Welcome to
# Digital Teens

## Grade 7-12
Key features and sample pages
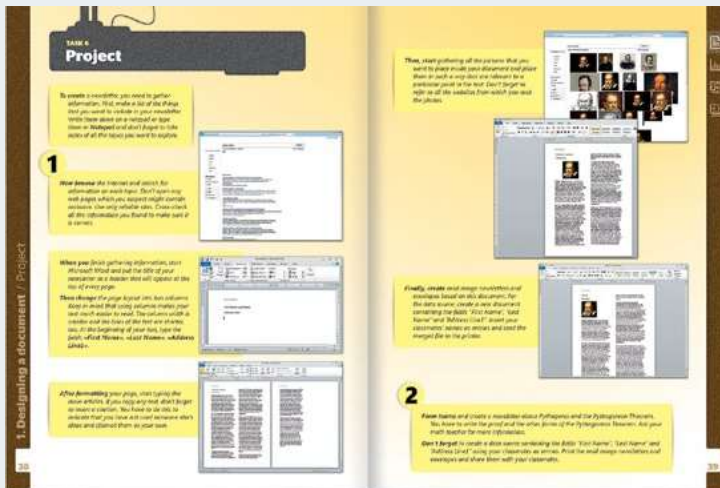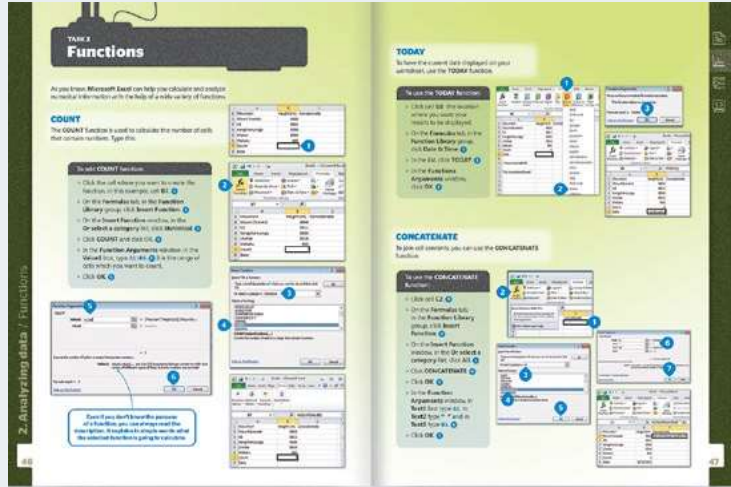
# Key Features

An innovative approach to teaching Computing and ICT written by a team of educators.

Each book has four or five modules.
Each module provides a range of tasks and activities that help students to develop their ICT skills and allow teachers to monitor the students' progress.

Clear explanations and illustrative contemporary examples.

The activities are based on school subjects taught in each grade and are designed to engage students through real life projects.

Students learn how to work with many different platforms and tools.

The *"Other platforms"* section at the end of each module shows some of the available alternatives. The online video tutorials guide the students through each task.

New vocabulary is organized in related topics.

# 2. Working online

Hi! In this module, you are going to learn all the necessary tools to work on your school projects with your classmates easier. You will find out how to work with documents online. You will save all the documents of your project on the cloud and access them from anywhere. You will learn how to collaborate with your classmates online. Finally, you are going to learn how to organize your thoughts and the information you collect using notes and mind maps.

## Learning Objectives

In this module you will learn:

> how to create and save documents directly to the cloud.

> how to edit a document with other people at the same time online.

> how to use phone or video calls to collaborate with other people online.

> how to present a topic online.

> how to take notes and organize them into one file.

> how to visually outline information.

## Skills

By the end of this module you will be able to:

> create, save and edit documents online.

> create and broadcast a presentation on the Internet.

> start an online meeting.

> organize and share notes online.

> create a mind map to visualize information for a project.

## Tools

> Microsoft OneDrive

> Microsoft Office Online

> Google Drive

> Cisco WebEx

> Google Docs

> Microsoft PowerPoint

> Microsoft OneNote

> Freeplane

> Apple iThoughts2go

> Zoom

> Microsoft OneNote for Android

# Working with documents online

If you frequently use Office programs to create and edit documents then you probably know how frustrating it can be if you are away from your computer and you desperately need to access one of your documents. Luckily, **Microsoft OneDrive**, which comes with the integrated **Office Online**, allows you to access your documents anywhere and even edit them online, right from your web browser, as if you were using a regular office application. On top of that, it also offers the ability to easily share your documents with others or collaborate with them online.

## To start using Office Online:

> Go to **onedrive.live.com** and click **Sign in**. **1**

> Type your Microsoft Account email address and password. **2**

> Click **Sign in**. **3**
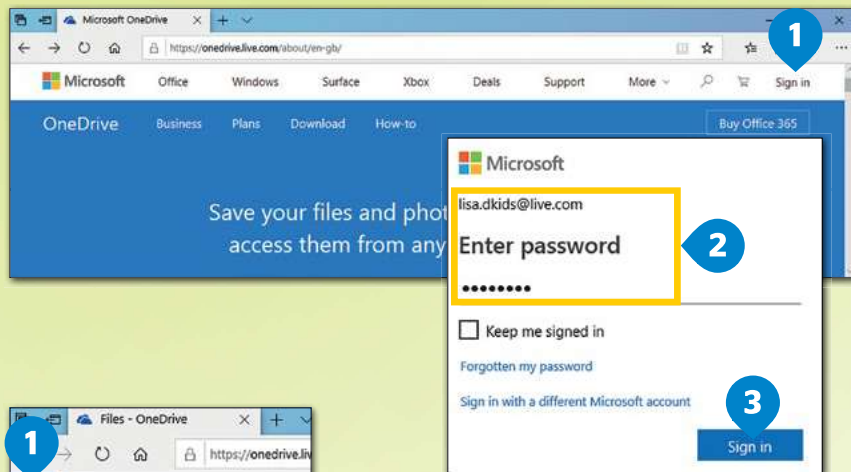
## To use **Word Online**:

> Click the **App Launcher**. **1**

> Click **Word**. **2**

> Click **New blank document**. **3**

> Click **Document 1** and type a name for your new Word document. **4**

> Use the online application like you would use Microsoft Word on your desktop. Most of the controls are there. **5**
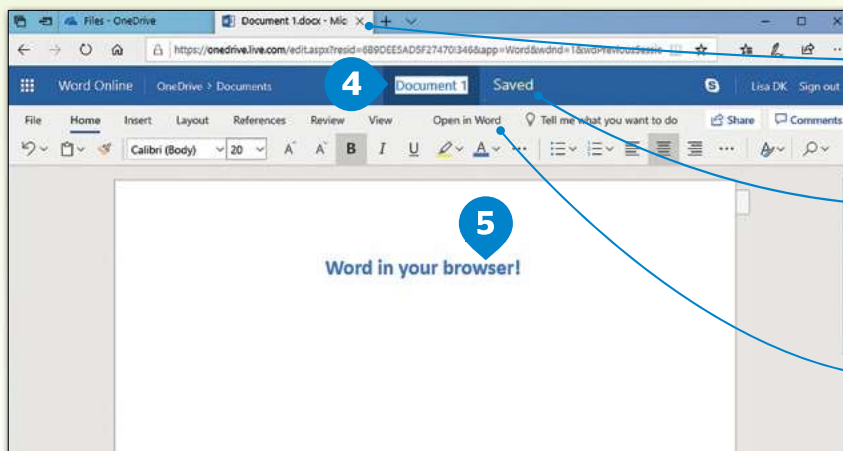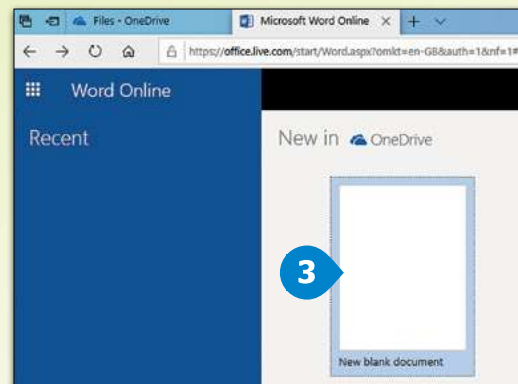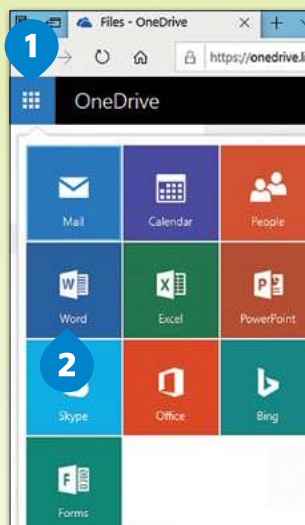
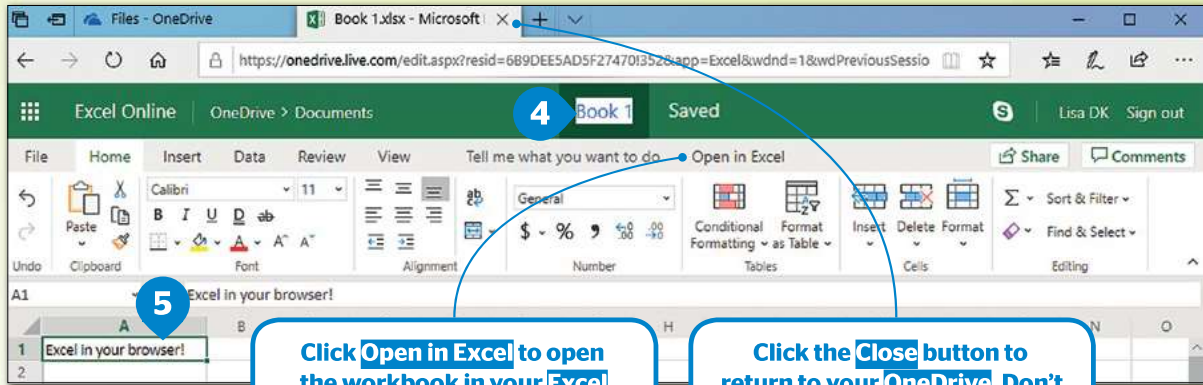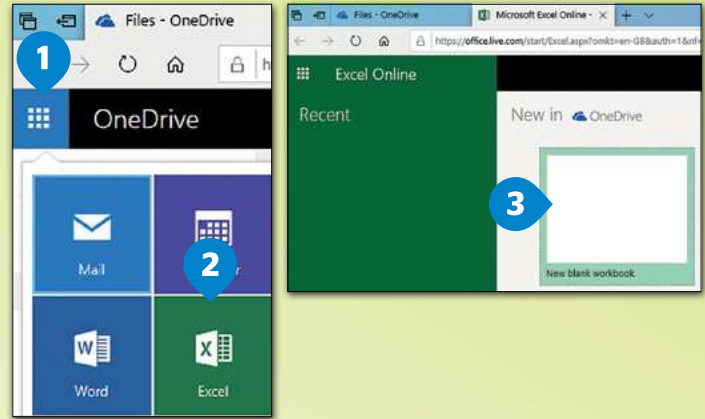Click the **Close** button to return to your **OneDrive**.

Every change you make to your document is automatically saved in your **OneDrive**.

Click **Open in Word** to open the document in your **Word** desktop application and continue editing from there.

