to consider:

- Social Studies: Ancient Egypt
- Career Skills: Digital skills needed for different professions
- Science: An important scientific discovery

Write your questions in your notebook. Then, with a partner, discuss online learning sources that may help you in your research.

Review

1. Discuss the purpose of online learning environments.
2. Have you used any of the online learning sources discussed in this lesson? Explain which one(s), and how you used them. Which online learning source interests you the most? Why?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

LESSON 6 Online learning environments and sources

Comprehension

1 Think and answer

If you've been a student in an online learning environment, what did you like about it?

_____

_____

_____

_____

2 Look and write

Complete the chart. Look at the online learning sources. Choose which source you would use to do the following:

work on a science experiment study the landscape of Egypt
read about the Egyptian pyramids
learn how to make a delicious koshari meal
study climate issues for different countries complete a lab activity

Egyptian Knowledge Bank	_____ _____
Vlaby	_____ _____
National Geographic Kids	_____ _____
Mapmaker Interactive	_____ _____

Compare your answers with your classmates. If you have different responses, explain why you think your response is best.

Cross-Curricular Connections

3 Think and write

In Lessons 7 and 8, you will conduct a multimedia content search and present your findings using online tools. Look at the questions you chose in the Explore section on page 31, and think about the online sources you discussed with a partner. Write your notes to prepare.

Subject chosen: _____

Why I chose this subject:

_____

_____

_____

Questions I have:

_____

_____

_____

Online learning sources that I will use:

_____

_____

_____

Why I chose the above online sources:

_____

_____

_____

ICT and Me

4 Think and answer

In Term 1, Unit 1, you learned how to collect information and to present your findings using ICT tools. In Term 1, Unit 2, you learned how to conduct a digital search. How did this help you during your multimedia content search?

_____

_____

_____

_____

_____

_____

_____

LESSON 7 Planning digital searches

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Discuss reliable and unreliable online sources.	☐ Very well	☐ OK	☐ Need more work
• Explain how to plan and conduct a digital search.	☐ Very well	☐ OK	☐ Need more work
• Discuss how to gather and present information using online sources.	☐ Very well	☐ OK	☐ Need more work

Engage

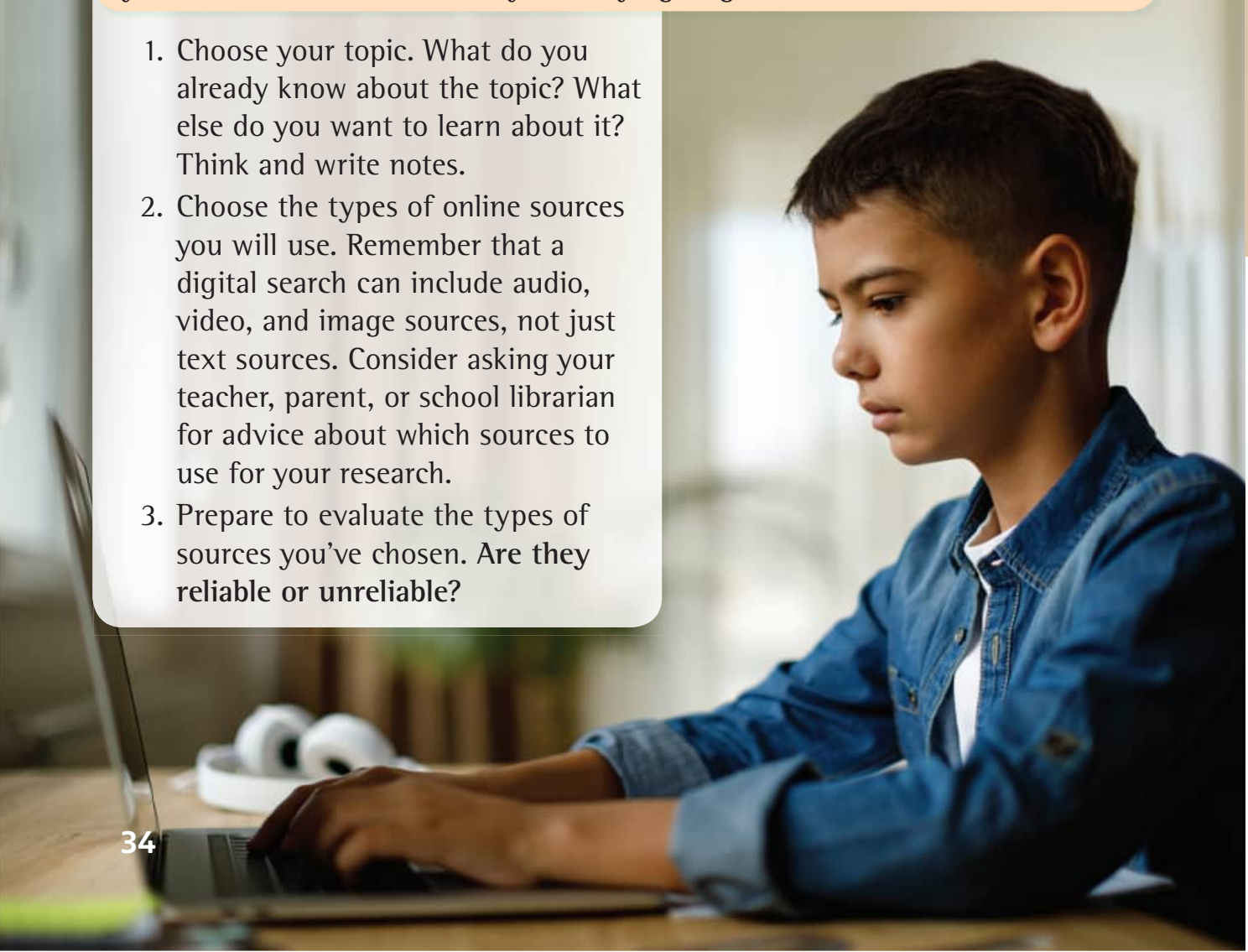
Think about what you already know about choosing online sources. Which types of sources would you aim to use in a digital search? Which types would you avoid? Explain why.

Learn

Conducting a digital search for reliable content

It's important to plan before conducting a digital search. Planning will help you focus on the information you're trying to gather.

1. Choose your topic. What do you already know about the topic? What else do you want to learn about it? Think and write notes.
2. Choose the types of online sources you will use. Remember that a digital search can include audio, video, and image sources, not just text sources. Consider asking your teacher, parent, or school librarian for advice about which sources to use for your research.
3. Prepare to evaluate the types of sources you've chosen. Are they reliable or unreliable?



While conducting your digital content search, be sure to stay focused on the topic you're researching. Once you find information that seems to answer your questions, evaluate it. Is it reliable?

Once you've determined that the information is reliable, take thorough notes. Be sure to write down what you're going to use from the source material. Don't forget to cite the source information in your notes. You will need to credit the source in your report.

Unreliable sources:
You may find factual information on social media sites, such as Facebook®, Wiki pages, and blogs. However, you are also likely to find information full of opinions, errors, and even lies. You must be wary of information you find on these types of sources.

Reliable sources:
Reliable sources are articles or information written and verified by experts. The information is presented in a professional fashion. The source information is well-written, without grammar or spelling mistakes.

Organizing and writing your report

After you've completed your online search, gather your notes and reliable source information.

Use your notes to write an **outline**. This will help you present the information in your report in a logical way.

Writing an outline

An outline should include:

- An introduction that introduces the topic of the report
- Supporting paragraphs that present the information
- A conclusion or final thoughts on the information that you have presented

Explore

Conduct a digital search to get answers to your questions from the Explore section in Lesson 6. Take notes while you conduct your search.

Review

1. Provide an example of a reliable digital source. Explain why it's reliable. Provide an example of an unreliable digital source. Explain why it's unreliable.
2. Discuss how you planned and performed your digital search.

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

Research

1 Look and write

Review your notes on page 35. Write your sources below. Include all necessary information.

Sources:

_____

_____

_____

_____

_____

Example: I found this information on the Egyptian Knowledge Bank. It's in a book called *The Great Pyramid and the Sphinx* by Asham B Bishay, published by Butterfly Readers.

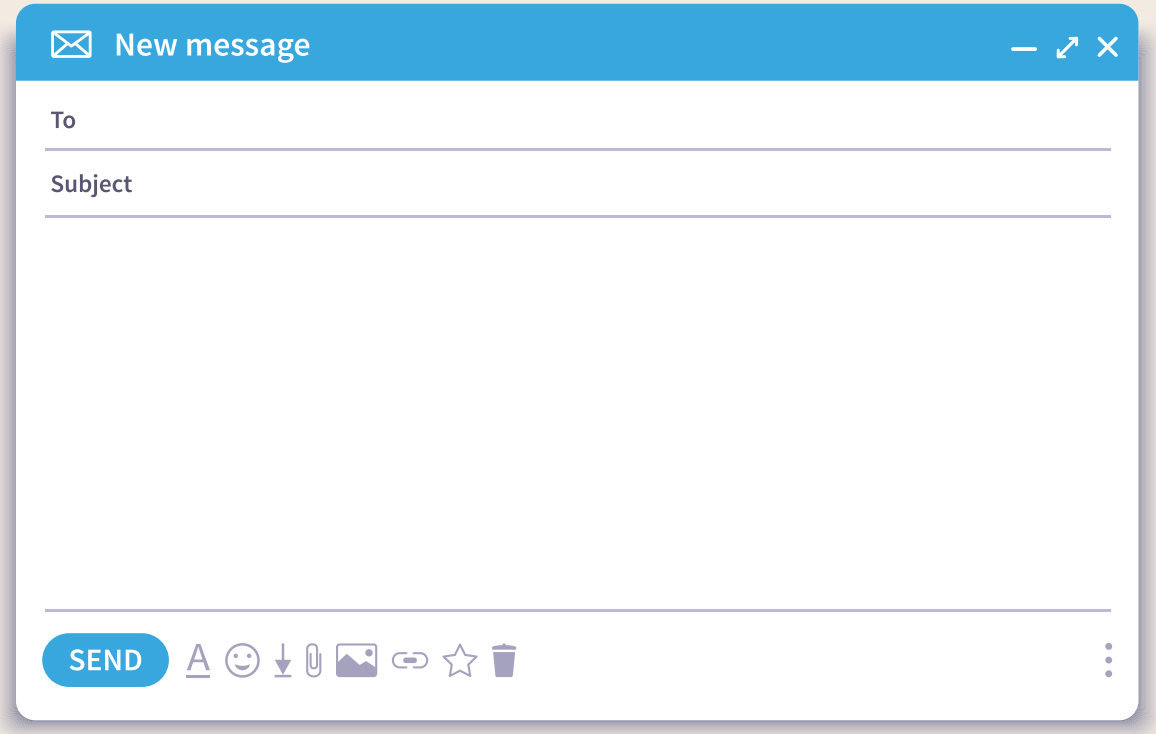
2 Complete an outline

Use your notes from your search to create an outline that will help you write your report.

Introduction:	_____
Section 1:	_____ _____ _____
Section 2:	_____ _____ _____
Section 3:	_____ _____ _____
Conclusion:	_____

3 Write your report

Use your outline to write your report. Review the steps on page 34. Remember to cite your sources.



ICT and Me

4 Think and answer

1. During your digital search, how could you be sure the sources you used were reliable? Did you come across any sources that you decided were unreliable? Name them.

