Ministry of Education - Guyana

In collaboration with the OAS and ProFuturo FOUNDATION

2020. CARICOM. ICT ROUTE: MEDIUM LEVEL

MODULE I – PRACTICAL APPLICATIONS OF THE USE OF ICT

Training Manual for Teachers of Riverine and Hinterland Region



MINISTRY OF EDUCATION
ELIMINATING LITERACY, MODERNIZING EDUCATION, STRENGTHENING TOLERANCE

ProFuturo
A PROGRAMME OF: Telefónica FOUNDATION "la Caixa" Foundation

OAS More rights for more people

Message form the Minister of Education



Dear Teachers

Across the world, the COVID 19 pandemic (Corona Virus) continues to cause undesirable disruption to the global education systems. Guyana, as you know, was not spared. As such, we implore you to keep engaging our nation's learners and we applaud those of you who have tried and continue to try. We heard your concerns when you told us you were uncertain about how to teach using different means, that you lacked confidence, and that you felt you were not equipped. This is our first response in partnership with the **OAS** and **ProFuturo Foundation**. This training will give you the much-needed knowledge and expose you to the tools you need to deliver education differently by being innovative and by using easily available technology.

We are aware that the cost of data is of great concern to you and we have remedied that by partnering with GTT and Digicel to zero rate the ProFuturo platform domain. This means that when anyone accesses the training platform, data will not be consumed. If teachers have neither devices nor connectivity, we will arrange a suitable location and if teachers, as those in the hinterland and riverine areas, cannot access either, even with our help, we have arranged for part of the program to be done through these printed modules because we know that it is only a matter of time before you are able to access connectivity and devices. We will never leave you behind.

I encourage you to take this training offer with vigour so that you can be better prepared to do what you love: influence by teaching the next generations.

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KEY TERMS

1. **Authoring tools:** These are applications which enable us to construct multimedia educational materials.
2. **Blog:** This is a website which chronologically compiles texts and articles of different authors, the most recent appearing first.
3. **Collaborative projects:** These are work groups created on the Internet, in which their members conduct a joint project with everyone actively involved.
4. **Digital competence:** This refers to the skills required to use digital technologies, communication tools and networks in order to access information and manage it in a critical and secure manner.
5. **Digital literacy:** The process by means of which a person learns to use ICT in order to produce, present and exchange information and knowledge.
6. **Educational resources:** These refer to materials which have been created for the purpose of facilitating the teaching-learning process.
7. **Free software:** These are computer programs whose users are free to copy, distribute, study and modify them.
8. **Hyperlink:** An option available in Open Office tools which enables us to link the contents of the document to other documents and web pages.
9. **ICT (Information and Communication Technology):** This refers to a set of technologies which enable us to manage information and process it, transmit it and share it.
10. **Information Society:** This is a society in which technologies are used to facilitate the creation of information and its distribution and shared use.
11. **Java:** A programming tool which enables us to create computer applications.
12. **Knowledge Society:** This is characterized by knowledge being the main component of any kind of activity and regards ICT as a factor for social change.
13. **Software:** This refers to all the programs and data which are stored on a computer.
14. **Wiki:** A collaborative learning tool whose pages can be edited by its users, who can create, modify or delete the text they share.

Unit 1

Practical applications of the use of ICT



Starting point

For more information, click on the button.

The introduction of **ICT** into the classroom as **another teaching-learning tool** has meant innovations in the methodologies of the educational field.

- **Office automation tools** are essential for the **creation of materials** and their use in different scenarios.
- **The Internet** constitutes the **axis** of this **change**, allowing access to an infinite amount of information and easily accessible educational **resources for classroom work.**
- Teachers are faced with the task of researching, learning and sharing this new form of teaching and developing their own **digital competence.**



Answer the three questions which are going to be asked in your notebook.

Questions

QUESTIONS

Can you imagine using the Internet and the resources and tools it offers in your classroom?

Do you think it would become just another teaching-learning tool in your classroom?

How do you think these tools can help you in your teaching work?

Objectives

- To use the applications offered by **OpenOffice**, in order to produce educational materials and use them in the classroom.
- To know other types of **applications** for creating materials and to facilitate the inclusion of ICT in the educational environment.
- To receive **practical recommendations** allowing the use of ICT in the classroom in an appropriate manner, taking advantage of the advantages it offers.



Contents outline

ApacheOffice

- Use of ApacheOffice tools for creating educational materials.

Tools

- Applications for creating educational resources. Hot Potatoes, JClic, Ardora, etc.

Classroom

- Applying what has been learnt in the classroom.

Recommendations

- Practical tips for using ICT in the classroom.