## To use Excel Online:

> Click the **App Launcher**. ❶
> Click **Excel**. ❷
> Click **New blank workbook**. ❸
> Click **Book 1** and type a name for your new Excel document. ❹
> Use the online application like you would use Microsoft Excel on your desktop. Most of the controls are all there. ❺
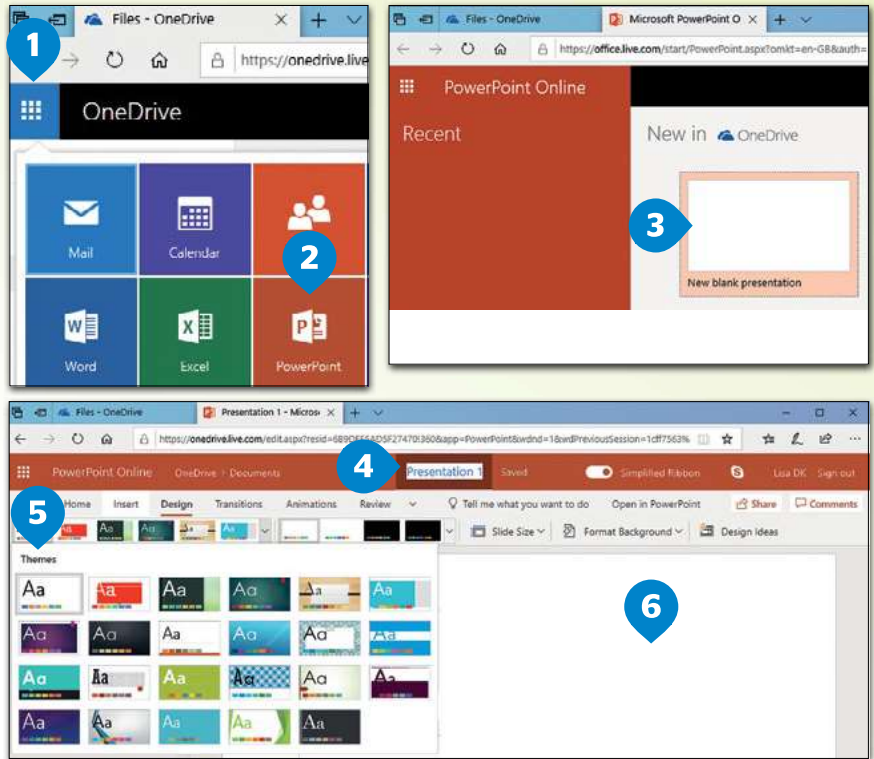
**Click Open in Excel to open the workbook in your Excel desktop application and continue editing from there.**

**Click the Close button to return to your OneDrive. Don't worry about saving, it happens automatically.**

## To use PowerPoint Online:

> Click the **App Launcher**. ❶
> Click **PowerPoint**. ❷
> Click **New blank presentation**. ❸
> Click **Presentation 1** and type a name for your new PowerPoint document. ❹
> On the **Design** tab, in the **Themes** group, click a theme that you want to apply. ❺
> Use **PowerPoint** like you would in your desktop. Most of the controls are there. ❻

**Click Upload to upload your documents to your OneDrive from your computer so that they are accessible from any browser, anywhere.**

**Click the Close button to return to your OneDrive. Don't worry about saving, it happens automatically.**

**Click Open in PowerPoint to open the presentation in your PowerPoint desktop application and continue editing from there.**
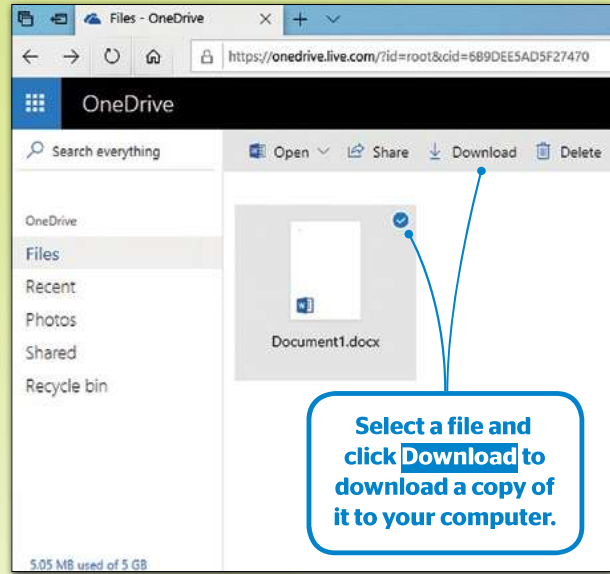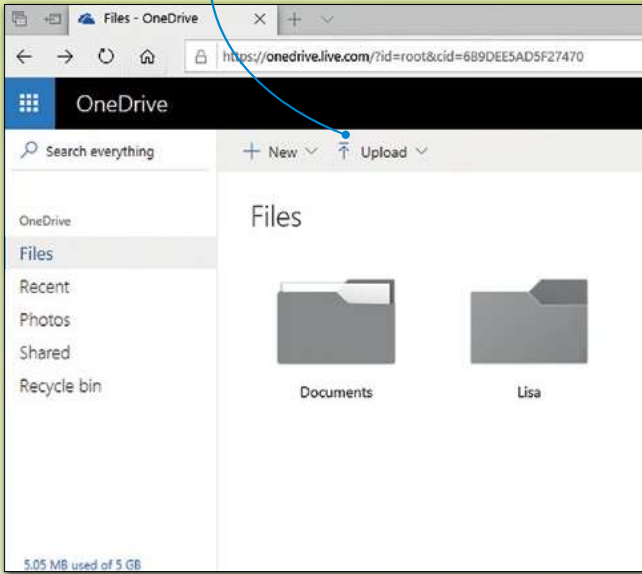




**Select a file and click Download to download a copy of it to your computer.**

## Access your OneDrive files from your devices

For easier access to your OneDrive files from any device you use, there are useful applications that you can download and install.

**To download OneDrive:**

> Click **Get the OneDrive apps**. ❶

> Select the device type you want (e.g. Xbox One) and click **Learn More**). ❷

> Click **Onedrive app for Xbox One** ❸ to download and install the **OneDrive** app.
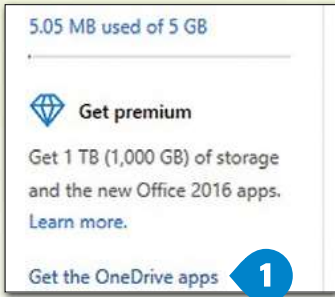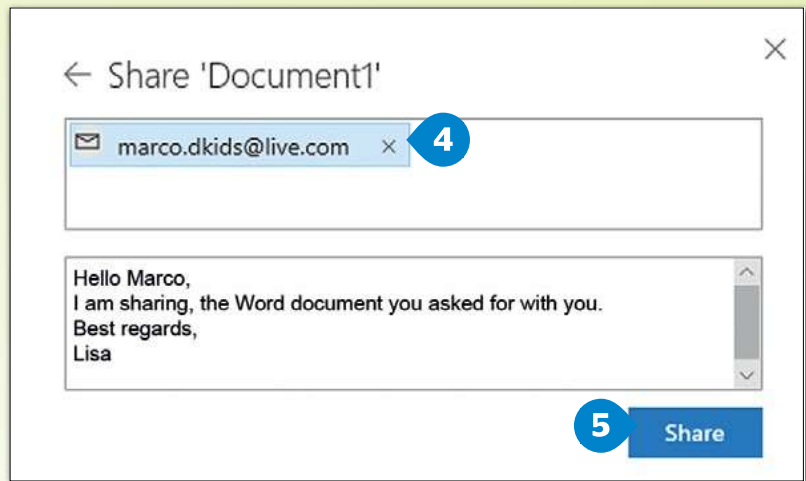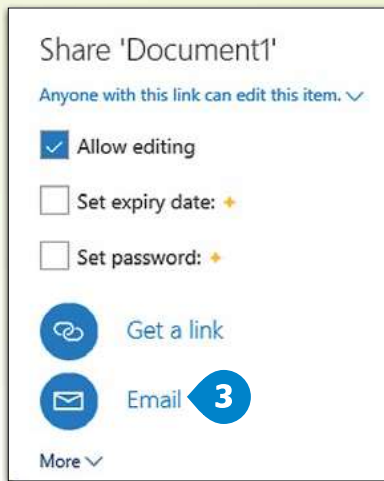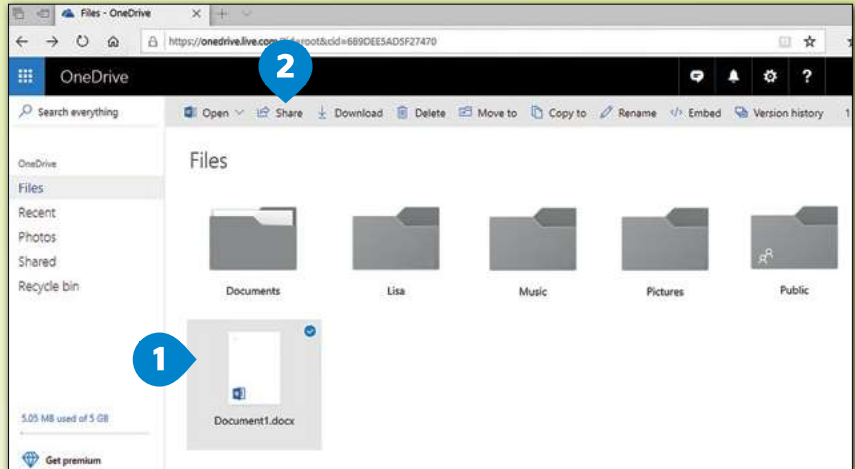
## Share your documents with others and collaborate

Once you have your documents on **Microsoft OneDrive**, you can share them with your friends.

**To share your documents:**

> Select the document you want to share. **1**

> Click **Share**. **2**

> Click **Email**. **3**

> Type the email addresses of the people you want to share the file with. **4**

> Click **Share**. **5**

## Share with care

Remember that if someone forwards your email to someone else, whoever receives the email will be able to see the document. So if you want only your recipients to see the document, deselect the checkbox "**Allow editing**", select the checkbox "**Set password**" and type a password to protect the file, before you continue to the next step and click **Share**.
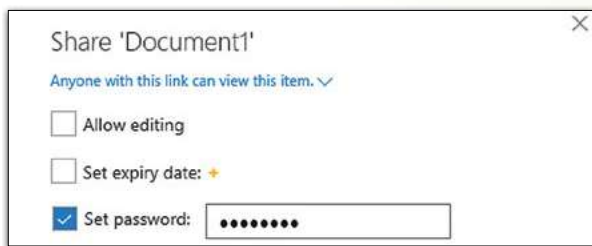
You don't need to worry about closing the document for others to open it. In **Word Online**, **Excel Online, PowerPoint Online** and **OneNote Online** you and your friends can edit the document at the same time. That way you can collaborate on the same document online, as if you were together.

An alternate cloud storage service with integrated online office suite capabilities is **Google Drive**. Much like **Microsoft OneDrive**, it offers access to your files from all browsers and the ability to create, edit, share and collaborate on documents with others through **G Suite,** Google's Office Suite. To use **Google Drive** you need a **Google account**, which you will already have if you use **Gmail**.

### To start using **Google Drive**:

> Go to **www.google.com/drive/** ①
and click "**Go to Google Drive**". ②

> Sign in using your
Google account **Email**
and **Password**. ③

> Click **Next**. ④
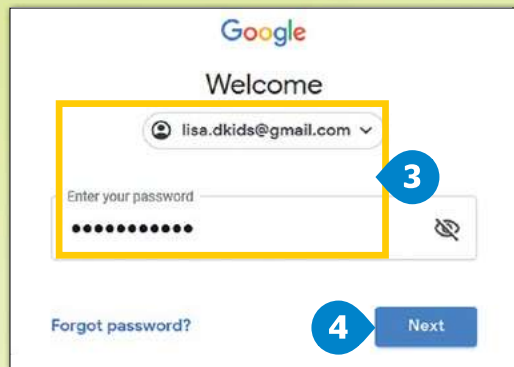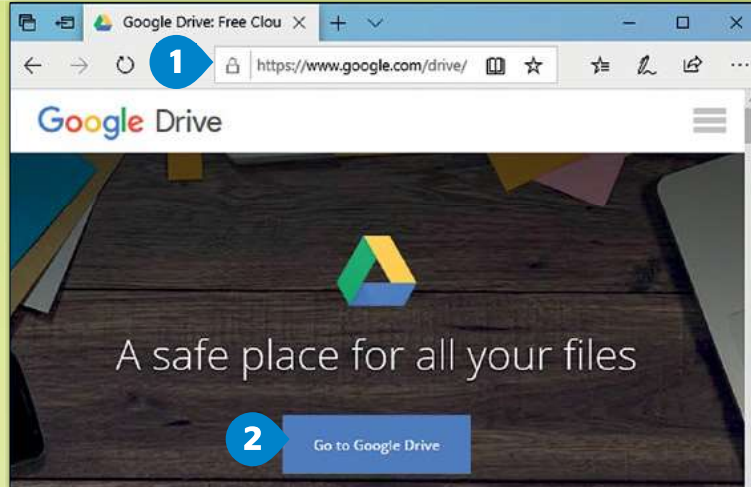


### To use **Google Drive**:

> Click the **New** button ① and
click **File upload**, ② to upload
any file or click **Folder upload**, ③
to upload any folder from your
computer to your **Google Drive**.