_____

_____

_____

2. How do you feel your outline helped to prepare you for writing your report?

_____

_____

_____

3. How could you publish or share your report online?

_____

_____

_____

LESSON 8 Synchronous and asynchronous communication

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Discuss how to use synchronous and asynchronous communication with teachers and classmates.	☐ Very well	☐ OK	☐ Need more work
• Communicate using digital tools.	☐ Very well	☐ OK	☐ Need more work
• Discuss how to report findings using digital tools.	☐ Very well	☐ OK	☐ Need more work

Engage

Think about your findings from the digital search you conducted in Lesson 7. How might you communicate this information to your teacher using the appropriate digital tools?

Learn

The internet allows us to communicate instantaneously. This is wonderful: we can send a quick "Happy Birthday", have friendly conversations, quickly check doubts with people who are not present. But instant communication is not always a good thing. Sometime we need to give ourselves, or the people with whom we are communicating time to consider information we send, our question or their answer. So it is important to know when each type of communication is appropriate.

SYNCHRONOUS

Synchronous communication is appropriate:

- between friends or close family
- when the information is urgent or needs to be transmitted quickly
- when the information is about day-to-day matters
- when an answer does not require very much thought or preparation.

ASYNCHRONOUS

Asynchronous communication is appropriate:

- between people who do not know each other well
- when the information is important but not urgent
- when the information is about sensitive or complex matters
- when an answer requires thought and preparation

Remember, online learning environments include synchronous and asynchronous methods of communication.
Choose the correct tool depending on the situation.

Explore

Refer to the report you wrote in Lesson 7, on page 37.
How do you communicate your findings to your teacher? Do you use a synchronous or an asynchronous digital tool?

Review

1. Discuss examples of when you might prefer to use synchronous or asynchronous methods to communicate with your teachers and classmates.
2. Discuss the digital tools you used to communicate your digital search findings to your teacher. Did you use a synchronous or an asynchronous form of communication? Explain your choice.

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

Life Skills

1 Think and answer

You just communicated your findings to your teacher using digital tools. This time, choose a friend, classmate, or family member to communicate your findings to. Answer the questions below to prepare.

1. Who did you choose?

_____

2. What communication tool will you use to communicate your findings? Explain why.

_____

_____

_____

3. Is the communication tool you chose synchronous or asynchronous? Explain how you know.

_____

_____

_____

4. Do you use the same wording as when you communicated your findings to you teacher? Explain.

_____

_____

_____

_____

5. Do you have any questions about how to choose the right method of communication, based on your chosen audience? Write them here. Ask a teacher or family member for help.

_____

_____

_____

_____

_____

2 Take notes

Look at these situations and decide if you would use a synchronous or an asynchronous tool for each. Write notes about your choices.

- Give urgent news that require immediate action.
- Explain why you have not been able to visit your friend, so that he/she can understand why you couldn't visit.
- Ask a friend if they are free tomorrow afternoon.
- Ask someone you know to send you a photo.
- Ask your mother what things she wants you to buy from the store.
- Send a wish for an occasion, such as a birthday.
- Ask someone who is going to visit if they can eat a certain type of food.
- Ask a question whose answer involves complex information.
- Send a message to someone who may be busy studying, at school, or working.
- Responding to an email or a written letter from a teacher.
- Send a message to a teacher who you do not know very well.

3 Communicate your findings

Discuss your findings with the person you chose.

ICT and Me

4 Think and answer

You have communicated your findings from a digital search.

1. Compare how you communicated your findings to your teacher and to the person you chose. Clarify this.

_____

_____

_____

_____

2. What might you do differently next time to communicate your findings? Explain.

_____

_____

_____

REVIEW Theme 3

Vocabulary

1 Write and compare

Write a sentence for each set of words to explain the connection between them. Then compare your sentences with a partner.

1. synchronous communication and asynchronous communication

_____

2. unreliable source and bias

_____

3. digital citizenship and digital footprint

_____

Review Questions

2 Read and answer

1. List two ideas to protect your digital footprint.

_____

2. How can tablets aid students in their learning?

_____

3. List three examples of synchronous communication.

_____

4. List three examples of asynchronous communication.

_____

5. Why are emails considered more formal than instant messaging?

_____

6. Explain what an online learning environment is.

_____

7. Give one example of a reliable source and one example of an unreliable source.

_____

8. Explain how online learning environments use synchronous and asynchronous communication.

_____

_____

_____

Critical Thinking

3 Think and answer

1. In what ways can you use e-communication to help your community?

   _____

   _____

2. Do you feel more comfortable communicating using synchronous communication or asynchronous communication? Explain why.

   _____

   _____

3. You have just completed research on a topic that means a lot to you. You want to share your results with your friends. What method of e-communication would you use to share this information? Explain your choice.

   _____

   _____

Essential Question

4 Think and complete

Think about the information that you have learned in this theme. How does it help you to understand how to use the internet to communicate effectively? Complete the sentence with your own ideas.

After studying this theme, I know that I can use the internet to communicate effectively because _____

_____

Activity

5 Research, create, and show

Create your own exhibition about an online learning source that you find interesting.

Search for photographs, screenshots, or draw pictures of it. Then make labels and write captions for your photographs, screenshots, or illustrations. Include information about:

- what kinds of information / activities it has
- how it works / how it provides information
- how it helps people of determination to learn special features it has

Invite your classmates to visit your exhibition.

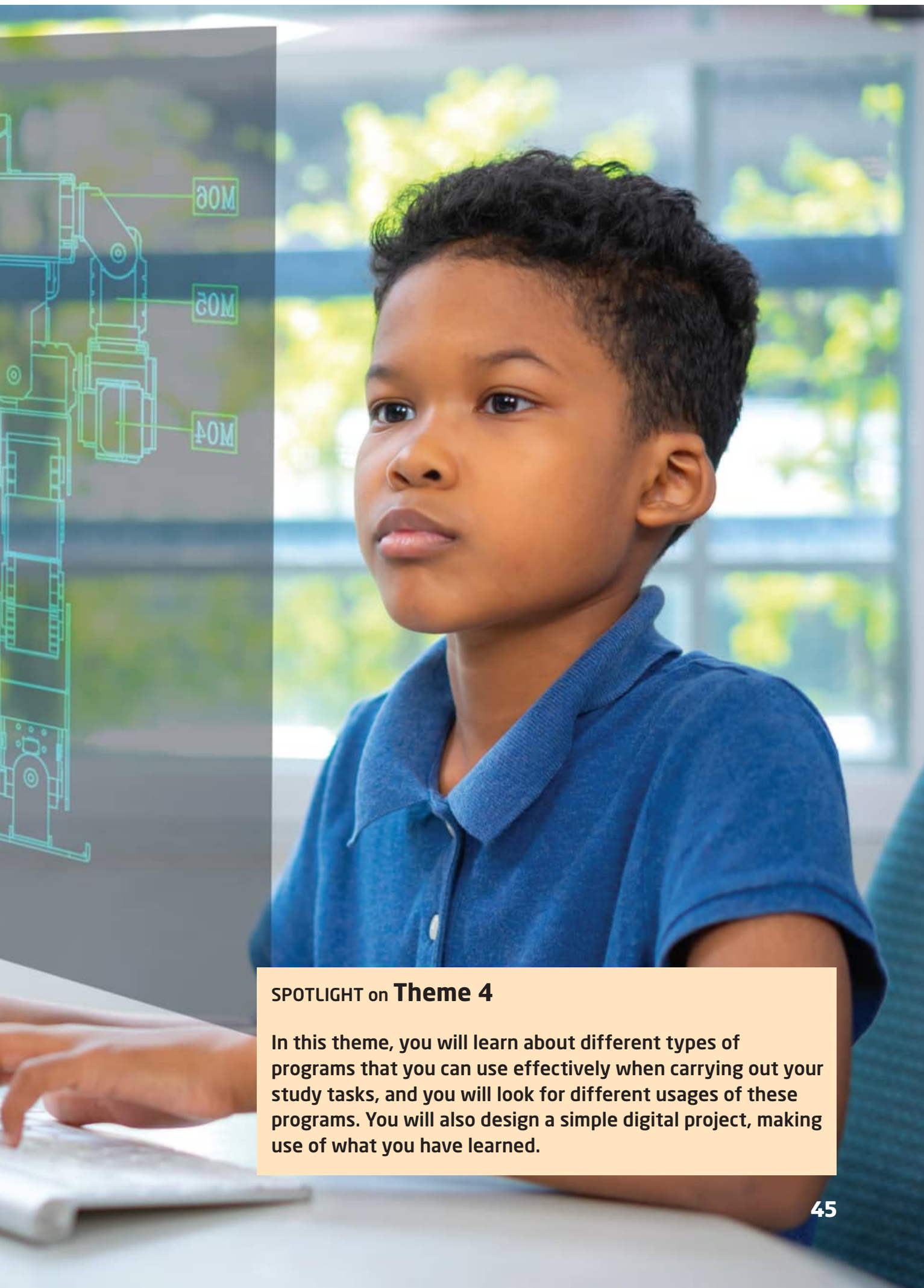
THEME 4

Software projects

ESSENTIAL QUESTION:

How can different software programs help us?

Boy using a computer program robot kit



SPOTLIGHT on **Theme 4**

In this theme, you will learn about different types of programs that you can use effectively when carrying out your study tasks, and you will look for different usages of these programs. You will also design a simple digital project, making use of what you have learned.

LESSON 1 EXPLORER IN ACTION

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Describe different kinds of software and how they are used.	☐ Very well	☐ OK	☐ Need more work
• Discuss the role of different digital applications.	☐ Very well	☐ OK	☐ Need more work
• Identify ways in which ICT tools are helping wildlife.	☐ Very well	☐ OK	☐ Need more work

Engage

What do scientists want to find out when they look for animals in the wild?

Learn

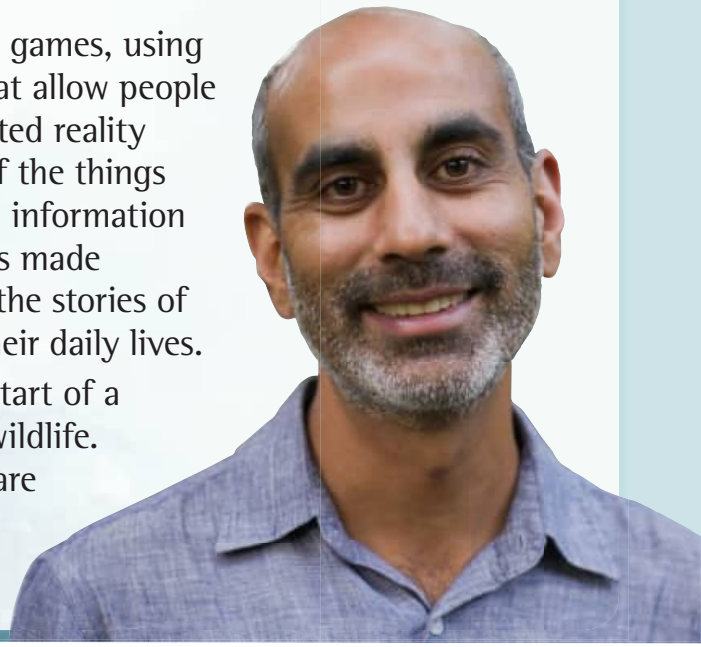
Gautam Shah is the founder of *Internet of Elephants*. The organization uses ground-breaking digital tools to connect people with wildlife around the world.

