



1:1

## XO comes to Class

Bringing the XO into your Classroom and  
into your Lesson Plans



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## About One to One (1:1)

1:1 is a network of deployment agencies attached to University Schools of Education throughout Australia. Each branch is responsible for some or all XO deployments in the hosting State, in a manner consistent with education policies and standards of that State and also with the educational goals of the world-wide **One Laptop per Child Foundation** and of **One Laptop per Child Australia** which is focused on taking XOs into the most remote schools in the Commonwealth.

1:1 branches connect the teachings of a School of Education with the in-service training of teachers who wish to incorporate XOs into daily Lesson Plans for maximum benefit of the children. Effective deployment into a school is performed by *Certified 1:1 Deployment Staff*, who first install appropriate infrastructure (server and access points that reach all classrooms and all play areas where children might spend time), followed by careful coaching of *all Teachers and Assistant Teachers* in use of the XO Learning Environment assisted by the XO Emulator as a classroom projection aid.

Handing XOs to every child in a class is a special occasion normally involving the Principal of the School. Subsequent monitoring is a continuing responsibility of the *1:1 Deployment Staff* who report outcomes back to the School of Education so as to inform its future training of prospective teachers.

1:1 branches operate within a University via a Memorandum of Understanding (MOU) between its School of Education and One Laptop per Child Australia. Each School appoints a 1:1 branch Manager responsible for Certification of its 1:1 Deployment Staff and for the scheduling and general welfare of the XO deployments into primary schools within the State. Universities currently participating in this program include:

James Cook University, Cairns and Townsville Qld

Queensland University of Technology, Brisbane Qld

Charles Darwin University, Darwin NT

Batchelor Institute of Indigenous Education, Batchelor NT

Edith Cowan University, Perth WA

Several other universities are in process of joining the 1:1 network.

# Before You Start

For a seamless introduction, you should have access to the following:

- School Server<sup>1</sup> pre-loaded with OLPC Australia distribution of Moodle and The Le@rning Federation learning objects
- Wireless Access Points connecting to the School Server
- Windows Laptop with XO Emulator and projection capability
- Copy of the complete User Guides outlined below
- XO Laptop for Every Child and Every Teaching Assistant in your class

This **Introductory Teaching Guide** contains selected parts from the complete set of **XO User Guides** below. Your copy should contain all **five** documents in the set. If this is not the case, speak to your school XO manager, or send an email to [support@laptop.org.au](mailto:support@laptop.org.au). The most up-to-date version of these documents is available at [www.laptop.org.au/User\\_Manual](http://www.laptop.org.au/User_Manual).

## XO Laptop Hardware user guide

This fully describes the various hardware components of the XO laptop (screen, touch pad, battery, etc). It also describes how to connect your laptop to a network/internet and how to transfer files from a USB key.

## XO Laptop Software user guide

This describes the features of the laptop, how to navigate to various screens, and how to start activities. Since a feature of the XO is connectivity and many activities may be shared amongst several users, it also describes how to join with others, and how to invite others to share with you. This document includes a sampling of activities that extends beyond those encountered in this Introductory Teaching Guide.

## MOODLE: A Learning Management Platform

This user guide will help you to work with Moodle: create courses and lessons, adding lessons topics such as learning objects and work with The Le@rning Federation, a collection of learning activities.

## XO Software Emulator

This package runs on a Windows laptop and emulates the complete graphical interface of the XO Sugar environment. When used with standard projection it allows the teacher to demonstrate all cursor activities to the class, who will see the same icons and cursor motion outcomes on their personal XOs.

## Glossary and Troubleshooting Guide

This guide contains frequently asked questions with answers as well as typical issues and resolutions.

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<sup>1</sup> E.g. A dedicated Windows XP computer with a fixed IP address

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# 1 Features & Ports

The XO laptop has many built-in features. These include a camera, microphone, speakers and wireless antennae. In addition, the laptop allows for the attachment of other external devices. This is often done by plugging the devices into connectors (some more commonly referred to as ports, jacks or slots).

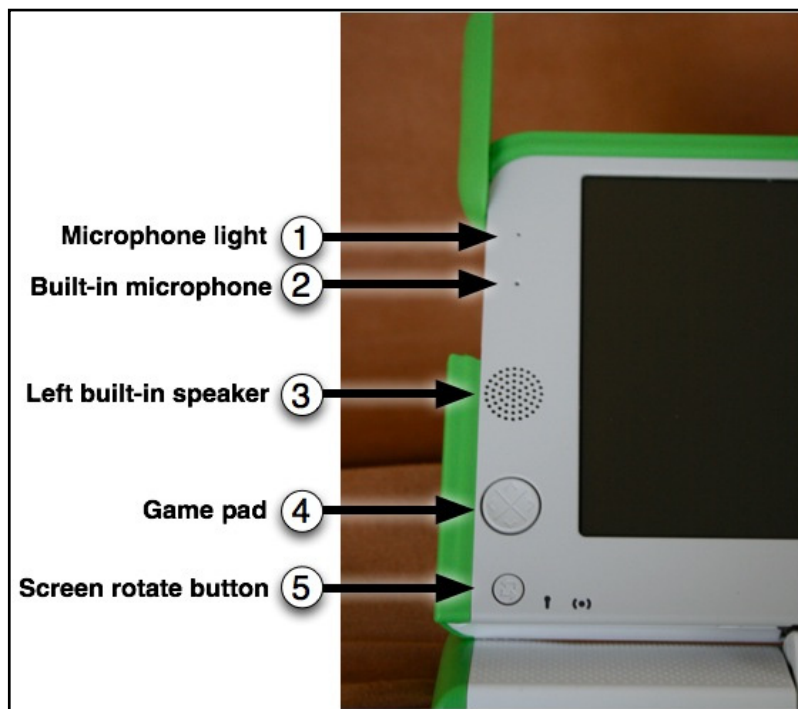
## 1.1 Physical Features

### 1.1.1 Backlit screen

The display functions in a full-colour mode similar to other laptop displays and in an ultra-low-power, ultra-high-resolution, black-and-white mode that is readable in direct sunlight.

The display functions in a full-colour mode similar to other laptop displays and in an ultra-low-power, ultra-high-resolution, black-and-white mode that is readable in direct sunlight.

### 1.1.2 Built-in microphone



There is both a built-in microphone (and an external microphone jack, which supports both AC and DC sources.) As a privacy measure, an LED above the microphone (1) lights up whenever the microphone is in use.

### 1.1.3 Built-in speakers

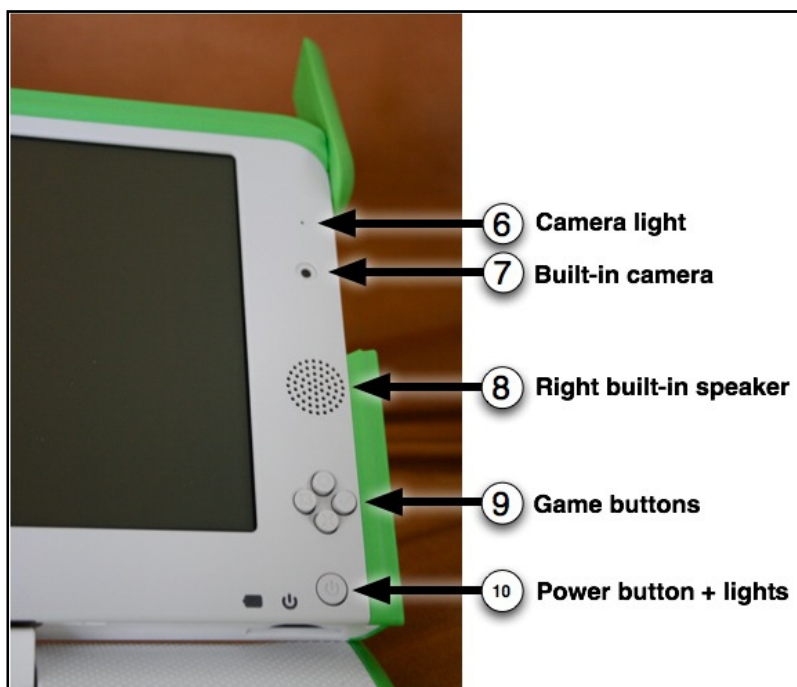
Internal stereo speakers and an amplifier provide a way to play music, videos, and anything you have recorded yourself. There's also a jack for external headphones or speakers.

### 1.1.4 Game pad

Two sets of four-direction cursor-control keys can be game controllers. They still function when the screen is folded down into e-book mode, creating a self-contained game playing pad including a controller.

### 1.1.5 Screen rotate button

A button on the display frame changes the screen orientation for viewing right-side-up from any direction.



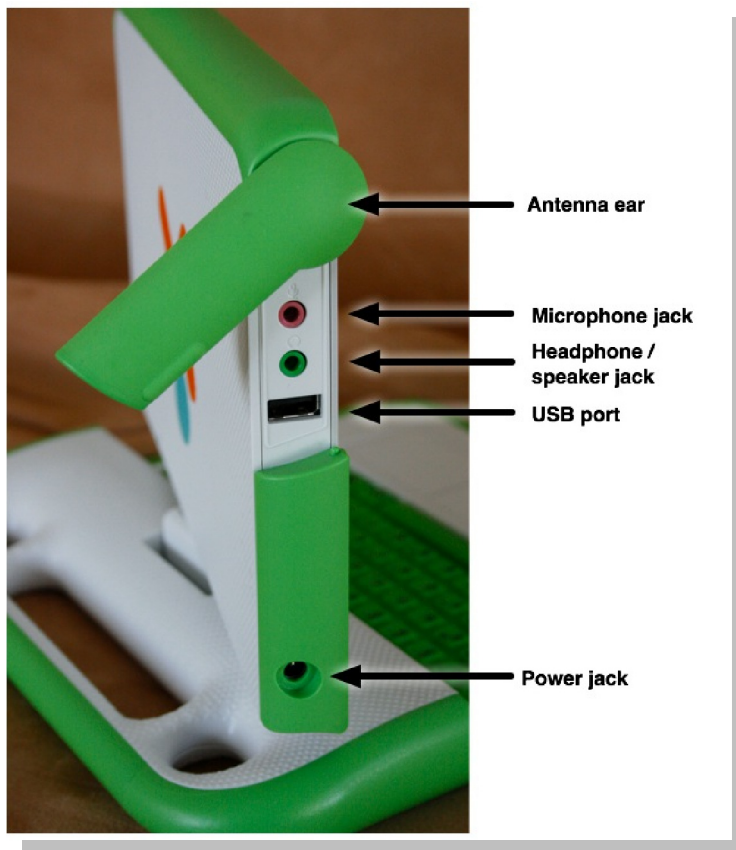
### 1.1.6 Built-in camera

The XO laptop has a built-in colour camera, enabling still photography and video recording. As a privacy measure, an LED above the camera (6) lights up whenever the camera is on.

### 1.1.7 Game buttons and Power indicators

The game buttons can be used when the screen is folded down into e-book mode, creating a self-contained game player. Buttons are labelled with a circle, a square, a check, and an ×. These buttons may be used by Activities, e.g. the circle button can be used as the shutter for the camera in the Record Activity. Power Buttons are from left to right, batter-level indicator, power indicator, and the POWER ON button.

## 1.2 Ports



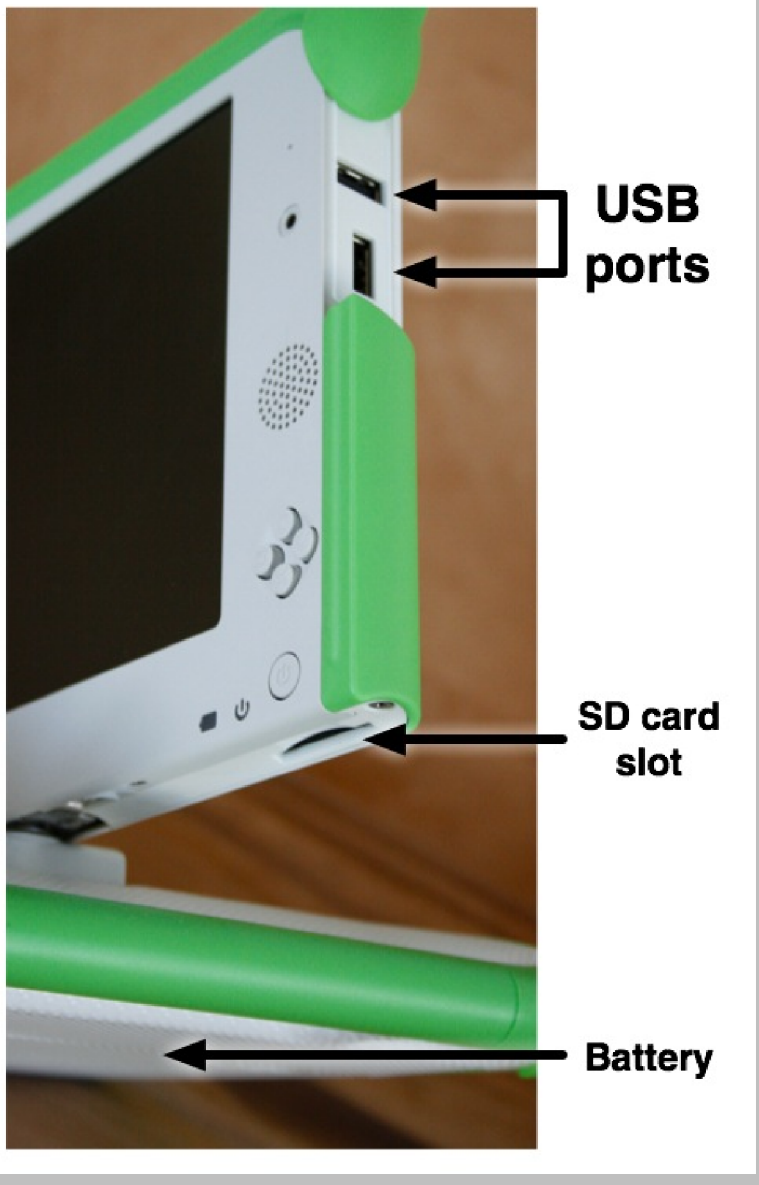
Along with offering unique connectivity options, the XO laptop can work with a wide range of external devices.

### 1.2.1 Antennae ears

When the wireless antennae "ears" are rotated up, they provide the XO with a connection range vastly superior to those of conventional laptops. When down, they keep dirt out of the connectors and act as a latch.

### 1.2.2 External headphones and microphone jacks

Along with built-in speakers and microphone, the XO laptop features jacks for external headphones and an external microphone.



### 1.2.3 USB/memory ports

The XO laptop features three external USB ports to support a variety of plug-in peripherals (one seen in the photo above, and two others under the other "ear").

### 1.2.4 Power jack

The XO comes with a power cord that can be plugged into any 110-to-240-volt AC outlet for charging. The power jack also accepts DC power from a solar panel for charging the XO laptop's battery.

### 1.2.5 SD memory card slot

There is a slot underneath the display that accepts SD memory cards for photos, video, and other content. Rotate the display so that the left-hand edge is over the keyboard—the slot is then accessible from below.

## 2 Charging the Battery

### 2.1 Using Battery Power

The XO needs its battery attached, or the laptop needs to be plugged into a wall directly. It will run from either source of power. When you get your battery it should come with some amount of charge. Use the following instructions to install your battery and charge your laptop.

### 2.2 Installing the Battery (underside of the XO)

- Step 1 Line up the four tabs on the new battery with the long edge furthest from the catches.
- Step 2 Slide the battery into place.
- Step 3 Slide the left-hand side catch to the left, and press the battery gently into place.
- Step 4 Slide the right-hand side catch to the left, to lock the battery in place.

### 2.3 Charging the Battery

- Step 1 Be sure that the battery is attached to the XO.
- Step 2 Plug the power cord into your XO.
- Step 3 Plug the other end of the power cord into the nearest power source.

#### 2.3.1 When to charge the battery

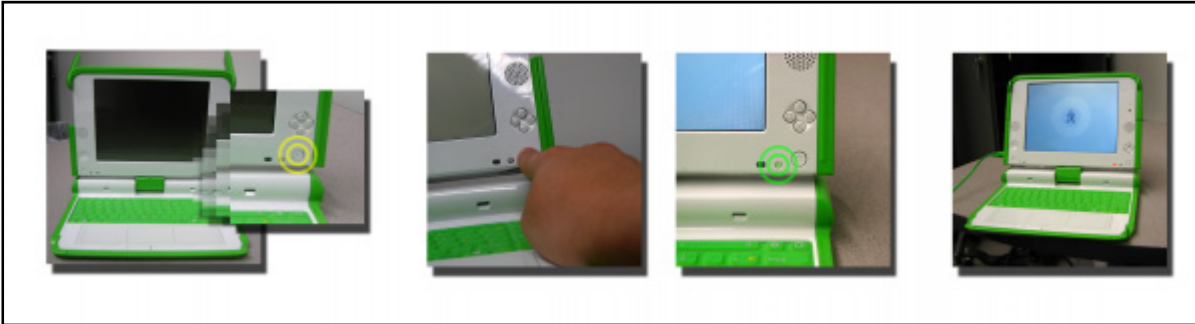
The battery icon in the Frame fills with colour, showing you how much power (or charge) is left in the battery. Move the pointer over the battery icon to see how full the battery is. While the battery charges, the battery light near the power button (shaped like a battery) should display yellow, turning to green when the battery is fully charged. A red light tells you that the battery is running very low, and you should charge it soon.

### 2.4 Troubleshooting

If your battery charge gets extremely low during shipping, your XO may not start up. Plugging in external power may not charge the battery. If this happens, remove the battery and power up the laptop on external power. Once the laptop is powered on, insert the battery. It will now charge, and the charging light should be on.

If you're the tinkering type, more advanced battery troubleshooting tips can be found at: [http://wiki.laptop.org/go/XO\\_Troubleshooting\\_Battery](http://wiki.laptop.org/go/XO_Troubleshooting_Battery).

## 3 Starting the XO



To start the XO, press the Power button, near the lower right corner of the screen. The XO takes about two minutes to start up.

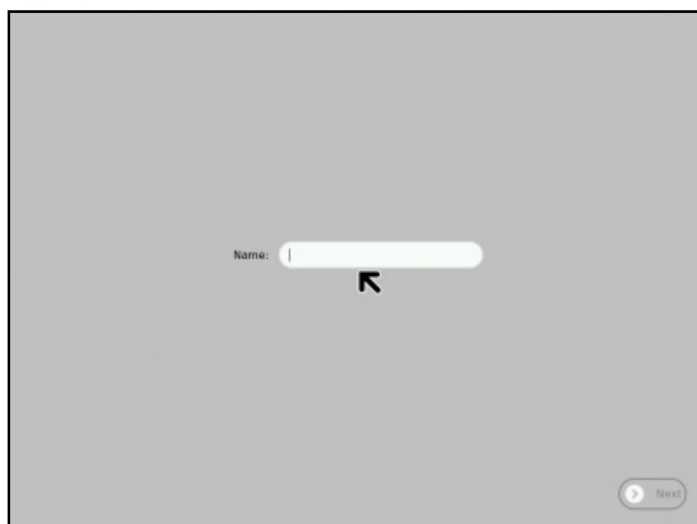
If the battery needs charging, the light next to the power button glows red. Plug the AC adaptor into the left side of the XO and the power cord into an outlet if you see a red light or if the XO does not start up.

If you have difficulty starting your XO, refer to the Repairing chapter for ideas.

### 3.1 Starting for the First Time

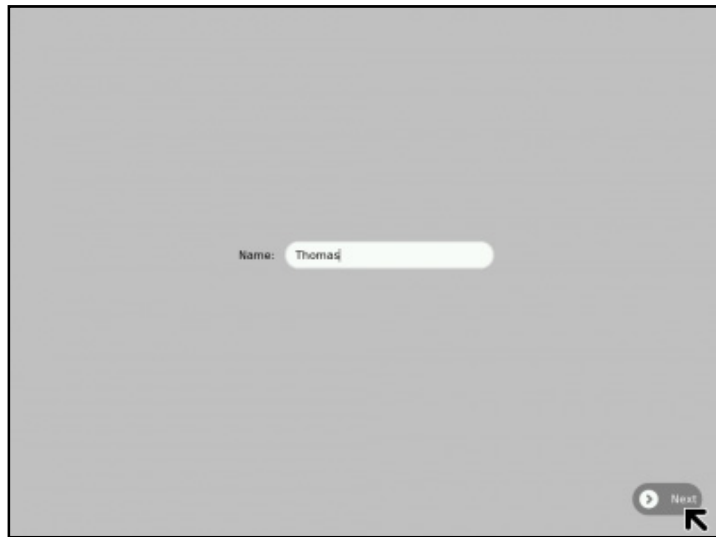
After you press the power button and the XO initially starts up, the XO screen asks for your first name. The next time you start it, it remembers your name and goes directly to the Home View. Later on you can learn how to change to a nickname of your choosing.

Step 1 Type your name.