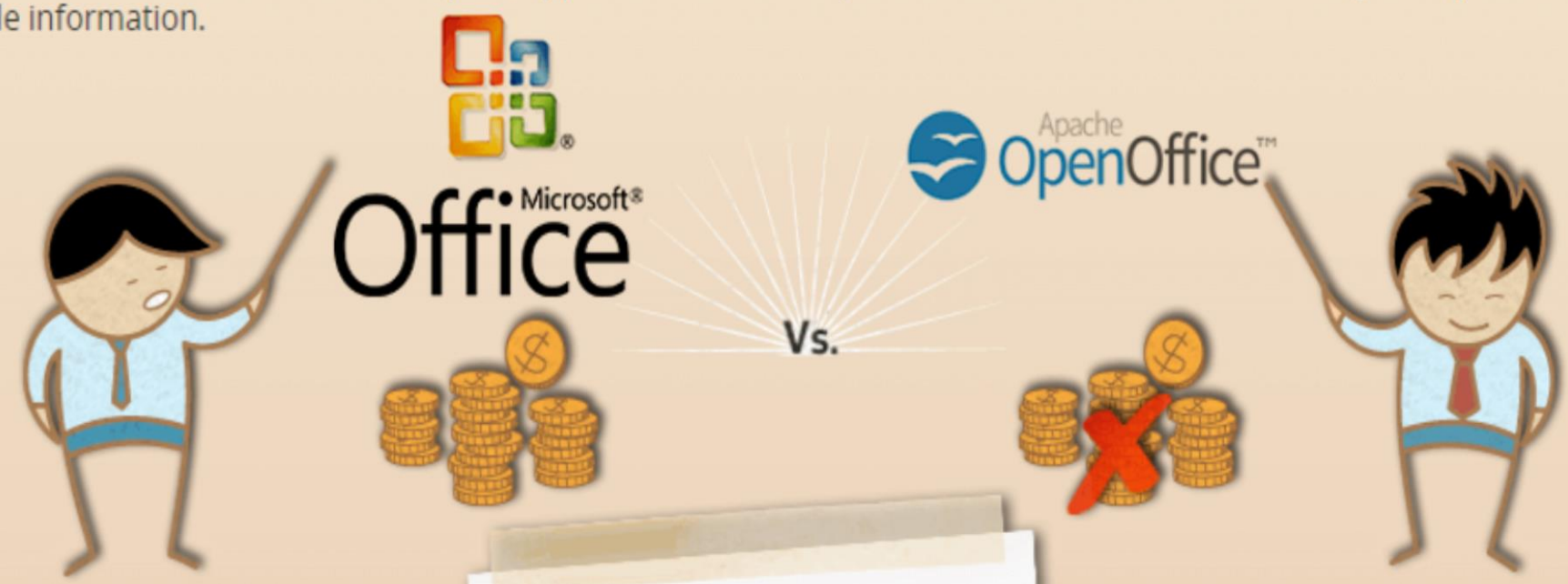
Unit 2

Office automation applications



Do you know these applications?

Office automation is a set of **techniques, applications and computer tools** which can be used to organize, present and handle information.



Do you already have these tools installed on your computer? Start imagining everything you will be able to do with these tools in the classroom!

ApacheOffice

For more information, click on the images.



Example

WRITER

A word processor for creating and transforming or editing documents. It enables you to open practically all the files created with Microsoft Word.

CALC

Spreadsheet for operating, analysing and presenting data in numerical reports or by means of charts. It is compatible with Microsoft Excel.

IMPRESS

Program for creating and editing multimedia presentations like Microsoft PowerPoint.

DRAW

This is an editor which allows you to design different types of charts, from diagrams to dynamic 3D illustrations.

MATH

This is a component for creating and editing mathematical formulas directly in the equation editor.

BASE

This is an application which enables you to handle databases similar to Microsoft Access. It enables you to create and modify tables, forms, queries and reports.

EXAMPLE: CREATION OF MATERIALS

To start working, access the Apache Office website and download the program, in order to create educational materials with Writer, Calc and Impress.
In the section titled “Material” you can obtain the link to a wiki which offers a tutorial on the handling of these tools.

Writer

What does Writer offer?

For more information, click on the vertical arrows

Before going into detail about the activities which can be conducted, it is a good idea to have a vision of the potential uses for the teacher and students:



Writer

For more information, click on the vertical arrows





Teacher

- Prepare notes for the students, including images and elements which highlight the most important parts of the text.
- Prepare exams, questionnaires, schedules, reports, etc.
- Teach **study techniques**, text comments and research techniques.
- In addition, it has a formula editor, which makes it very useful for preparing mathematical contents.

Writer

For more information, click on the vertical arrows



Student

- Preparation of **projects** with **text and images**.
- Preparation of **journalistic texts**, such as an article or an interview, supported by Writer's word counter.
- Use of the **general dictionary and the specific synonym dictionary**. In addition, Writer enables you to load dictionaries in **different languages**.

Activities with Writer

How about conducting a classroom activity with Writer? Choose a topic of interest for your classroom and develop a related activity.

For more information, click on the buttons.



You can create word searches or lotuses with images (go to the "Material" section to create lotuses).

This provides the option of protecting the sections, enabling you to conduct the questionnaires directly on the computer.

You can create a classroom or school newspaper, using the available options: columns, headers, image insertion, etc.

For younger children, teachers can create their own writing data sheets, reading sheets with pictograms, etc.

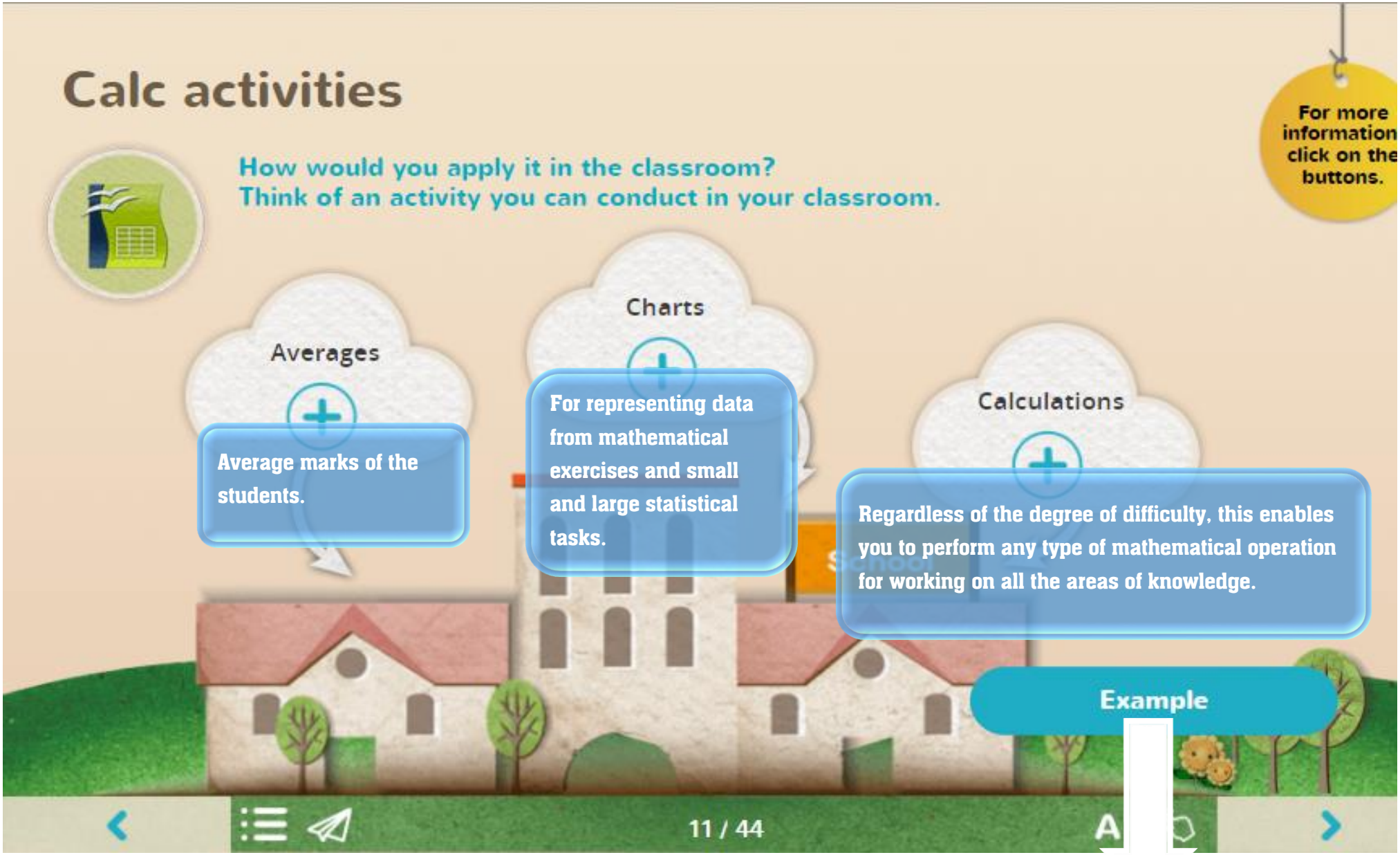
Students can present the results of research work or a study with this tool.