After living and working as an IT specialist in many countries including the United States, India, Argentina, and Kenya, Mr Shah realized he wanted to use his skills to make a positive impact on wildlife.

In 2014, Mr Shah quit his job in IT and began to look into ways that technology could be used for wildlife conservation. Wildlife conservation is protecting animals in their natural habitats.

Mr Shah believes in using technology and online games to bring wildlife into people's daily lives. For that reason, he set up *Internet of Elephants*. The team at *Internet of Elephants* works with animal conservation organizations from all over the world and uses the data they collect by GPS to help create interactive online games.

Internet of Elephants, creates unique mobile games, using augmented reality, and data visualization that allow people to interact with amazing creatures. Augmented reality lets you virtually see the real environment of the things you would like to see, and presents you with information about them through screens and digital tools made specifically for this purpose. The games tell the stories of individual animals, and players can follow their daily lives.



Mr Shah hopes *Internet of Elephants* is the start of a new approach to engaging the public with wildlife. The mobile games mean that wherever you are in the world, you can interact with amazing animals in countries close to your country or far away!

Video

Watch the video about Gautam Shah's projects. What technology does the team use?

Explore

Being good at using ICT tools and knowing how to use technology creatively and productively can lead to many interesting careers. Research different careers by discussing with your teachers, family, and other students.
Think about careers that benefit the community and society. What kind of jobs interest you the most? Explain why.

Review

1. What animals would you like to see in their natural habitats? What would you like to know about them?
2. What kind of technology could you use to help discover the information you need?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

LESSON I EXPLORER IN ACTION

Life skills

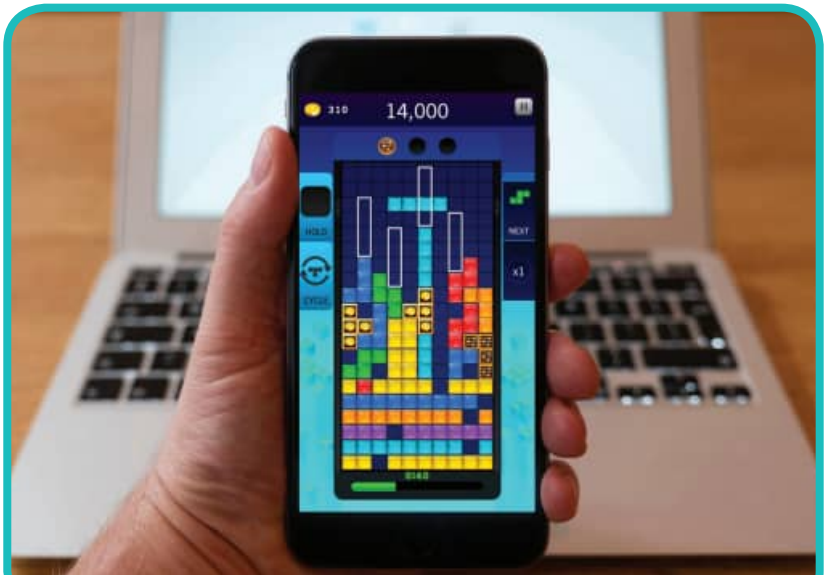
1 Read and answer

What apps do you use regularly?

Graphic Organizer

2 Read and match the terms to the photos.

Mobile gaming	Data display software	Augmented reality



Critical Thinking

3 Think and answer

Read the scenarios below. Which digital tools from Exercise 2 would be used for each scenario?

1 You're on a long, boring journey and don't want to read a book.

_____

2 In class, you are learning about the solar system and your teacher wants you to have a full, immersive experience.

_____

3 You're trying to explain some complicated statistics from a text but think your friend would understand it better in a chart.

_____

4 Discuss these questions in pairs

1 Mr Shah uses his skills in IT and his interest in nature conservation to create apps that are fun and educational. What other interests could be combined with IT skills to create educational apps?

2 What inventions do you think will come next?

5 Think and answer

Imagine you are going to create an app that uses GPS, augmented reality, and mobile gaming. Complete this description about your app and how it will work.

My app will be called ...

The app is designed to ...

Three words to describe my app are ...

The app can be used ...

LESSON 2 Problem-solving skills

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Explain the steps involved in problem-solving.	☐ Very well	☐ OK	☐ Need more work
• Discuss how to break down big problems into smaller sections.	☐ Very well	☐ OK	☐ Need more work
• Analyze and solve a problem.	☐ Very well	☐ OK	☐ Need more work

Engage

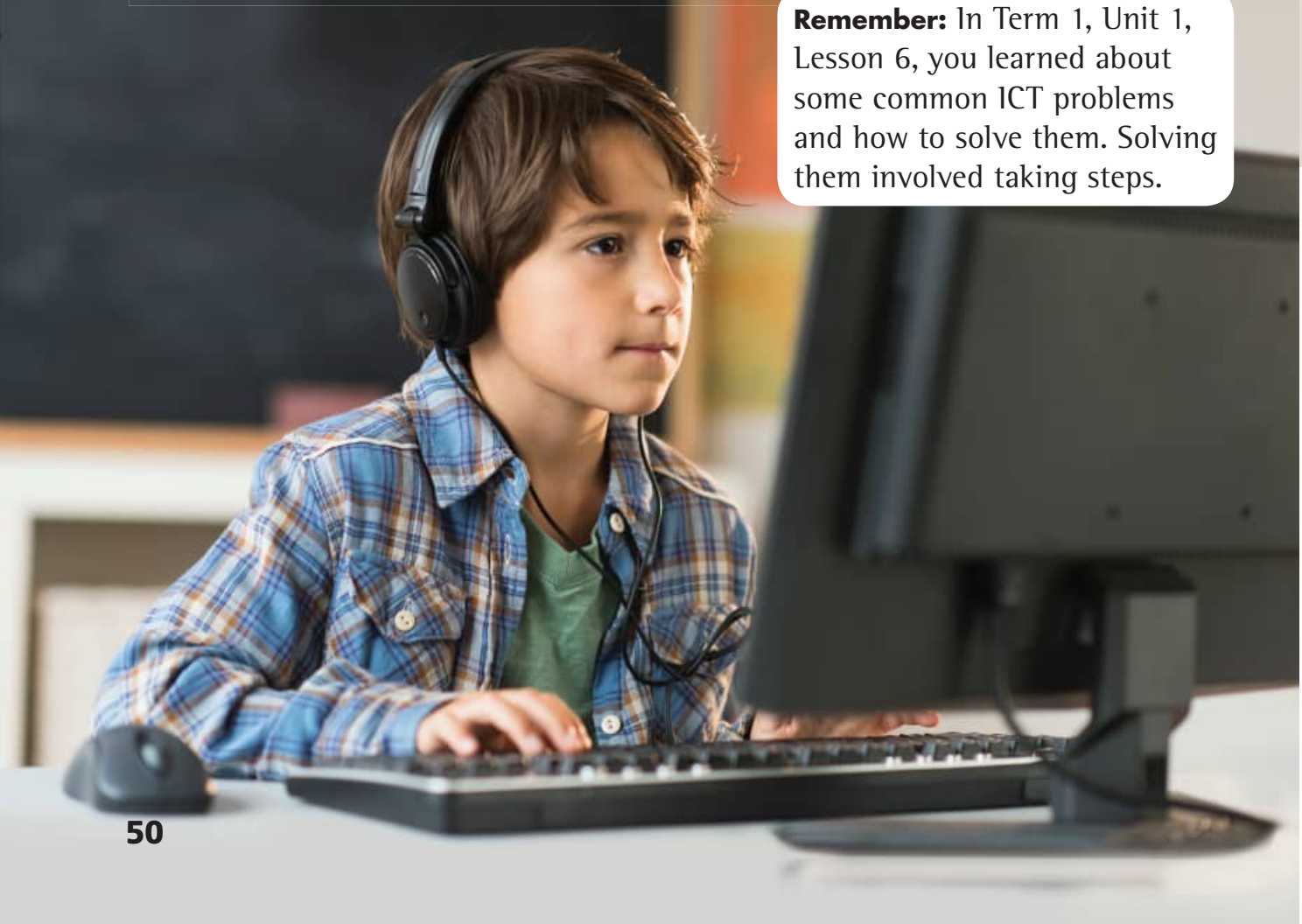
Think about a problem you had with your phone or other digital device. What was it? Were you able to solve the problem? If so, how? If not, what did you learn that could help you the next time you have a similar problem?

Learn

Taking steps to solve a problem

Just like you do in everyday life, when using ICT tools, you may face problems that you'll need to think through and solve. Take steps to make problem-solving easier. Here are common steps that you can take:

Remember: In Term 1, Unit 1, Lesson 6, you learned about some common ICT problems and how to solve them. Solving them involved taking steps.



1. Construct a Hypothesis. A hypothesis is an educated guess about how things work. It is an attempt to answer your question with an explanation that can be tested.
2. Test your Hypothesis. Do not conduct any test which is not safe!
3. Was your test successful? If not, don't worry, we learn from our mistakes. What did you learn? How can this help you make your next hypothesis?

Breaking down problems into smaller sections

Some ICT problems may be more complicated than others. Work on solving such problems in small sections, step-by-step. Read the real-world problem below.

Your teacher asks you to help organize the class trip.

At first, the task you're being assigned may seem quite difficult. But if you break it down into multiple smaller tasks, it becomes more manageable.

Note: If you have a group of people solving a problem, assign each person one section.

- Decide on a destination for the trip.
- Determine when you will go and at what time.
- Find out the price of the trip per student.
- Determine how you and your class will get to the destination.
- Determine what everyone will need to bring with them.
- Come up with a list of rules to follow on the day of the trip.

When solving larger ICT problems, break them down just like the real-world example above.

Explore

Work in a group of four. Read the following problems and choose one of them:

- papers are not coming out of the printer during the printing process
- the speakers are not working
- the computer is having difficulty responding to user commands

Discuss how to solve it.

Review

1. How can breaking down a big problem into smaller sections help you?
2. How did working as a group help you to solve the problem in the Explore section?

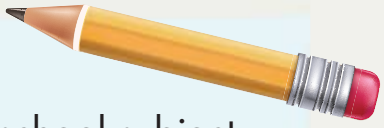
Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

Comprehension

1 Read and answer

Answer the questions.



Problem: Writing a research paper/report on a school subject.

Think of different ways to perform the task at hand.

1. Do you have a computer at home? No
2. Does the school have a computer? Yes
3. Can you use a word processor program? Yes
4. Can you format sentences on the Word writing program? No
5. Do you have some papers and colored pencils in your school bag? Yes
6. Can you use paper and colored pencils to write the research? Yes

1. Explain how the steps above show trial and error.

_____

_____

_____

_____

2. Write about a time you used trial and error to solve a problem.

_____

_____

_____

_____

3. Why do you think trial and error is an important element to problem-solving?

_____

_____

_____

_____

2 Think and answer

Look at the steps below. Put them in order.

Problem: Microsoft Word is not responding and you want to know why.

- Make sure your keyboard is well connected.
- Turn on your computer.
- Ask your teacher for help to solve the problem.
- Type a few letters on a Word page.
- Open Microsoft Word.
- Try connecting another keyboard, if available.

Compare with a partner. Do you have the steps in the same order?

3 Think and write

You and your friend want to see a movie. Make plans.