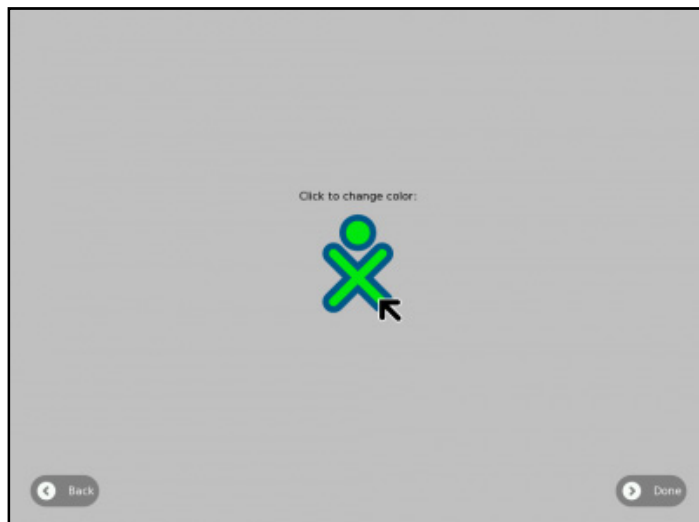


Step 2 After you enter your name, click Next.

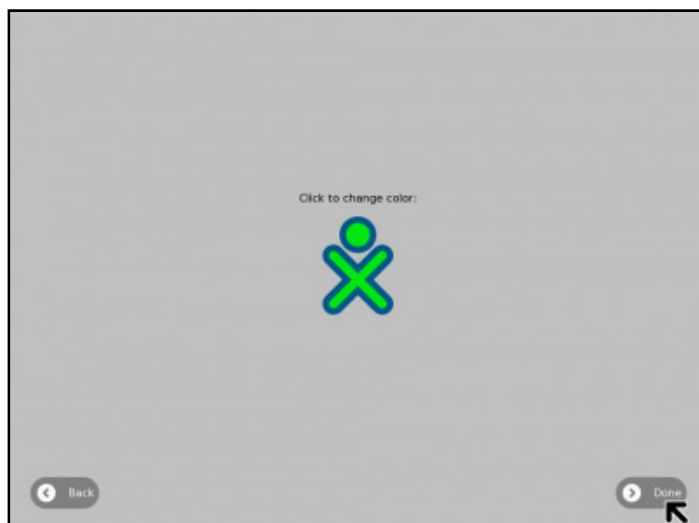
(Use a finger on the touchpad below the keyboard to move the arrow over the word "Next". Press the key below the touchpad on the left with an "X" on it to "click".)



Step 3 Next, you will see a small O on top of an X. This symbol represents YOU when you use your XO. Use your finger on the touchpad to move the arrow over the person symbol. "Click" this symbol by pressing the key with an "X" on the left below the touchpad to choose colours that you like.



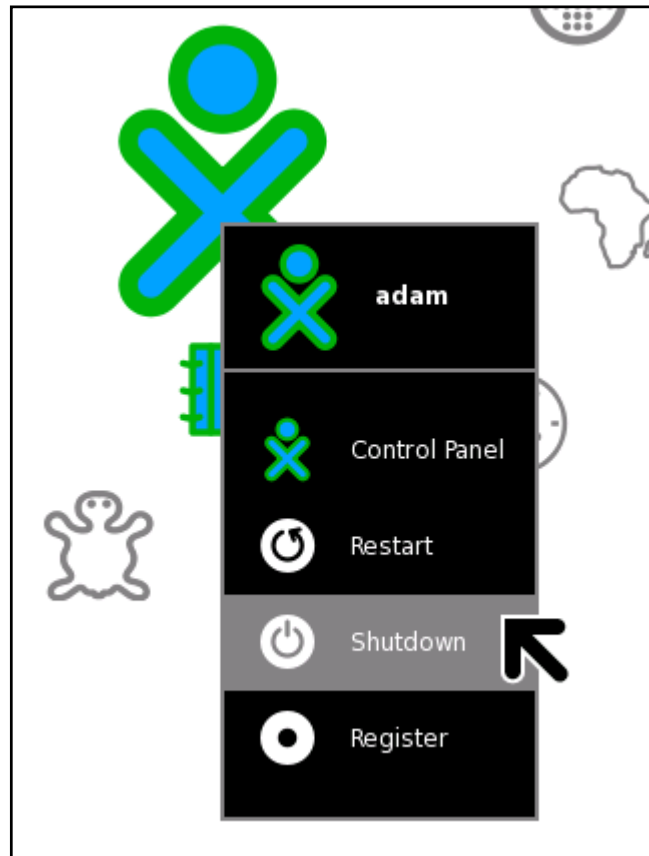
Step 4 After you choose your colours, click "Done"





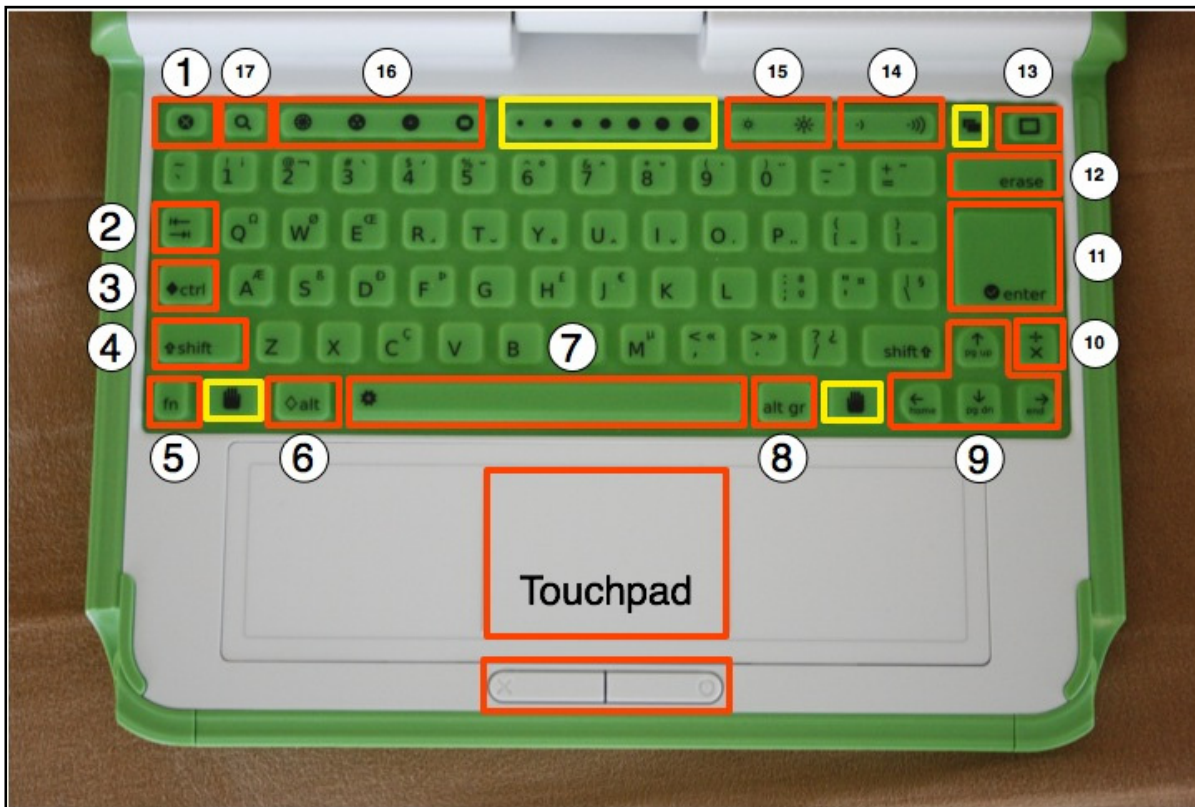
## 3.2 Shutting Down the XO

- Step 1 When you have finished using the computer, go to the Home View by pressing the key with a single dot in a black circle, in the top row on the left.
- Step 2 Click the middle XO icon to view a menu.
- Step 3 On the menu, click Shutdown to ensure that your laptop stops properly.



You should always follow this Shutdown procedure, because it allows your XO to tidy up its internal files before it turns itself off. This helps the XO know where to find things when you start up again. However, if something bad happens and you can't move the pointer or you can't click, you can make an emergency shutdown by pressing and holding the power button for a few seconds. Be careful that your power button does not get stuck in the down position. If it does get stuck, the XO does not detect the depression of the power button, and does not turn on. If this happens, refer to the Repairing chapter for information on how to repair it.

# 4 The Keyboard and Touchpad



The dust- and water-resistant keyboard and touchpad have special keys for more functionality. For each deployment, keyboards are localised to the primary language of that country, so your keyboard may not match the one in this figure exactly. Keys outlined in **yellow** are reserved for future features.

1. **Escape key:** The escape key is labelled with an × symbol on a black circle. The escape key is most commonly used in combination with the control key to quit activities (**ctrl + esc**).
2. **Tab key:** The tab key is labelled with arrows pointing right and left and creates an indentation in a paragraph. Also, use it in combination with the control, shift and alt keys to display open Activities. For example, **alt + tab** displays running Activities one after the other.
3. **Control key:** The control key is used in combination with other keys to issue commands. E.g., **ctrl + c** copies to the clipboard; **ctrl + v** pastes from the clipboard.
4. **Shift key:** The shift key is used in combination with other keys as a modifier, most commonly to shift between lowercase and uppercase in Latin-based alphabets.
5. **Fn key :** The function key is used in combination with other keys as a modifier. For example, **fn + erase** is delete; **fn + up arrow** is page up.
6. **Alt key:** The alt key is used in combination with other keys to issue commands. For example, **alt + enter** toggles full-screen mode; **alt + spacebar** toggles the tray visibility. This example works in the Browse Activity but not in the Record Activity.
7. **Spacebar:** The spacebar key types a space. In the future, when used in conjunction with the function key (fn), it will display the source code for the currently running Activity.
8. **Alt Gr key:** The alt graphics key is used in combination with other keys as a modifier, most commonly to select an alternative letter or generate an accented character. For example, on the US keyboard, **alt gr + j** creates a euro sign €; **a + alt gr + 4** creates á.

9. **Arrow keys:** The arrow keys are used for navigation; combined with the function key (**fn**), they are used for page up, page down, home, and end.
10. **Language key:** The language key is found on keyboard layouts that combine Latin and non-Latin scripts, going between scripts so that you can switch between typing in English and Hindi by pressing it. On Latin-only keyboards, the language key has been replaced by a  $\times$  and  $\div$  key.
11. **Enter key:** The enter key—in addition to its standard use—is used in combination with modifier keys. For example, **alt + enter** toggles full-screen mode.
12. **Erase key:** The erase key deletes the character behind the cursor (backspace). **fn + erase** deletes the key in front of (or on) the cursor.
13. **Frame key:** The Frame key toggles the presence of the Frame on the screen. The Frame is the black border around the screen that holds the Activity taskbar, clipboard, wireless connections, battery level, and so on.
14. **Volume controls:** The volume keys lower and raise the audio level.
15. **Brightness controls:** The brightness keys lower and raise the brightness of the screen backlight. To turn the backlight off completely may take 7 to 8 button presses.
16. **View keys:** The four view keys, from left to right, take you to the Neighbourhood view, the Group view, the Home view, and the Activity view.
17. **Search key:** The search key takes you directly to the Journal and places the text cursor in the search box

# 5 Screen, Speakers and Storage Management

The top row of the XO keyboard has three long buttons.

The long button on the far right controls the lighting on the screen and the volume of the speakers.



The left two keys control the lighting.

- Step 1 Press the key with the small sun to dim the light on the screen. Press this key repeatedly to put the screen into a greyscale mode, which saves power.
- Step 2 Press the key with the large sun to increase the brightness of the light. Press this key repeatedly to go to a colour mode.

The two keys on the right of this long button control the sound.

- Step 1 Press the key with the small audio icon to decrease speaker volume, and also saves power.
- Step 2 Press the key with the large audio icon to increase the speaker volume.
- Step 3 While starting the XO, press the small audio icon to decrease the volume startup sound. The next time you start the XO, it remembers that you silenced the startup sound, so it will not make the sound again until you press the large audio icon while starting up.

## 5.1 Storage Management

File storage and retrieval is managed through the Journal of the Sugar user interface. To view the Journal, press the Frame button to get the Frame on the Screen, and click the Journal icon next to the View icons.



XO-1 INTERNAL storage is limited to a 1GB flash memory. To maintain your XO so it does not run out of File space you can DELETE items through the Journal Activity. For details on how to do this consult Section 6.1 of the XO Laptop Hardware User Guide.

For additional EXTERNAL storage space you can use either an SD card or a USB storage device or drive to save and retrieve files externally. For details on how to do this consult Section 6.2 of the XO Laptop Hardware User Guide.

# 6 Give Me the Internet, Please

The designers of the XO laptop designed it for primarily wireless access, so it can work well in developing nations, where it is faster and less expensive to introduce wireless connections than wired ones.

XOs are designed to connect to other XOs using a mesh network. This allows nearby XO laptops to talk to one another directly (wirelessly) without the need for a traditional Internet Service Provider (ISP).

The XO also supports wireless connections for direct Internet connection, but collaboration with others XOs on Activities does not require an Internet connection.

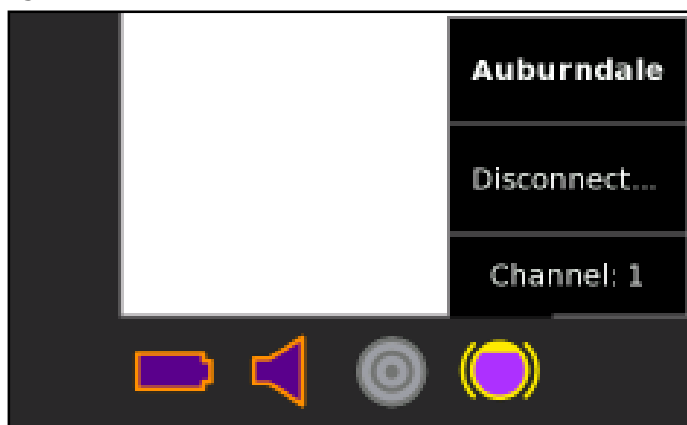
There are different ways to connect to the Internet:

- using a wireless access point such as a WiFi hotspot at a library or coffee shop, or a location that has a wireless router such as your house
- using a "School Server" provided by your school system
- using a USB-to-Ethernet cable that plugs into a cable modem, DSL modem, or local network such as those offered at a home or workplace

## 6.1 Before you Connect

To connect at home, check with your ISP to find if your network is protected with a password. Your router also has a password which can be found in its documentation. Become familiar with your wireless router settings so you can troubleshoot the connection if needed. The Troubleshooting chapter offers some help.

Step 1 Check your current connection status as shown in the lower area on the Frame. If you have connected successfully in the past, the XO "remembers" the connection and will connect again in the future.

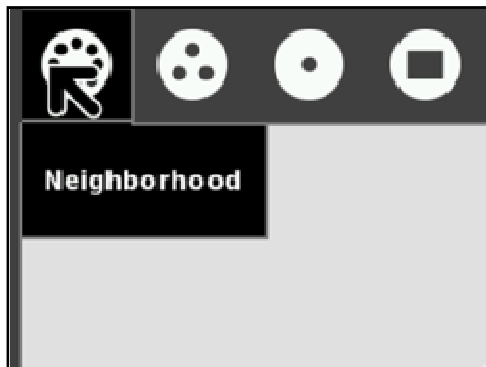


Step 2 Take your XO to where you know there is a Wireless Access Point (WAP) nearby.

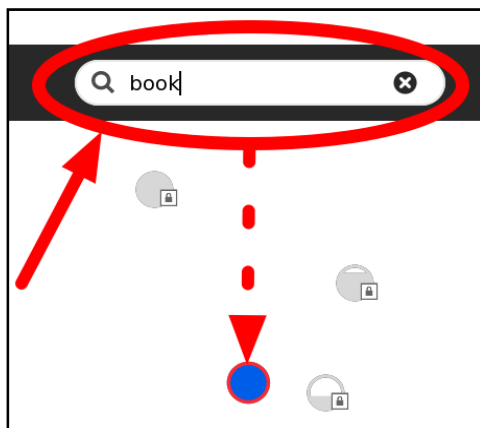
Step 3 Find out the network name (or SSID) and its password, if it is secured with a password. The XO refers to this as the Wireless Key.

## 6.2 Connecting to the Network

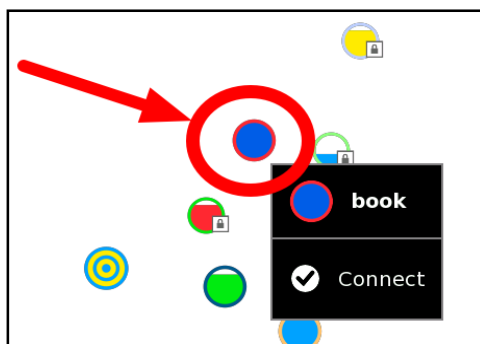
Step 1 Go to the Neighbourhood View.



Step 2 In the Search field, enter the name of the network to which you want to connect.



Or roll the pointer over one of the network access circles until you recognise the name of the wireless network.



Step 3 Connect by clicking the centre of the circle.



: Wireless access points are represented by circles. Fill levels indicate signal strength.



: Access points that require keys have a "locked" icon.



Access points that you have successfully connected to become "Favourites" as indicated by a star icon.



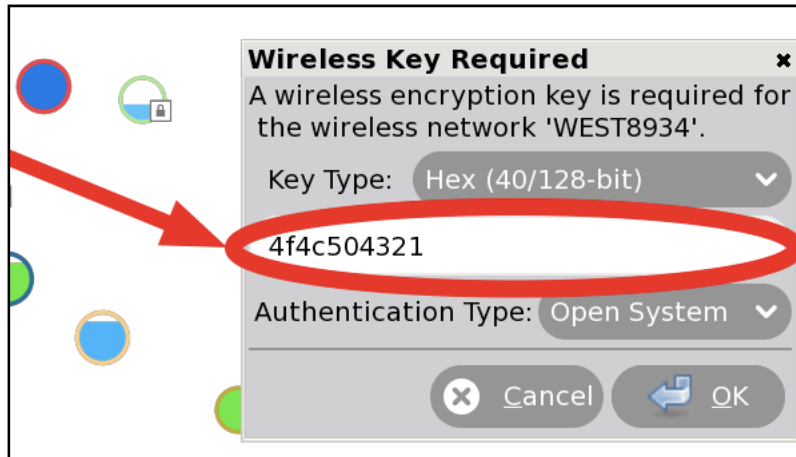
The centre of the circle blinks while the laptop is trying to connect and two curves surround the circle.



: Access points that represent the Mesh network are indicated with a target icon, with one for channel 1, one for channel 6, and one for channel 11.

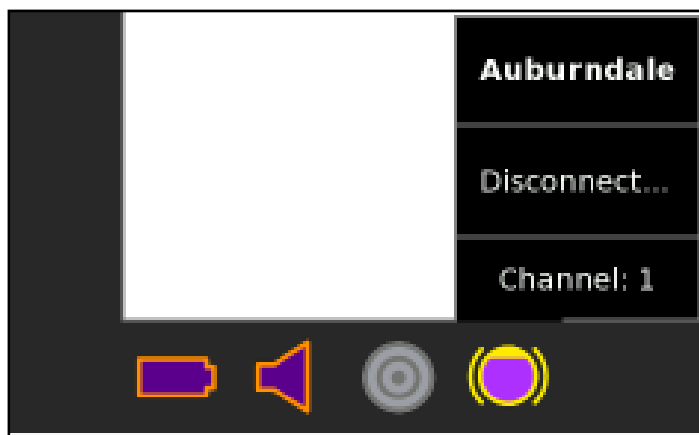
Step 4 Enter the wireless key if prompted.

You might need to ask your teacher or parent for the wireless key.



While the XO is connecting to the network, the Access Point blinks.

Once you are connected, the menu on the circle in the Neighbourhood View changes, and you can see a circle with two curves around it in the lower right area of the Frame.



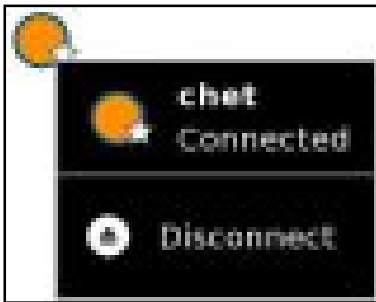
## 6.3 Retrying if Needed

If the attempt to connect fails, the circle stops blinking, but the access point icon does not appear in the Frame. Click the circle in the Neighbourhood View to try again—it sometimes takes 2–3 tries to connect.

If you cannot see an Access Point with a name that you recognise, the wireless antenna might be too far away, or the Access Point might not be working properly. For more information, or if you have difficulties getting a network connection, refer to the Troubleshooting chapter.