Calc

What does Calc offer?

- It enables you to perform calculations and simple mathematical operations, apply formulas, etc.
- It facilitates the visual learning of the students, offering the possibility of presenting the data by means of different types of charts.
- It helps you to handle a large amount of numerical data.
- It helps to develop abstract thinking in the students.





CLASSROOM ACTIVITIES

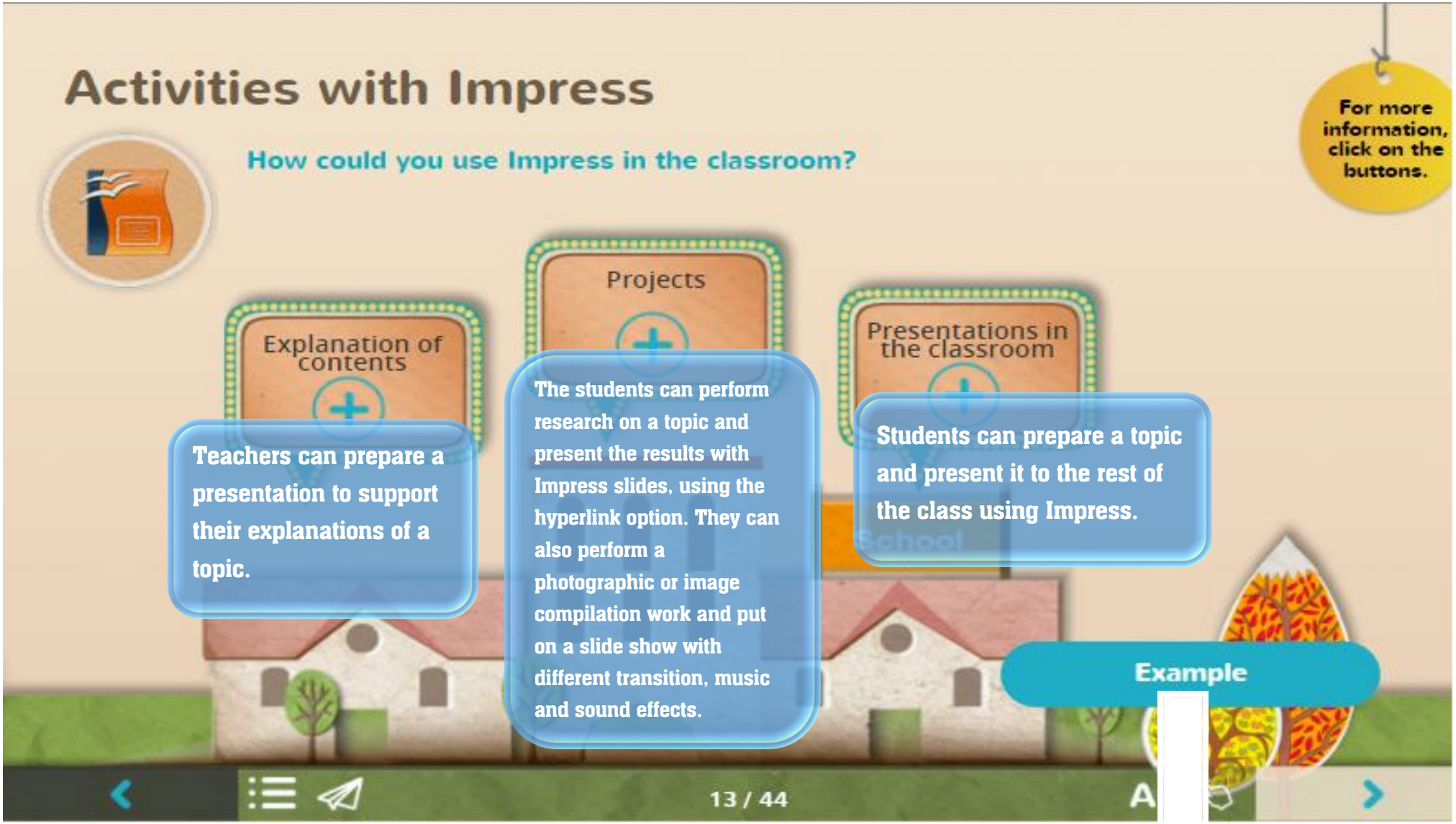
In the "Material" section there are links to classroom activities conducted by teachers by means of this tool.

Impress

It is a very useful application for displaying the contents in a graphic, attractive and interesting way for any type of audience.

- Make **presentations** to support an oral exposition.
- Create **slide shows.**
- Prepare **multimedia presentations** with special effects, animations and sounds.
- Build an interactive photo **album.**
- **Publish** the work done on the Internet.
- Create **organizational charts.**





CLASSROOM ACTIVITIES

Plan a classroom topic for its presentation and do it with Impress. In the "Material" section you can view different web pages with examples of applications in the classroom.

Unit 3

Internet



What is it?

The **Internet** can be defined as a **network of interconnected communication networks** which share information via pages or sites.

And what is the Internet for you? How do you think it can help you improve your teaching?



Characteristics

For more information, click on the images.

1. Universal

It can be used practically anywhere in the world.



2. Easy to use

No technical knowledge is needed for its use.



3. Free

Users can upload information and express their opinions.
The network is created by everyone.



4. Integrating

The information which can be accessed is very varied and reflec
different points of view.



Elements

What set of elements are needed to start working on the Internet?