> Or, if you want to create a
new office document, click
the type of document you wish
to create. ④

> The appropriate web application
will open. Keep in mind, **Google
Docs** is like **Word**, **Google Sheets**
like **Excel** and **Google Slides** like
**PowerPoint**.
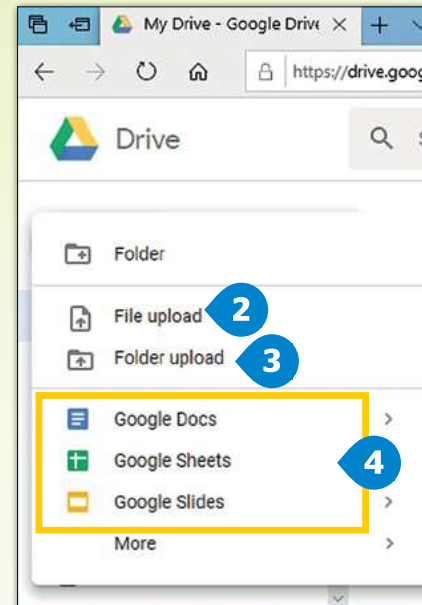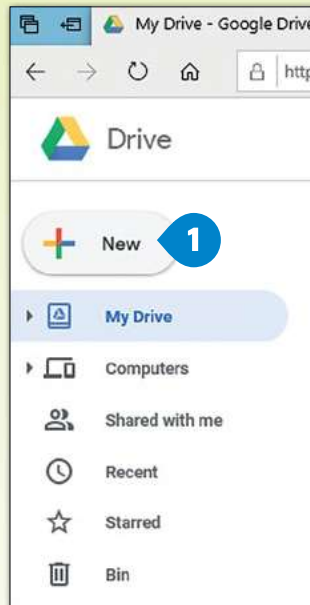


### HISTORY

**The concept of cloud computing dates back to the 1950s, when they used mainframe computers for processing that could be accessed via client/terminal computers called "dump terminals." These computers were used only for communicating with the mainframe and had no internal processing capabilities.**
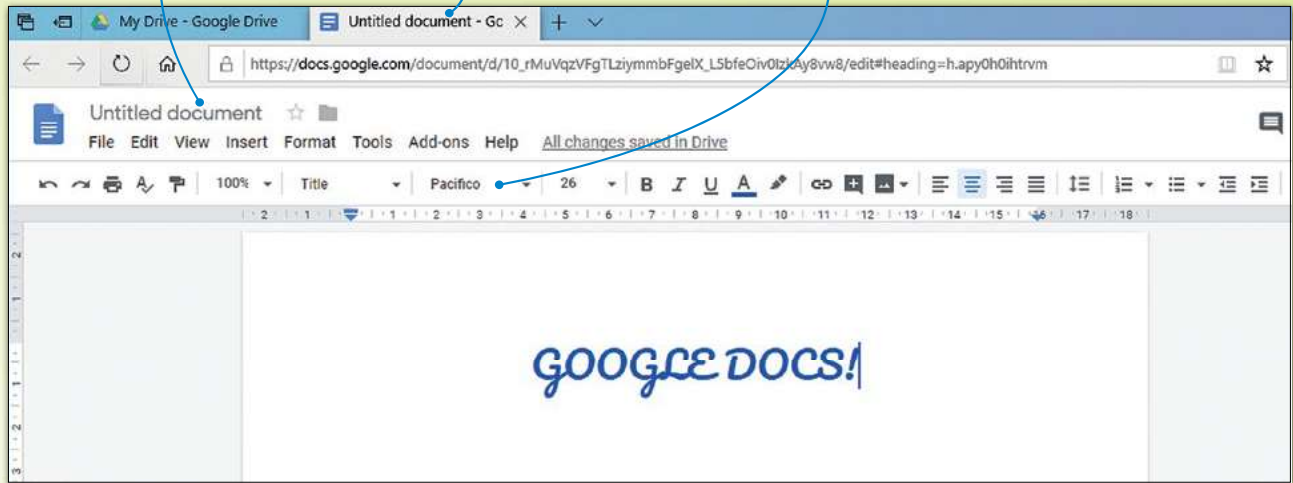
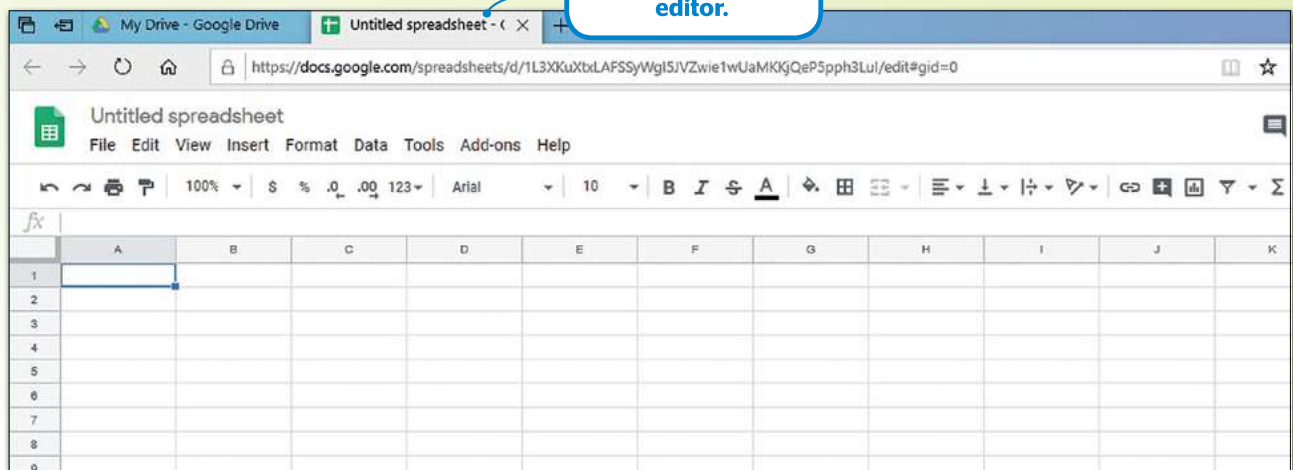Let's have a look at some **G Suite** applications.

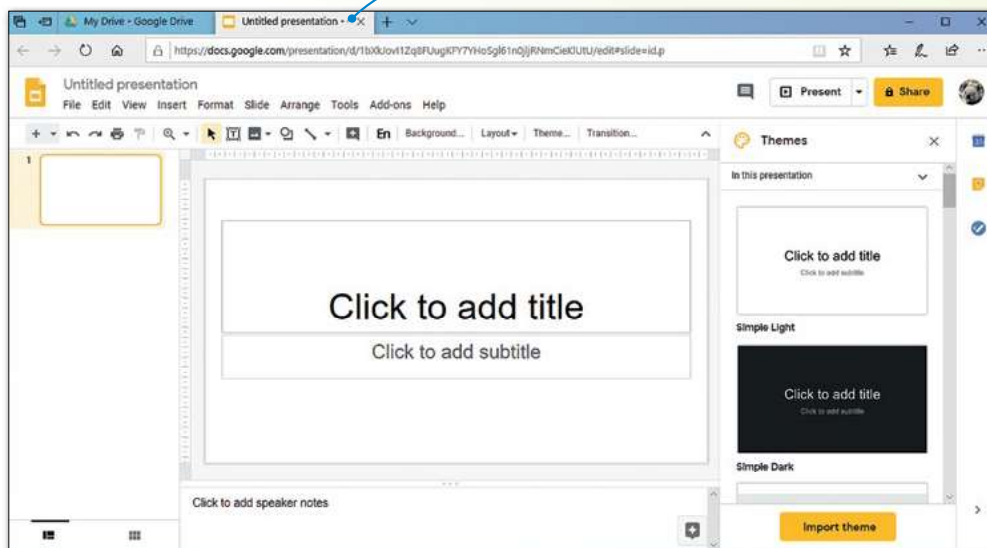**Give your document an appropriate title.**

**The Document editor.**

**The usual text editing controls and formatting tools are all here.**



**The Spreadsheet editor.**
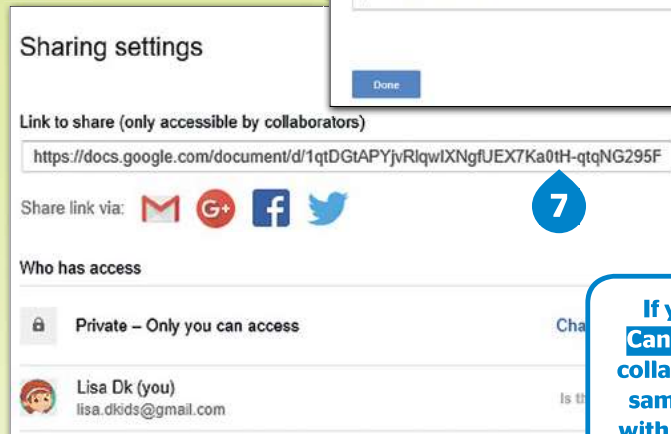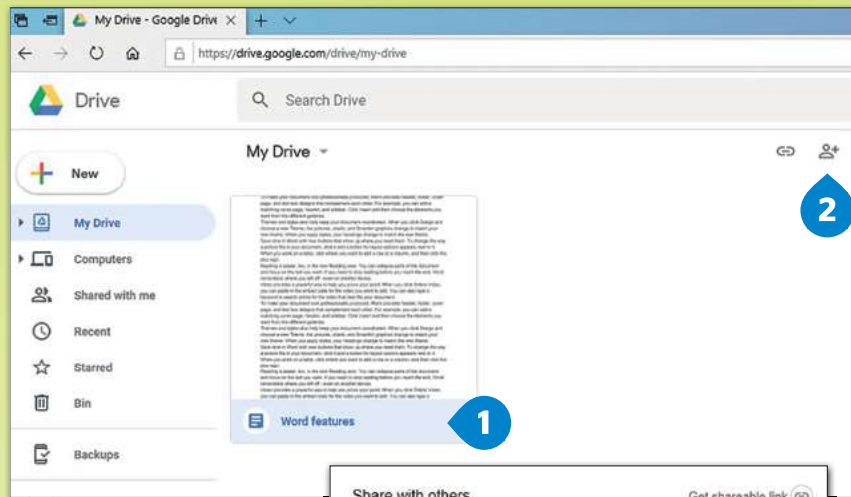


**The Presentation editor.**
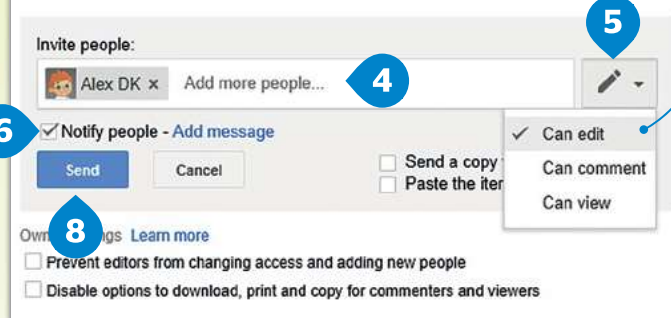
## Share documents with others and collaborate

Once you have your documents in **Google Drive**, you can share them with your friends.

### To share your documents:

> Select the document you want to share. **1**

> Click the **Share** button. **2**

> Click the **Advanced** button. **3**

> Type the email addresses of the people you want to share the file with. **4**

> Set the access permissions from the drop-down list. **5**

> Either check **Notify people 6** or copy the **Link to share 7** and send it to your friends (either by email, IM or however else you communicate).

> Click **Send**. **8**

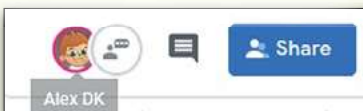### Real-time collaboration

**Google Drive** lets multiple people in different locations collaborate simultaneously on the same file from any computer with Internet access. When someone is viewing or editing something at the same time as you, you'll see a profile picture and their name if you place the mouse pointer on it, in the top right of your screen.

If you choose **Can edit** you can collaborate on the same document with many people in real time.

## hands on!

*Get acquainted with the various capabilities of Google Drive by creating different documents. Try out the real-time collaboration ability by creating a virtual chat with your classmates.*

# Online meetings

Cisco WebEx allows you to collaborate with your contacts and colleagues before, after, and during a meeting. Your contacts, if they are only attendees don't need to have a WebEx account unless the host requires them to. In this case, users have to sign up, or request an account.