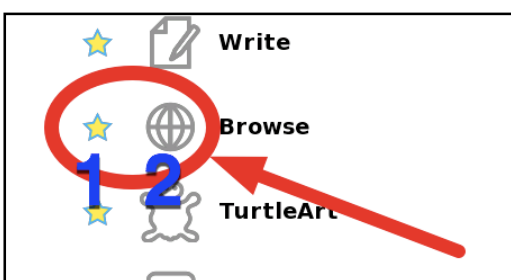
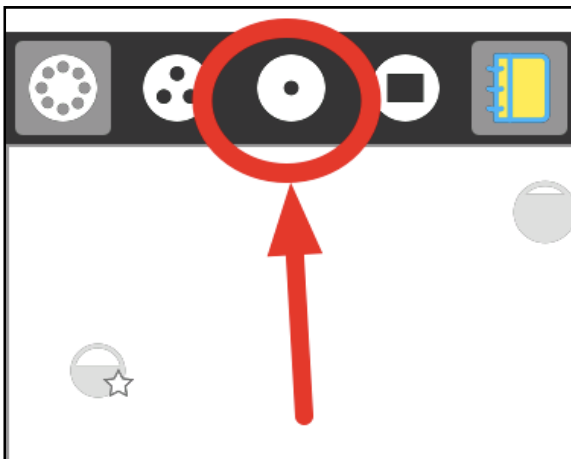
## 6.4 Disconnecting

To disconnect from the network, hover the pointer over the access point and click Disconnect on the menu.



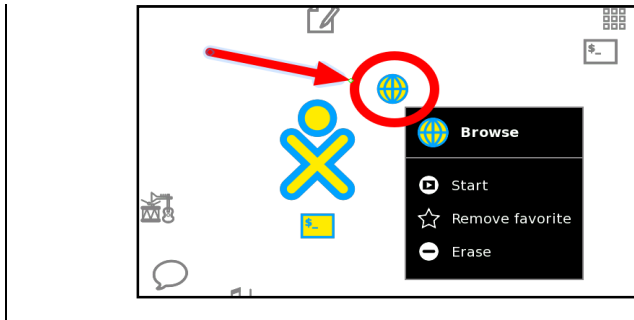
## 6.5 Launching the Browse Activity

Once your XO is connected, you can return back to the Home View and launch the Browse Activity.



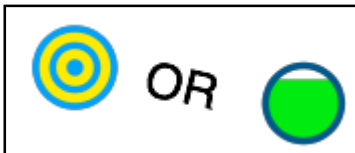
- Step 1 If you *have not* yet added the Browse Activity to your favourites, click the List View (left) and scroll to Browse. Add the Activity to your favourites list by clicking the star next to it (1). Launch Browse for the first time by clicking the globe icon (2). Next time, you can use the freeform view to launch it (as is shown in the next paragraph).
- Step 2 If you *have* added the Browse Activity to your favourites list, you can click the globe icon to open the Browse Activity and test your access to the Internet.
- Step 3 Click the globe icon to launch the Browse Activity.



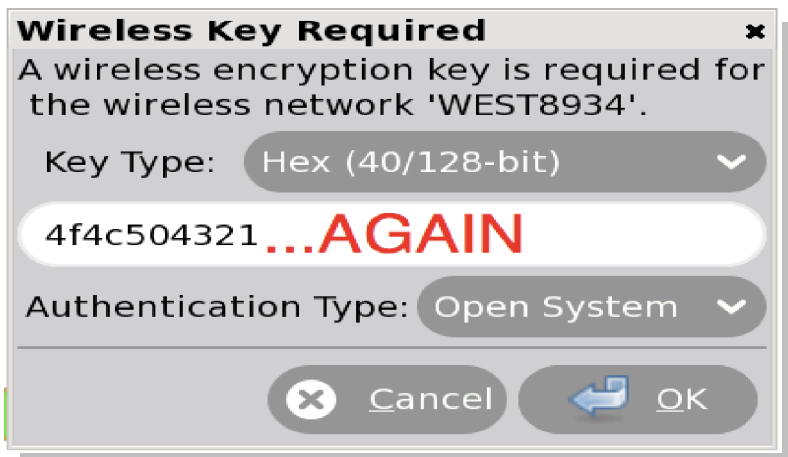


**More information about your XO's connection:**

- Your Wireless Access Point has a network name, also called an SSID, that displays in the Neighbourhood View. The XO cannot recognise SSIDs that are hidden, which is configured on the access point. Refer to the Troubleshooting chapter for more information about hidden SSIDs.
- If you are connected to the Internet, your XO laptop cannot be on the mesh network, and if your XO is on a mesh network, it cannot connect wirelessly to the Internet.



- If the XO cannot find an available Internet network point after five minutes of searching, it defaults to Mesh Network 1, which enables your XO laptop to connect to other nearby XO laptops.
- Please be patient; it can take your XO up to a minute to find newly visible networks.
- Sometimes you'll be asked to enter the "Wireless Key" again. Enter it again and repeat until your connection is complete.





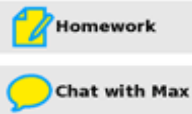


- For more information about connecting, please see the [Support FAQ](#) online.



# 7 What is Sugar?

"We like to think that a child's play is unconstrained—but when children appear to feel joyous and free, this may merely hide from their minds their purposefulness; you can see this more clearly when you attempt to drag them away from their chosen tasks. For they are exploring their worlds to see what's there, making explanations of what those things are, and imagining what else could be; exploring, explaining and learning are among a child's most purposeful urges and goals. *The playfulness of childhood is the most demanding teacher we have.* Never again in those children's lives will anything drive them to work so hard."  
 —Marvin Minsky, *The Emotion Machine*

Sugar is a learning platform that reinvents how computers are used for education. Collaboration, reflection, and discovery are integrated directly into the user interface. Sugar promotes "studio thinking" and "reflective practice". Through Sugar's clarity of design, children and teachers have the opportunity to use computers on their own terms. Students can reshape, reinvent, and reapply both software and content into powerful learning activities. Sugar's focus on sharing, criticism, and exploration is grounded in the culture of free software (FLOSS).

	<p><b>Sugar facilitates sharing and collaboration.</b>          Children can write documents, share books and pictures, or make music together with ease.</p>
	<p><b>There are no files, folders, or applications.</b>          Children interact with Activities. Activities include an application, data, and history of the interaction that can be used to resume and reflect on the child's work.</p>
	<p><b>Everything is saved automatically.</b>          It is our goal that you will never lose your work. Documents will eventually be synced with a network server, adding additional protection.</p>
	<p><b>A Journal is used for accessing data.</b>          The Journal is a diary of things that you make and actions you take. It is a place to reflect upon your work.</p>
	<p><b>Sugar is free and open-source software.</b>          Sugar is licensed under the <a href="#">GNU GPL</a>; updates will always respect the freedom of its users.</p>

## 7.1 Note to Parents & Teachers

### 7.1.1 The Sugar Philosophy

Information is about nouns. Learning is about verbs. The Sugar user interface differs from traditional user interfaces in that it is based on both cognitive and social constructivism. We believe that learners should engage in exploration and collaboration. The Sugar platform is based on three defining human principles. These are the pillars of user experience for learning:

- Everyone is a teacher and a learner.
- Humans are social beings.
- Humans are expressive.

Two principles define the Sugar platform:

- You learn through doing, so if you want to learn more, you want to do more.
- Love is a better master than duty—you want people to engage in things that are authentic to them, things that they love. Internal motivation almost always trumps external motivations.

Three experiences characterise the Sugar platform:

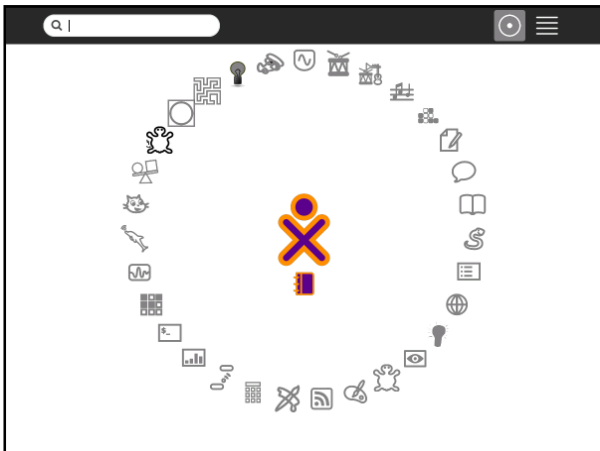
- **Sharing:** The Sugar interface always shows the presence of other learners. Collaboration is a first-order experience. Students and teachers dialog with each other, support each other, critique each other, and share ideas.
- **Reflecting:** Sugar uses a "Journal" to record each learner's activity. The Journal serves as a place for reflection and assessment of progress.
- **Discovering:** Sugar can accommodate a wide variety of users, with different levels of skill in terms of reading, language, and different levels of experience with computing. It is easy to approach, yet it doesn't put an upper bound on personal expression. One can peel away layers and go deeper and deeper, with no restrictions.

Sugar is written in Python, an easy-to-learn interpreted language [3]. It was originally designed for One Laptop per Child (OLPC), as part of an effort to provide an opportunity for a quality education to every child through the distribution of connected laptop computers, our most powerful tools for expression. Sugar is the user interface used on the OLPC XO laptop. It is now available on many GNU/Linux distributions, including Fedora, Debian, and Ubuntu. Anywhere you run Linux, you can probably run Sugar.

**Sugar Labs** is a non-profit foundation whose mission is to produce, distribute, and support the use of the Sugar learning platform. Sugar Labs supports the community of educators and software developers who want to extend the platform and who have been creating Sugar Activities. Sugar is a community project. It is available under the open-source GNU General Public License (GPL) and free to anyone who wants to use or extend it.

# 8 Sugar on the XO

When you power-on your laptop, you should see the Sugar Home View.



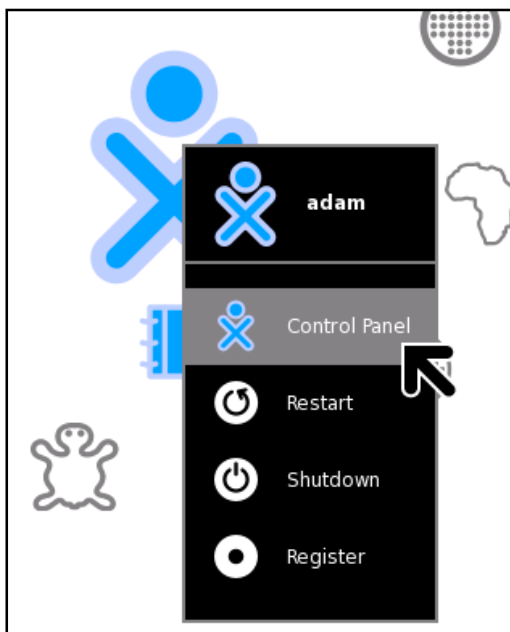
You can customise Sugar to meet your needs. You can change options such as:

- the colour of your XO icon
- your nickname
- the language used in the interface
- the power-saving features

The Sugar *Control Panel* is the place to configure your system. Many of the changes described in this chapter require that you restart Sugar (**ctrl+alt+erase**) for them to take effect.

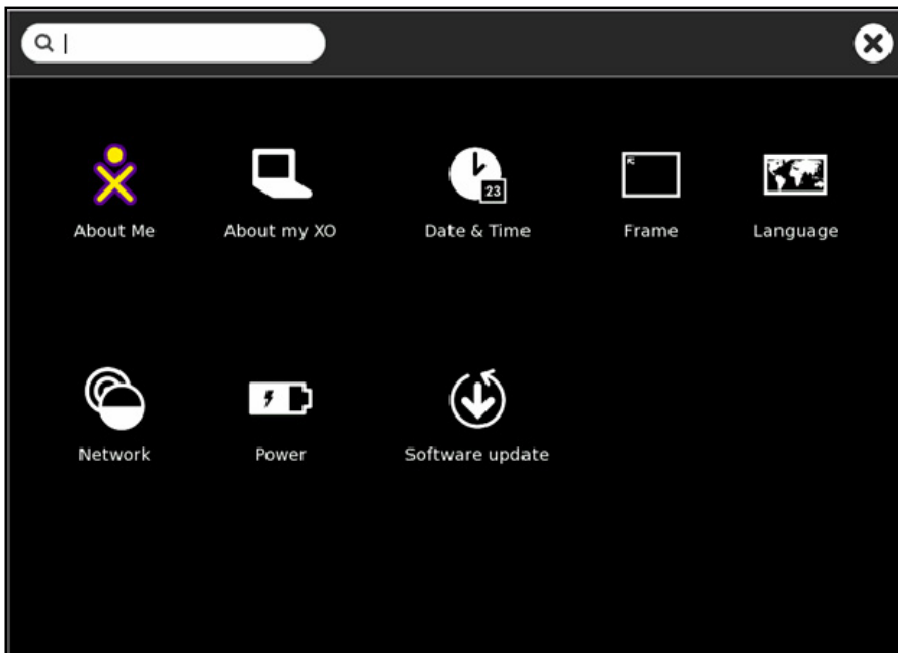
## 8.1 Opening the Sugar Control Panel

Hover over the XO icon in the centre of the Home View and a menu appears. Select *Control Panel*.



## 8.2 Main Panel

The *Main Panel* has eight categories of options.



You can use the text box at the top of the window to search the available options. Options that don't match the search text are dimmed.

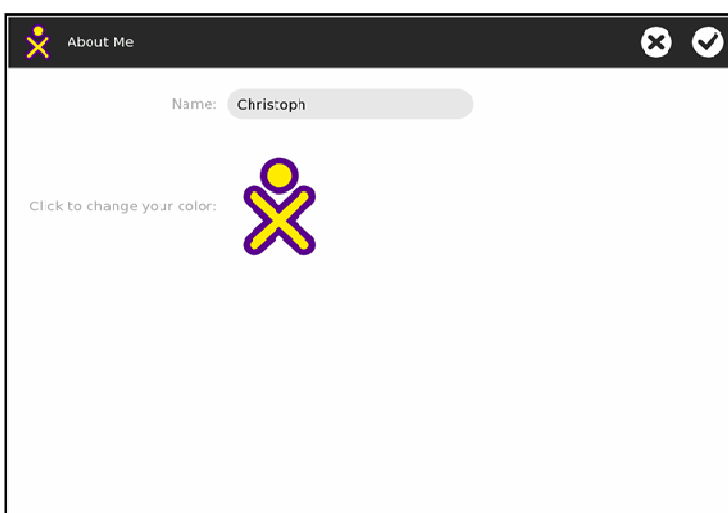
You accept changes made on the category panels by clicking the "OK" button in the top right corner. Clicking the "Cancel" button discards the changes and returns you to the main panel.

You can quit the control panel by clicking the "X" in the top right corner of the panel.

## 8.3 About Me

**Note:** If you make changes on this panel, you must restart Sugar (**ctrl+alt+erase**) for them to take effect.

**Caution:** You may lose any work you have open.



## 8.3.1 Name

You can change your user name in this box. The user name appears when you start Sugar.

## 8.3.2 Colour

Click the XO icon to cycle through the colours for it. These colours show up in the Neighbourhood View, Group View, Home View, on your Frame and when sharing with other Sugar users. There are almost 400 different colour combinations available, which consist of a combination of six base-colours (red, orange, yellow, green, blue, purple) used as stroke-colour and fill-colour and three shades (light, medium, dark).

Please see [wiki.laptop.org/images/0/05/Buddy-Icon-Colour-Matrix.pdf](http://wiki.laptop.org/images/0/05/Buddy-Icon-Colour-Matrix.pdf) for an overview of all the available colour combinations.

## 8.4 About My XO

### 8.4.1 Identity

Some computers, such as the XO laptop, report the serial number here. You might need the serial number for repair service or to request a developer key.

### 8.4.2 Software

Here you can see which software and firmware version is currently installed on your system.

## 8.5 Date & Time

You can set your time zone in multiple ways, such as location (e.g. Europe), GMT offset, or Coordinated Universal Time (UTC). For details, see the XO Software user guide.

## 8.6 Frame

The Frame around the screen displays open activities, a clipboard, and your current collaborators. It is most often toggled by the keyboard Frame button, but can be controlled though this icon by position of the Screen Cursor moving towards the edges. For details see the XO Software user guide.

## 8.7 Language

You can select your system's default language by clicking on a List. Details in the XO Software user guide.

## 8.8 Network

### 8.8.1 Wireless

You can turn the system's wireless radio ON or OFF. If you use the XO on an airplane, you must turn the radio OFF. For details, see the XO Software user guide.

### 8.8.2 Mesh

This lets you to share Activities with other people connected to the same server, even when they're located half-way around the world. For details, see the XO Software user guide.

## 8.9 Power

Configure the power-saving features of your system. For details, see the XO Software user guide.

## 8.10 Software Updates

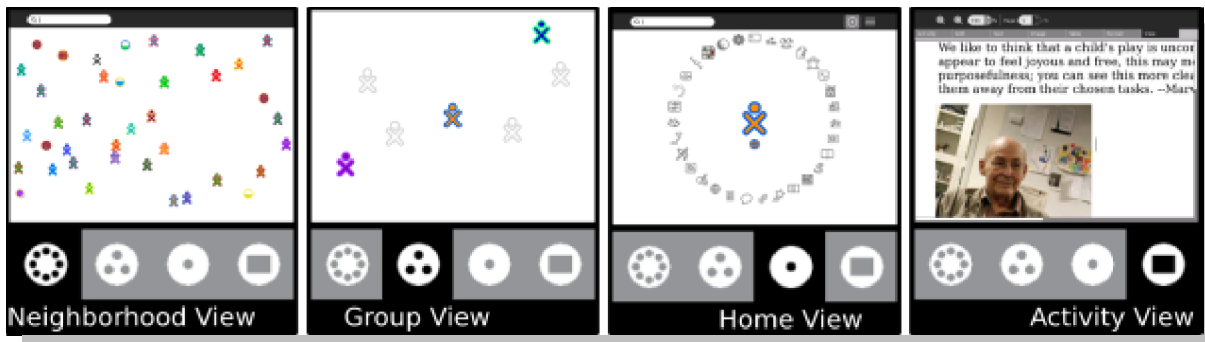
Select, install, and update Activities on your system. For details, see XO Software user guide.



# 9 The Sugar User Interface

The Sugar platform encourages learning through personal expression.

The user interface differs from the traditional Desktop metaphor. It uses a "zooming" metaphor—each view represents a different scale of interaction. You move between a view of the network "neighbourhood", your "friends", your "home page", and your currently open application ("Activity"). Each view occupies the entire screen. There are no overlapping windows to deal with.



With Sugar, you zoom between views: from your network neighbourhood to your current Activity.

Sugar supports sharing and collaboration by default. Sugar brings many of the collaboration mechanisms we are accustomed to from the Internet directly into the user interface. Sharing a file, starting a chat, collaborating in a writing exercise, or playing a game with other people are never more than a click away.

Sugar incorporates a Frame around the border of the screen; the Frame holds status information, such as alerts, a clipboard, open Activities, and your current collaborators.

Sugar maintains a Journal (or diary) of everything you do; it is a place for reflection. You do not need to save files or create folders; Activities automatically save your work to the Journal.

Sugar emphasises **discovery**. Every object in the interface has a menu that reveals more details and options for action. Many Activities include a "view source" option; for example, the Browse Activity lets you examine the HTML code that reveals how a web page is created. Most Activities are written in the Python scripting language. You can see how they work, and make changes to them.

Sugar has clarity of design. There is no need to "double click". There are no overlapping windows. Sugar uses colour and shape throughout the interface to provide a fun, expressive, approachable platform for computing.

## 9.1 For Parents & Teachers

### Activities, not Applications

Sugar does not have applications in the traditional sense. Activities are distinct from applications in what they focus on (collaboration and expression) and in their implementation (journaling and iteration). This is more than a new naming convention; it represents an intrinsic quality of the learning experience we hope the children will have when using Sugar.

## Presence is always Present

Everyone has the potential for learning and teaching. Sugar puts collaboration at the core of the user experience in order to realise this potential. The presence of other learners encourages children to take responsibility for others' learning as well as their own. The exchange of ideas amongst peers makes the learning process more engaging and stimulates critical thinking skills. Sugar encourages these types of social interaction with the laptops.

Most Activities have the potential to become network enabled. For example, consider the Browse Activity. With typical computer interfaces, you browse in isolation. In Sugar, sharing links is an integral part of Browse, transforming web-surfing into a group collaboration.

## Tools of Expression

Sugar emphasizes thinking, expressing, and communicating using technology. Sugar starts from the premise that we want to use what people already know in order to make connections to new knowledge. Computation is a "thing to think with". Sugar makes the primary activity of the children one of creative expression, in whatever form that might take. Most Activities focus on the creation of some type of object, be it a drawing, a song, a story, a game, or a program. In another language shift describing the user experience, we refer to objects rather than files as the primary stuff of creative expression.

The best way to learn how to write a program is to write one, or perhaps teach someone else how to do so. Studying the syntax of the language is useful, but it doesn't teach one how to code. We apply the principle of "learning through doing" to all types of creation. For example, OLPC emphasises composing music over downloading music. We also encourage the children to engage in the process of collaborative critique of their expressions and to iterate upon this expression as well.