Provider

This is the company which provides the Internet connection.

Connection

This will enable your terminal to communicate with the Internet. It is established via a telephone line or cable and also in wireless mode.

Terminal

This can be a desktop or laptop, a cellphone, a PDA, a tablet, etc.

Modem

This is the device which connects the computer to the telephone line. This can also be done with Wi-Fi, which allows you to connect devices to the Internet without using cables.

Browser

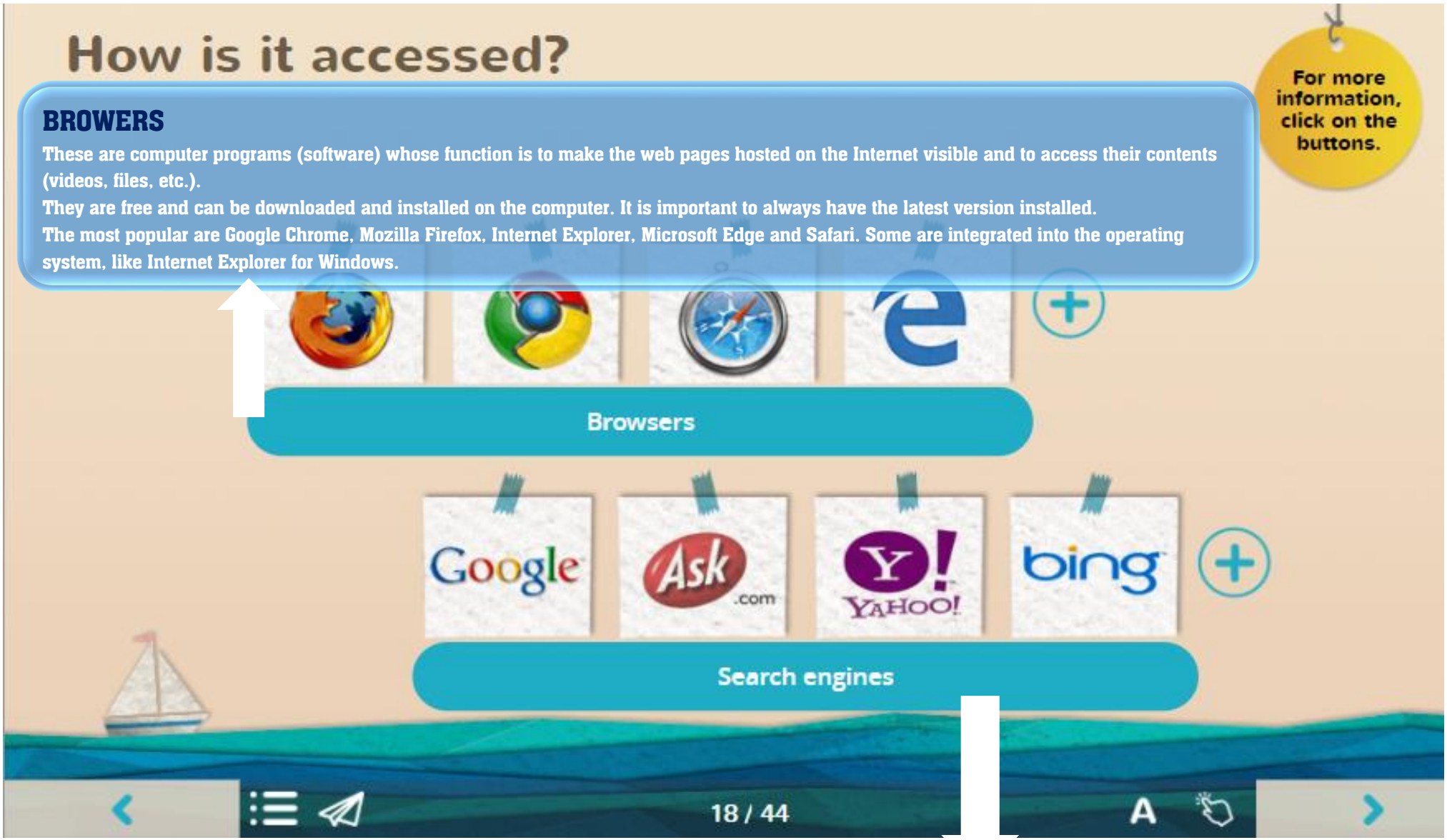
This is the program which allows you to search for and access the websites containing the information available on the Internet.

How is it accessed?

For more information, click on the buttons.

BROWERS

These are computer programs (software) whose function is to make the web pages hosted on the Internet visible and to access their contents (videos, files, etc.).
They are free and can be downloaded and installed on the computer. It is important to always have the latest version installed.
The most popular are Google Chrome, Mozilla Firefox, Internet Explorer, Microsoft Edge and Safari. Some are integrated into the operating system, like Internet Explorer for Windows.



SEARCH ENGINES

These are programs which you can use to find the information you are searching for at any given time.
Not all of them do so in the same way. Some do it through keywords they search for on their databases (search engines), others search through topics or categories (search indexes) and others do so through the databases of other search engines (meta search engines).
Some of the most widely used are: Google, Bing, Yahoo and AsK.

Features

Depending on the **use** each person makes of them, they have different functions.