**To start using WebEx:**

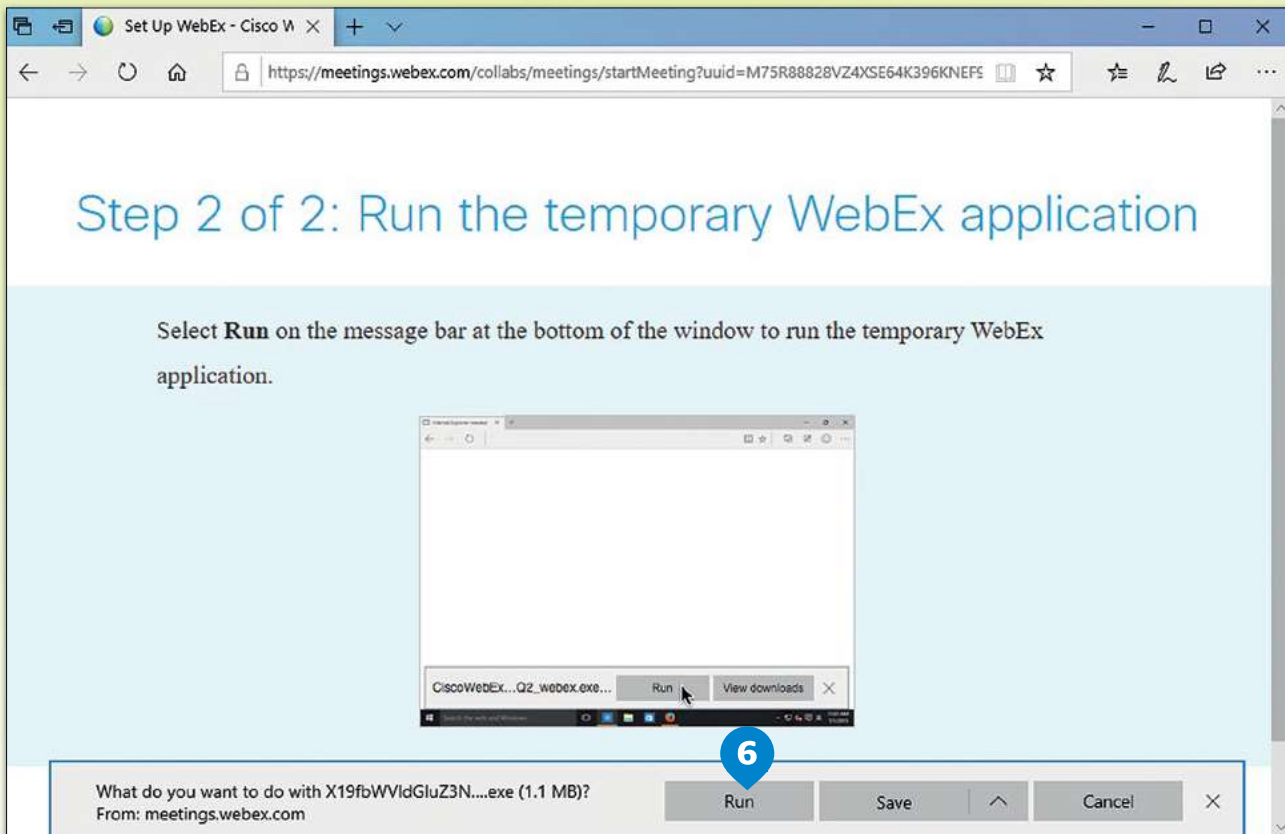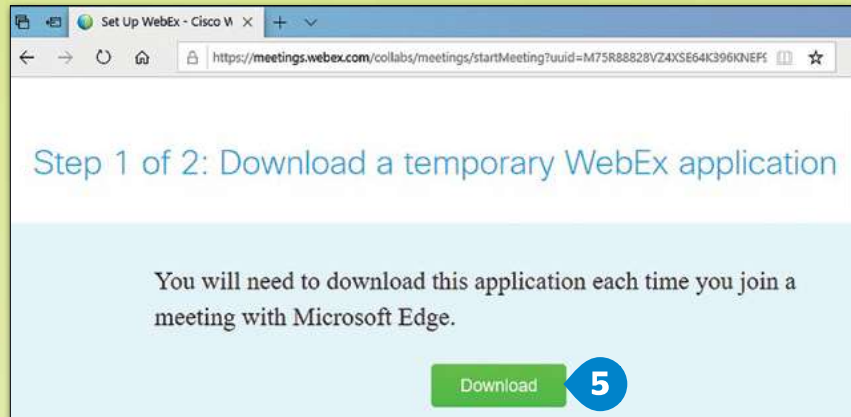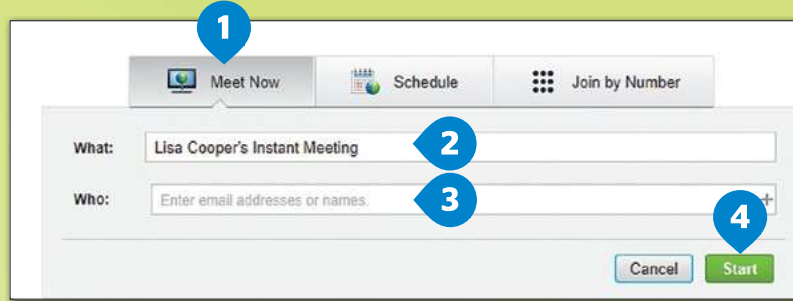> Go to **www.webex.com**.

> Click **Start for Free** ❶ and create a free account.

> Click **Host**. ❷

> Type your email address ❸ and click **Next**. ❹

> Type your **password** ❺ and click **Sign In**. ❻

> You should now see the **WebEx** home screen. ❼

## To start an instant meeting:

> Click **Meet Now**. ①

> If you want, change the topic of the meeting in the **What** text box. ②

> Enter the email addresses of the people you want to invite to attend your meeting in the **Who** text box. ③

> Click **Start**. ④

> Every time you start a meeting, you will be asked to download an application.

> Click **Download**. ⑤

> Click **Run**. ⑥



Step 1 of 2: Download a temporary WebEx application

You will need to download this application each time you join a meeting with Microsoft Edge.

Download

Step 2 of 2: Run the temporary WebEx application

Select **Run** on the message bar at the bottom of the window to run the temporary WebEx application.

What do you want to do with X19fbWVldGGluZ3N....exe (1.1 MB)?
From: meetings.webex.com

Run    Save    Cancel

## SMART TIP

**When you use a video meeting program try to avoid talking all together, especially if the Internet connection isn't good. Respect the other people.**

When a meeting starts, the meeting window appears.

When the meeting is over click **End Meeting**.

Click **Invite & Remind** to invite more participants or to remind late ones.

Click **Connect to Audio** and then **Call Using Computer** to participate in the audio conference using your computer's microphone.

Click **Share Screen** to share your desktop screen with other participants.

You can also chat using the **Chat** window.

## Share documents during the meeting

To share a document or file with other participants and review it in real-time:

> Click **Share**. ❶

> Then click **File (Including Video)**. ❷

> Click **From My Computer...** ❸ to select and upload a file from your computer.

The shared document appears in the main meeting window and whatever you see can also be seen by all other participants, so you can make a presentation by changing slides or pages whenever you want and everybody is always on the same page.

## hands on!

*Form 3-4 person teams with your classmates and participate in an online meeting. Choose a discussion subject and make sure everyone speaks. Try the file sharing option by sending a file that everyone can see at the same time and discuss it.*

# Presentation broadcasting

You can broadcast your **Microsoft PowerPoint** presentation over the Internet to a remote audience.

Send a link (URL) to your audience and start presenting the slide show inside PowerPoint. Everyone you have invited can watch a synchronized view of your slide show in their browser by clicking your link.

You can send the URL for your slide show to attendees by email. During the broadcast, you can pause the slide show at any time. You can also resend the URL to attendees or switch to another application without interrupting the broadcast.

## To broadcast your presentation:

> Open a presentation in **Microsoft PowerPoint**.

> On the **Slide Show** tab, in the **Start Slide Show** group, click **Present Online**. ❶

> Click **CONNECT**. ❷

> Type your Microsoft account credentials ❸ and click **Sign in**. ❹

> To send the URL for your presentation to your audience, either click **Send in Email...** ❺ or click **Copy Link** ❻ to send the link by other means.

> When your audience has received the URL for the slide show, click **START PRESENTATION** ❼ to begin your broadcast.

> After you finish presenting and are ready to end the broadcast, press Esc to exit Slide Show view and then click **End Online Presentation**. ❽
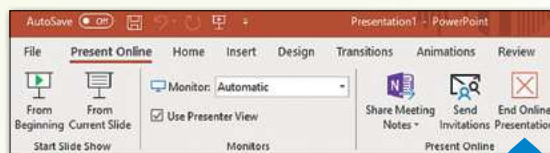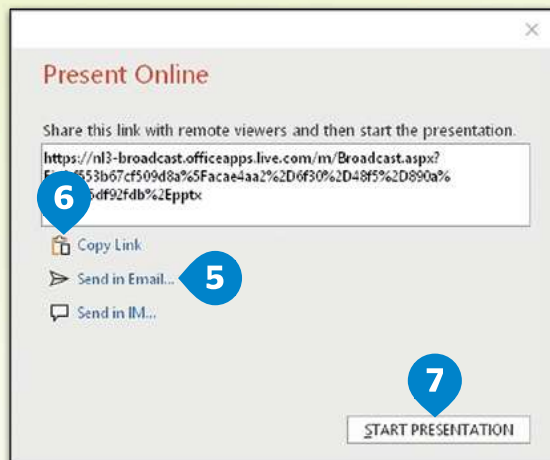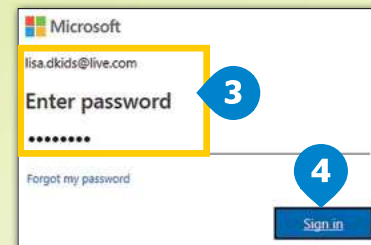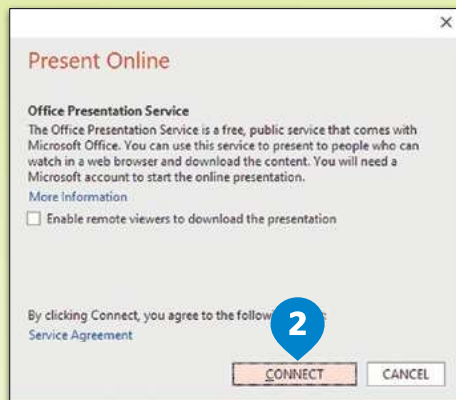
*Don't have a projector or large display in your conference room? Create a broadcast and everyone can follow along on their laptops.*

## Watch a presentation online

The recipient can watch your presentation via web browser.

### To watch an online presentation:

> In your email account you will receive a new email with a link. **1**

> Copy the link to a browser address bar **2** and press **Enter ↵**.

> Wait for a confirmation message. **3**

> When the broadcaster clicks the **Start Slide Show** button, the presentation will begin in your browser. **4**
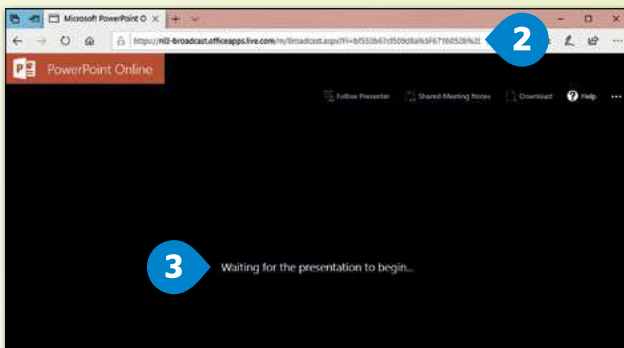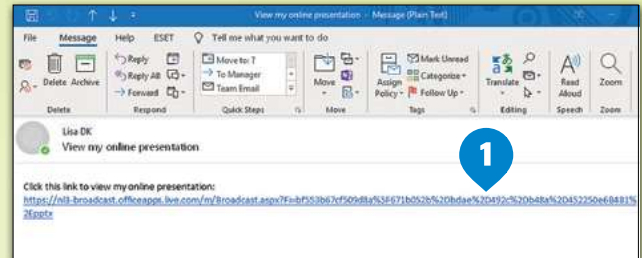
## Supported PowerPoint features

### Some PowerPoint features are changed when the slide show is broadcasted online:

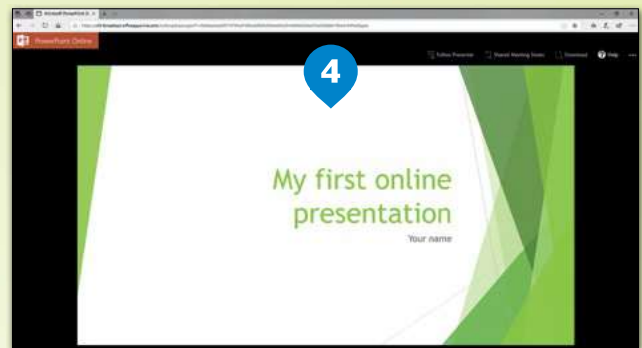| | |
|---|---|
| 1 | Any transitions in your presentation are shown as Fade transitions in the browser. |
| 2 | Screensavers and email pop-ups can disrupt the audience's view of the slide show. |
| 3 | Audio (sounds, narration) is transmitted to the audience through the browser. |
| 4 | You cannot add ink annotations or markup drawn onto the slide show during the presentation. |
| 5 | If you follow a hyperlink in your presentation to a Web site, the attendees only see the last slide you showed in the original presentation. |
| 6 | If you play a video in your presentation, the browser shows it to the audience. |

## hands on!

*Broadcast a presentation to your classmates' computers. If you are not in the same room, keep in mind that they cannot hear you so make sure you establish an online conference connection (Skype, etc.) to accompany your presentation's broadcast.*

*Is it your turn to present, and someone else's computer is attached to the projector? Start a broadcast, send them the link and control the presentation from your PC.*

# Notes management

**Microsoft OneNote** is a digital notebook that provides a single place where you can gather all of your notes and information. It also has the added benefit of powerful search capabilities to quickly find what you are looking for.

OneNote offers the flexibility to gather and organize text, pictures, digital handwriting, audio and video recordings, and more –all in one digital notebook on your computer.

Furthermore, powerful search capabilities can help you locate information from text within pictures or from spoken words in audio and video recordings.
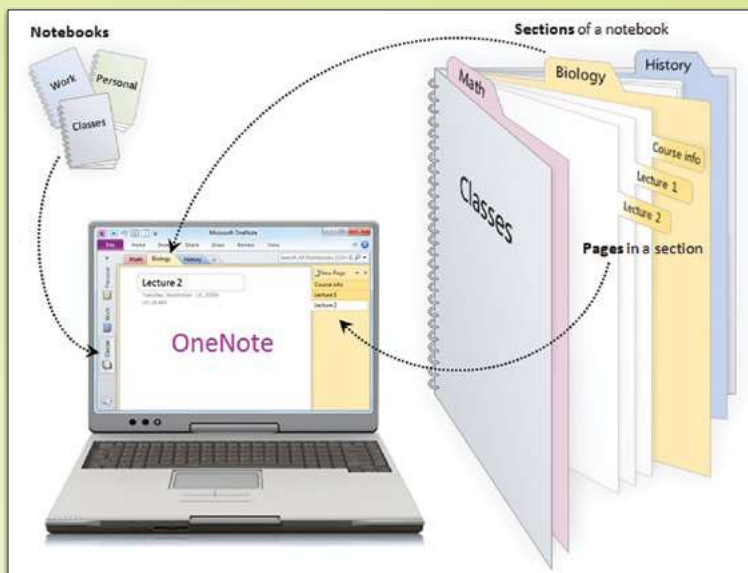


So let's see how your notes are organized in OneNote. It's very easy to get the hang of it when you think of one of your school notebooks.