Turning the traditional file system into objects speaks more directly to real-world metaphors: instead of a sound file, we have an actual sound; instead of a text file, a story. In order to support this concept, Activity developers can define object types and associated icons to represent them.

## Journaling

The concept of the Journal, a written documentation of everyday events, is generally understood, albeit in various forms across cultures. A journal typically chronicles the Activities one has done throughout the day. We have adopted a journal metaphor for the file system as our approach to file organization. The underlying implementation of the journal does not differ significantly from file systems in contemporary operating systems. The file system layout is less important than the journal itself.

The journal embodies the idea of storing a history of the things a child has done and the Activities a child has participated in. The child, parent, and teacher can reflect on the journal to assess progress.

The Journal stores objects created while the student runs an Activity. This function is secondary, although important. The Journal naturally lends itself to a chronological organization. Objects in the Journal can be tagged, searched, and sorted by a variety of means. The Journal records what a child has *done*, not just what the child has *saved*. The Journal is a portfolio or scrapbook history of the child's interactions with the machine and also with peers. The Journal includes entries explicitly created by the children with entries that are implicitly created through the child's participation in Activities. The Activities, the objects, and the means of recording all tightly integrate to create a different kind of computer experience.

# 10 Home View

Use the Home View to begin new Activities. **Note:** When you have clicked on an Activity's icon, please wait for that Activity to start. If you get impatient and happen to click again on the Activity's icon, you may end up with that Activity being started twice.

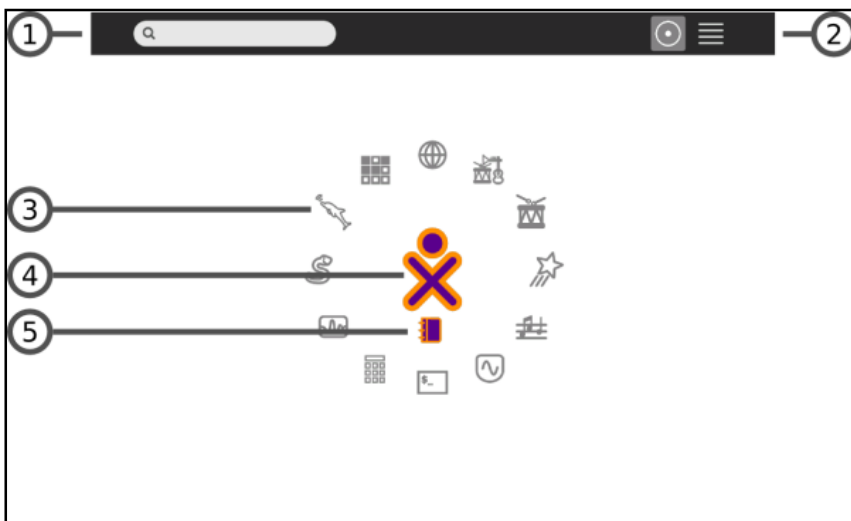
When you click an Activity's icon, you see a start-up view while that Activity initialises. Once the Activity is running, you are placed into its Activity View. If the Activity fails to start, you will return to the Home View.



To get to the Home View, click the Home icon on the Frame or press the F3 key. The Home View has several modes. Each mode has a different arrangement of Activities:

- Your favourite Activities in a ring (Ring mode)
- Your installed Activities in a list (List view)
- Your favourite Activities arranged freeform (Freeform mode)

## 10.1 Favourites View



### 1. Search box

Use the search box to find Activities. **Note:** If in List view you see fewer Activities than expected, you may need to click the small X at the right end of the search box to undo an unintended search request.

### 2. View modes

Click an icon to switch to a different view. Hover over the Favourites icon to see a menu that lets you pick Ring mode or Freeform mode.

### 3. Activity icon

Click an Activity icon to launch that Activity (and cause it to appear on the Frame). Only Activities that have been **starred** as favourites appear in this view. (See the List View below for more details.)

#### 4. XO icon

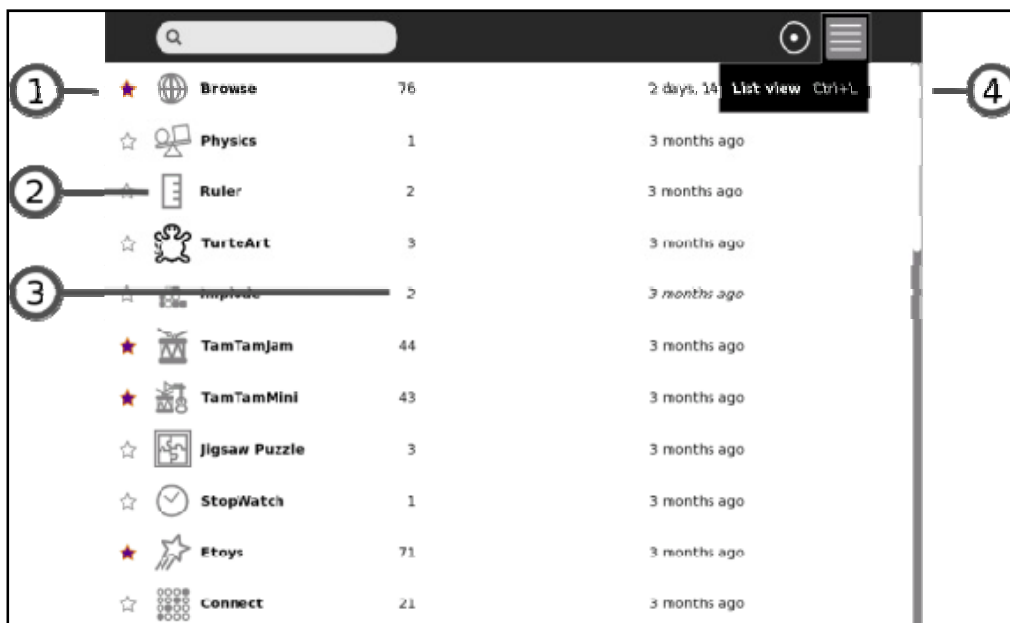
Hover the pointer over the "XO" in the centre of the Home View to bring up a menu and to access the Sugar Control Panel. (Please see the chapter on Customising Sugar.)

#### 5. Active-Activity icon

The icon of the currently active Activity appears under the XO icon.

## 10.2 List View

Use the List view to manage all of your Activities and to choose which Activity icons appear on the Favourites view.



#### 1. Activity entry

Each entry in the list has:

- a star, which is coloured for favourite Activities, which appear in Ring mode or Freeform mode. Click a star to colour or clear it.
- an icon
- a title
- a version number
- how long ago it was installed

#### 2. Icon

Click the icon to launch the Activity. **Caution:** By clicking Erase in the icon's hover menu, you can uninstall that Activity from your system.

#### 3. Version number

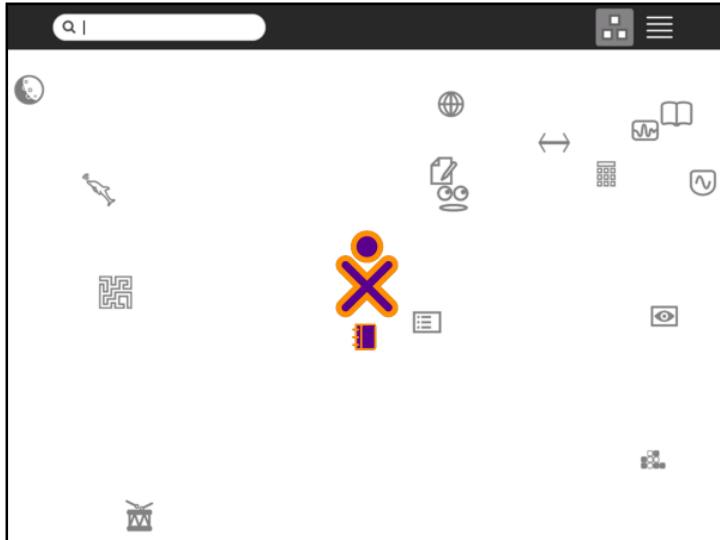
Lets you compare your version against an availability list such as [wiki.laptop.org/go/Activities](http://wiki.laptop.org/go/Activities) to see if it is up to date.

#### 4. Scroll bar

The Activity list may extend beyond the screen. Use the scroll bar to move through the list.

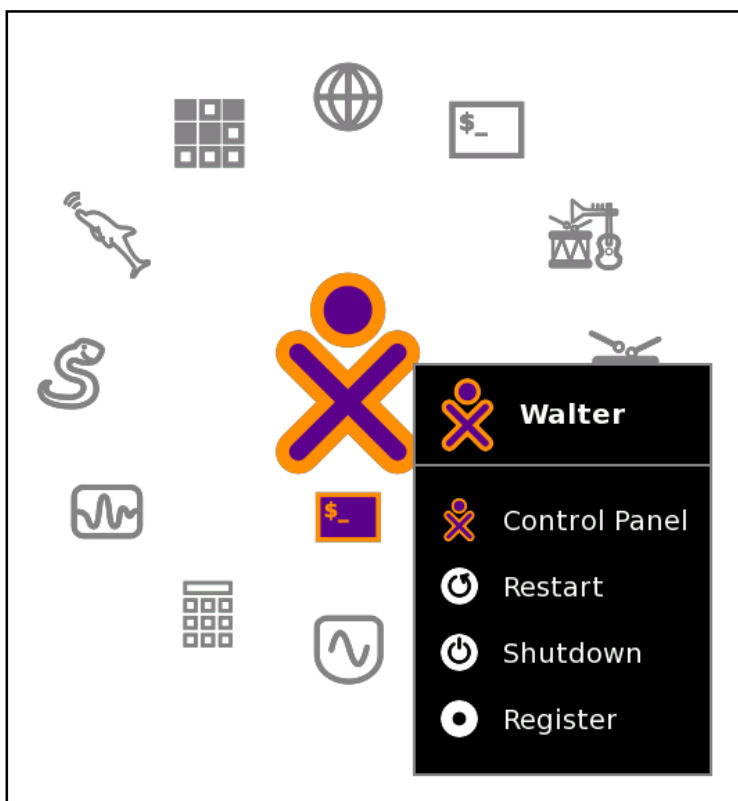
## 10.3 Favourites View in Freeform Mode

The Freeform mode of the Home View works the same as the Ring mode, but the icons are arranged arbitrarily instead of in a circle. You can drag the icons in this View to visually group them in a way that makes sense to you.



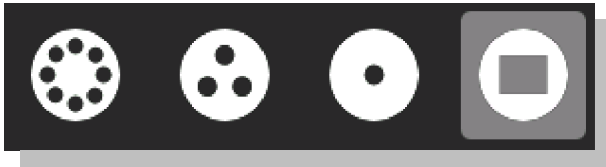
## 10.4 XO Menu

Use the hover menu that appears over the XO icon to access the Sugar Control Panel and to shutdown or restart the computer.



# 1.1 Activity View

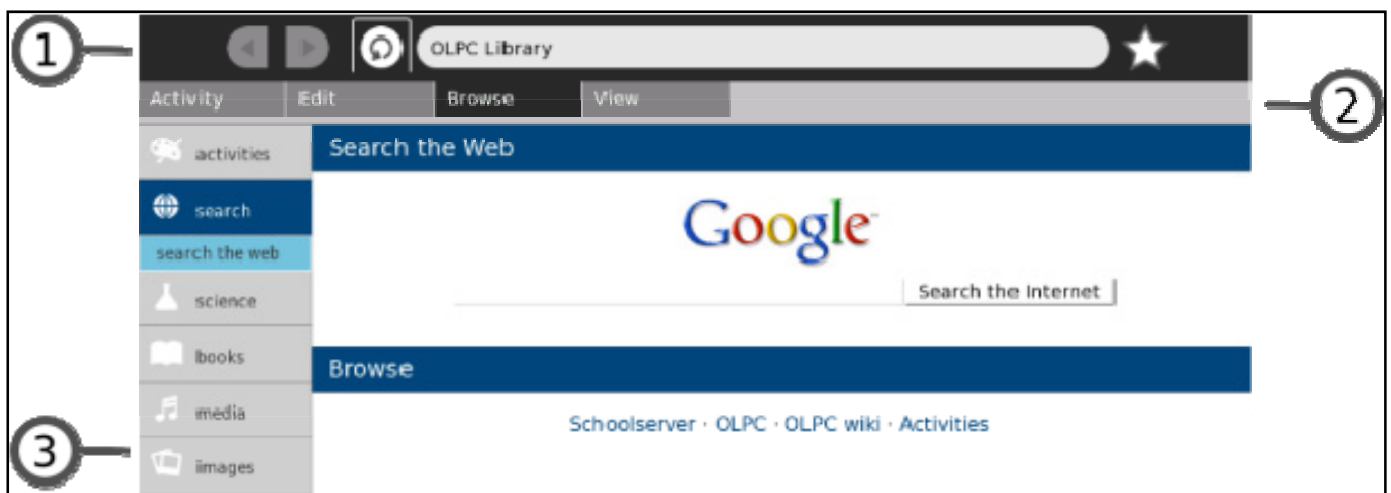
When you play with an Activity you are using the Activity View. Return to the most recently used Activity that is still running by clicking the Activity View icon at the top left of the Frame (shown below).



You can also use the Activity button for this purpose if your keyboard has one. Use the **F4** key if you are using a keyboard that does not have an Activity button.

Use the appropriate Activity icon in the top right of the Frame, from any View, to return to the Activity View for any running Activity.

Sugar Activities always use the full screen. This figure shows the Activity View for the Browse Activity.



## 1. Activity menus

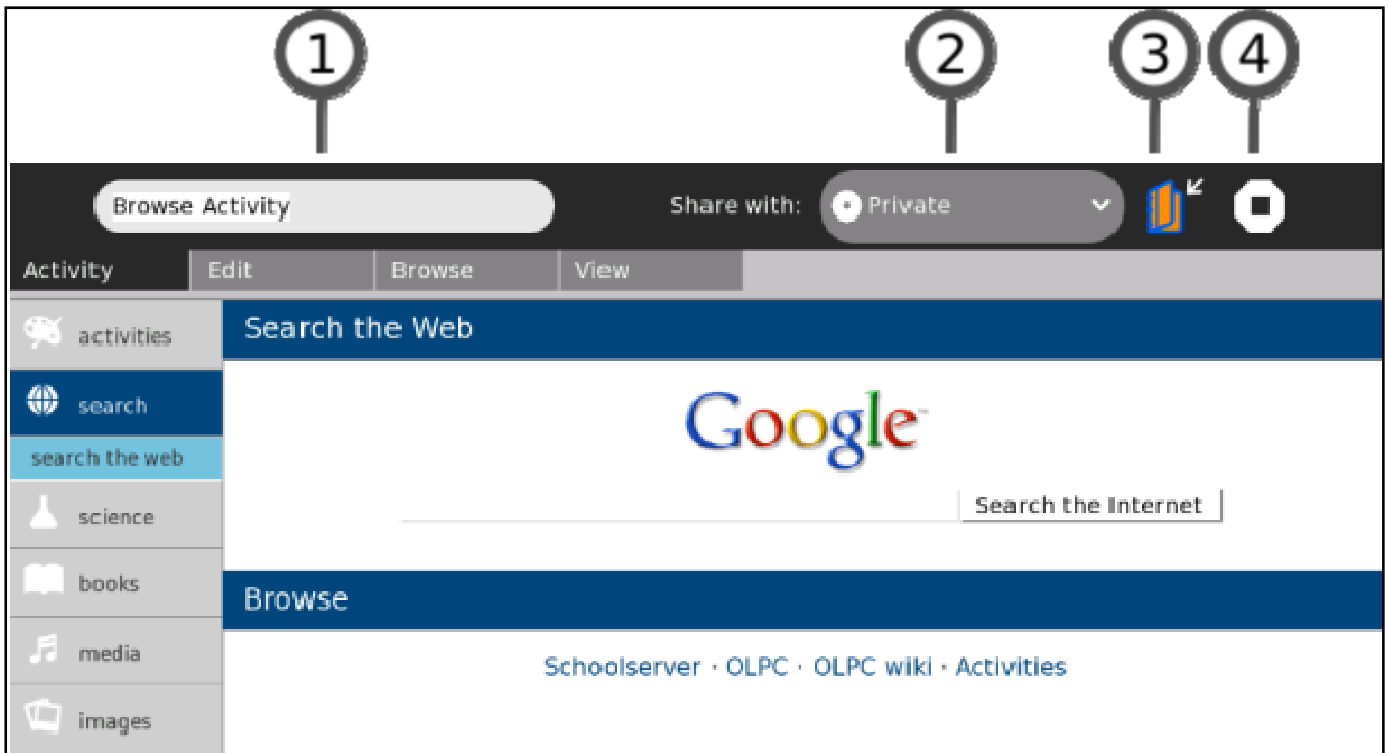
Activities have one or more menus that appear at the top of the screen.

## 2. Menu tabs

Click the tabs found just below the Activity menu to switch between the menus for an Activity.

## 3. Activity workspace

The rest of the screen is used by the Activity itself, in this example, Browse.



All Activities have an Activities menu.

#### 1. Activity name

The content of the Activity name field is how this specific Activity session entry appears in the Journal. *Be sure* to enter a unique name here, if you want to make it easy to later find this session among the other instances of this same Activity shown in the Journal.

#### 2. Share with menu

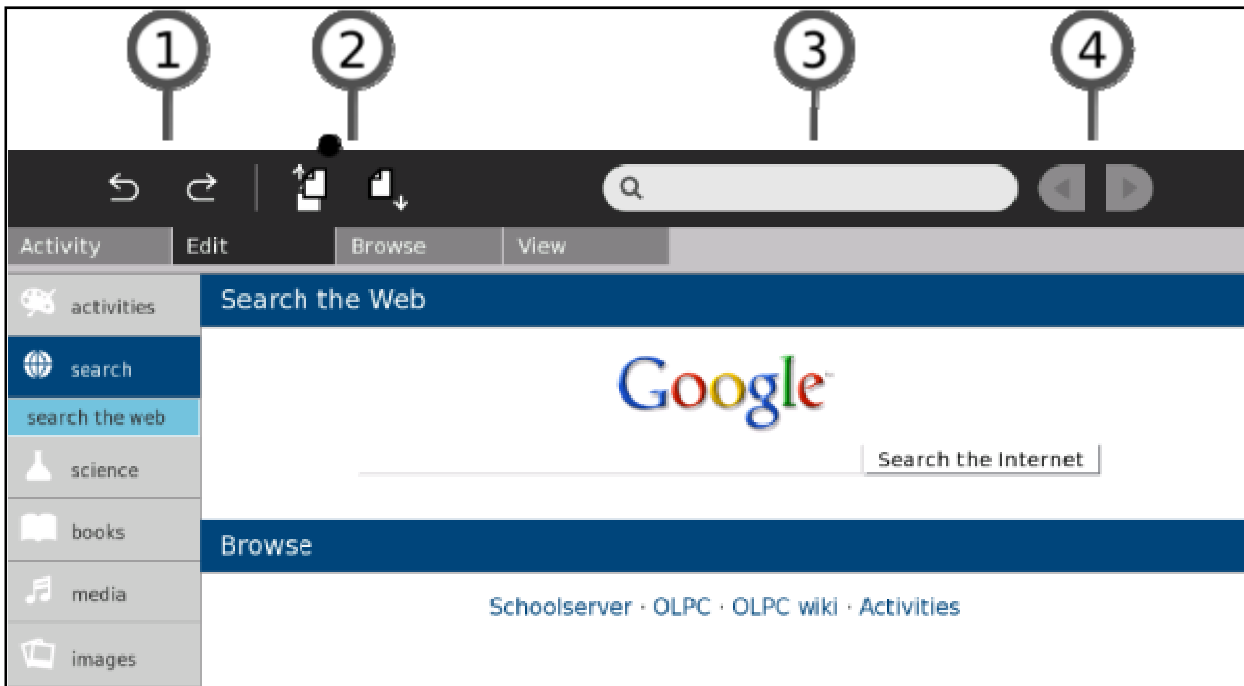
Use the "Share with" pull-down menu to share an Activity with your neighbours. Many Activities support sharing.

#### 3. Keep button

Click the Keep button to force an Activity to save its current state in the Journal.

#### 4. Stop button

Use the Stop button or press **ctrl + esc** to save the Activity in the Journal and close it.



Many Activities have an Edit menu.

#### 1. Undo/Redo

The undo and redo buttons are application specific but usually refer to undoing or redoing your most recent edits.

#### 2. Copy/Paste

There are buttons for copy and paste. You can also use the keyboard shortcuts **ctrl + c** and **ctrl + v** for copy and paste respectively. Items you copy end up on the clipboard, which is found in the left edge of the Frame. Items you paste come from the clipboard.