Means of communication



Source of information

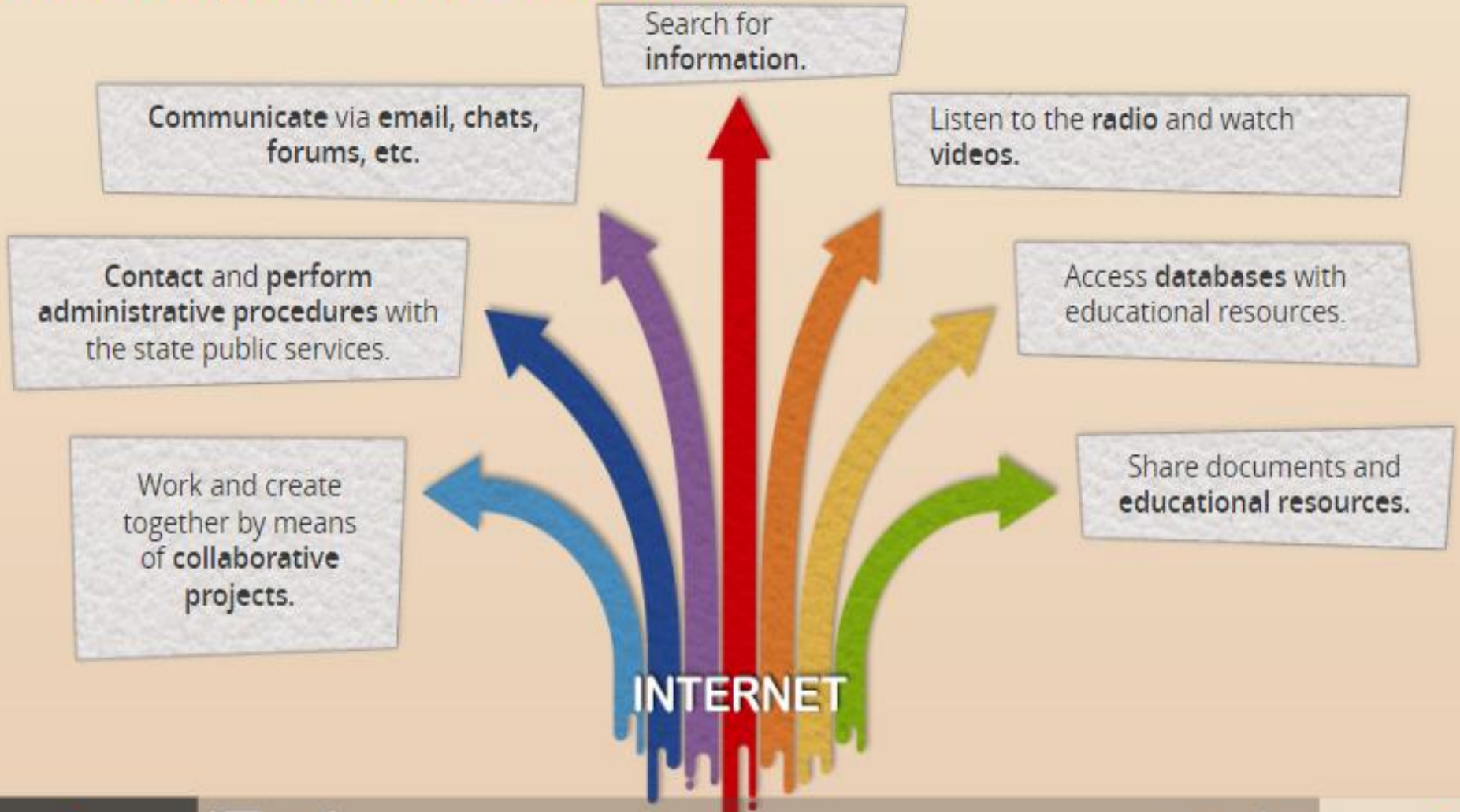


Work tool, etc.

Or all at once!

Uses

What can you do on the Internet?



Selection of the information

Because of everything the Internet offers, it is **essential** to have **criteria for learning how to effectively select** this information.

For more information, click on the buttons.



WHAT TYPE OF INFORMATION DO YOU NEED AND WHAT FOR?

Specify your search, establishing whether you need articles, opinions, links, etc.

AUTHOR

When accessing information, make sure that the author's name appears; value the author's knowledge and experience of the topic and decide whether the content is really what you are looking for.

WEB PAGE

Check if the content is updated frequently, assess whether it is aimed at the general public or people specializing in the subject and, if it provides links to other pages, check they are working.

Contributions in the classroom

Why not take advantage of the advantages ICT offers schools? You can find highly useful applications for your centre.



Communication tools



Educational portals



Educational social networks

Which of these tools could you apply in your classroom?