_____

_____

_____

_____

Collaboration

4 Read, discuss, and write

Work with a partner. Think of an everyday task that you both do. Break the task down into steps. Below are some examples (or choose your own):

- Getting ready for school
- Making a meal
- Doing laundry

_____

_____

_____

_____

ICT and me

5 Think and answer

Think about a common ICT problem that you have already solved. Break down the steps you took to solve it. Use an example from below, or come up with your own.

- Your device slows down
- You don't have an internet connection

_____

_____

_____

_____

LESSON 3 Presenting information to others

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Discuss how to best present information to others.	☐ Very well	☐ OK	☐ Need more work
• Explain the necessary digital needs of simple projects.	☐ Very well	☐ OK	☐ Need more work
• Discuss basic design concepts.	☐ Very well	☐ OK	☐ Need more work

Engage

Think about presentations your teachers and classmates have given in class. Was there one you particularly enjoyed? What kept you interested? Think about the visuals (written texts, still pictures, animation and videos).

Learn

Presenting information: digital tools

When you are presenting information, think about the digital tools you will need to best present it. For example, let's say you've been asked to create a digital poster or billboard. You will need to use software that will allow you to create it. Microsoft 365 includes different options to choose from: PowerPoint®, Word®, and Publisher®.

To access Microsoft 365's bundle, you will need to have a digital device that supports the software. You will have to be sure to update your computer to make sure it can handle the software being downloaded.

Digital concepts to consider

When creating your poster or billboard, think about the following digital concepts:

Margins

A margin is the space left around the edges of your poster or billboard. It's important not to crowd the edge of a poster or billboard. If you include content too close to the edge, it will appear cramped. This is not visually appealing and can overwhelm the viewer. A 25mm margin will help design a good poster.

Font size and type

You want your audience to be able to easily see your information. If you choose a small font size, your audience will have to strain to read the information. If you choose a font size that's too big, you'll have to limit the amount of information. Always be sure to choose a font size that is easy to read. There are many fonts you can choose, so consider the audience for your project. Sometimes, simple is better. A complicated or decorative font is distracting and hard to read.

Colors

Choose colors that get your message across. Consider using bold colors for information you want to emphasize. Choose color combinations that match.
Hint: it is better not to use more than 3 colors in a poster, and take into consideration the color of the background when choosing the font color.

Images

It's common to use images on posters or billboards. They should also make sense in terms of the content you are sharing. Use clear, good-quality, and appropriate images.

Explore

Pick a topic that you would like to learn about and present to others. Choose from the topics below or think of your own:

- Wildlife conservation
- Water conservation
- Reducing pollution in your community
- The importance of tourism in achieving mutual understanding and respect between peoples and societies

Plan how you may present this information to others using a poster or billboard. Think about the basic design concepts you would use, and your digital needs. Share your ideas with a partner.

Review

1. What are the tools needed to create a poster or billboard?
2. Of all the design concepts you learned in this lesson, which one do you think is most important? Why?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

Comprehension

1 Look and answer

Look at the posters. Which one presents information more effectively? Check the box.

2 Think and write

Answer the questions.

1. Explain how the poster you checked above presents information effectively.

_____

_____

_____

_____

2. Explain how the other poster didn't present information effectively. What would you do to improve it?

_____

_____

_____

_____

Research

3 Take notes

Create a poster. Find three facts about the topic you chose from page 55. You will include these facts on your poster. Write the facts below, and cite your sources.

_____

_____

_____

_____

_____

4 Communicate through images

1. Write about how you can use images to make your poster more appealing.

   _____

   _____

   _____

2. Think about images to include on your poster. Write a description of each image below. Reminder: If you're including images you researched, be sure to cite your sources.

   _____

   _____

   _____

   _____

   _____

5 Create your poster

Don't forget to consider margins, font size and type, use of color, and images when creating your poster.

LESSON 4 Digital applications

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Explain how to use reliable sources to conduct a search for information.	☐ Very well	☐ OK	☐ Need more work
• Explain some uses and features of Word and Excel.	☐ Very well	☐ OK	☐ Need more work
• Explain how to use Microsoft Word and Excel to present and share information	☐ Very well	☐ OK	☐ Need more work

Engage

What impact does human behaviour have on the environment? What animals and plants are impacted in your area by human behaviour?

Learn

Evaluating sources

Humans can have a positive or negative impact on the plants and animals around them. We can have a massive effect on their environment and whether they can survive in an area. This is your chance to be an explorer! The first thing an explorer does is to research the topic.

When you research you need to use a variety of sources. These include:

- **Print:** books, articles, newspapers, encyclopaedias
- **The Internet:** a search engine, specialised websites, e-learning sites, the EKB and similar authoritative online sources
- **Interviews:** with people who have experience of, are affected by, or who have studied the topic

As you are gathering information it is important to evaluate the source of the information. The source will tell you how reliable the information is and if you can trust the information is true. There are many ways to evaluate the source. These include:

- Is the author a respected person or organization?
- Does the source provide evidence and cite other sources of information you can check?
- How current is the information?
- Does the source state opinions or facts?
- Is the information presented with a bias or unbiased?

You can ask your teacher or a member of your family for help.

Using Microsoft Word and Microsoft Excel

To record the data you collected you will need one program that is common in collecting information is Excel. Excel allows you to create a spreadsheet with as many columns and rows as you need. Excel is often used to present numbers as the program can add up numbers automatically. Excel is a wonderful way to collect information to collect your ideas.

Another key program you will need is Word. Word allows you to present your ideas in a variety of ways. Word is most commonly used to write out what you want, but you can do so much more! You can change the design, add photos, and link your report to websites or information online.

Explore

What is your favourite plant and animal? How do people help and hurt these plants and animals? Work with a group to determine the kind of information you should find about these plants and animals and how to record the information.

Review

1. Compare how you might collect information using Excel and share the information using Word. You can use the "Guide to..." page 82 to help you.
2. What are some reliable sources of information you can use to find information about the plants and animals that live in your area and how people impact their environment?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

Critical Thinking

1 Read, think, and write

Where can you find information about plants and animals where you live? Use the first column below to record 5 sources of information.

Source of information	How reliable is the source

Now look at those sources of information and evaluate how reliable they are. Use the below ranking as a guide.

* * * **Trusted source:** The information comes from a reliable person or organization that cites sources and states current facts.

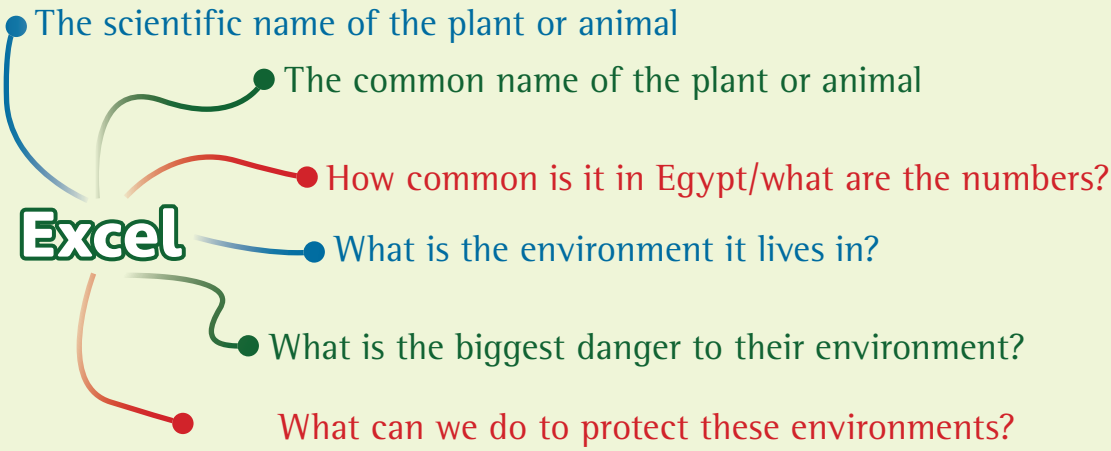
* * **Questionable source:** The information comes from a person or organization that offers some sources of the information but sometimes states their opinion intermixed with facts.

* **Untrusted source:** The information comes from a person or organization that does not have sources to back up what they are saying and uses mostly opinions with little facts.

Research

2 Think and answer

1. Use Excel to collect the data from the sources you found. You will want to collect the following data:



Present

3 Think and answer

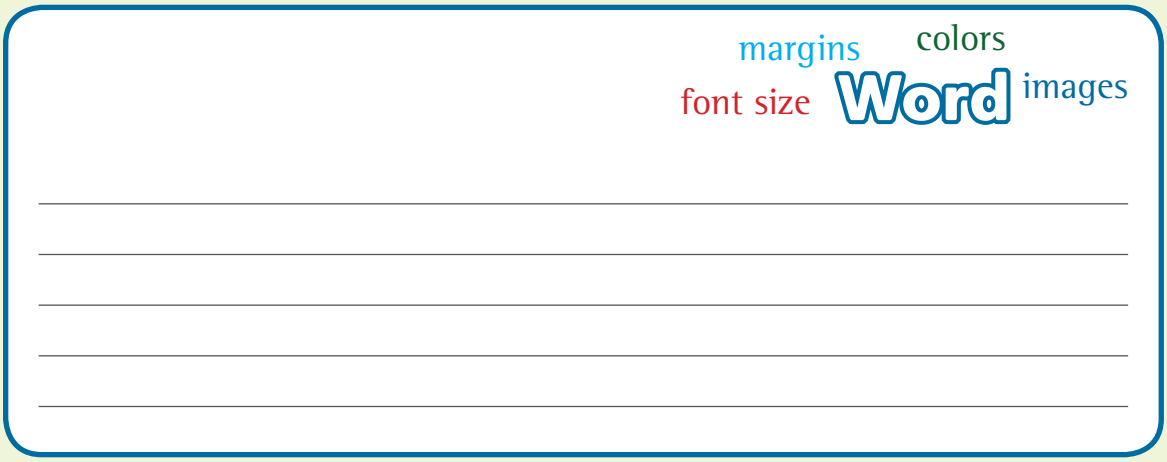
1. Look at the information you found in your Excel document.
   What is the most surprising information? What is the most important information for others to know?

   _____

   _____

   _____

2. Use a Word document to present your finding. Remember to use the margins, font size, colors, and images to better get your message across to others.



LESSON 5 Algorithms

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Discuss the concept of algorithms.	☐ Very well	☐ OK	☐ Need more work
• Explain how a search engine uses algorithms.	☐ Very well	☐ OK	☐ Need more work
• Explain how to solve a problem using an algorithm.	☐ Very well	☐ OK	☐ Need more work

Engage

How does following a process help you to solve a problem?

Learn

In Term 1, you learned how to use search engines to gather information online. Every time you type keywords into a search engine, the engine uses algorithms to provide results. Algorithms help it to decide which results will be more relevant to you. For example, if you are using a search engine to find directions to a place, it will use a database of names and information from digital maps to provide you the results.

An algorithm is a series of steps that explain how to do a task. When you make a meal, you follow a recipe – which is a type of algorithm! A recipe includes a set of instructions that will successfully lead you to making that meal. For example, read the recipe on the following page.

How to make a falafel sandwich	
1	Gather the ingredients to make your falafel sandwich.
2	Place pita bread on the plate.
3	Open the pita bread.
4	Place your desired amount of falafel balls into the pita bread.
5	Smash the falafel balls once they're inside the bread.
6	Add tahini and salad.