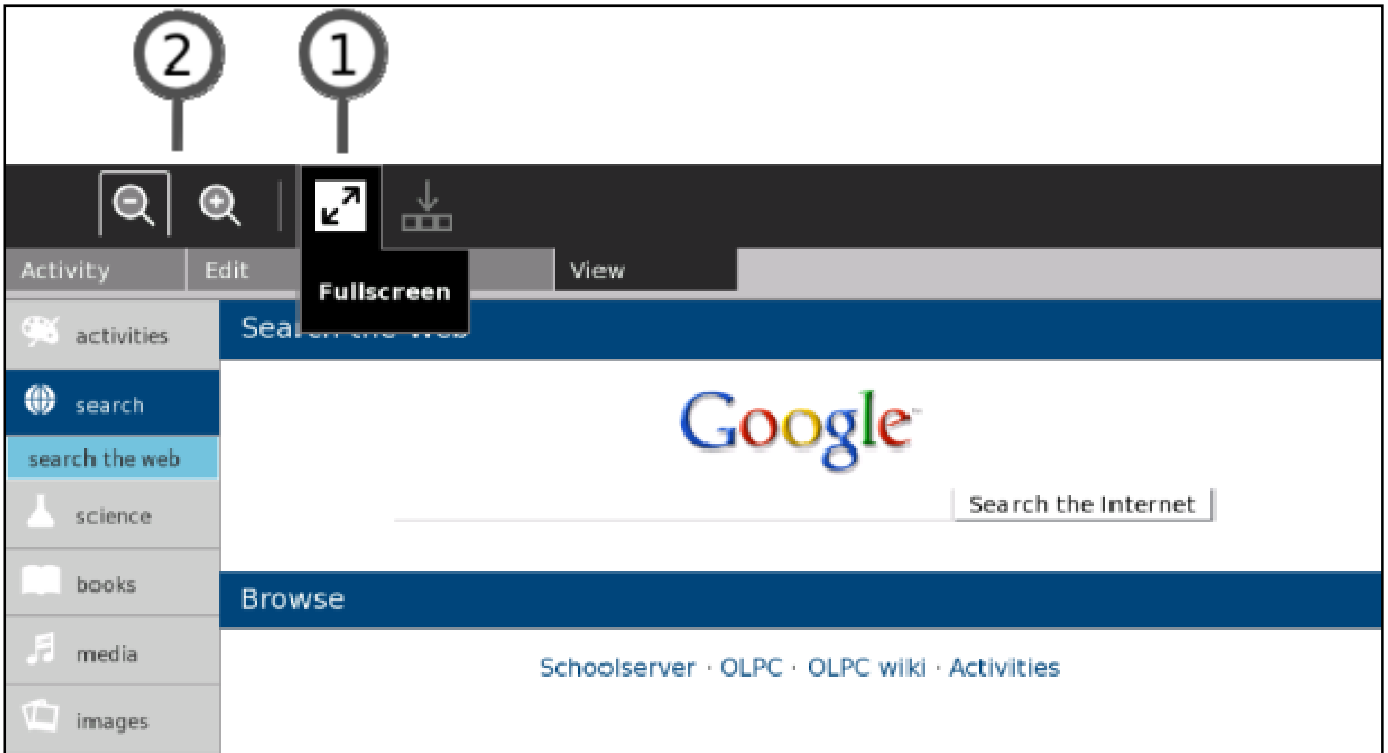
#### 3. Search

Many Activities support search: you can find text within the Activity by entering it into the search box.

#### 4. Next/Previous

On the Edit menu, a pair of buttons allows you to find the next or previous occurrence of the text in the search box.





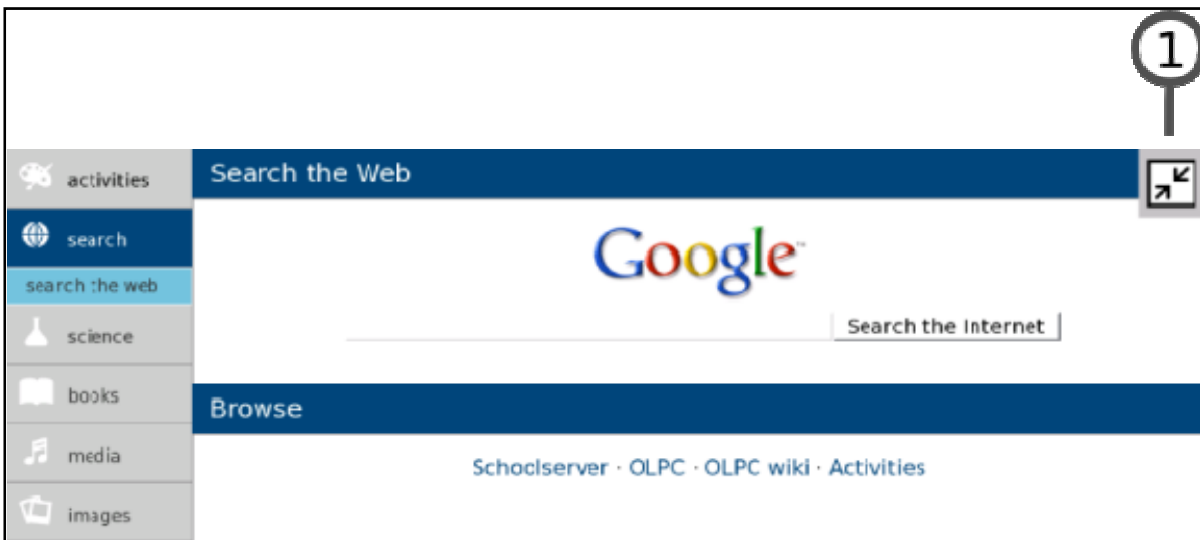
Many Activities also have a View menu.

### 1. The Full-screen button

Click the Full-screen button to make the Activity use 100% of the display, hiding the menu.

### 2. Shrink/Grow

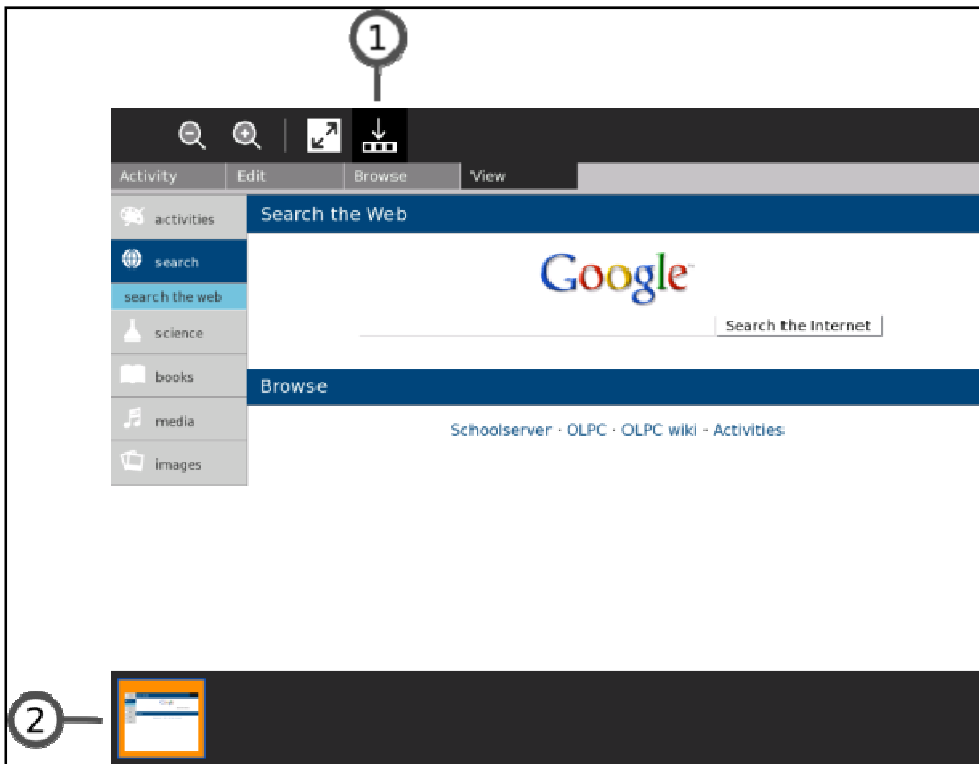
Use the Shrink and Grow buttons to scale the display if the Activity supports this feature.



Leaving full-screen mode:

### 1. Full-screen button

Use the Full-screen button to view the menus again.



Many Activities use trays at the bottom of the screen to hold collections.

### 1. Tray button

Click the Tray button to toggle the appearance of the tray.

### 2. The tray

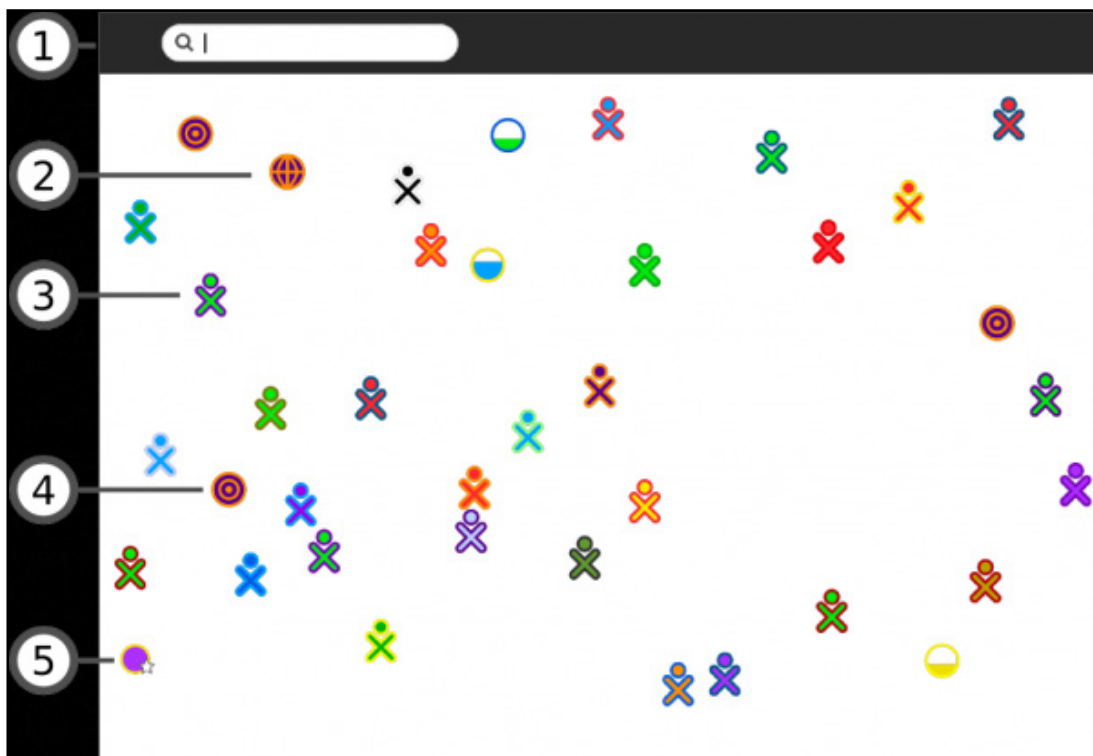
The tray typically appears at the bottom of the screen. The Tray contains objects associated with the Activity. In the Browse Activity, bookmarks appear in the tray. In the Record Activity, the media objects you create are placed in the Tray. Retrieve objects by clicking their thumbnails in the tray.

# 12 Neighbourhood View

You can use the Neighbourhood View to connect to the Internet and to collaborate with others.



To see the Neighbourhood View, click the Neighbourhood icon on the Frame. You can also use the Neighbourhood button for this purpose if your keyboard has one, or press the **F1** key.



## 1. Search menu

You can find people, Activities, or access points using the search menu.

## 2. Shared Activities

You can join an Activity by clicking the Activity's icon. Shared Activities appear as icons in the Neighbourhood View.

## 3. XO icon

Other Sugar users appear in the Neighbourhood View. By hovering over an XO icon, you can discover the nickname of that person and can add them as a friend or invite them to join you in a shared Activity.

## 4. Mesh icon

A mesh icon lets you connect to a school server or other computers on a mesh (802.11s) network. The OLPC XO has three mesh network channels. By clicking a mesh icon you join that particular mesh network, and disconnect from an access point network. The other XO icons shown change according to who is on that network.

## 5. Access point

WiFi hot spots (Internet access points) appear as circles in the Neighbourhood view. If you hover over a circle, the name of the access point (the ESSID it broadcasts) appears.

- To connect to a hot spot, click the circle. If the circle shows a lock symbol, expect to be prompted to enter a key or password. The inside of the circle blinks while your system tries to connect. Once connected, the icon is surrounded by parentheses. An icon for the connection appears at the bottom right of the Frame. By clicking an access point icon you are indicating that you do not want to collaborate through a mesh network – which other XO icons are shown may change accordingly.
- To disconnect, hover over the circle, and choose Disconnect on the menu. Or hover over the icon in the Frame, and choose Disconnect on the menu.



Once a connection is made, the icon changes.

# 13 Group View

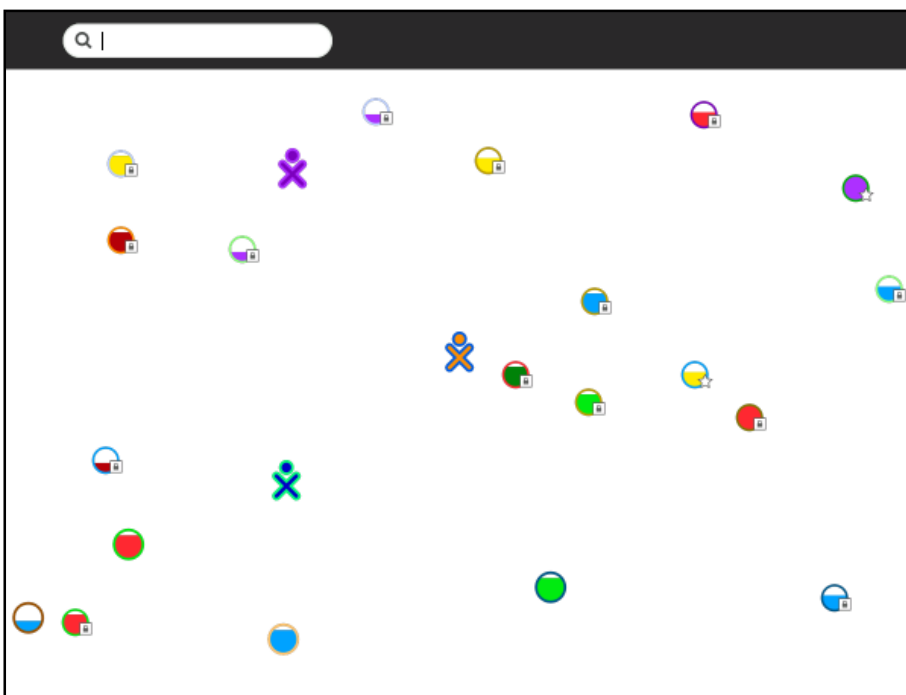
The Group View shows you your friends. (XO icons that are dimmed represent friends who are currently offline.)



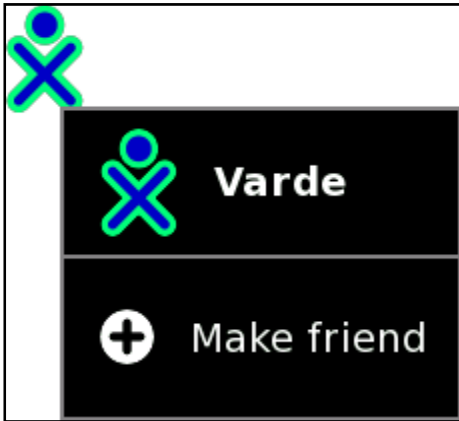
To show the Group View, click the Group icon on the Frame or press the **F2** key.



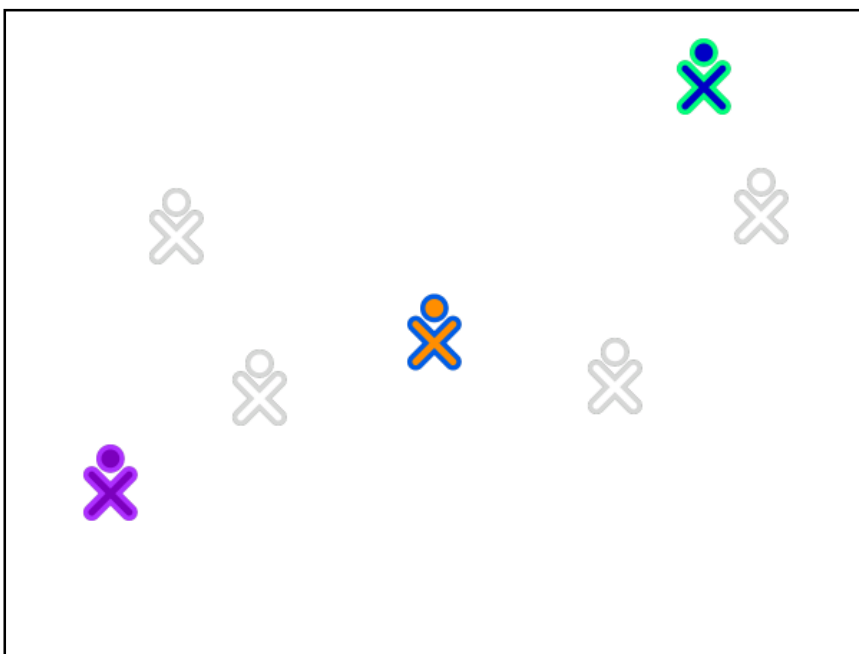
## 13.1 Adding a Friend



You add friends to the Group View from the Neighbourhood View.

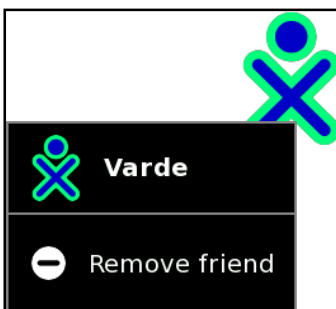


When you hover over an XO icon, the *Make friend* menu option appears. Click this option to add that person as a friend.



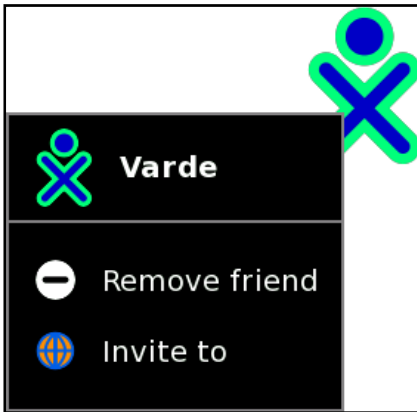
Your new friend's icon then appears in the Group View.

## 13.2 Removing a Friend



You can remove a friend from the Group View using the hover menu. Click *Remove friend*. That person's icon disappears from the Group View.

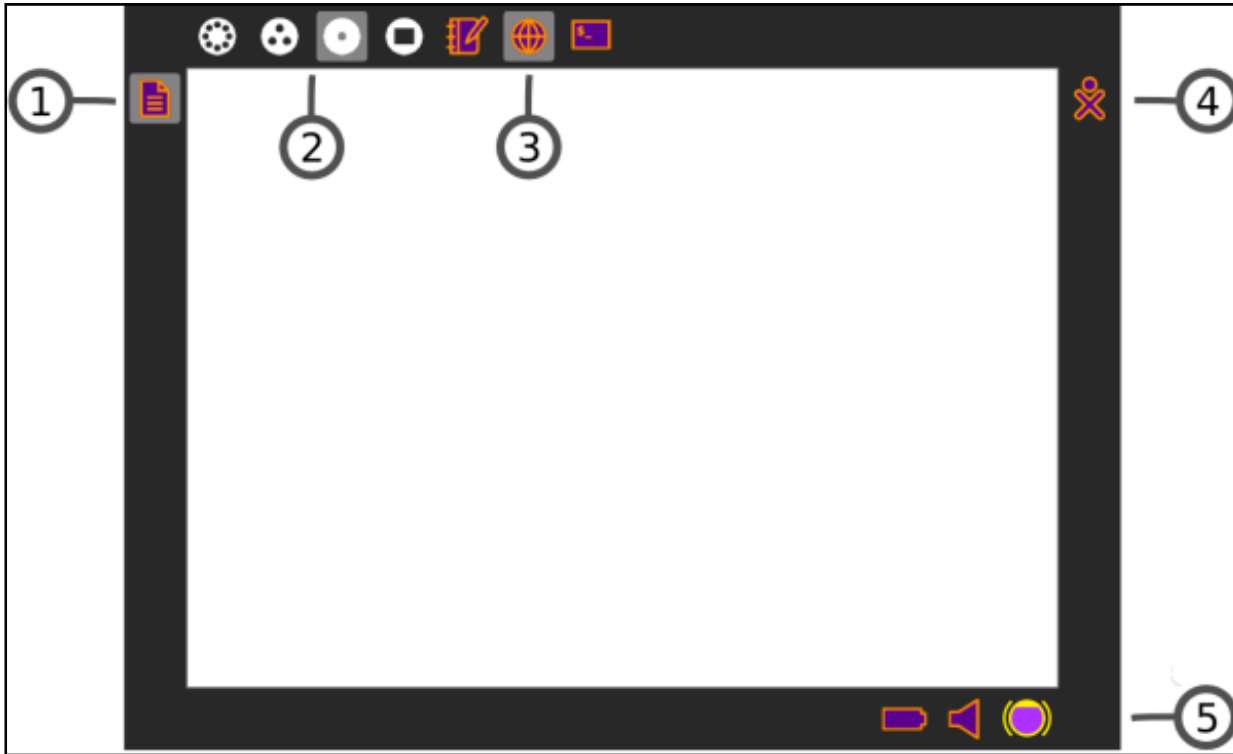
## 13.3 Inviting a Friend



From the hover menu, you can also invite friends to join your current Activity. There is more information about invitations and sharing in the Collaborating chapter.