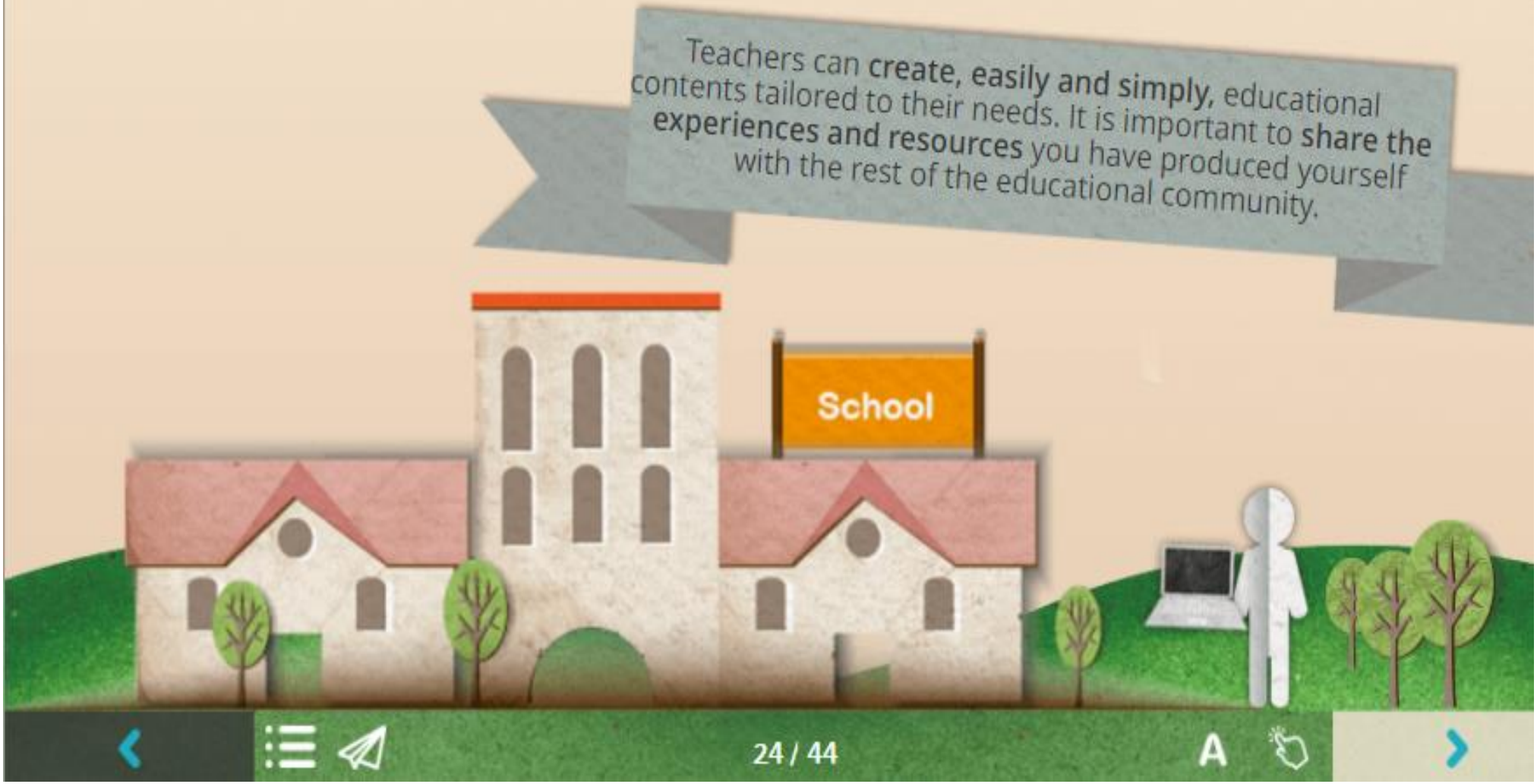
Unit 4

Uses of ICT in the classroom



Authoring tools

The Internet provides the so-called **authoring tools,** easy to use for creating activities which can then be employed in the classroom.



Advantages of authoring tools

Do you know what tools we are referring to?







- In order to use them, it is **not** necessary to have any **great knowledge** of computer science.
- They are **easy** to use and **very intuitive.**
- They can be applied to a **wide range** of contents.
- **They improve** the teaching-learning **process.**
- They provide **excellent support** for the development of methodologies for collaborative and cooperative work by means of ICT.

What is JClic?

For more information, click on the logo.



"It is a tool for the creation, realization and evaluation of digital educational resources. It incorporates multimedia resources in formats such as WAV, MP3 and MPEG and animated GIFs, and works in different environments and operating systems."

JClic

This enables you to create different types of educational activities which, as they are created, are grouped into what is called a project.

JClic: what is it made up of?

For more information, click on the button.

What programs does it contain?

JClic applet	Embeds the JClic activities into a web page.
JClic player	Runs the activities on the computer without the need to connect to the Internet.
JClic author	For creating, editing and publishing the activities.
JClic reports	This is a module for collecting data and generating reports on the results of the activities conducted by the students.

Know more...



JClic

You can install it on your computer via the website itself. As it is a Java application it is necessary to also install this file, which is downloaded with the JClic components. You must click on each of the components and follow the installation instructions.

Uses of JClic

The learning scenarios which can be created with JClic are unlimited.

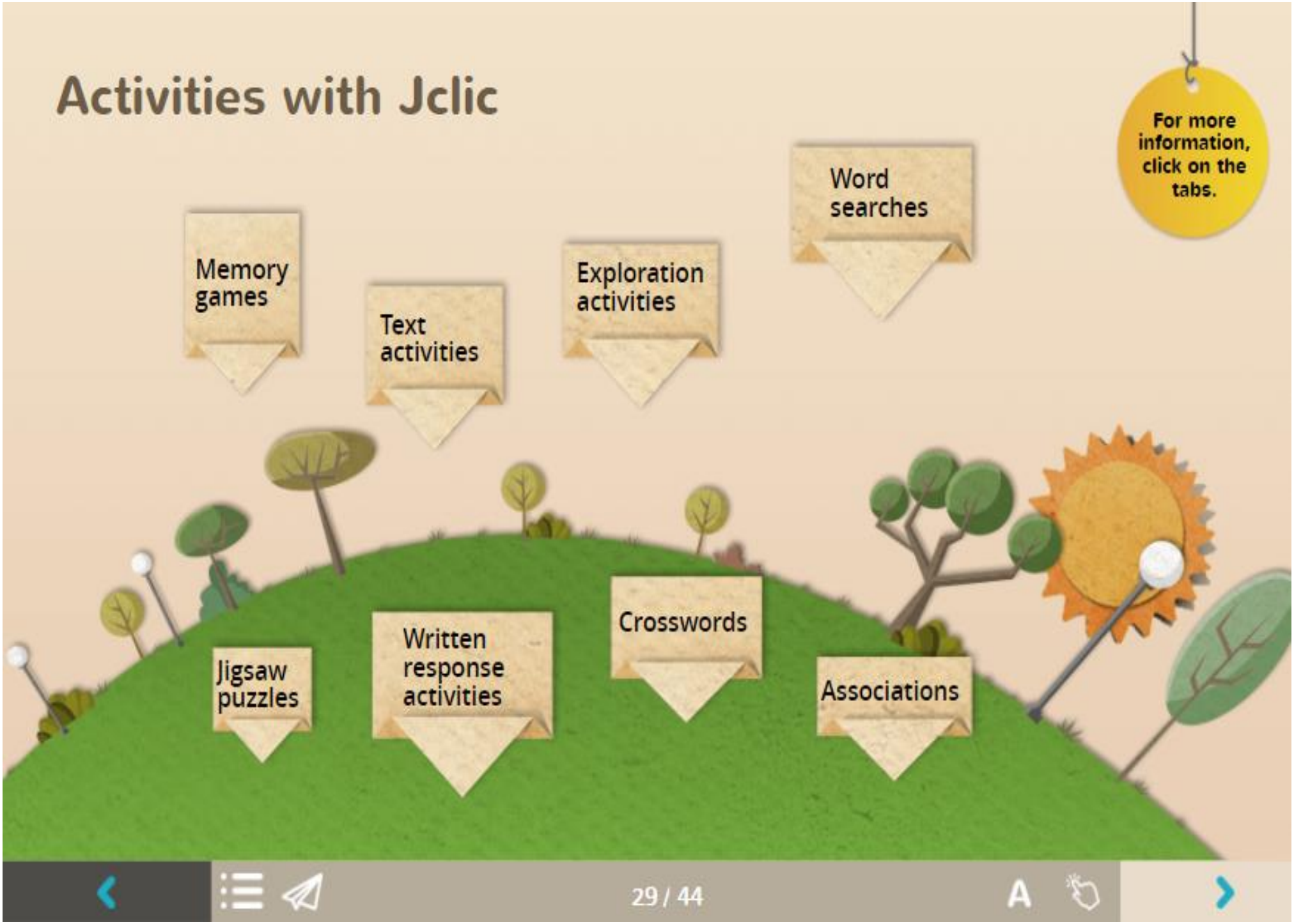


they will depend on...