Different **notebooks** appear as tabs on the left of the main OneNote window. Each notebook has sections which appear as tabs at the top. Finally, each section consists of **pages** which appear on the right with their titles.

### To create a new notebook:

> Click the **+Notebook** button at the bottom left of your screen. **1**

> Click **Blank** type. **2**

> Type a **Notebook name**. **3**

> Click **Create notebook**. **4**
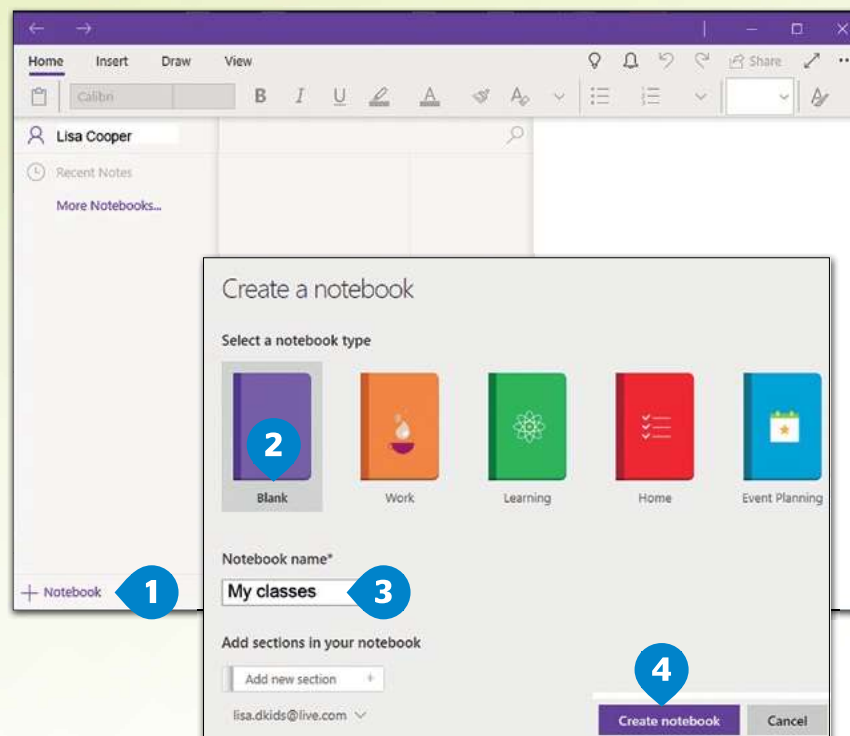
## Save a notebook

OneNote automatically and continuously saves your work while you make notes. It also saves your work whenever you switch to another page or section and whenever you close sections and notebooks. There is no need to save your notes manually, even when you finish them.

### To rename a section of your notebook:

> Right-click the section tab you wish to rename. **1**

> Click **Rename Section**. **2**

> Type the new section name.

> Press Enter ↵ or click anywhere else and the name changes. **3**
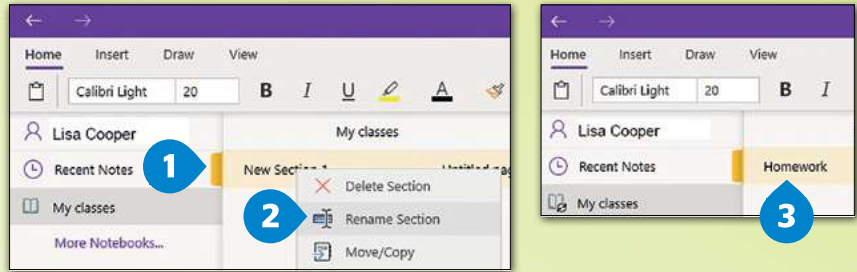
### To create a new section:

> Click the **+Section** button, **1** at the bottom left of your screen.

> Type a name for your new section. **2**

> Press Enter ↵.
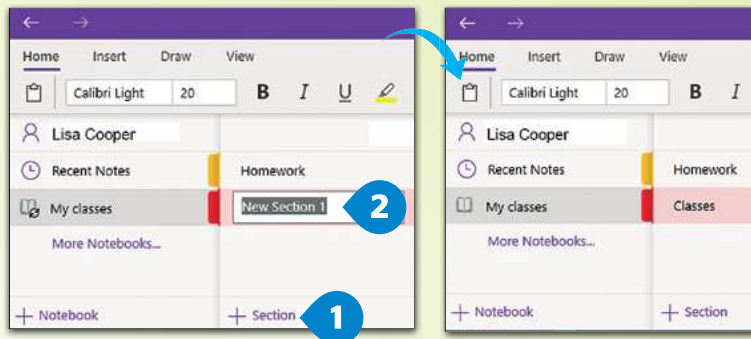
### To insert a new page:

> Open the notebook or click the section where you want to insert a page.

> Click the **+Page** button. **1**

> You can drag and drop any page up and down to change the order within the section.

**Every page has a title which you can change.**
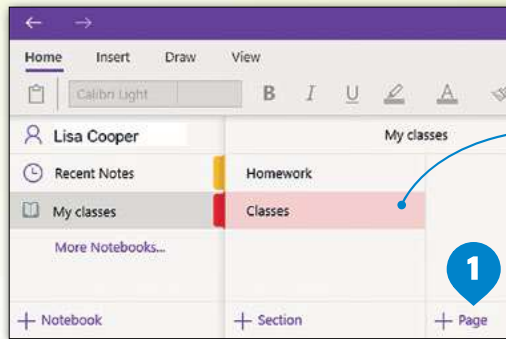
## Organize your topics using subpages

To create a subpage, drag a page tab to change its indent and organize your pages within a section.

## Write notes on a page

To type notes, click anywhere on the page you want a note to appear and then type. OneNote creates a box for each block of text that you type.

**Algebra**

Algebra includes the study of algebraic structures, which are sets and operations defined on these sets satisfying certain axioms. The field of algebra is further divided according to which structure is studied; for instance, group theory concerns an algebraic structure called *group*.

From
<https://en.wikipedia.org/wiki/Lists_of_mathematics_topics#Algebra>

**To create a new Notebook:**

> Click **+New** button. ❶

> In the drop-down list, click **OneNote notebook**. ❷

OneDrive

Search everything    ❶  + New ∨    ⬆ Upload ∨

OneDrive          📁 Folder
Files             📄 Word document
Recent            📊 Excel workbook
Photos            📑 PowerPoint presentation
                  📓 OneNote notebook  ❷
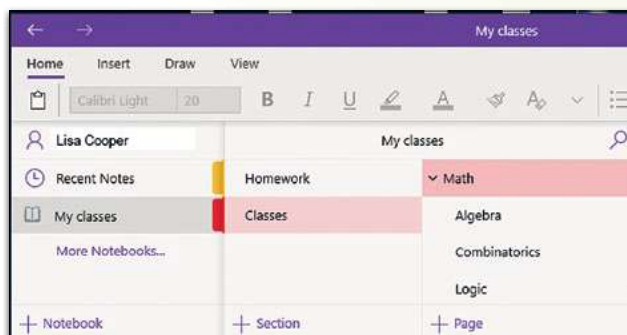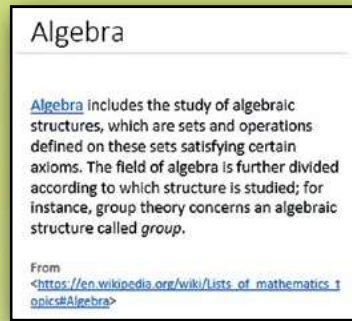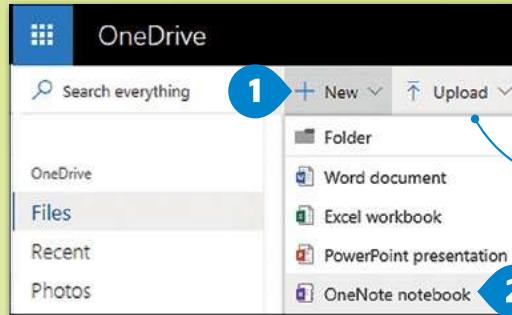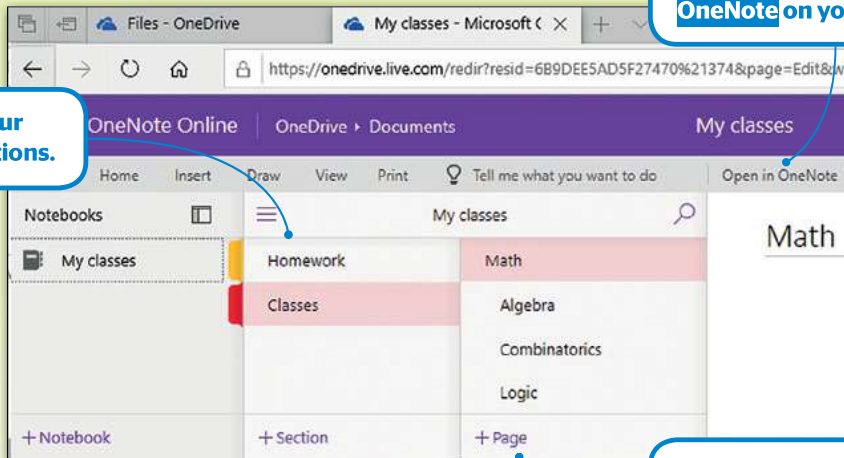
**Another way is to click Upload on your OneDrive and upload a locally saved notebook from your computer to the cloud.**

As with other documents in OneDrive, you can also open your notebooks right from the browser using **OneNote Online**.

**Click here to open the current notebook in OneNote on your computer.**

**Here are your notebook sections.**

Files - OneDrive          My classes - Microsoft C  ×  +

← → ↻ ⌂    🔒    https://onedrive.live.com/redir?resid=6B9DEE5AD5F27470%21374&page=Edit&wo

OneNote Online    OneDrive ▸ Documents                 My classes

Home    Insert    Draw    View    Print    ♀ Tell me what you want to do    Open in OneNote

Notebooks    ▭        ≡        My classes          🔍           Math

📖 My classes         Homework       Math
                      Classes        Algebra
                                     Combinatorics
                                     Logic

+ Notebook           + Section       + Page

**Click here to add a new page to the current section.**
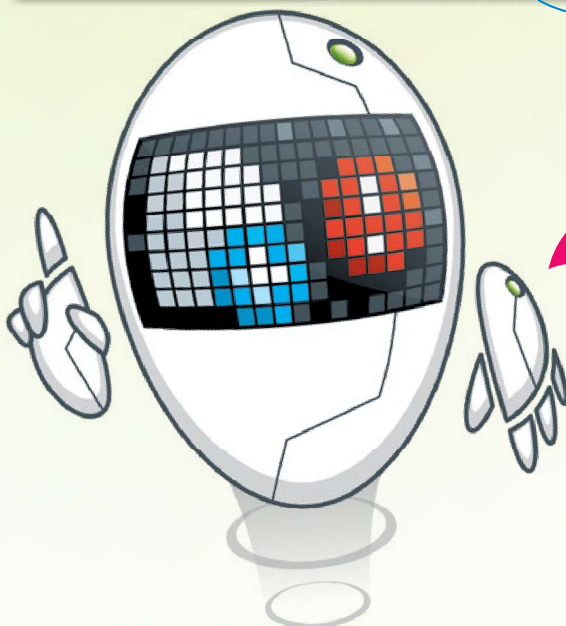
*Keep hard copies of your files. Imagine having all your notes from all of your classes in one file and suddenly your hard disk stops working. Everything would be lost.*

## Access your notes from your other devices

As we saw in the very first task of this module, there are many OneDrive apps available for your computers, tablets or smartphones. They allow you quick access to not only your notes on OneDrive but also to all your other documents and files from any device.

## Share your notes with others and collaborate

Once you have your notes on OneDrive, you can share them with your friends.