# 14 The Frame

The Frame, which you can get to from any view, contains a clipboard, incoming invitations and notifications, buddies, open Activities, and global information that is used across all Views.



## 1. Clipboard

The left-hand edge of the Frame serves as a clipboard. You can drag objects such as images and text to and from the clipboard, and from and to Activities.

## 2. Zoom menu

The Zoom menu is on the upper-left edge of the Frame. Use it to move between the four Sugar views: Neighbourhood, Group, Home, and Activity.

## 3. Open Activity list

The list of currently open Activities appears on the top edge of the Frame. The active Activity is highlighted. (The Journal always appears here.)

Sometimes an unlabeled circle appears here --- it usually represents an additional full-screen session started by an Activity whose icon already appears in the top edge of the Frame.

Invitations also appear on this portion of the Frame. They appear as icons in the colour of the person who sent them.

## 4. Active buddy list

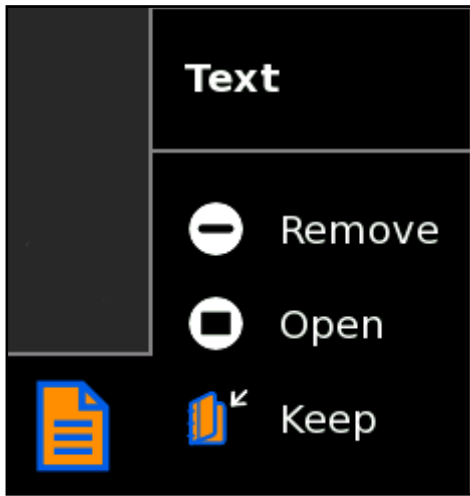
People you are currently collaborating with appear on the right edge of the Frame.

## 5. System status

Battery, speaker, and network status appear on the lower edge of the Frame.



## 14.1 The Clipboard



You can drag items on the clipboard into Activities. A hover menu also lets you remove them from the clipboard, open them in an Activity, or save (keep) them in your Journal.

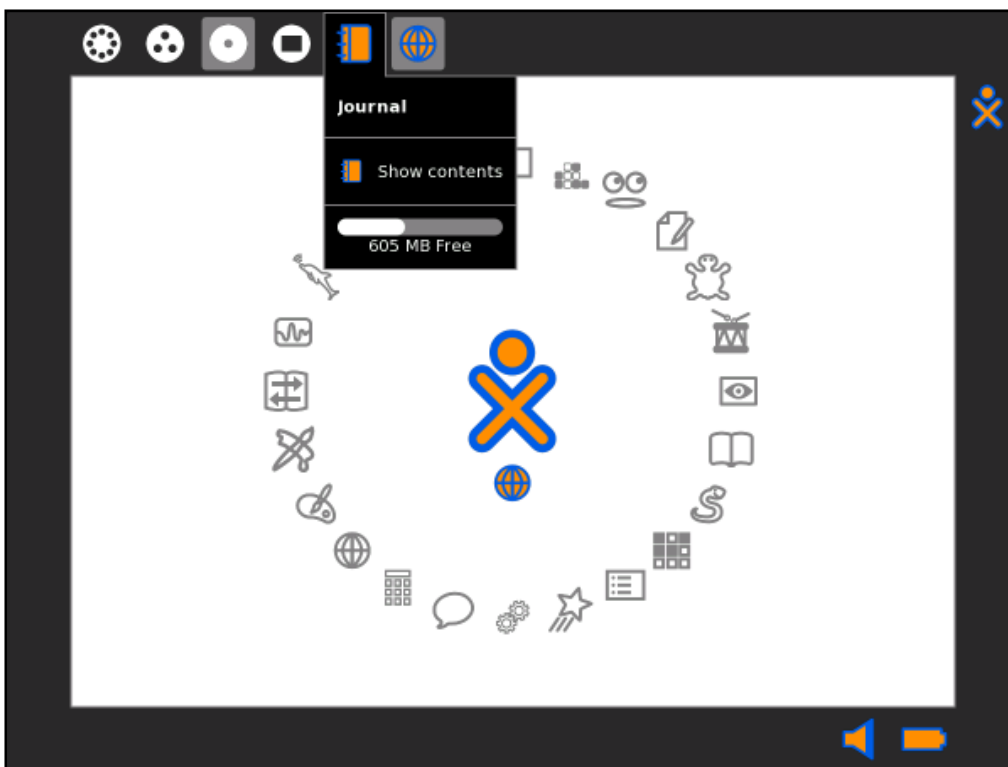
# 15 The Journal

The Journal Activity is an automated diary of everything you do within Sugar. Sugar Activities use the Journal as a place to save your work. You can use the Journal as a place to revisit old work, to resume incomplete work, to organise your completed work, and to reflect upon your progress as a learner.

The Journal keeps a record of what you do and the things you create such as photos, drawings, and writings. You can search for items in the Journal or sort entries by type or date. You can also click an entry to get a detailed view. You can resume an Activity by clicking the icon for that entry.

The Journal also supports external storage media such as a USB device or SD card. When you plug a USB device into the XO, you can access the contents of the USB device using the Journal. Click the USB icon to see the content on an attached USB storage device. You can also copy information from the Journal onto removable media—such as a USB device—as a means of backing it up. If you are connected to a school server, you can access its backup system.

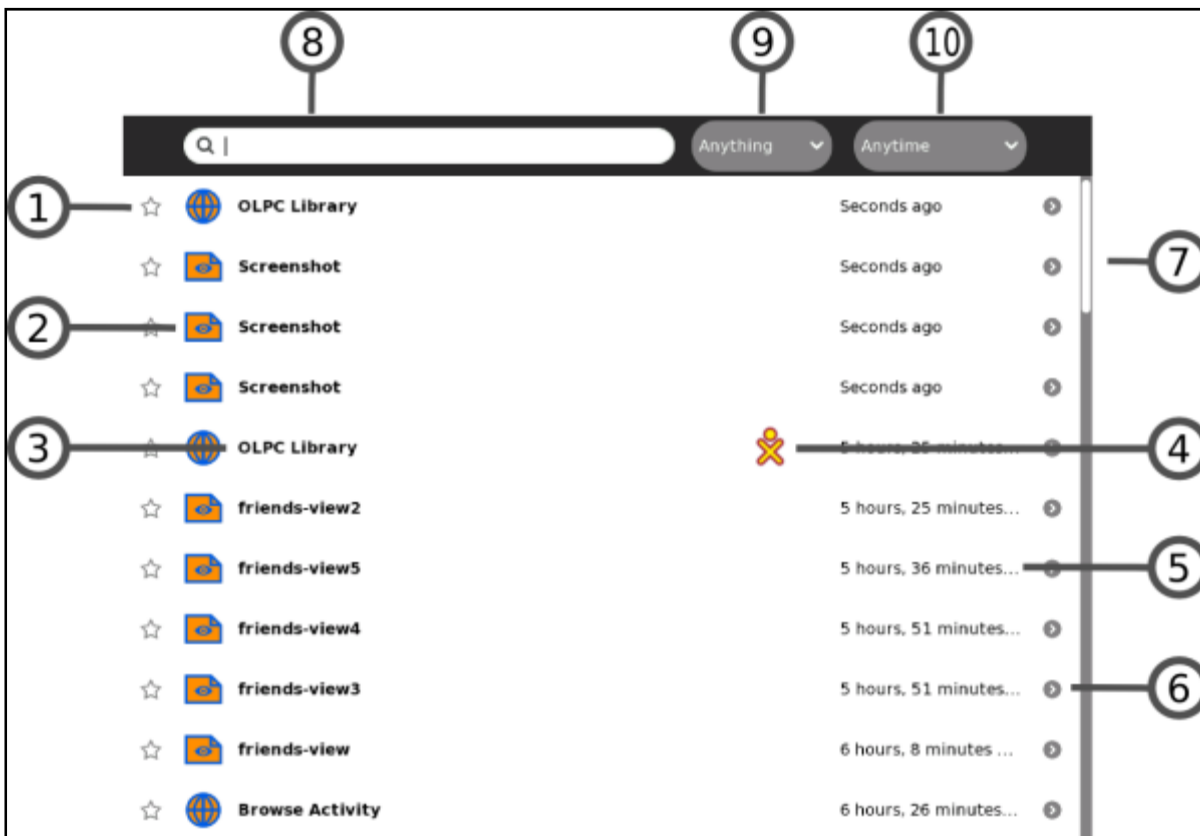
## 15.1 Showing the Journal



To show the Journal, click the Journal icon on the Frame.

On an XO laptop, you can press the magnifying glass key in the top row of the keyboard to immediately open the Journal and search.

## 15.2 Journal Features



The Journal View contains a menu and a list of journal entries:

### 1. Star

You can mark important entries to help them stand out in the list by clicking the star icon for that entry. When you click the star icon, the star is coloured in.

### 2. Icon

Each Journal entry has an icon. The colour of the icon shows who created the entry. For example, if you copy a photo from a friend, the photo's icon has your friend's colours.

You can launch the Activity for the entry by clicking the icon.

A hover menu may reveal additional options. In particular, "Erase" deletes that entry from your Journal.

**Caution:** "Erase" deletes any data associated with the entry shown. For example, if you delete an entry that shows that you installed an Activity, you delete the Activity as well.

### 3. Entry name

Each entry has a name. You can edit the name by clicking it. If the Journal view is showing the contents of a removable storage device, the Linux file name is shown here, with the path and the file name extension stripped off.

### 4. Buddy icons

If other participants joined you in this Activity, icons in their colours appear here.

### 5. Elapsed time

The Journal displays the time since the most recent change to the entry.

### 6. Detail view button

Click this button to see detailed information about the entry. See "Journal detail view", below.

## 7. Scroll bar

When there are more entries in the Journal than can fit on the screen, you can use the scroll bar to scroll through them.

## 8. Search box

Type words in the box to search for entries that match those words. Entries are displayed when they contain *all* of the typed words. Comparison will be against all of:

- the entry name field
- the description field (see "Journal detail view")
- the tag field (see "Journal detail view")

**Note:** the small x button at the right of the box shows that searching is being applied. To cancel your search, click on that x.

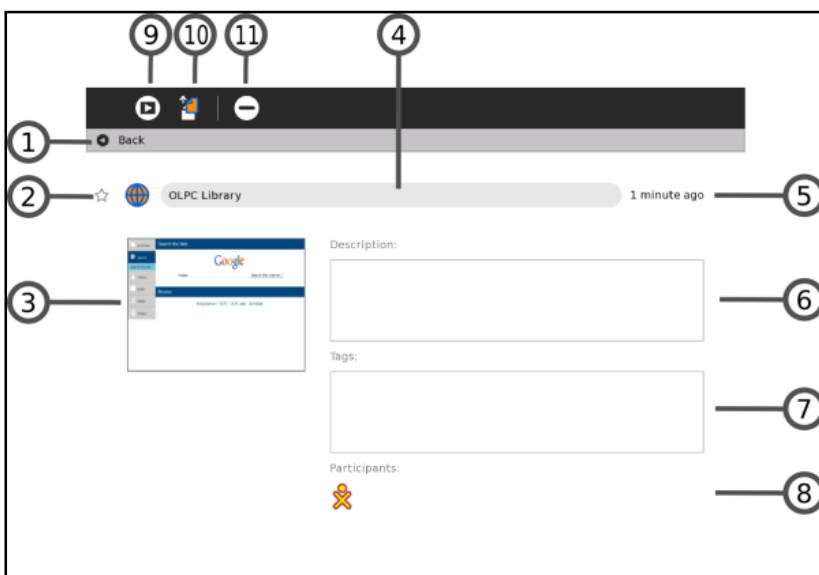
## 9. Select by type

Choose an entry type to display only entries of that type. Types include the Activity that created an entry, or the object type, such as, picture, sound, text, and so on.

## 10. Filter by date

You can limit the Journal View to entries made within the past day, week, or month.

# 15.3 Journal Detail View



The Detail view appears when you click the Detail view button for an entry. This view lets you examine and annotate the entry.

### 1. Back icon line

You can click anywhere in this line to return to the main Journal View.

### 2. Star and Icon

These items duplicate their functions on the main Journal view—a star represents a special, never-deleted Journal entry and the icon colour indicates who created it originally.

### 3. Thumbnail image

Each entry has a thumbnail image that is created automatically. The image shows the Activity screen when the last change to the Journal entry was saved.

#### 4. Entry name

You can change the name of the entry by clicking it and typing in a new name.

#### 5. Elapsed time

Displays the time since the most recent change to the entry.

#### 6. Description field

You can type a description of the entry, which you can use to find this entry later using the Search box in the main Journal view. Use a description to remind you of what you did. For example: "Flowers I saw on the hike to the waterfall".

#### 7. Tag field

You can enter search tags. Use keywords to describe a journal entry so that you can find it later using the Search box in the main Journal view. You can use keywords to help you "group" this entry, for instance by origin or context.

#### 8. Participants

Displays the XO icons of each person who participated in a shared Activity.

#### 9. Resume button

You can click the Resume button to resume an Activity. A hover menu may show additional options. For example, you can resume working with an image using either the Browser or the Paint Activity.

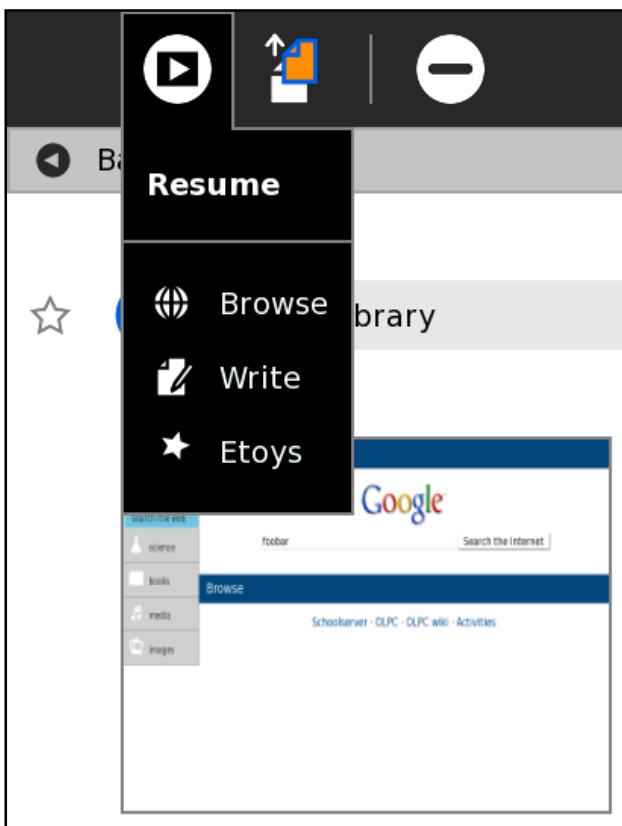
#### 10. Copy button

You can copy a Journal entry to the clipboard (or to one of the removable storage devices shown on the bottom edge of the Journal screen) by clicking the Copy button.

#### 11. Erase button

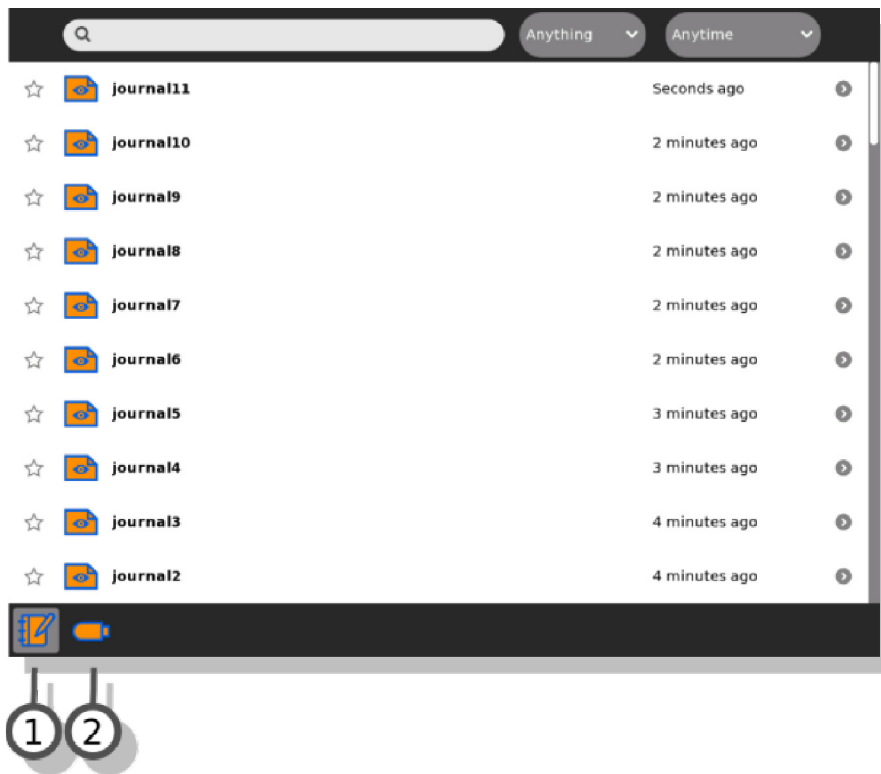
You can erase an entry by clicking the Erase button.

**Caution:** Once you erase an entry, it cannot be restored unless you have backed up your Journal.



When resuming from the Detail View, you can choose among different Activities.

## 15.4 Using Removable Media



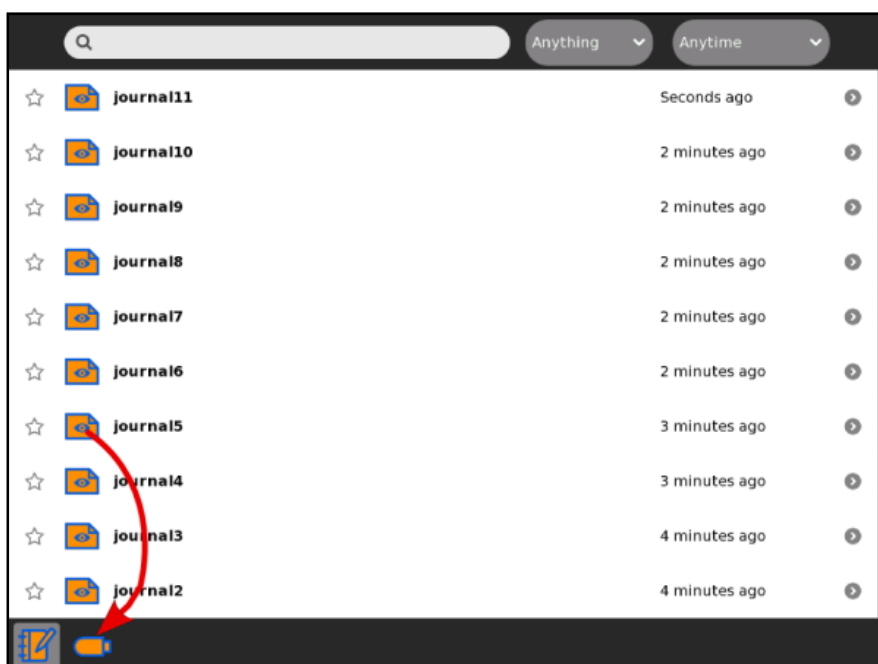
When you insert removable media—such as a USB device or SD card—it appears as an icon on the bottom edge of the mail Journal view.

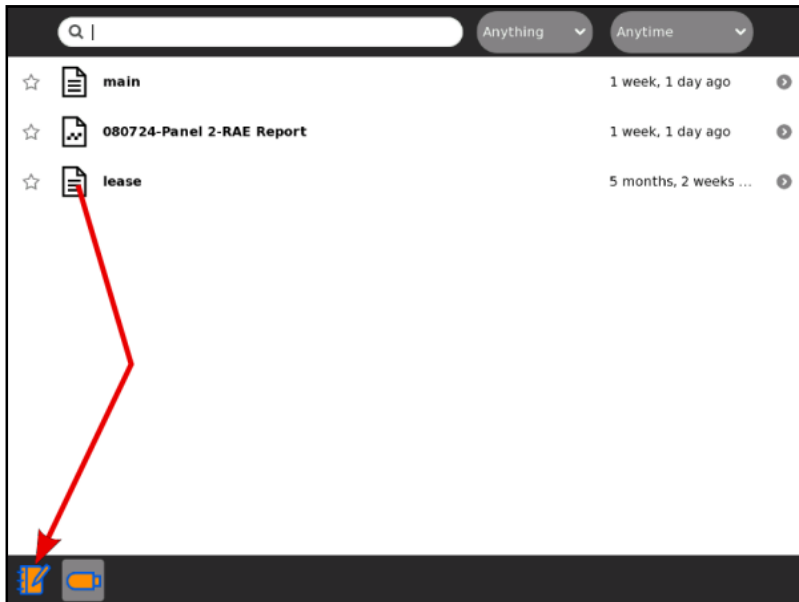
### 1. Journal

Click the Journal icon to show the Journal View.