The needs of the teacher

The characteristics of the classroom


Activities with Jclic
For more information, click on the tabs.
Word searches
Memory games
Exploration activities
Text activities
Crosswords
Written response activities
Jigsaw puzzles
Associations
29 / 44

MEMORY GAMES

This involves discovering pairs of equal or related elements which are hidden.

TEXT ACTIVITIES

The exercises are based on words, phrases, letters and paragraphs of a text which must be completed, understood, corrected or put in order. You can include images and windows with active content.

EXPLORATION ACTIVITIES

These are made up of a single set of information.

WORD SEARCHES

They consist of finding words hidden in a grid of letters.

JIGSAW PUZZLES

This involves rebuilding information which appears out of order. The information can be graphic, textual or sound or combine graphic and sound aspects.

WRITTEN RESPONSE ACTIVITIES

These are solved by writing a text, which may be a word or phrase.

CROSSWORDS

The boxes must be filled in according to the definitions, which may be textual, graphic or sound.

ASSOCIATIONS

The aim is to discover the relationships which exist between two sets of information.

Creations with JClic

To facilitate the creation work you can access the section titled **"Material"**, where you can familiarize yourself with the application and practice. In addition, you can access JClic projects created by other teachers and download them.



Click Area

Without connectivity, there are contents that will not be displayed.

What is Ardora?

For more information, click on the logo.

It is **free software**, as long as it is used in a personal, non-profit manner and for **strictly educational purposes.**

> It is a computer tool which enables teachers to create their own web contents. Some simple forms presented by the program are filled in and Ardora creates the web page and files. Then you only need a browser to view the result. It's as simple as that!



DOWNLOAD ARDORA

In order to use Ardora you do not need to install it on your computer, you only need to download the exe file, which will automatically unzip the files it contains. It is also necessary to have the Java plug-in installed on your computer. If you do not have it, you can download it from the Ardora website. Access the link and download the file in order to conduct activities with this tool.
Off you go!

Classification of activities

For more information, click on the vertical arrows

The activities are classified according to general categories.

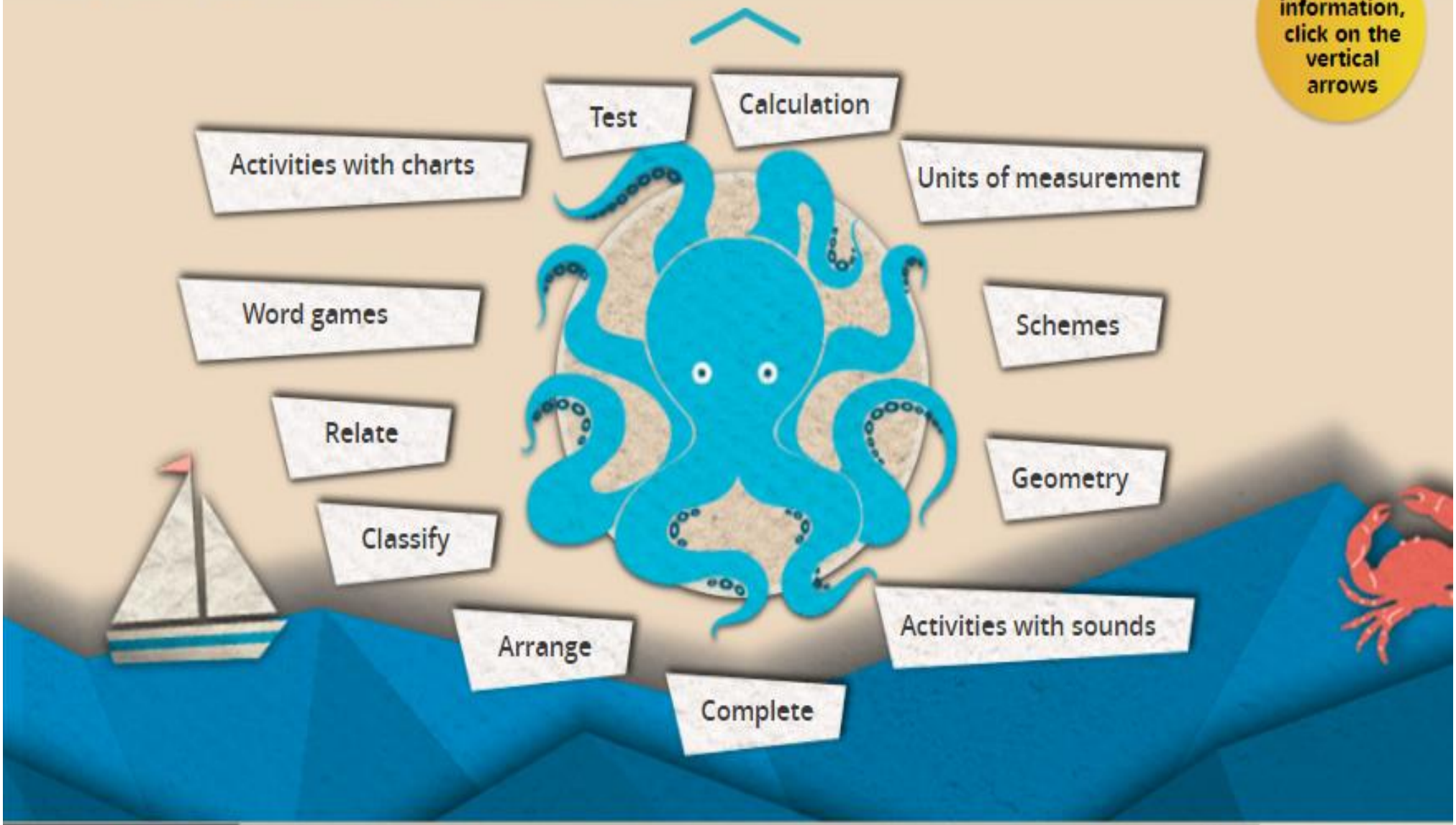
In addition, it has what they call **"in-server pages"**, with the aim of **creating spaces** in which the student can participate and exchange information.

In-server pages



Classification of activities

For more information, click on the vertical arrows



Creations with Ardora

Without connectivity, there are contents that will not be displayed.

The Ardora website has a **help** service for choosing **the most suitable activity, tailored to your needs.** It includes indications on the objectives to be achieved and suggestions for use in the classroom. In addition, you can access **multiple activities** conducted by other teachers.



Know more...

Help

ARDORA TUTORIAL

To facilitate your task, in the "Material" section you have a link to an Ardora mini-tutorial.