Many of the things you do each day can be described as algorithms, i.e. a series of steps. When you clean your room, this is an algorithm:

1. clean the dust → 2. wipe flat surfaces → 3. clean the floor

When you give directions, you are also using an algorithm:

1. go straight ahead → 2. turn right at 'x' → 3. turn left at 'y'.

When you are at school, you are often using algorithms to complete assignments. For example, when you do a word problem in math class, you will often have to break the question down. You will solve it in a series of steps. These steps are the guidelines needed to solve the problem.

Computers and applications use algorithms to perform specific tasks. When you input the keywords you are searching for, the search engine takes steps to provide results. If your wording is not specific enough, the engine's algorithm may not be entirely accurate.

Explore

Think of a task you perform on a routine basis. Create your own algorithm. Write the steps. Compare your algorithm with a partner.

Review

1. Explain how a search engine uses algorithms to provide results.
2. Lesson 5 introduced you to the concept of algorithms. Explain how, step by step.

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

Comprehension

1 Look and answer

Write at least one algorithm you used today in the following places:

1. At home: _____

2. At school: _____

Hint: Go back to Lesson 2, Learn by Doing, to see some examples of daily tasks and routines.

Critical Thinking

2 Think and write

Read the example of how computers need alogrithms to run. Then answer the questions.

Computers and applications need algorithms to run. For example, if you type "My name is Asma/Ahmed", the word processor:

- detects the key pressed for the first letter: is it a capital letter or a small letter?
- displays the letter on the screen
- repeats until end of word
- checks if this word is correctly spelled. If yes, it does nothing; if no, it indicates a possible mis-spelling
- repeats and continues to the end of the sentence

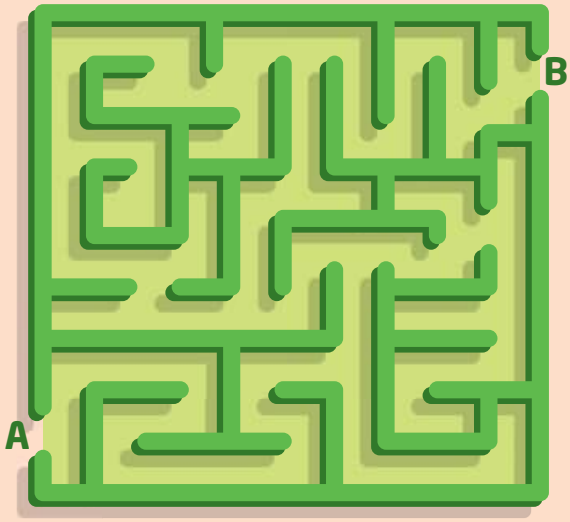
1. Give an example of the steps you think a computer, tablet, or mobile phone uses when you open a program or application you use regularly.

_____

2. How could missing a step, or adding incorrect information, affect an algorithm?

3 Solve the problem

Create an algorithm. Look at the maze. Provide the steps needed to go from Point A to Point B.



ICT and me

4 Think and answer

How can algorithms help you understand the processes of the search engine when searching on the internet?

Research

5 Search and evaluate

Use a search engine to research the topic of your choice from Lesson 3 p.55 Explore. Evaluate and take notes on the top three results of your search. Use your response to the ICT and me question above to help you.

LESSON 6 The principles of coding

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Discuss the concept of coding.	☐ Very well	☐ OK	☐ Need more work
• Explain what I can create using coding programs.	☐ Very well	☐ OK	☐ Need more work
• Discuss how coding is another example of problem-solving.	☐ Very well	☐ OK	☐ Need more work

Engage

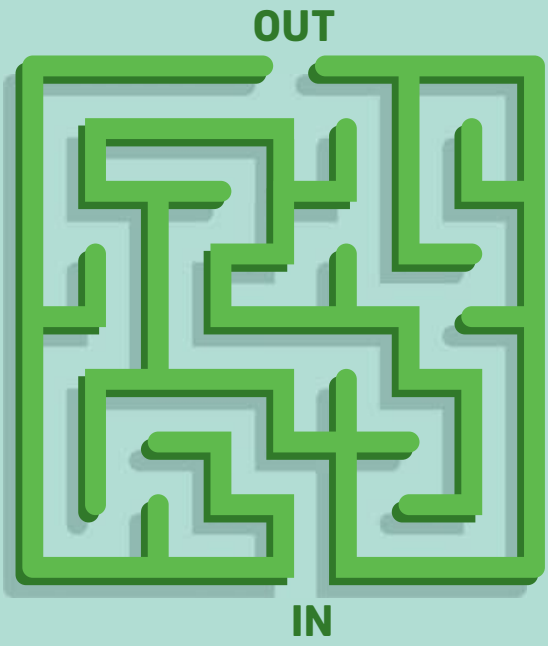
What kinds of online animations, movies, or games interest you? Explain why.

Learn

Think about online animations and movies you have viewed, and online games you have played. They were created using coding.

Coding is the writing of multiple algorithms to make a complete program.

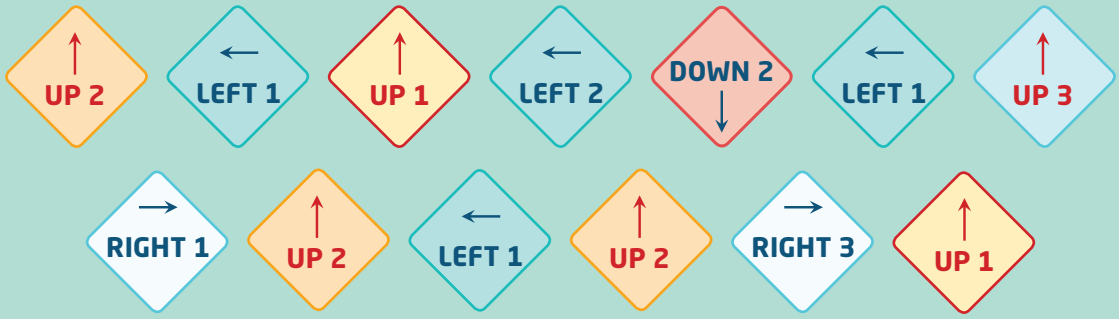
You can create animations, movies, and games using code. Just like people, computers speak different languages. There are many websites like Code.org that can help you learn to code using different coding languages. What programming (coding) languages have you heard of?



Have you ever created a maze and provided instructions to solve it? Instructions for a maze are like instructions in computer programs. Look at the example below.

Think about the steps you can use to get through the maze. The steps contain the number of spaces to take, and in which direction. Follow the steps to get through the maze!

You can create mazes on Code.org. Mazes are just one example of things you can create using coding.



Explore

Make your own maze. Write instructions on how to complete it. Share your maze with a partner. Give them the instructions to solve it.

Review

1. What is coding?
2. Explain how coding is another example of problem-solving.

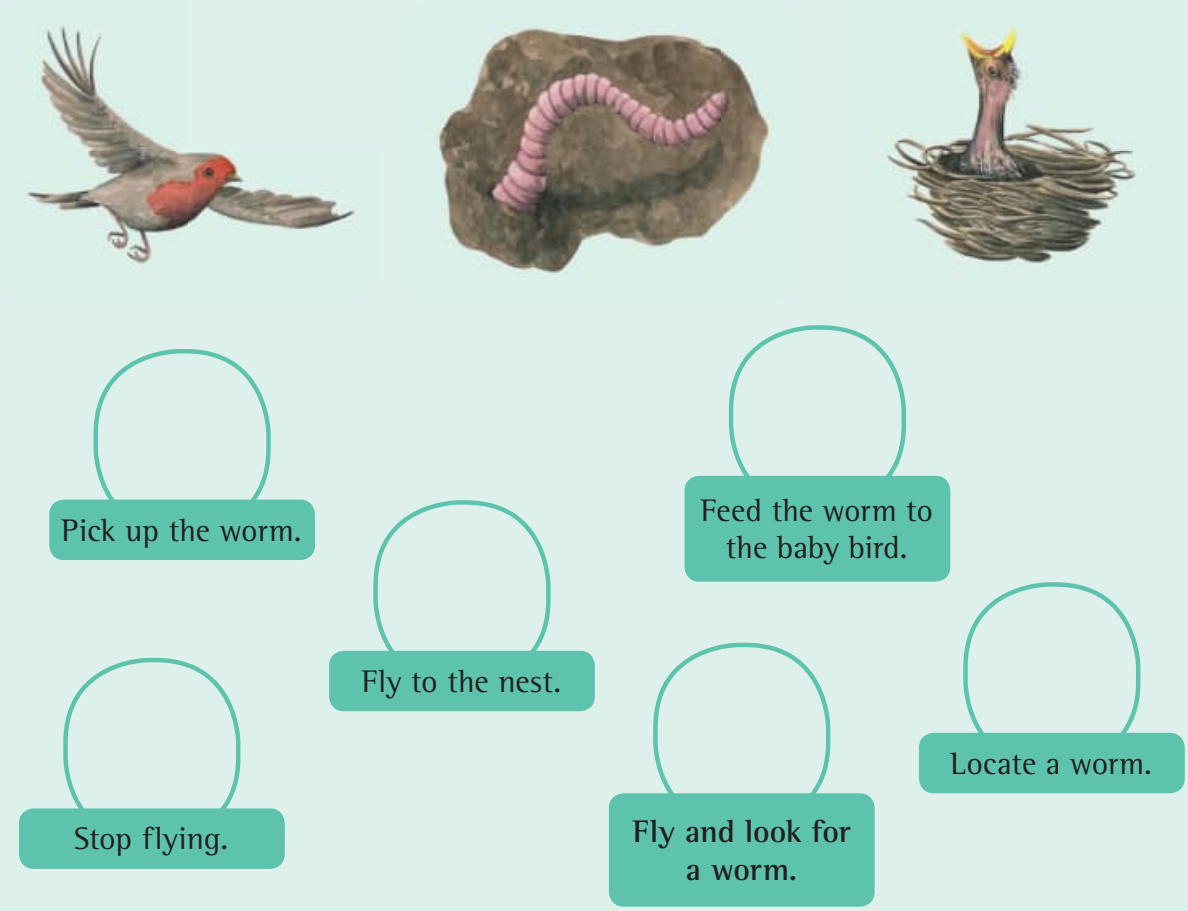
Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

Comprehension

1 Read and answer

1. Order the steps to make the bird fly, pick up the worm, and take it to its nest.



2. What is coding? Go back to the Learn section on page 66 for help answering this question.

_____

_____

_____

3. Explain what you can create through coding.

_____

_____

_____

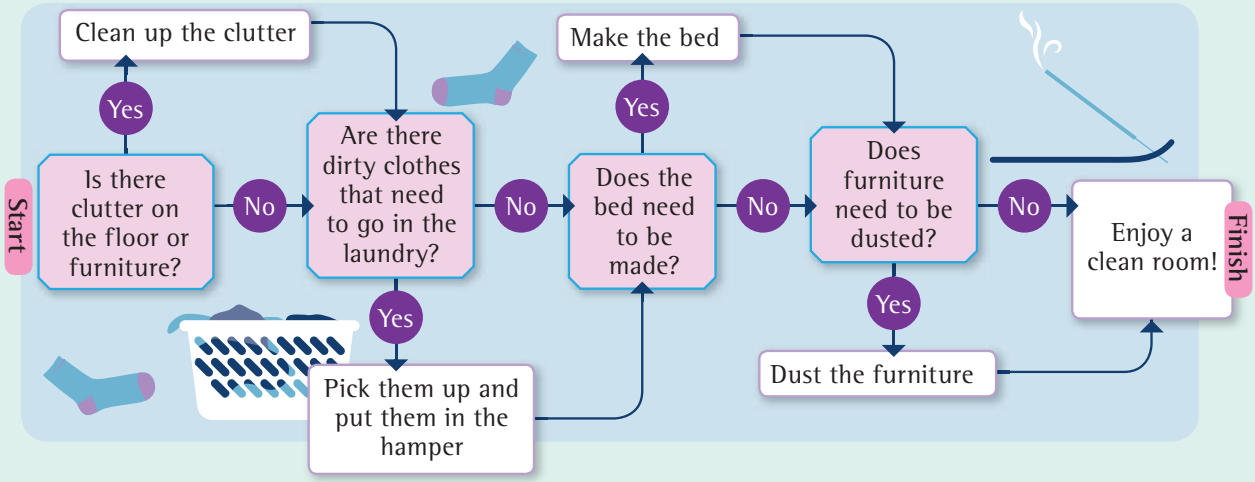
_____

_____

Critical Thinking

2 Read and draw

1. Look at this flowchart. A flowchart is like coding in that it represents a problem in logical, simple steps.



2. Now draw another flowchart about another problem. Here are some ideas:
   - set the table
   - weed the garden
   - take out the garbage
   - organize your desk

3 Think and write

1. What are the similarities and differences between the coding in activities 1 and 2 above?

_____

_____

_____

ICT and me

4 Think and answer

Think about the topic you've been researching since Lesson 3. How could you use coding, blocks, or a flowchart in a presentation about your topic of choice? Write and/or draw your ideas below.