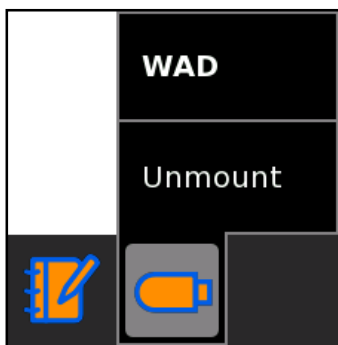
### 2. USB device

Click the USB icon (or SD icon) to show the removable-media file system.





You can drag Journal entries onto the USB device. You can also drag entries from the USB device to the Journal.



To remove (unmount) the external file system, choose *Unmount* on the hover menu.

**Caution:** It may take time for the hover menu to appear. It is easy to make a mistake and click the icon itself when you intended to click *Unmount*.

**Caution:** If you have a Terminal running you may inadvertently have your removable media locked. The safest way to remove media is after powering off your computer.

## 15.5 Note to Parents & Teachers

The Journal keeps a record of everything a child does within Sugar: which Activities they use and what content they create. It also keeps a record of group Activities, such as participation in a shared Write or Browse session.

The Journal encourages reflection. You can refer to it to assess a child's progress, much in the spirit of "portfolio" assessment. You can also use it as a catalyst for discussion with your child or student. We encourage the use of the description field within the detail view of Journal entries as a place to annotate or comment up entries.

# 16 What is an Activity?

Sugar applications are called "Activities". Activities include an application as well as sharing and collaboration capabilities, a built-in interface to the Journal, and other features such as the clipboard.

The Journal Activity is pre-installed. Other Activities can be distributed as part of an Activity Pack. There are many, many others you can install yourself.

Activities you have specified as favourites appear as a ring of icons around the XO icon in the centre of the Home View. All the Activities you have installed are shown in the List mode of the Home View.

Some Activities allow Sugar users to work and learn cooperatively. For example, Write allows several users to collaboratively create a document. Read allows several users to read the same document or a teacher to share a book with an entire classroom. Memorise allows a group of users to play a game together.

Another class of Activities allow users to write software. A variety of computer languages such as Logo, SmallTalk, CSound, and Python are supported within the TurtleArt, Etoys, TamTam, and Pippy Activities.

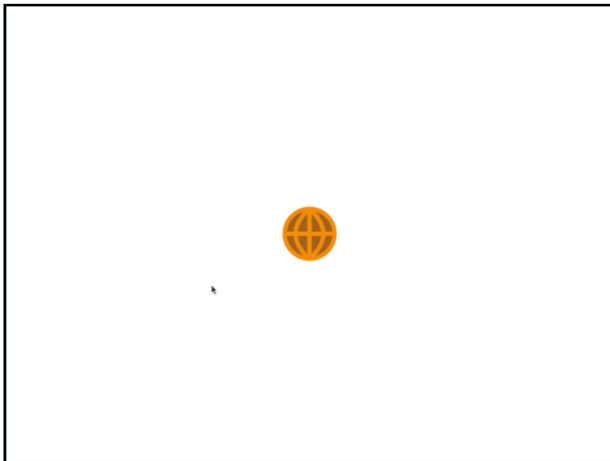


# 17 Launching Activities

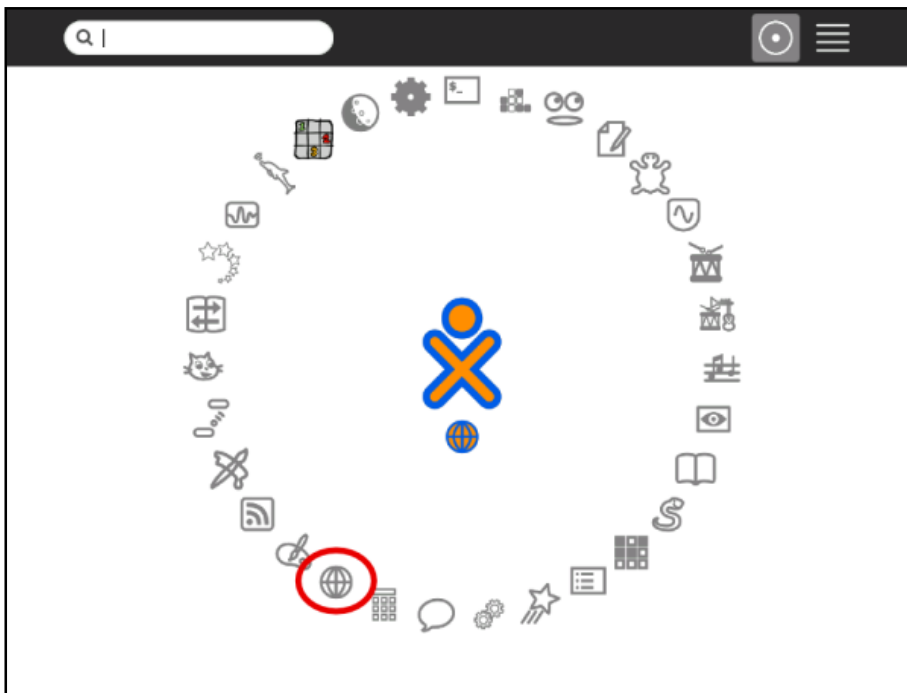
You can launch an Activity in four different ways:

- Click the Activity icon in the Home View.
- Resume an Activity from the Journal View.
- Join a shared Activity from the Neighbourhood View.
- Accept an invitation by clicking the invitation icon on the Frame.

When you launch an Activity, its icon flashes in the middle of the screen while the Activity loads.

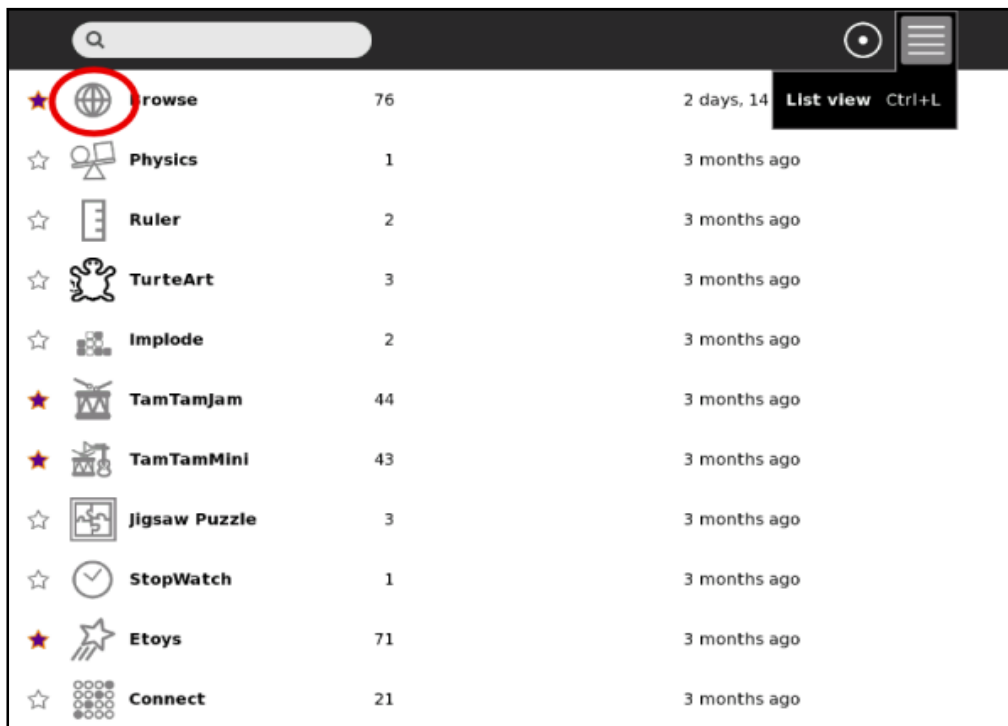


## 17.1 Launching from the Ring View



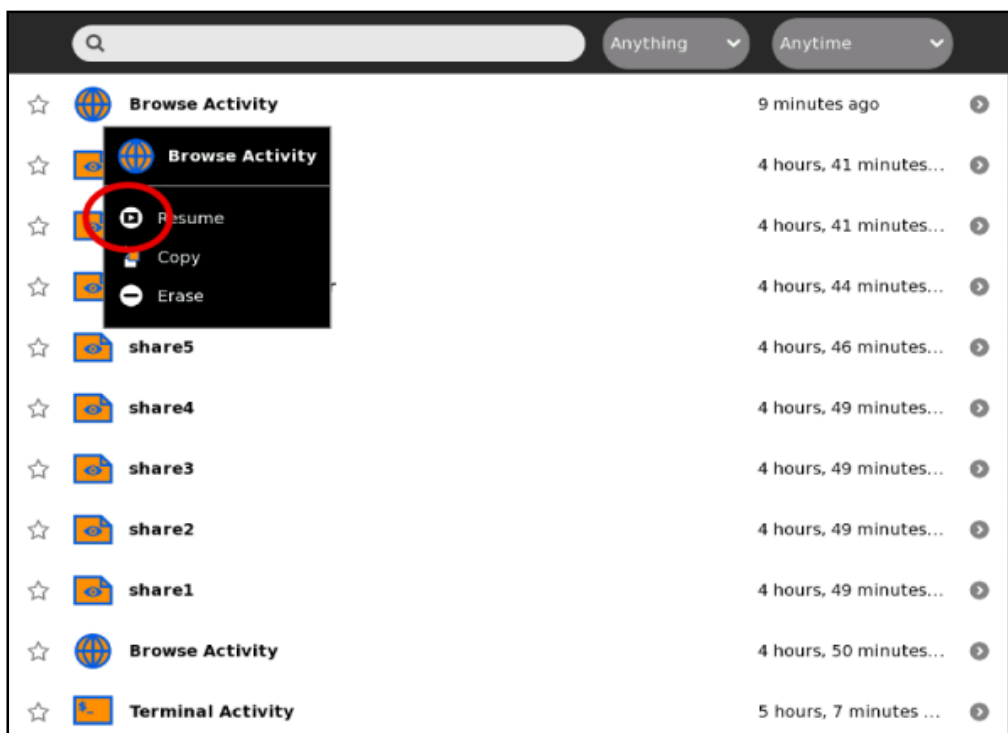
Click the icon or click an option on the hover menu.

## 17.2 Launching from the List View



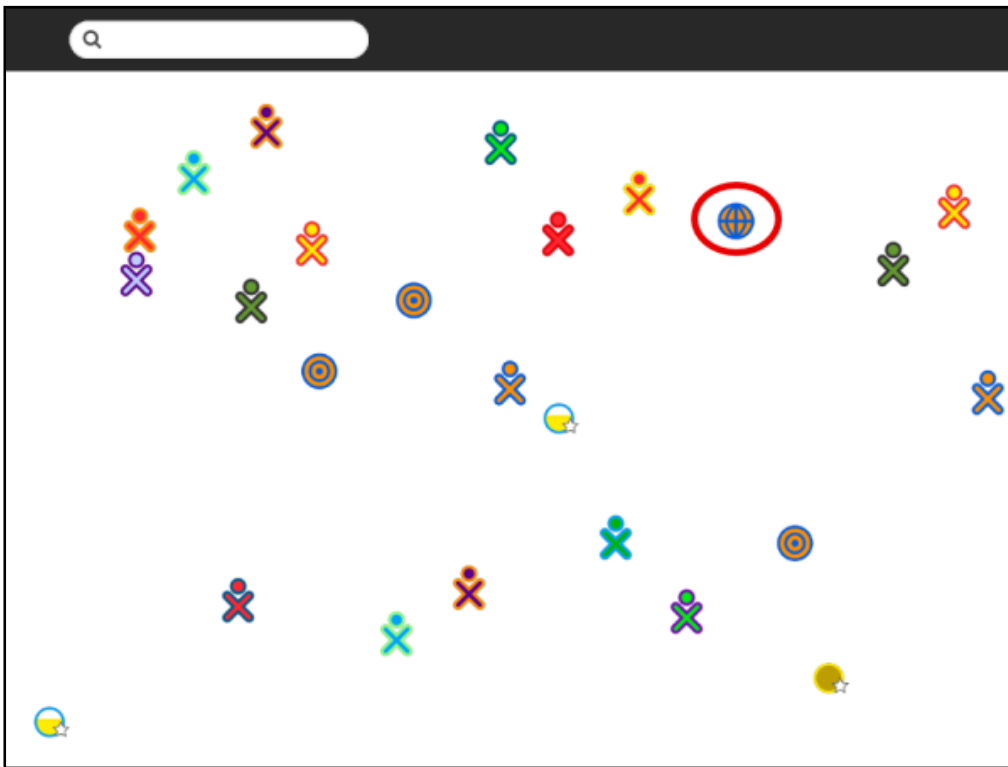
Click the icon or click an option on the hover menu.

## 17.3 Resuming from the Journal



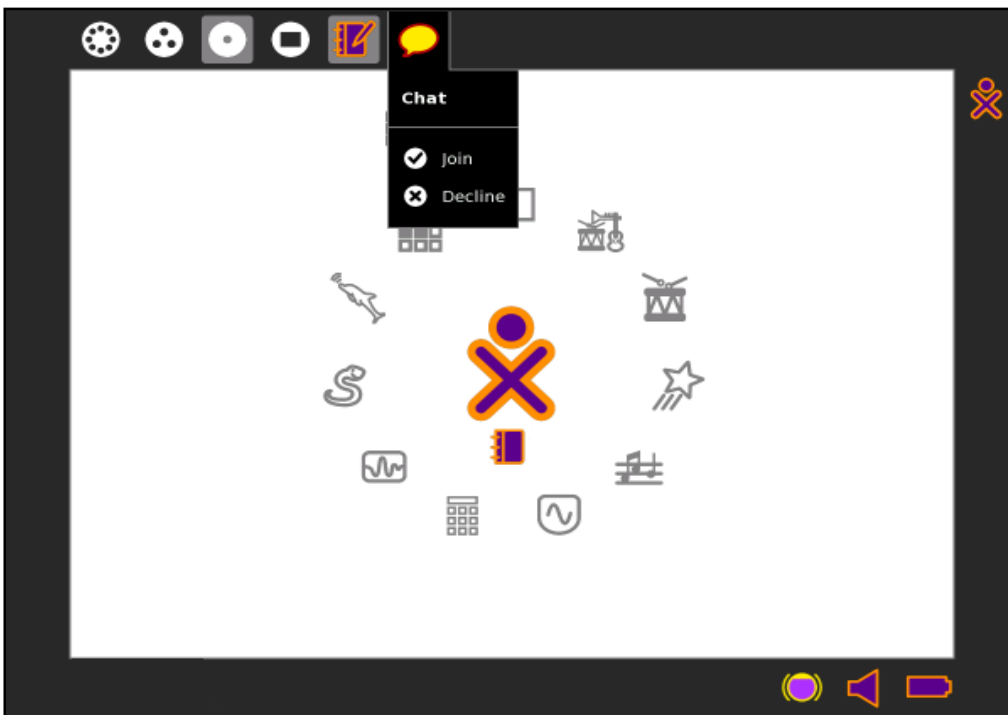
Click the icon or click *Resume* on the hover menu.

## 17.4 Joining a Shared Activity



Click the icon or click an option on the hover menu.

## 17.5 Joining an Activity by Accepting an Invitation



Click *Join* in the hover menu on the Frame.

# 18 Collaborating

There are two similar but different modes of collaborating within Sugar:

- Send an invitation to collaborate on an Activity.
- Share an Activity in the Neighbourhood View.

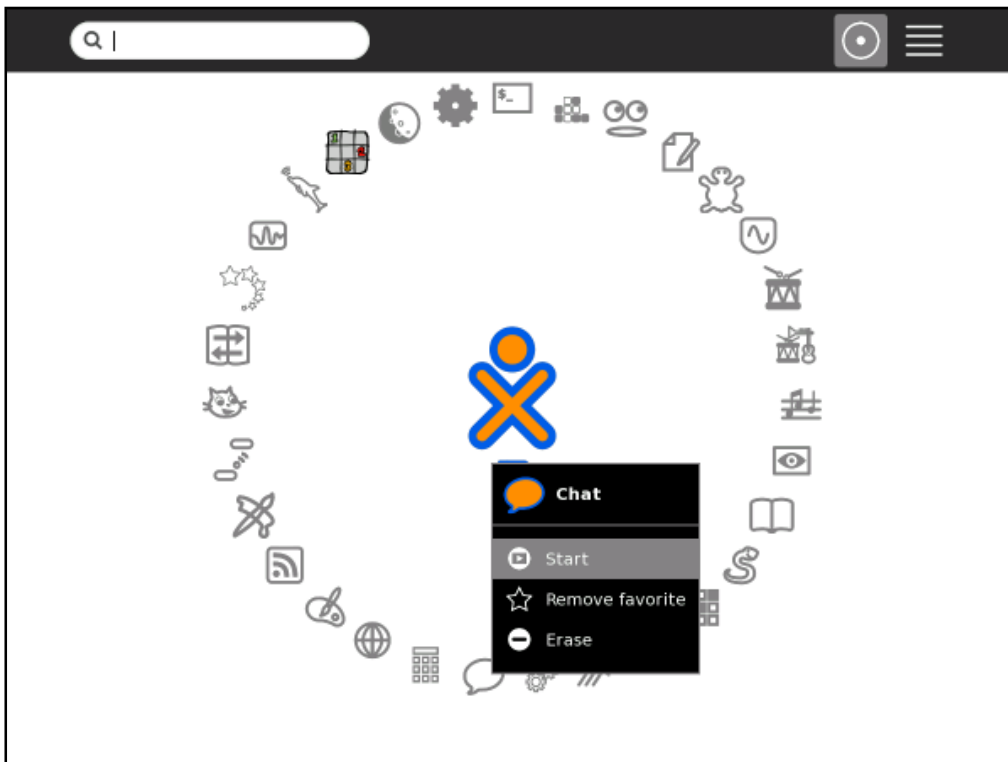
The difference between the two modes is subtle but important. When you send an invitation, you have specific control over who joins you. When you share with the neighbourhood, you are opening your Activity up to anyone who is visible in the Neighbourhood View.

## 18.1 Sending an Invitation

If you want a friend to join you in an Activity, send them an invitation. You can invite as many friends as you'd like by following the steps outlined below. The steps use the example of inviting someone to talk in the Chat Activity.

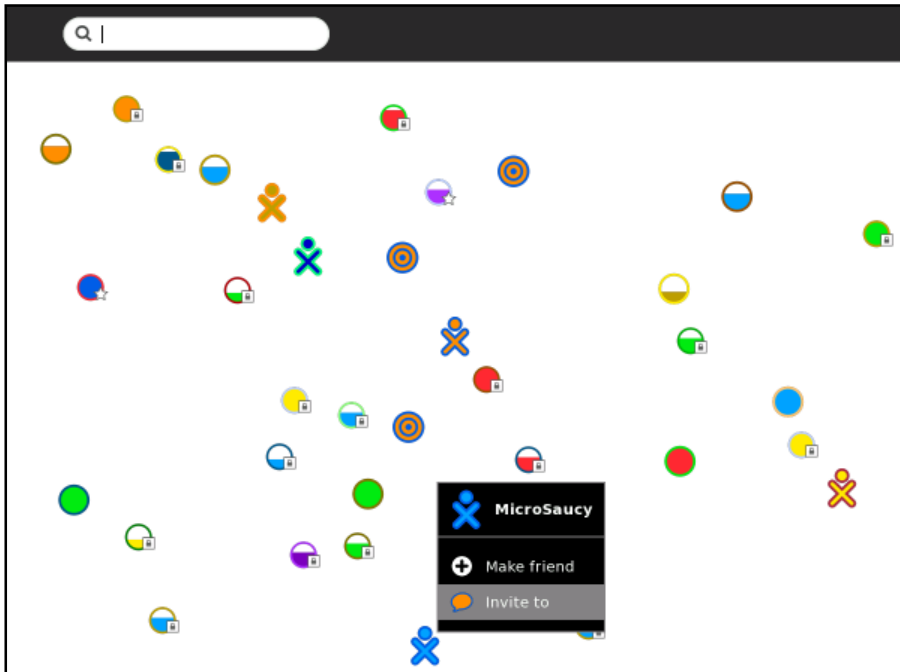
### 18.1.1 Step 1: Start the Activity.

You must be running an Activity in order to send an invitation. For example, open Chat from the Home View.