What is Hot Potatoes?



> Hot Potatoes consists of five tools which enable you to create interactive exercises of six different kinds, based on web pages.

The exercises created with Hot Potatoes can be **published on a web server** and shared over the Internet.

Hot Potatoes

Characteristics of Hot Potatoes

Simple

The creation and modification of the activities is performed in a simple and intuitive manner. It is not necessary to be an expert.

Applicable

It can be used for working on any school subject at any educational level.

Universal

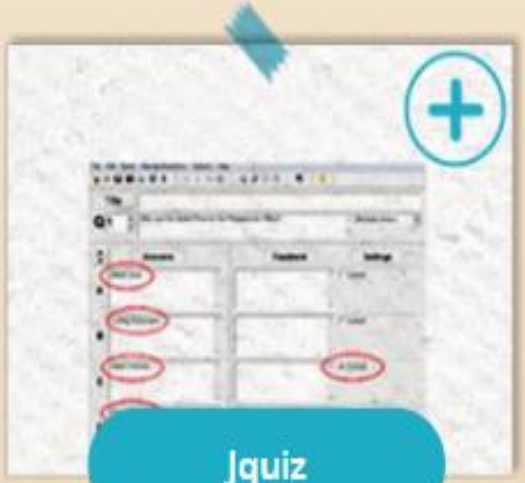
It can be used around the world, as it has the option of being translated into several languages. The exercises which are created are html pages, which can easily be shared on the Internet.

Activities with Hot Potatoes

For more information, click on the posters.



Jcloze



Jquiz



Jcross



Jmatch



Jmix

Jcloze

This is used to perform gap-filling exercises. A text is presented in which, instead of words, a gap appears. They may be both sentences and paragraphs. You have the option of receiving hints, or letters appear each time you press for help. Very useful for children who have begun to read and write fluently.

Jquiz

This enables you to create answer-ticking or short-answer exercises. Questions are asked and the right alternative or alternatives must be ticked. It can be used to create a questionnaire or a multiple-choice test.

Jcross

This application allows the creation of crossword puzzles. A grid is created in which the crossword is constructed, with the definitions we regard as suitable.

Jmatch

This allows the creation of association exercises. In this type of exercise there appears a drop-down with several options, from which you must choose the correct one.

Jmix

Application for creating exercises to sort words or letters. A set of words or letters are presented out of order within a sentence, which must be arranged to make sense.

Unit 5

Integration of ICT



Levels of integration

How is ICT integrated into the schools in your area? Do you think it is suitable? What would you change?

For more information, click on the tabs.

1. Learning about ICT

2. Learning from ICT

3. Learning from and with ICT

4. Learning with ICT



1. LEARNING ABOUT ICT

Integration involves digital literacy, generally in the computer classroom. Students perform specific tasks and the aim is to learn how to manage the computer, keyboard and mouse and some kind of simple software. It is not integrated into your daily work nor does it serve as methodological support.

2. LEARNING FROM ICT

Integration implies specific application, as the teachers use ICT in the computer room or in the "computer corner". They work individually, in pairs or in a group, conducting an activity with the word processor, interactive activities, etc. ICT is partially integrated to support the teaching work.

3. LEARNING FROM AND WITH ICTS

ICT is present in the classroom and used quite frequently, but as support. The classroom has a digital board and some computers, which are used to prepare group presentations, present the contents of the subject, etc. The teaching process improves, some methodological aspects change, but there is no full integration.

4. LEARNING WITH ICT

There is a total integration of ICT, not only in the classroom but also at a general level in the school. In the centre's educational project, ICT is envisaged as a usual work tool, as a cognitive instrument, which is used in all areas of the centre. New methodologies are used and the active participation of the students is promoted.

Advantages of use



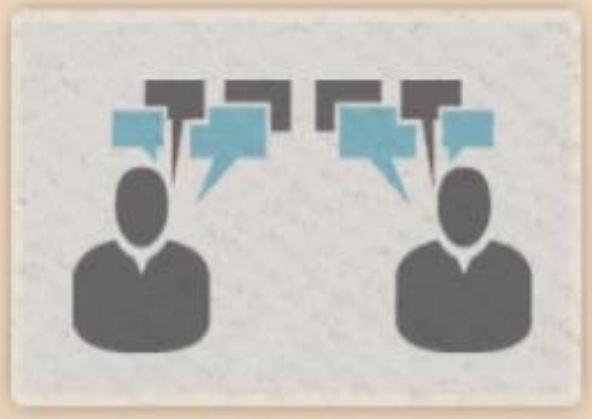
It increases motivation and interest



It permits interaction



It provides immediate feedback



It facilitates communication



It permits greater autonomy



It improves the competences of expression and creativity

Practical tips

- **Specify and define the educational objectives and needs.** It is important to choose the technology based on the educational needs and not the other way around.
- **Rehearse with the technology before integrating it.** One step prior to the full implementation of ICT in the classroom is for the teachers to test the tools.
- **General implementation.** ICT must be integrated into the educational centre and the classroom in a progressive manner. Otherwise, it can lead to anxiety or stress.
- **Learning network.** Create a space in which you can share experiences, opinions, difficulties, suggestions, etc.
- **Involve the family and students.**



Unit 6

Conclusion



Practical activity



Activity

Think of an activity and choose the program which best suits the characteristics and type of task within the chosen program.



Objective

Conduct an educational activity with one of the programs you have seen on this course: OpenOffice, JClic, Ardora or Hot Potatoes.

To do so, plan the activity by specifying the subject, the students to whom it is addressed, the objectives, the specific contents you want the students to learn and the evaluation criteria.

Results

Share the activity with your students and collect the feedback received.



Summary

Office automation tools offer the possibility of **creating educational resources** for the different subjects and ages of the students and using them in the classroom.

These tools can be used for the **creation of didactic materials,** to facilitate the teacher's **management of the classroom** and as a **work tool** for the students.

Another ICT tool fundamental to creating new educational spaces is the **Internet,** which allows access to information, communication and sharing.

Authoring tools have become, over time, resources widely used by teachers, due to the ease of creating the activities and their attractiveness to the students.

JClic, Ardora and Hot Potatoes are examples of authoring tools which enable you to create a multitude of multimedia activities free of charge.



Final word

We encourage you to put into practice the applications you have learnt in the exercise of your profession.

Are you ready to integrate ICT into your classroom?

We remind you that, in order to finish you can take the evaluation test and check what you have learnt.