LESSON 7 Graphic art

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Discuss how to use graphic programs.	☐ Very well	☐ OK	☐ Need more work
• Discuss how to add some visuals (such as photos, illustrations, texts) to a presentation.	☐ Very well	☐ OK	☐ Need more work
• Explain how to add and edit photos.	☐ Very well	☐ OK	☐ Need more work

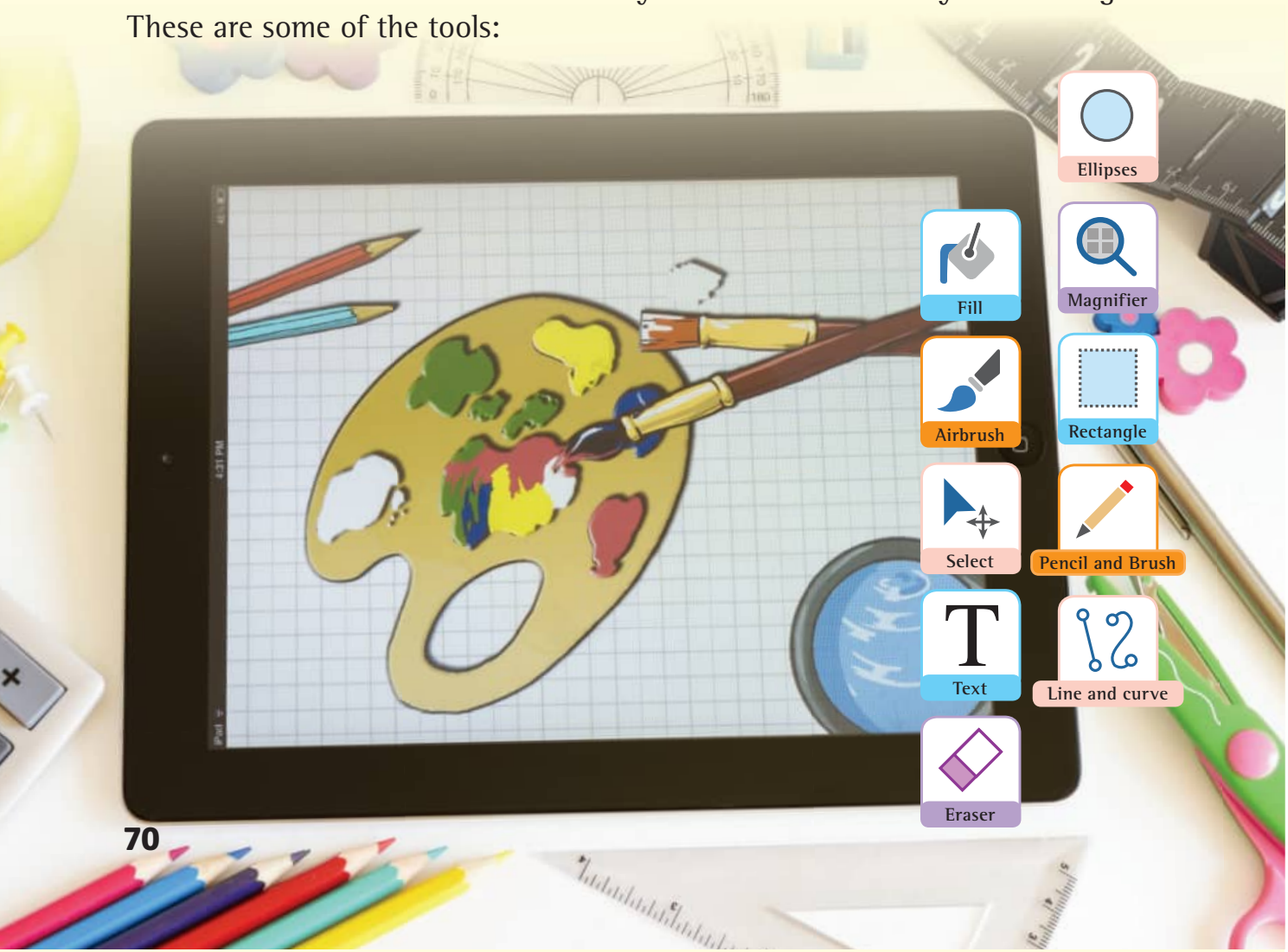
Engage

How do you think visual aids (like drawings and photos) can help a presentation?

Learn

It's easy to create your own drawings or edit images on computers. A popular graphics editor is Microsoft Paint. To open the file, click on Accessories in the Start-up menu. Find Paint and click on it. In Paint, you'll notice that the top of the screen is like Word and Excel. There's a menu bar and toolbox. The menu bar includes options for opening and saving files. The editing features on the menu bar include the ability to edit colors and images.

The toolbox includes all the tools that you will need to make your drawing. These are some of the tools:



You can edit photos in Paint. You can:

- Fill colors using the color options.
- Select areas of the photo to use in your drawing by cropping.
- To add text to a photo, click on the bottom right corner of the photo. Drag your mouse to the right until you have enough white space to write your text. Cut and paste the text from the area and onto the photo.
- Change the size or direction of the photo.

Microsoft Word also offers graphic tools to create a graphic. Click on the Insert menu bar to see the different options, such as:

- Shape
- Icons
- 3D models
- Smart Art

Explore

Think about the research you've done on your topic of choice from Lesson 3. How could you use Microsoft Paint to make a presentation about your topic more appealing? Write your ideas and share them with a partner.

Review

1. What tools are used in Paint? Explain what they do.
2. What are the art projects (digital - handmade) you would be interested in designing?

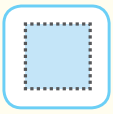
Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

Comprehension

1 Look and answer

Look at the graphic tools from Paint. Write an example of when you might use each tool while creating an image to put into your presentation.



2 Look and answer

Answer the questions.

1. Look at some more graphic tools available in Microsoft Paint. Choose one tool that you would like to use to help you create an image to put into a presentation. Describe how you could use this tool to help you to create it.

2. Look at the photo. Think of ways you could add effects to it. For example:

- make the photo look like night
- make the photo more/less colorful
- brighten the photo
- make the photo simpler/less cluttered

Write what you would do and the steps you would take. You can ask your teacher for help.

_____

_____

_____

_____

Critical Thinking

3 Think and write

Answer the questions.

1. Imagine a scene you want to draw or paint but don't have the tools you need to do so. Describe it below.

_____

_____

_____

_____

2. How could you create that scene using Paint?

_____

_____

_____

_____

4 Compare and contrast

Compare your answers for the activity above with a partner. Did you write about using the same tools/programs?

_____

_____

_____

_____

LESSON 8 Creating a PowerPoint presentation

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Discuss the elements of a presentation.	☐ Very well	☐ OK	☐ Need more work
• Discuss PowerPoint features.	☐ Very well	☐ OK	☐ Need more work
• Present information on a specific topic using PowerPoint.	☐ Very well	☐ OK	☐ Need more work

Engage

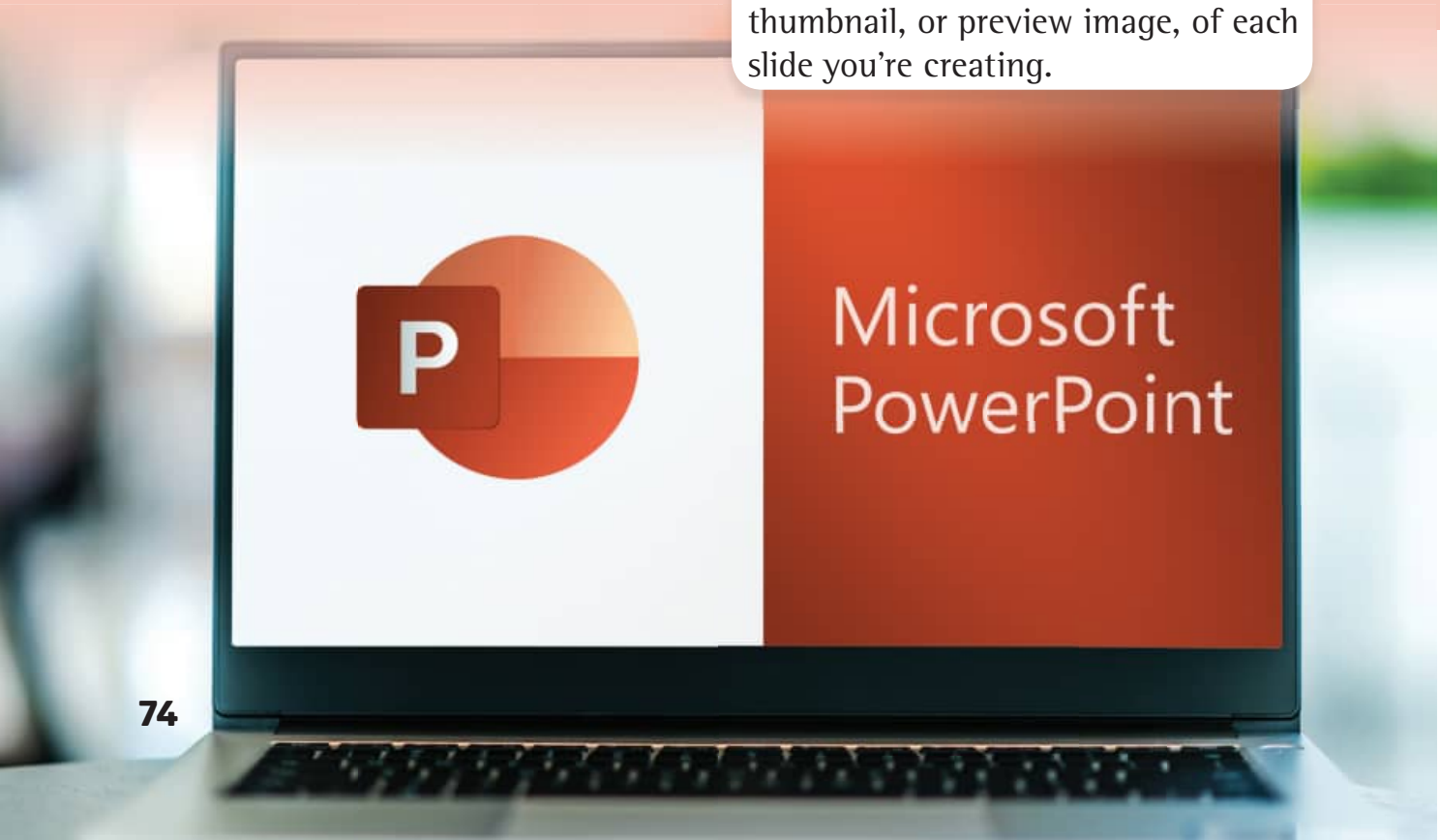
What are the elements of a good presentation?