**To share your notes:**

> Select the notebook you want to share. ❶

> Click **Share**. ❷

> Click **Email**. ❸

> Type the email addresses of the people you want to share the file with. ❹

> Click **Share**. ❺

**Check Allow editing if you want to collaborate with your friends on the same notebook.**
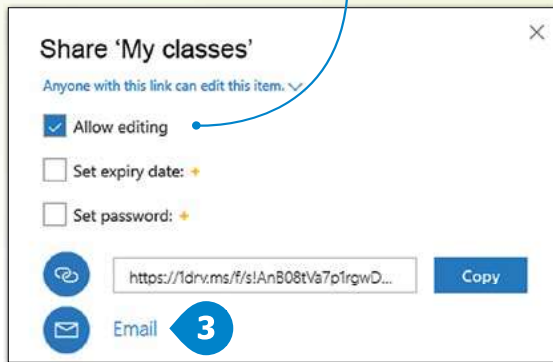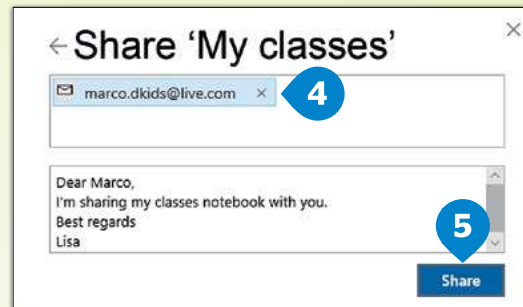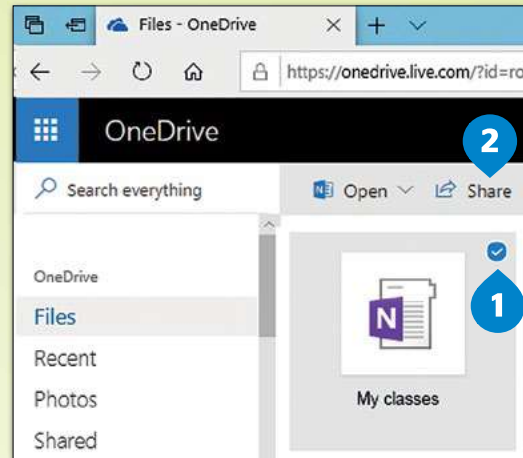
*Many people can edit the same notebook at the same time. It's easier to collaborate this way!*

## hands on!

*Pair up with a classmate and collaborate organizing a school project using OneNote. Share a notebook with your partner and divide up the work. Can you also find a way to decide what everyone will do in the project, not by contacting your partner directly but by using the tools offered by OneNote? Good luck!*

2. Working online / Notes

138

<br>

**TASK 5**
# Mind mapping

## What is a mind map?

A mind map is a diagram used to visually outline information. A mind map is often created around a single word or piece of text, placed in the center, to which associated ideas, words and concepts are added. Major categories radiate from a central node, and lesser categories are sub-branches of larger branches.

The fact that mind maps visualize ideas and concepts makes them an excellent tool for solving problems, making decisions, studying and ordering things.
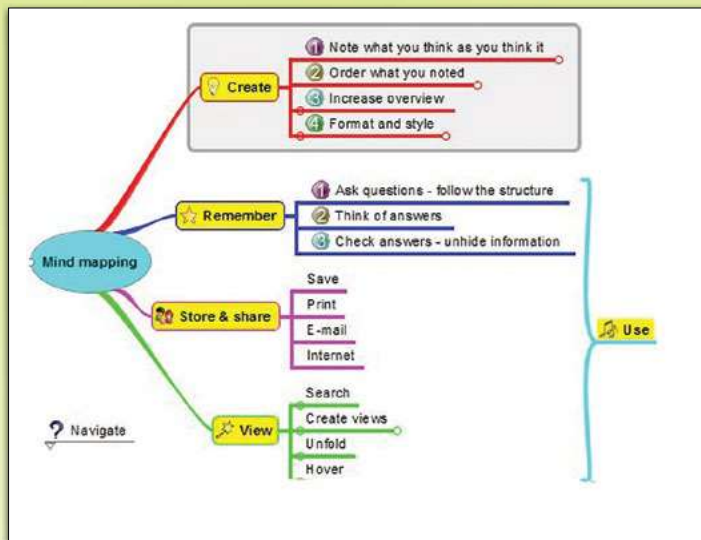


A great tool for creating mind maps is **Freeplane**. Let's learn how to create a mind map.

### To create a new mind map:

> Open **Freeplane**.

> Click **File**. ❶

> Click **New map**. ❷

> A new blank mind map will be created with nothing more than a central node. ❸
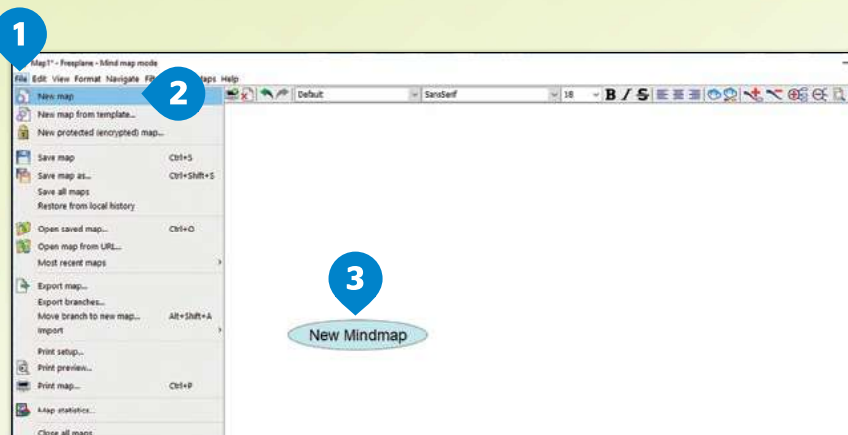


Every mind map has a central idea or concept that is the subject of the mind map, i.e. what the map is about. This central subject is called a central node. All the other details that enrich and explain this subject are called nodes and are positioned around the central node connected to it by lines.

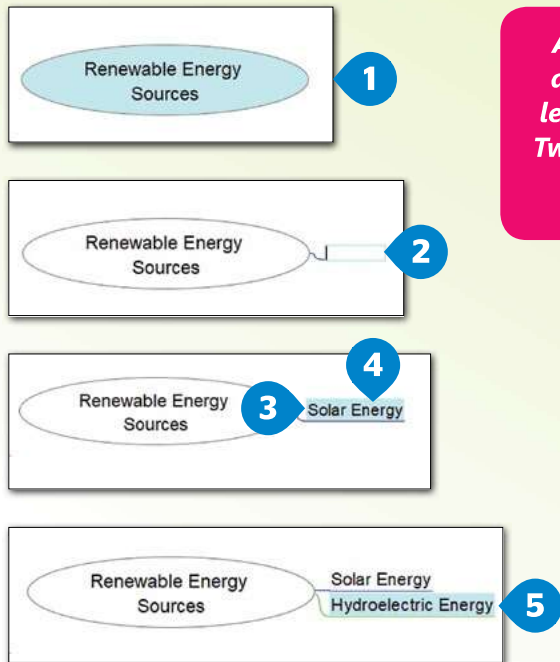Each of these nodes can also have other nodes that explain them.

That way all the nodes in a mind map form a hierarchy in which the central node has one or more child nodes that expand the central idea and each of these child nodes can have their own child nodes and so on.
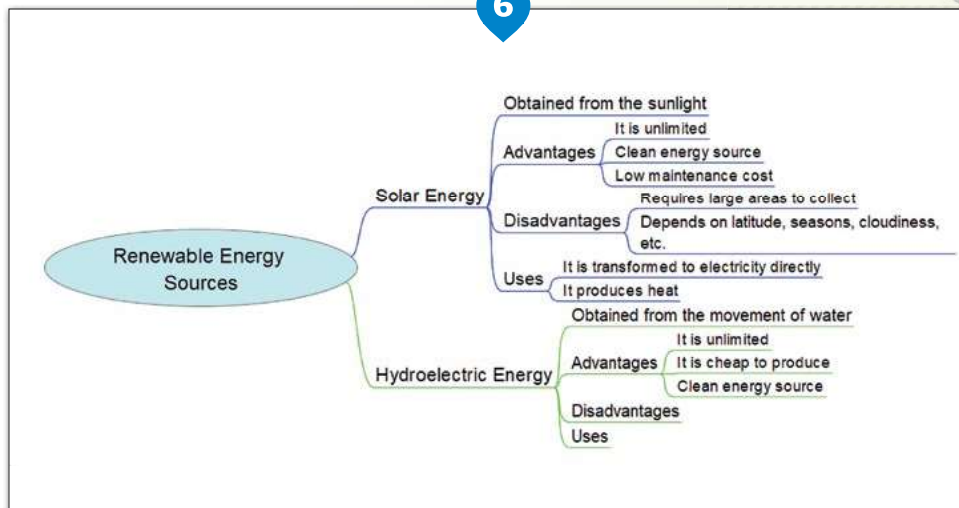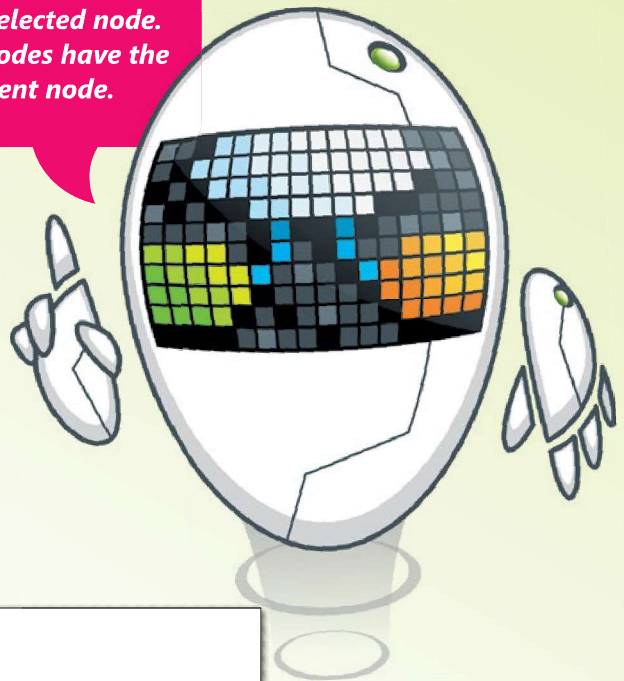
Let's create a mind map about renewable energy sources in **Freeplane** and see how we can form a hierarchy of nodes.

## To create a node hierarchy:

> First, let's change the subject of our central node. Double-click inside the central node **1** and type a new name. When done, click anywhere in the blank space to apply the change.

> Press **Insert**. A new child node is created and is attached to the central node. **2**

> Type a new name for the node. **3**

> Notice that when a node is selected its fill color changes. **4** To change the selected node simply click another node.

> Press **Enter ↵** to create a new sibling node and then type a name for it. **5**

> That's it! By creating child and sibling nodes you can create any hierarchy. Let's expand our example a little. **6**

Renewable Energy Sources **1**

Renewable Energy Sources **2**

**3** Renewable Energy Sources **4** Solar Energy

Renewable Energy Sources — Solar Energy / Hydroelectric Energy **5**

**6**

*A sibling node is a node at the same hierarchical level as the selected node. Two sibling nodes have the same parent node.*

Renewable Energy Sources

Solar Energy
- Advantages
  - Obtained from the sunlight
  - It is unlimited
  - Clean energy source
  - Low maintenance cost
- Disadvantages
  - Requires large areas to collect
  - Depends on latitude, seasons, cloudiness, etc.
- Uses
  - It is transformed to electricity directly
  - It produces heat

Hydroelectric Energy
- Advantages
  - Obtained from the movement of water
  - It is unlimited
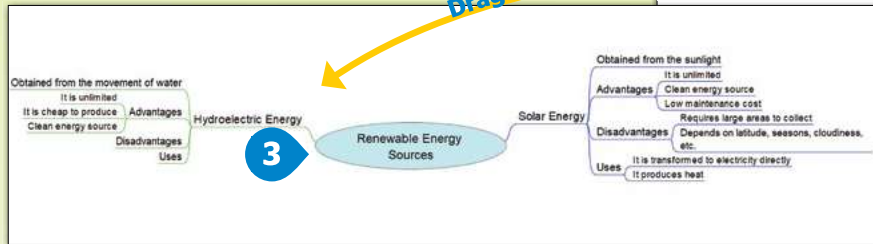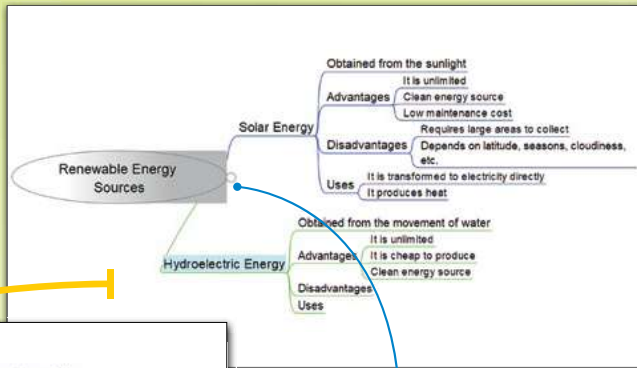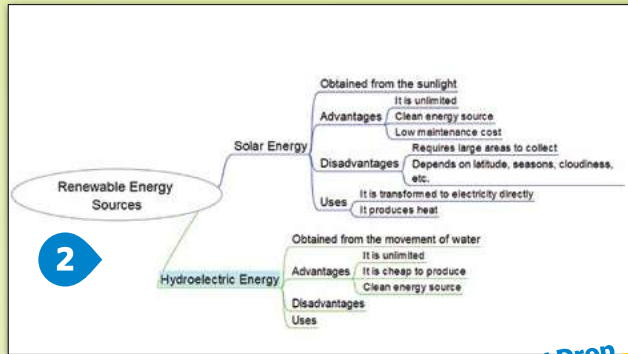  - It is cheap to produce
  - Clean energy source
- Disadvantages
- Uses