Learn

You can use Microsoft PowerPoint® to create presentations that include text, animations, images, and special effects.

To create a presentation using PowerPoint, click on the PowerPoint icon on your computer. Then, click on Blank Presentation. At the top of the screen, you will see a menu bar with multiple tabs. Each tab contains a set of tools that you can use to create your presentation. You will see a slide that will instruct you to click and type a title. Use this first slide to name the title and subtitle of your presentation. In the subtitle box, you can also include your name. Type the information in the text boxes.

A slide is a presentation page that contains text and images. On the left side of the screen, you will see a thumbnail, or preview image, of each slide you're creating.



Click New Slide to add another slide to your presentation. To choose the layout of each slide, click the Layout icon on the Home menu.

Adding text: To add text to your slide, click on the text box on the screen. Choose the font style and size you'd like to use. Type your text.

Adding visuals and effects: PowerPoint includes numerous visual tools to help make your presentation stand out.

- **Design:** Choose design options for each slide, including background colors.
- **Draw:** Access drawing tools.
- **Transitions:** Choose a visual effect to use between each slide.
- **Animations:** Choose animated effects for each slide.
- **Slide show:** Decide how you'd like to present and time each slide. You can view the presentation by clicking the "view show" icon or by clicking the F5 key on the keyboard.

Inserting pictures: To insert pictures, click on Insert, then Pictures. Choose the options you need from the menu bar. Once you choose your image, drag it with your mouse into the slide. You can also insert a picture using another program into your PowerPoint presentation.

Keep the following features in mind when creating your presentation:

- Avoid wordy paragraphs or sentences.
- Be sure to use a font size and style that is readable.
- Use relevant images instead of text whenever possible.

Practice your presentation in advance. Be engaging and encourage audience participation.

Explore

It's time to create a presentation on the topic of your choice from Lesson 3. Break down what you'll need to do. Remember to organize your notes from your online search. Decide how to include drawings or photos from Paint. Decide how you'll use PowerPoint features to make your presentation stand out. Finally, be sure to write down your ideas so you have step-by-step instructions to help you create your presentation.

Review

1. Discuss the features of PowerPoint.
2. Why might PowerPoint be a better choice for a presentation than Word or Excel?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

LESSON 8 Creating a PowerPoint presentation

Life skills

1 Think and answer

It's time to create your own PowerPoint presentation. Use the information you've gathered while researching your topic of choice from Lesson 3 to create your presentation.

1. First, let's plan. Break down what you'll need to do to create your presentation into smaller sections. Write each section.

2. Next, it's time to problem-solve. Write about how you will complete each section.

2 Plan your slides

Write what you will include on each slide.

3 Create your PowerPoint presentation

Finally, it's time to create your presentation. Be sure to do the following:

- Double-check that your sources are accurate.
- Cite your sources.
- Have a clear idea of the design you'd like to have.
- Determine how much text you want to include on a slide. Remember, you want to limit the number of words on each slide to make them easy to read.
- Decide how to break up the information you're including on each slide.
- Include visuals in your presentation.

Remember, you can include texts, images, and elements from other Microsoft 365 programs to create your PowerPoint presentation. For example:

- Tables, images, symbols, and texts from Word.
- Graphs, charts, and tables from Excel.
- Images from Paint.

ICT and me

4 Think and answer

Congratulations on creating a PowerPoint presentation! Now share your thoughts on the experience.

1. How did you use problem-solving skills to help you to create your presentation?

   _____

   _____

   _____

2. Explain the choices you made when it came to:
   Text size and style: _____

   _____

   Use of graphic tools: _____

   _____

3. Talk to a partner about the success of each of your presentations. How were your presentations similar? How were they different? What will each of you do differently next time?

   _____

   _____

   _____

   _____

REVIEW Theme 4

Vocabulary

1 Write and compare

Write a sentence for each set of words to explain the connection between them. Then compare your sentences with a partner.

1. steps and trial and error

_____

2. algorithm and coding

_____

3. slide and thumbnail

_____

Review Questions

2 Read and answer

1. Explain why taking steps is an important part of problem-solving.

_____

2. What digital concepts should you consider when creating a poster?

_____

3. How do images make a presentation better?

_____

4. Write a short algorithm for an everyday task.

_____

5. Give instructions on one way to add an image or graphic to Microsoft Word or PowerPoint.

_____

6. Explain how problem-solving is related to coding.

_____

7. List three tools you can use in Paint or Word to create your own drawings.

_____

8. List three visual tools you can use in PowerPoint.

_____

_____

_____

Critical Thinking

3 Think and answer

1. How can you use problem-solving to help you if you're having difficulty using the Microsoft 365 program?

   _____

   _____

2. Imagine you are about to create a PowerPoint presentation. Break down the steps you might take to create it.

   _____

   _____

3. Experts say that learning how to code can make you a more creative person. Think about what you've learned about coding. Do you agree? Why or why not?

   _____

   _____

Essential Question

4 Think and complete

Think about the information that you have learned in this theme.

How does it help you to understand how to use different software and techniques to create digital presentations?

After studying this theme, I know that I can use different software and techniques to create digital presentations because _____

_____

_____

Activity

5 Research, create, and show

How can you use problem-solving, breaking things into steps, trial and error and algorithms to carry out a task? How might you represent this in code or in a flowchart? Make this into a presentation using the techniques in (4) to show to the class.

PROJECT Term 2

1 Read the title of the project carefully and think about what you need to find out.

Tourism awareness

Research the most important projects made by the Egyptian government in this field. Present the results of your research to the class.

2 Put your group together. Who are you working with?

- _____
- _____
- _____
- _____

3 Brainstorming ideas

What type of presentation will you create? How will you use both images and text in your presentation? What do you need to do to make your presentation a success?

_____

_____

_____

_____

4 Gather information

What sources will you use to gather your information?

- Search engines ☐
- The Egyptian Knowledge Bank (EKB) ☐
- The school library ☐
- Other:

What information do you need to know?

_____

_____

_____

_____

_____

_____

_____

5 Our plan

Write down your plan for doing the project. Plan the steps.

1

2

3

6 Our final product

Provide results of your research here.

7 Presenting our work to the class

How can we present the work? What will we say? What will we avoid doing?

Guide to...

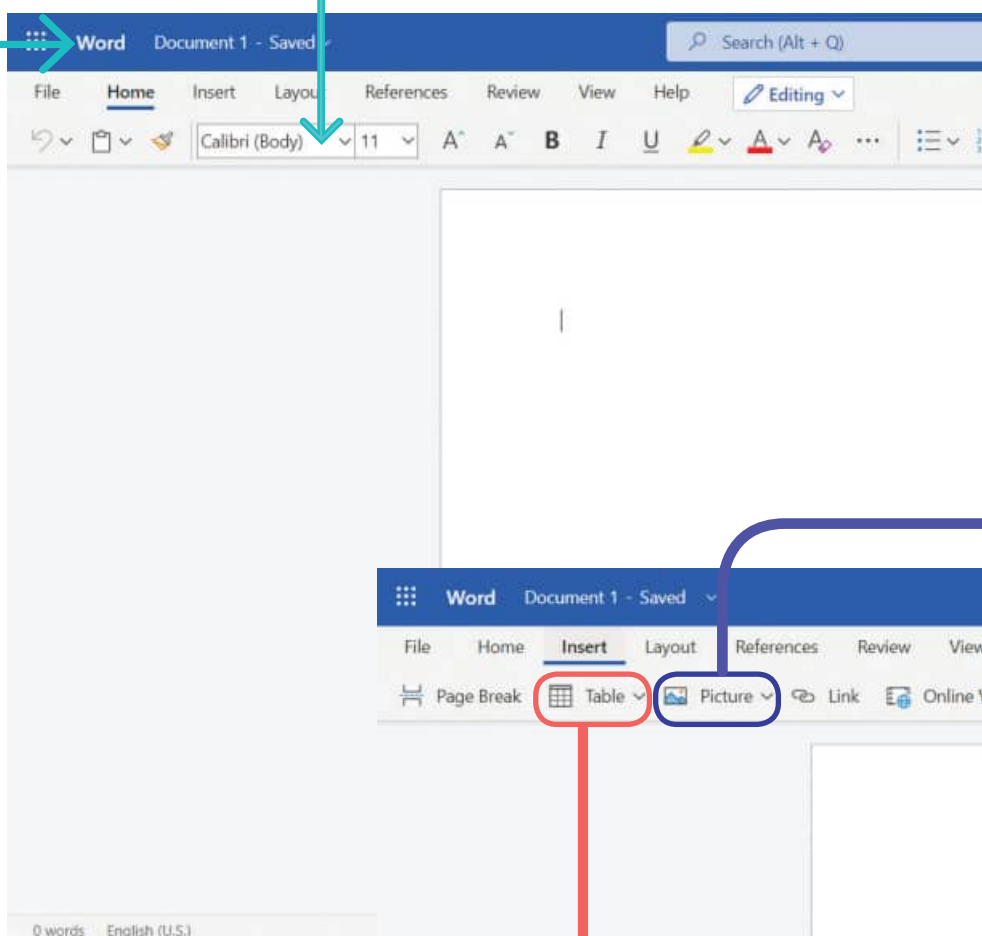
Use Word:

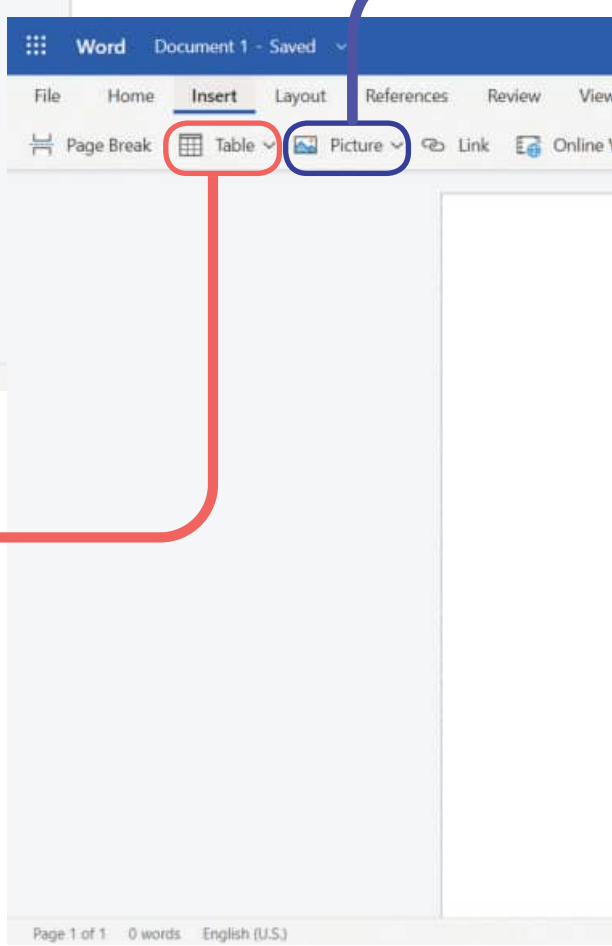
Click on the Word icon in Microsoft 365.

Click on New Blank Document.

Choose the font you would like to use from the drop-down menu.

Begin typing.





Make tables:

Click Insert on the menu bar.

Click table.

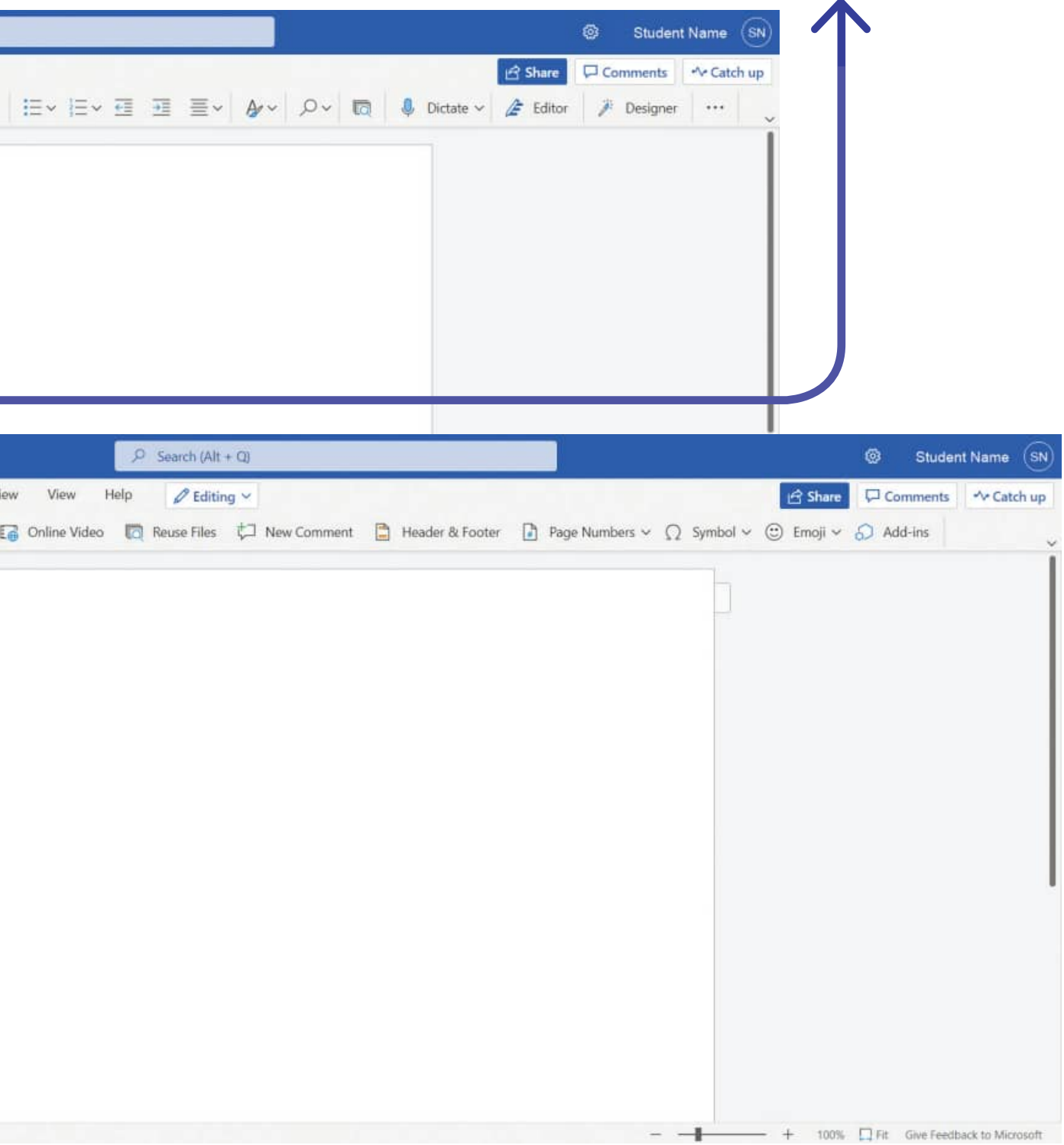
Choose the number of rows and columns you'd like to have.

Include an image:

Click Insert on the menu bar.

Click picture.

Choose the picture you want to include. Click on it.

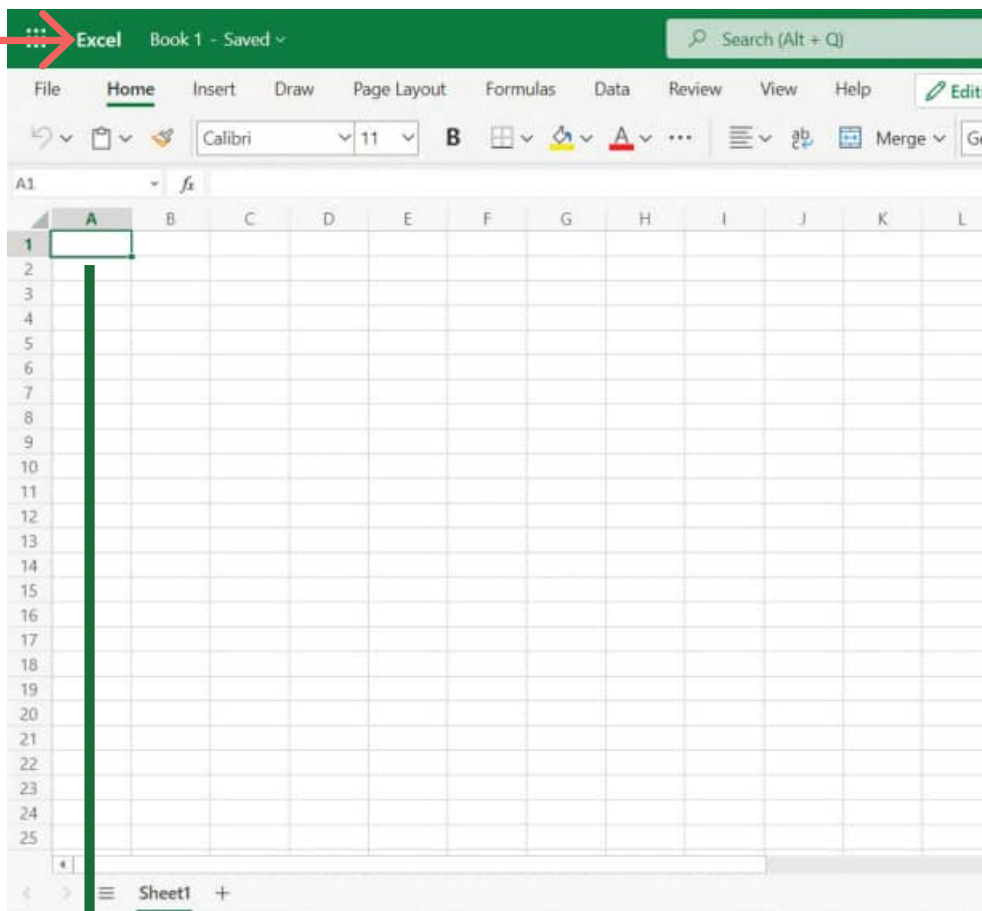


Guide to...

Use Excel

Click on the Excel icon in Microsoft 365.

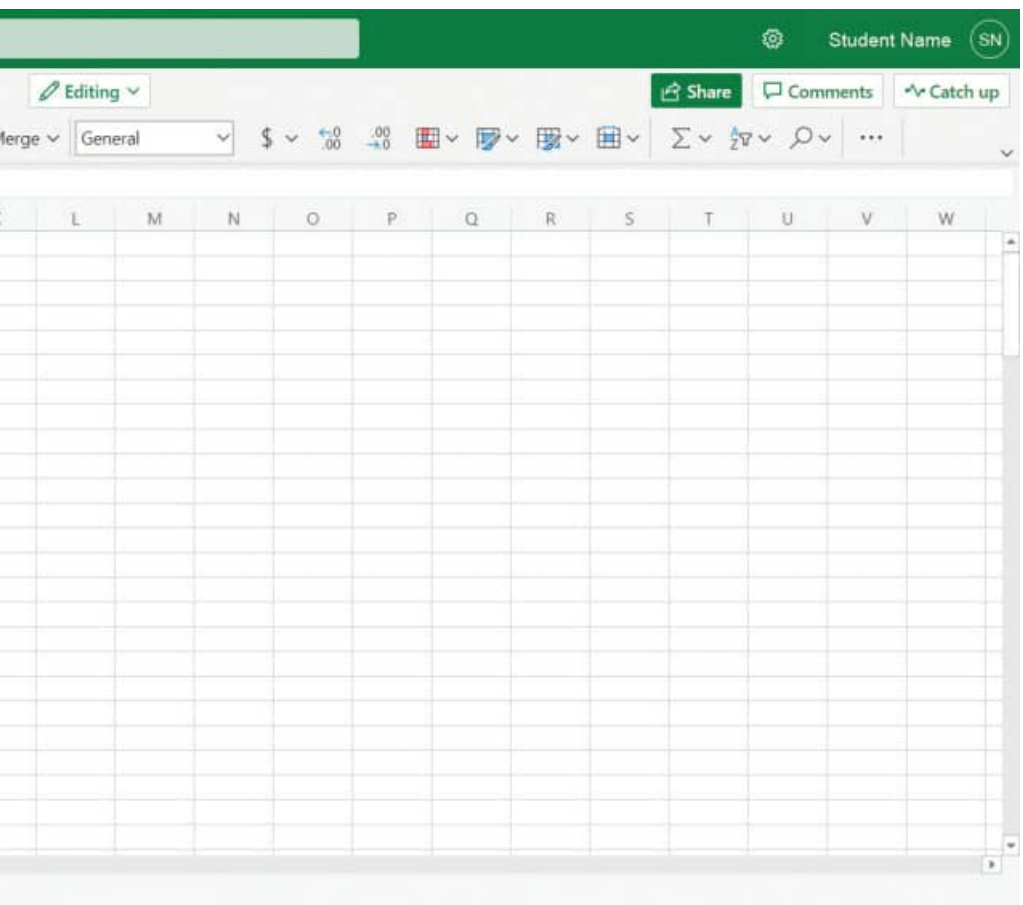
Click on New Workbook.



Click on the row that you wish to begin typing information into.

Choose the font you would like to use from the menu bar.

Begin typing.



To include images, art, tables, or graphs, use the same steps as you would for Word.

Notes

المواصفات الفنية:

مقاس الكتاب:	١٩ × ٢٧ سم
طبع المتن:	٤ ألوان
طبع الغلاف:	٤ ألوان
ورق المتن:	٧٠ جرام أبيض
ورق الغلاف:	١٨٠ جرام كوشيه
عدد الصفحات بالغلاف:	٩٢ صفحة

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