# Style nodes according to hierarchical level and content

Now let's stylize and rearrange our mind map to make it look more appealing.
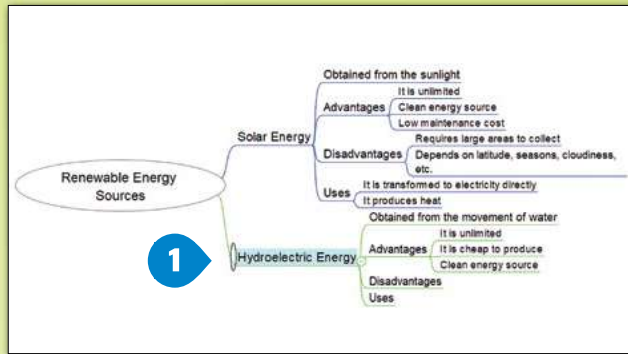
Drag and Drop

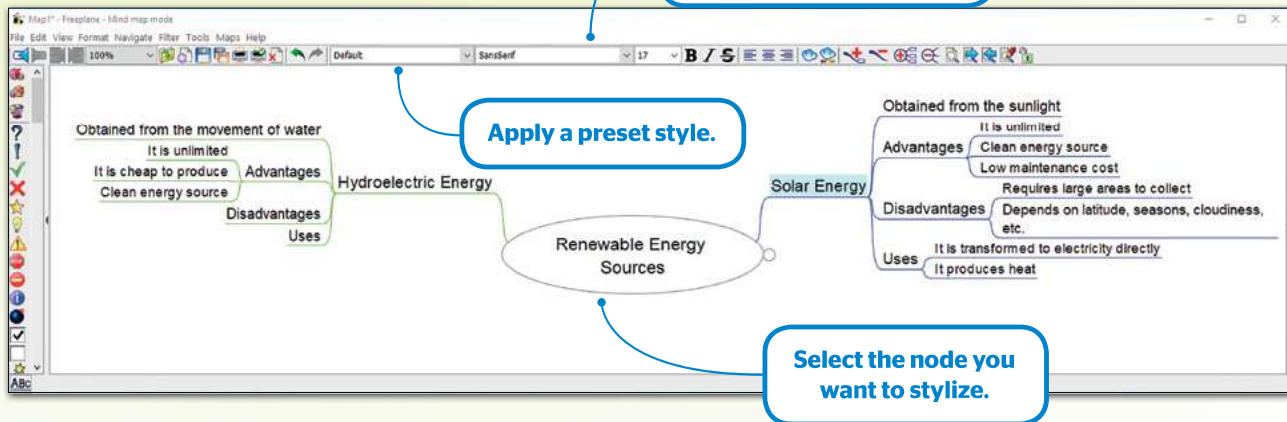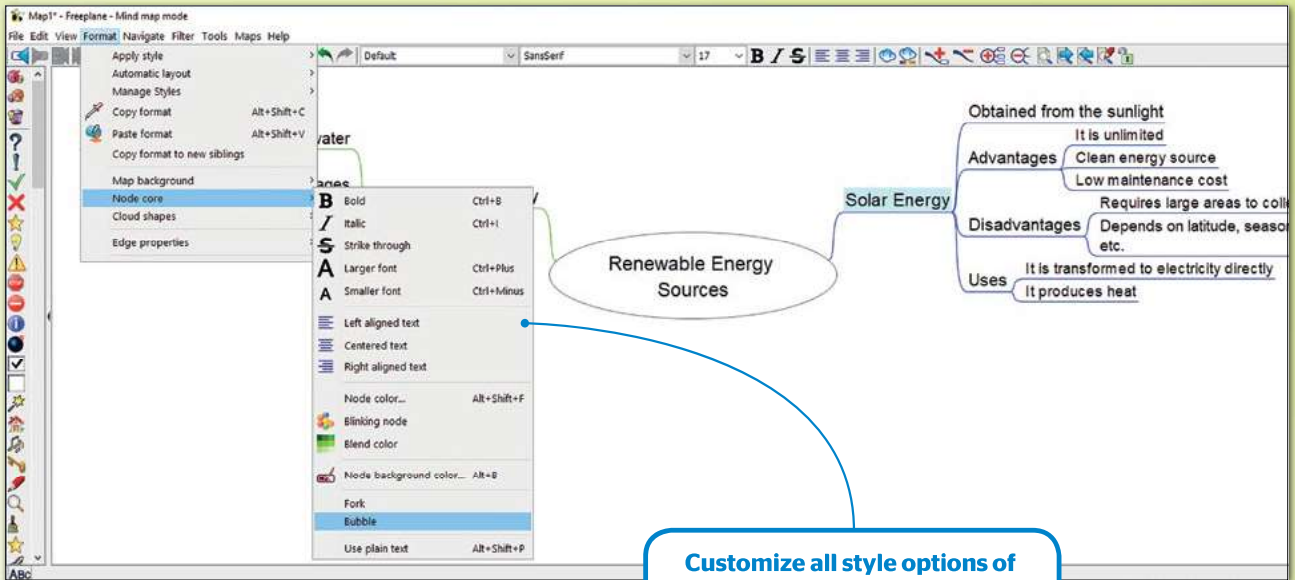**Notice the selected end becomes gray.**

There are many options to stylize your nodes.

**Customize some aspects of the node's text.**

**Apply a preset style.**

**Select the node you want to stylize.**

Customize all style options of a node by selecting a node and clicking **Format > Node core**. Try out the different options.

## Connect nodes

Sometimes it is useful to connect two nodes with a line or arrow to denote some kind of connection or similarity between the two.

**To connect two nodes:**

> Hold `Ctrl` and select the nodes by clicking them. Both nodes are now selected. **1**

> Press `Ctrl` + `L` . A connector appears. **2**

> Right-click the connector to make adjustments or remove it. **3**
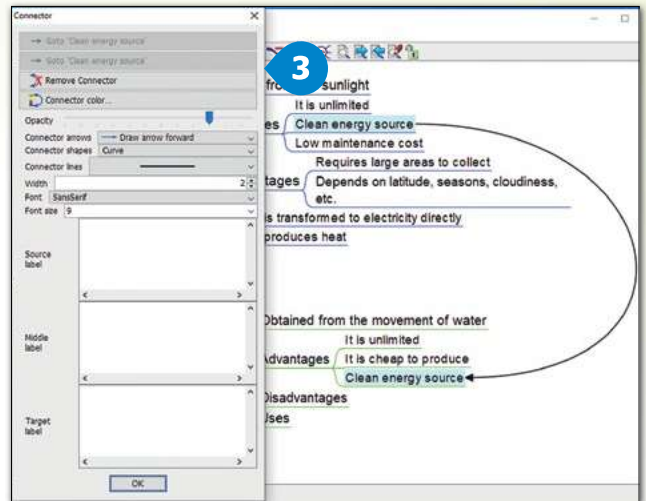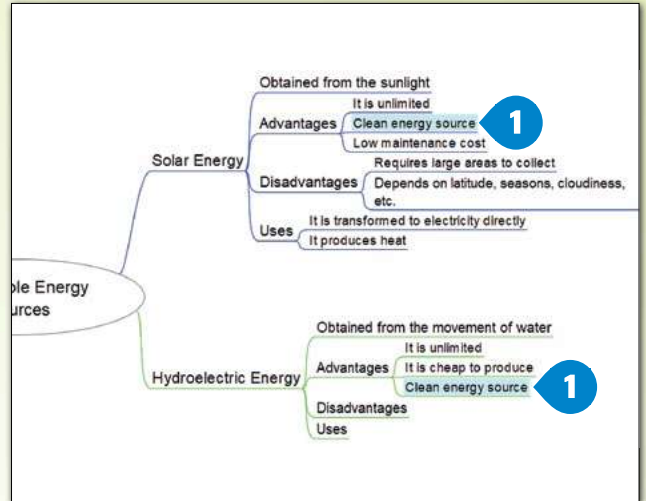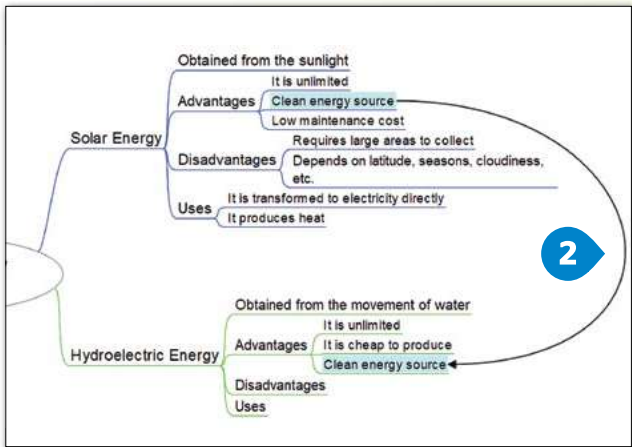
## Change views by folding branches

Click the minus sign next to a selected node to hide all its children nodes.



**Solar Energy**
- Advantages
  - Obtained from the sunlight
  - It is unlimited
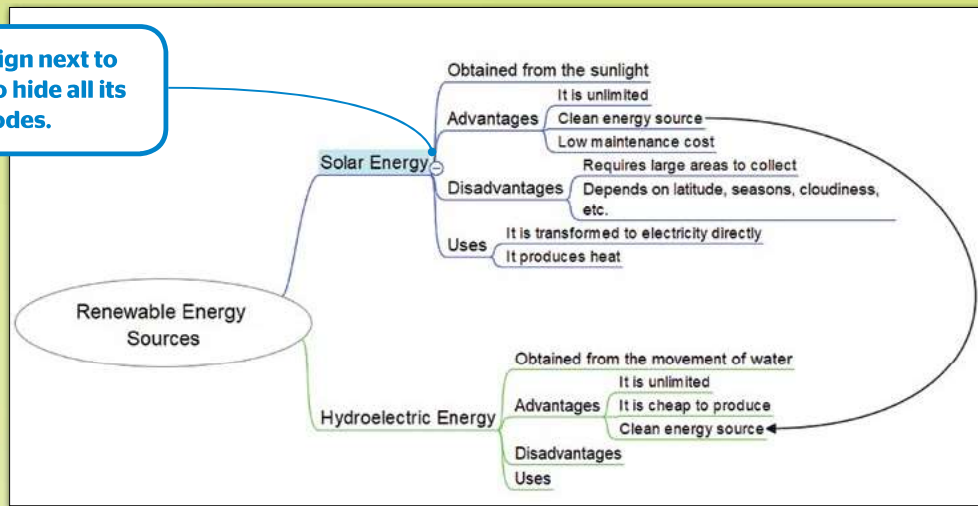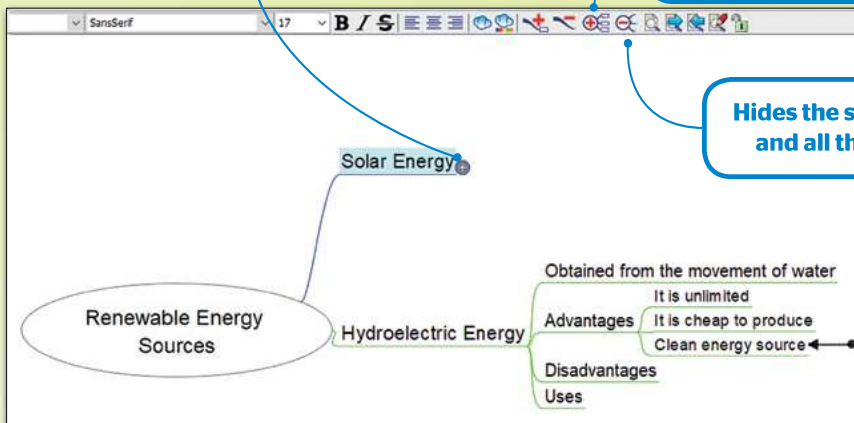  - Clean energy source
  - Low maintenance cost
- Disadvantages
  - Requires large areas to collect
  - Depends on latitude, seasons, cloudiness, etc.
- Uses
  - It is transformed to electricity directly
  - It produces heat

**Renewable Energy Sources**

**Hydroelectric Energy**
- Advantages
  - Obtained from the movement of water
  - It is unlimited
  - It is cheap to produce
  - Clean energy source
- Disadvantages
- Uses

Click the plus sign next to a selected node to show all its children nodes.

Shows the selected nodes and all their children.

Hides the selected nodes and all their children.



SansSerif · 17

**Solar Energy**

**Renewable Energy Sources**

**Hydroelectric Energy**
- Advantages
  - Obtained from the movement of water
  - It is unlimited
  - It is cheap to produce
  - Clean energy source
- Disadvantages
- Uses

*Information must be organized with the most important information in the center and more detailed information situated farther and farther away from the diagram's center.*

## hands on!

Complete the renewable energy sources mind map by doing some research online and adding more sources and any other nodes that are missing. Stylize your mind map and make it easy to read. Also, connect any nodes that you think relate to each other.
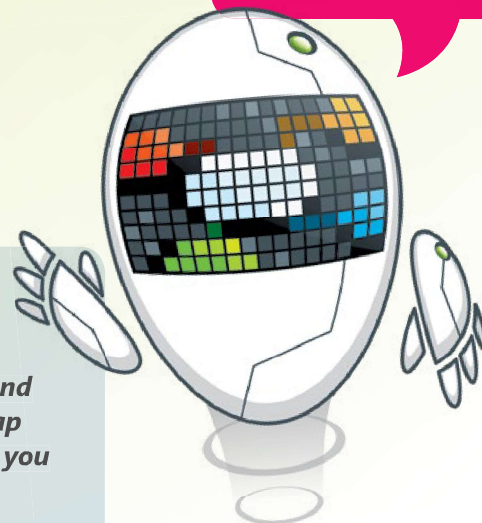
### The solar project

**With the** global need for energy increasing as the years go by, Saudi Arabia has decided to take measures to find ways to change the situation. Saudi Arabia was one of the first countries to consider clean energy technologies and to try to find ways that could cover its energy needs. 230 hours of monthly sunshine can be converted to 644 watts of energy for every 10.8 square feet every day! Saudi Arabia has recently created the Kingdom's first solar technology farm on Farasan Island in the Red Sea, producing 864,000 kWh/year.
In the past it took 28,000 barrels of oil per year to cover the island's energy needs.
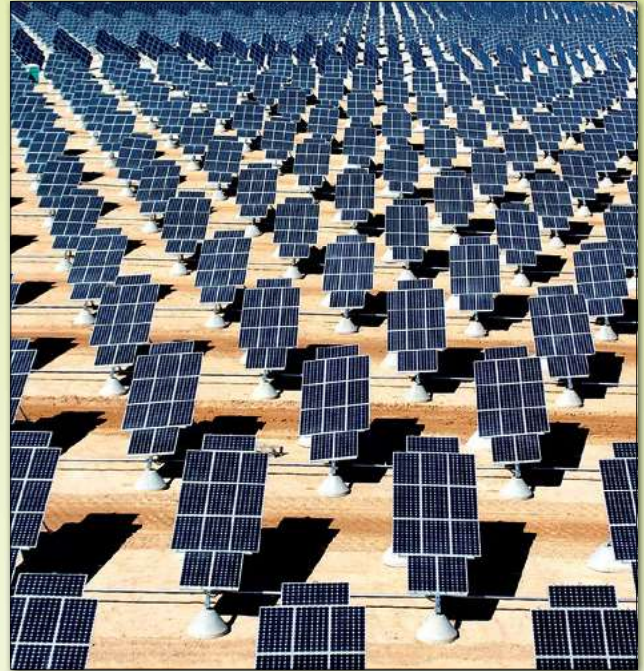




**Research what** Saudi Arabia is doing in other places with solar technology and prepare a presentation of the energy conservation that is achieved. What is the total energy consumption for the whole country? How can oil be replaced by clean energy technologies in the future?
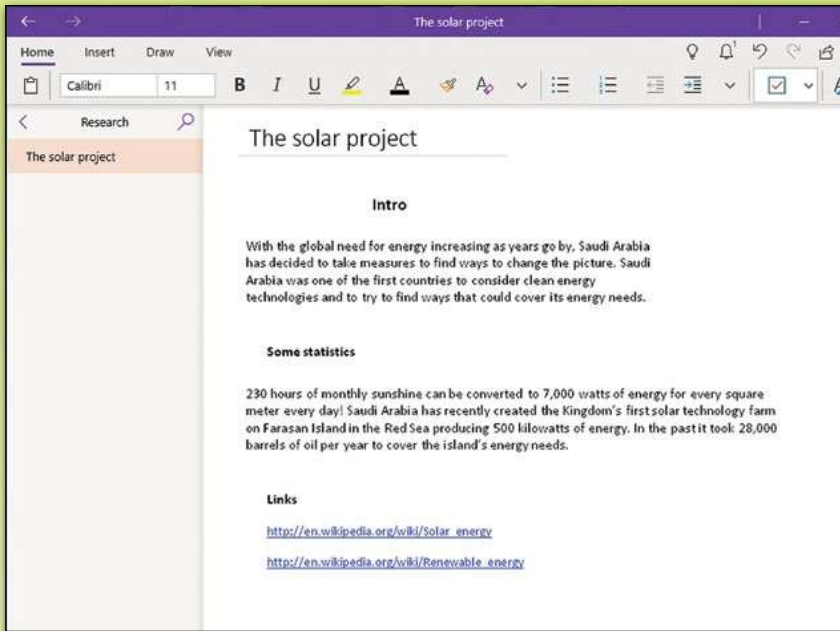
**Form teams** and use the sharing and collaboration options of OneDrive to coordinate the research and gather the information needed using OneNote.

**Once your** research is complete, start preparing your presentation covering the points mentioned above using PowerPoint collaboratively with your partners.
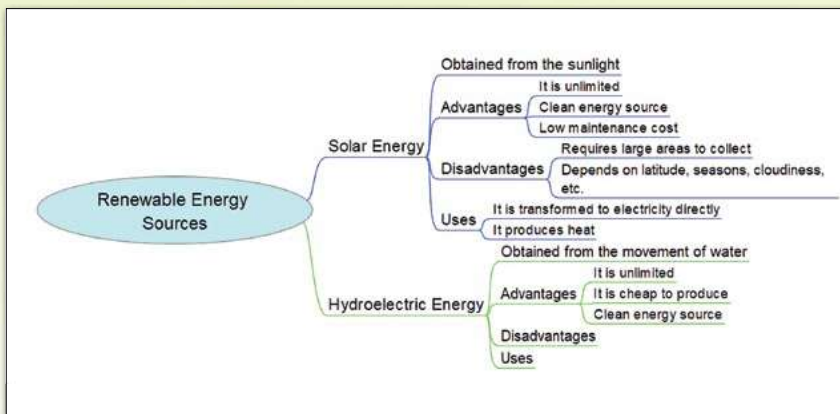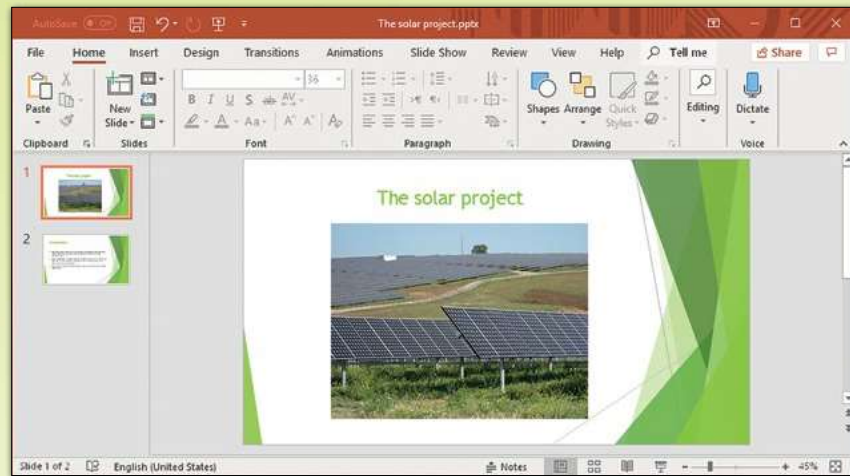




**In the** part of your presentation about alternative energy sources to oil, you can use the mind map you created in the previous task, with any adaptations you think are necessary.

**Finally, present** your work to your classmates using the Broadcast Slide Show feature of PowerPoint.

# Other platforms

## Apple iThoughts2go

If you have an **iPad** or an **iPhone** and you want to mind map some information you can try using **iThoughts2go**. You can use the same elements and the same techniques that you've already learned. Take your ideas and your projects with you everywhere!
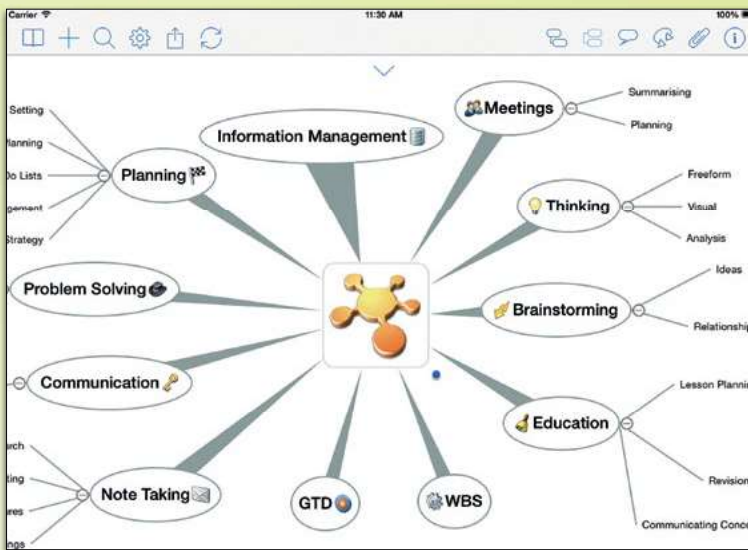


## Zoom

**Zoom** is a free video meeting program. You can create an acount, download the client program from the Internet and use it for free. You can use it for chat, phone calls or video calls.
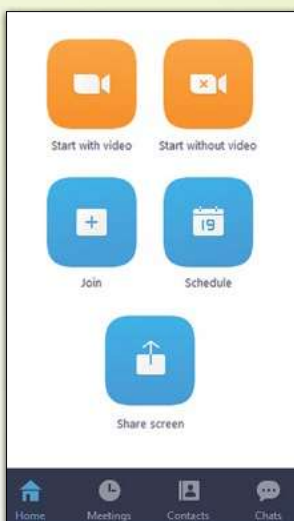


## Microsoft OneNote for Android/iOS

If you have a mobile device with Android you can use **OneNote** to gather all your notes in one place. Organize them and keep them with you always on your smartphone or your tablet. Your notes are always synchronized on all your devices through the cloud.

2. Working online / Other
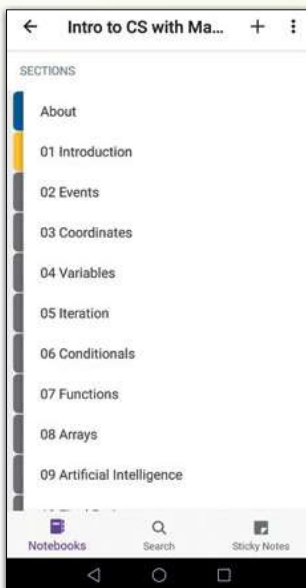
# wrap up

**Now you have learned how to:**

> use online applications to create, edit and share documents.

> use Microsoft PowerPoint to give an online presentation.

> use OneNote to create and share notes on your school subjects.

> use web conference programs to have online meetings with your friends.

> use mind map programs to visualize your ideas.
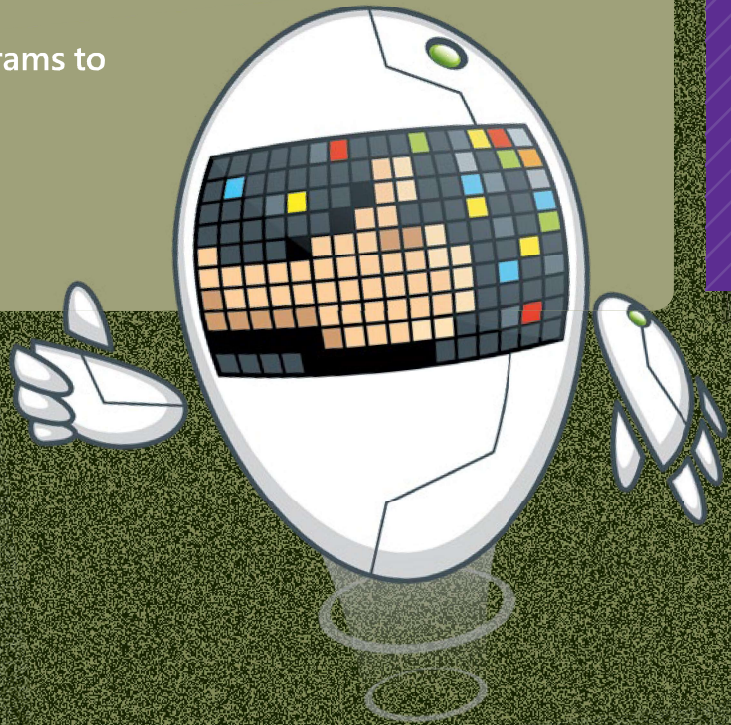
## GLOSSARY

| | | |
|---|---|---|
| broadcast | node hierarchy | broadcasting |
| cloud | notes | real-time collaboration |
| digital notebook | online application | share |
| meeting invitation | online meeting | video conference |
| mind map | presentation | web apps |