### 18.1.2 Step 2: Go to the Neighbourhood View or the Group View.

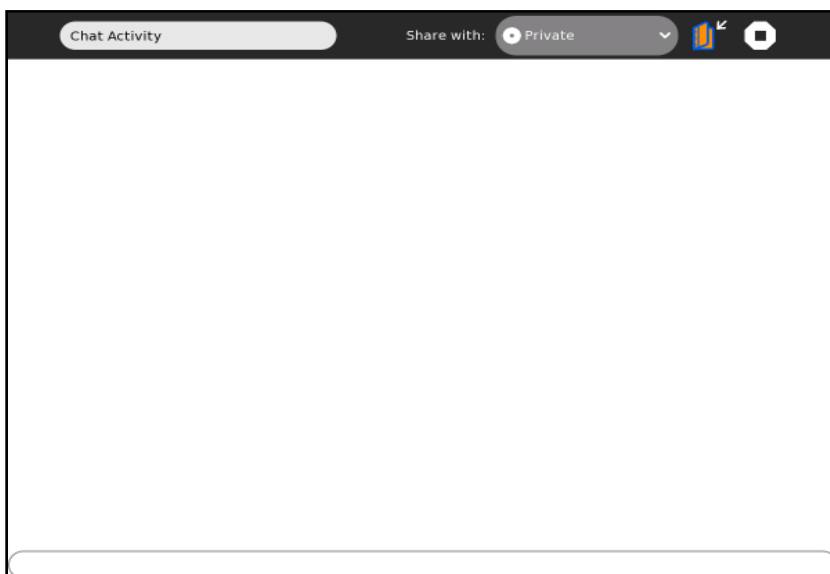
### 18.1.3 Step 3: Hover over the icon of the friend you'd like to invite, and click *Invite to*.



Your friend receives the invitation.

### 18.1.4 Step 4: Return to your Activity and start collaborating.

For example, switch back to the Chat Activity.

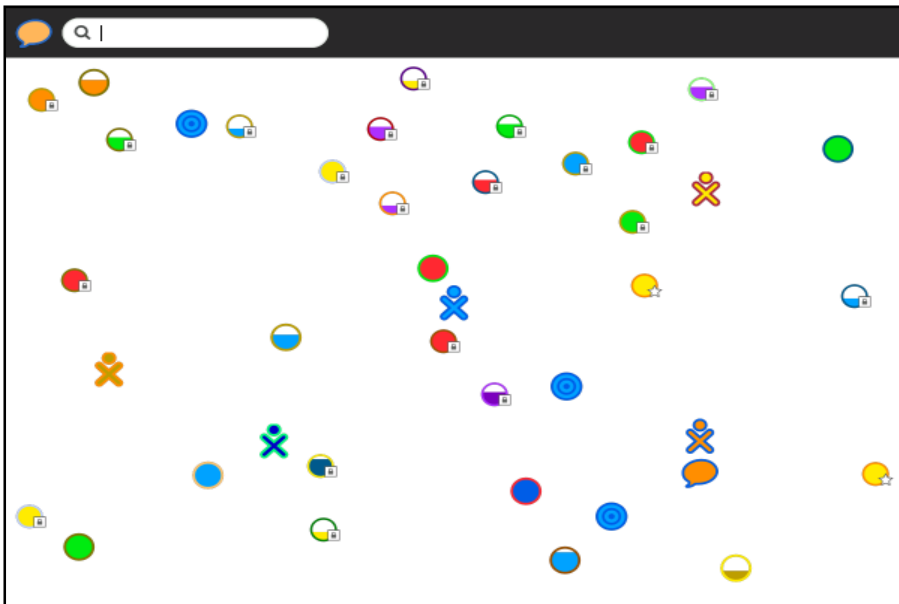


## 18.2 Receiving & Accepting an Invitation

### 18.2.1 Step 1: Notice that you have an invitation.

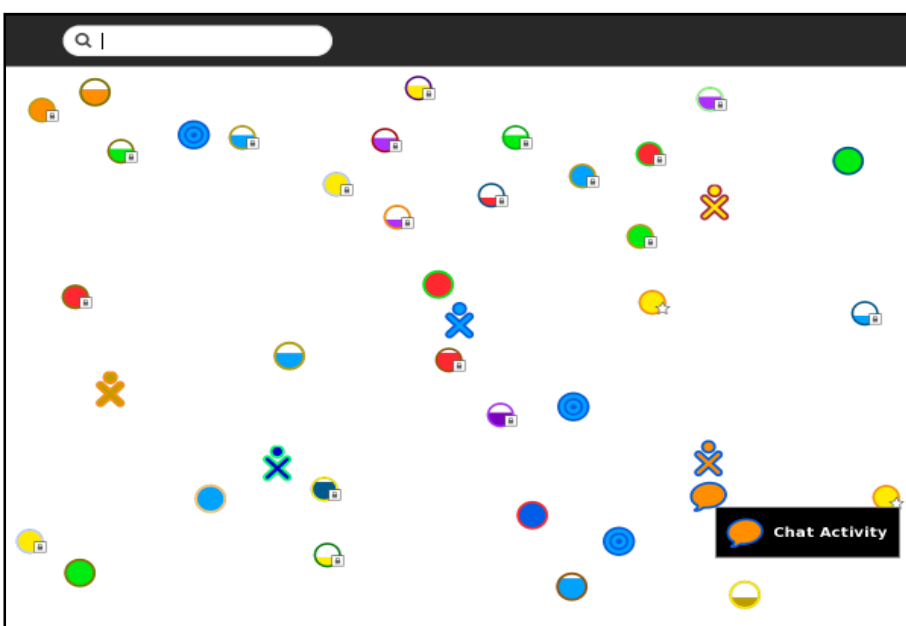
The notification of an invitation appears in the upper-left corner of the screen and on the Frame.

The invitation is an Activity icon. The icon is the colour of the person who sent the invitation.

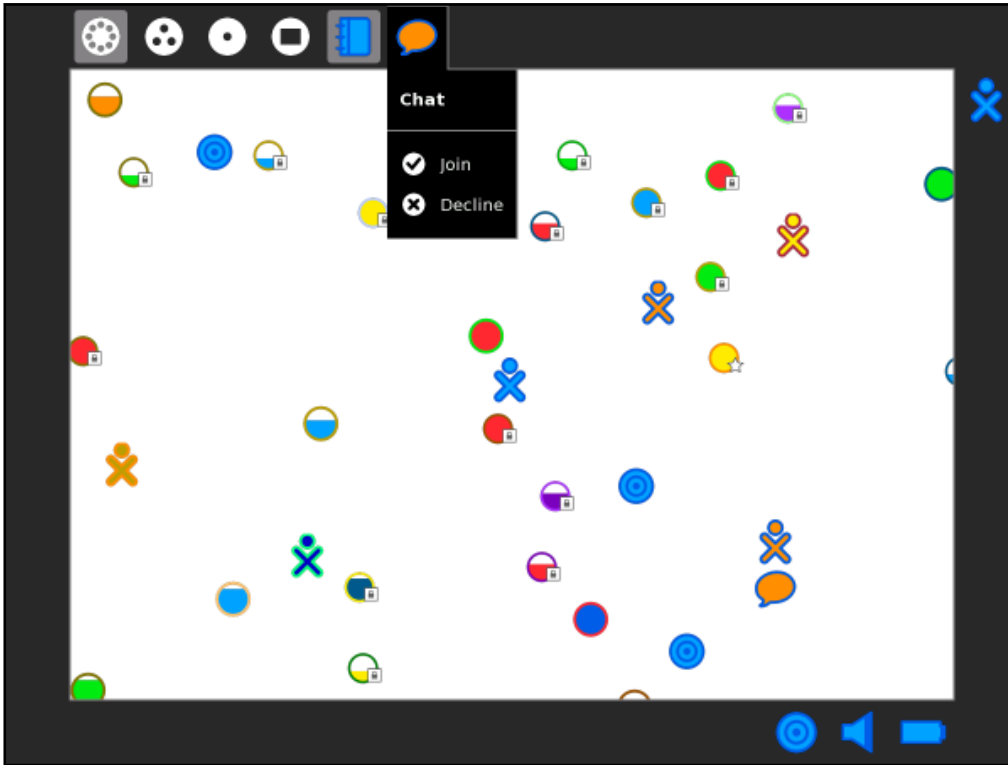


### 18.2.2 Step 2: Click the icon to accept the invitation.

You can accept the invitation from the Neighbourhood View or the Frame.



In the Neighbourhood View, click the other user's icon.

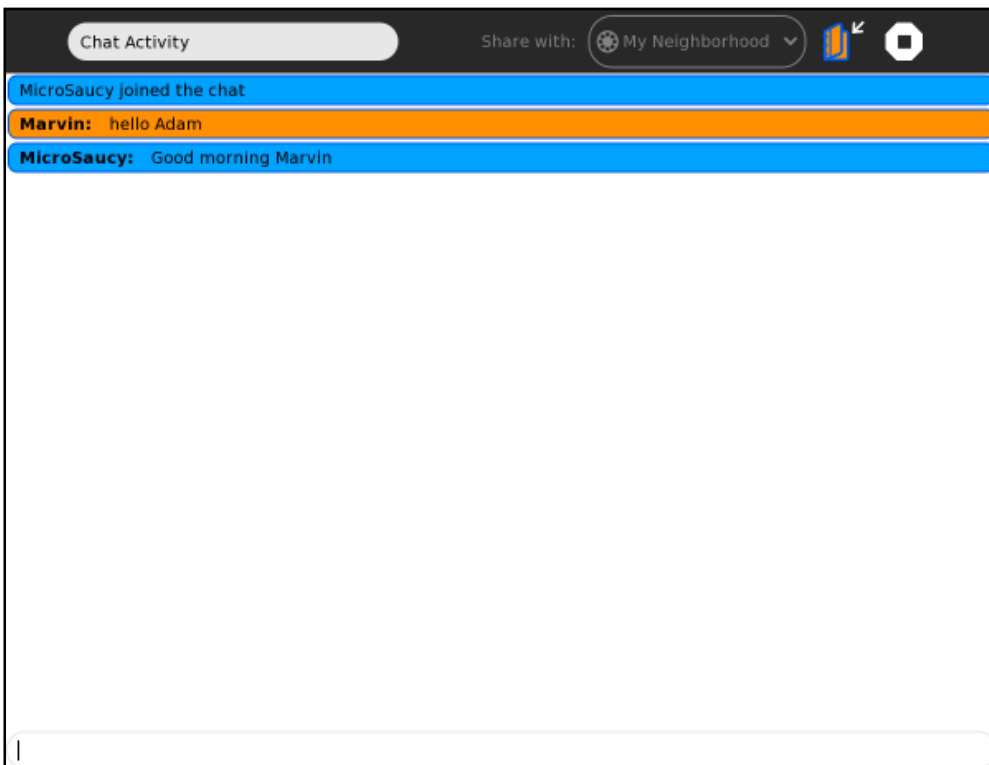
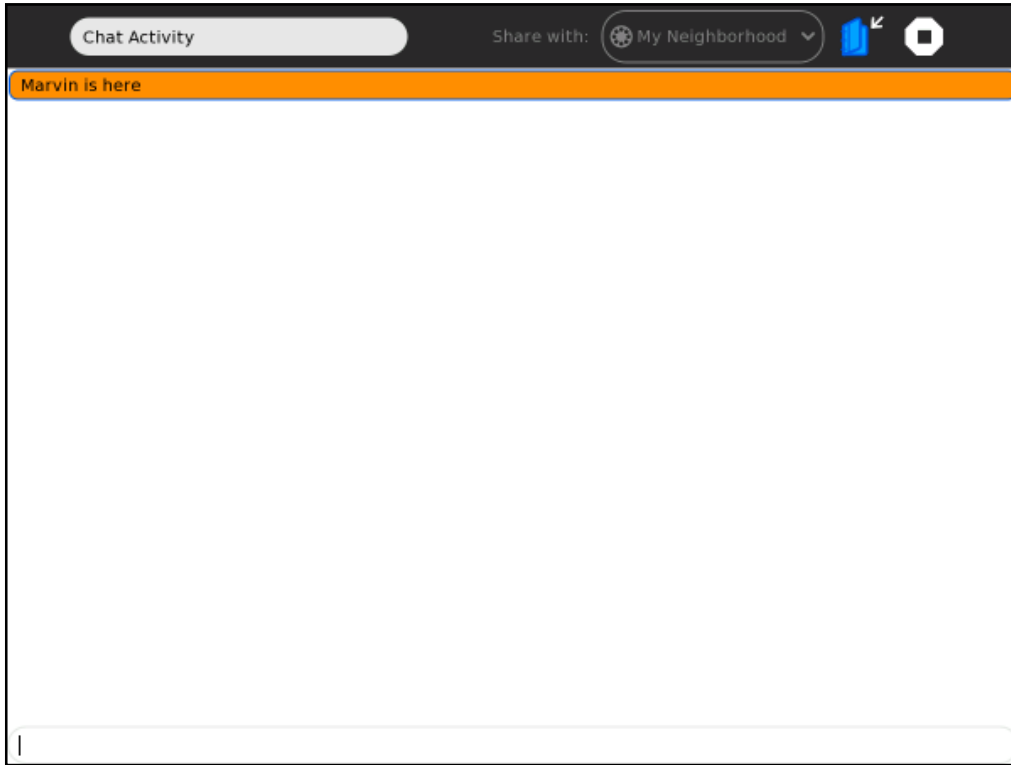


On the Frame, click the invitation icon, or click *Join* on the icon's hover menu.

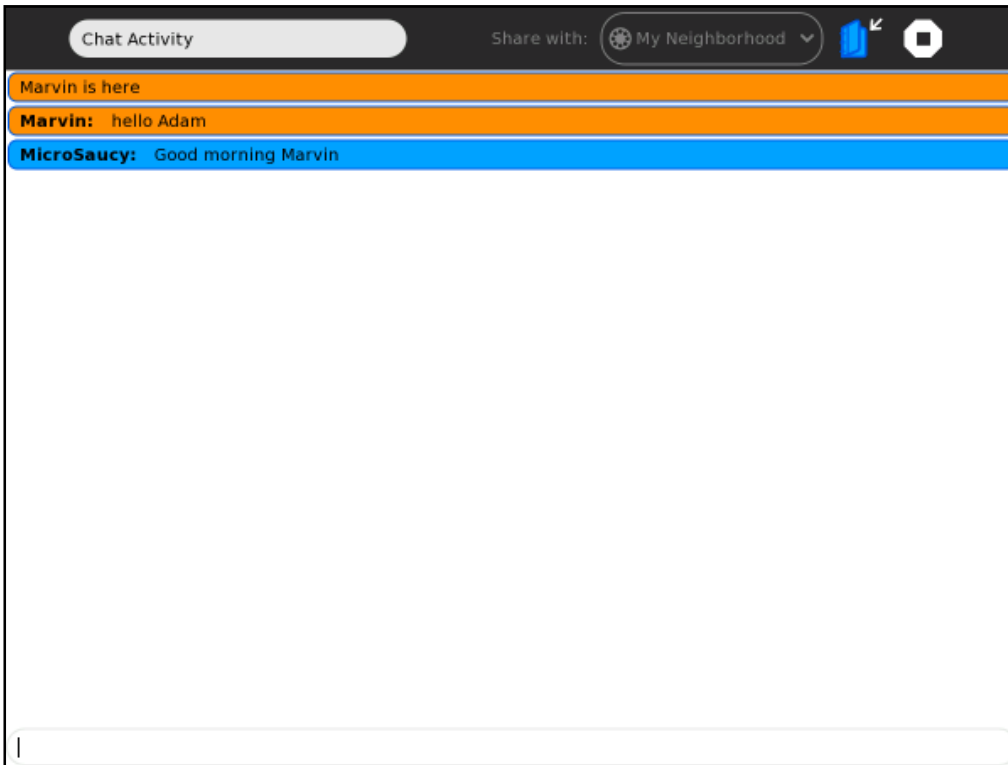
**Note:** You do not have to accept an invitation. Just ignore it or click *Decline* on the invitation icon's hover menu.

### 18.2.3 Step 3: Start collaborating.

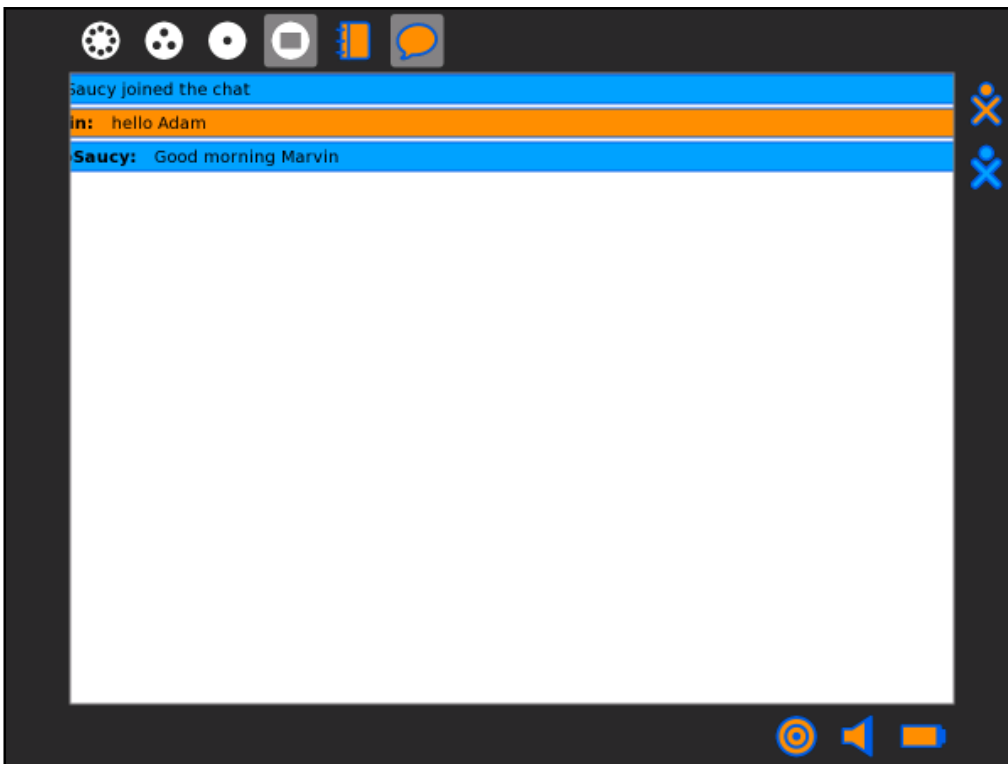
As soon as you accept an invitation, you switch to the Activity.

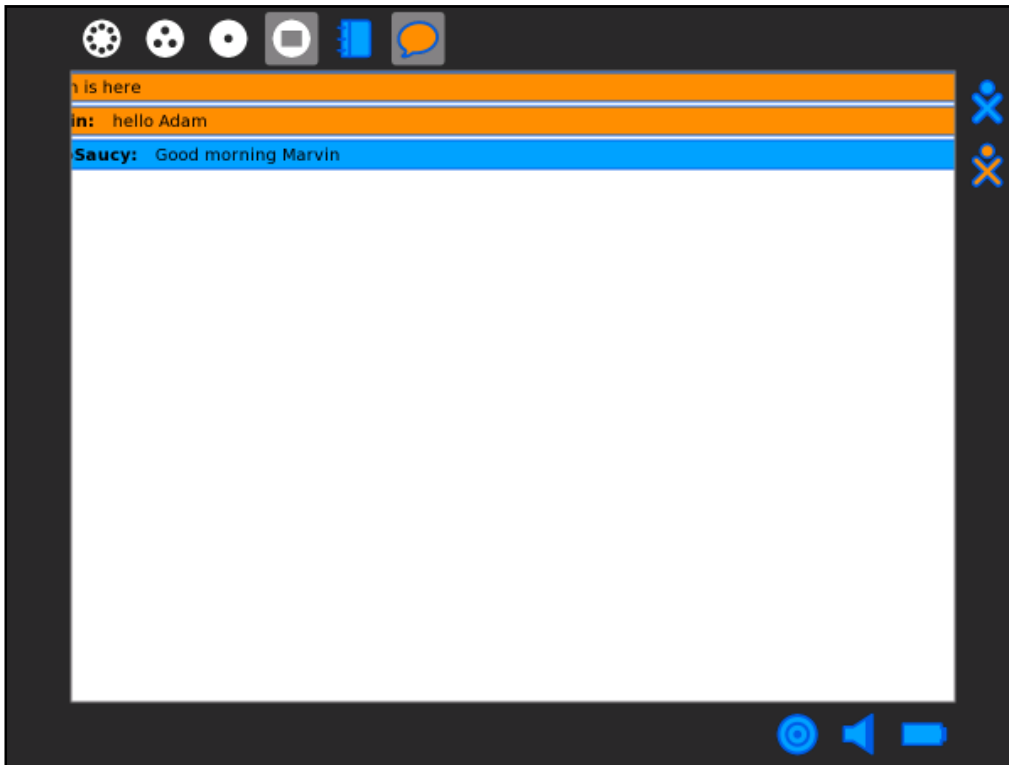




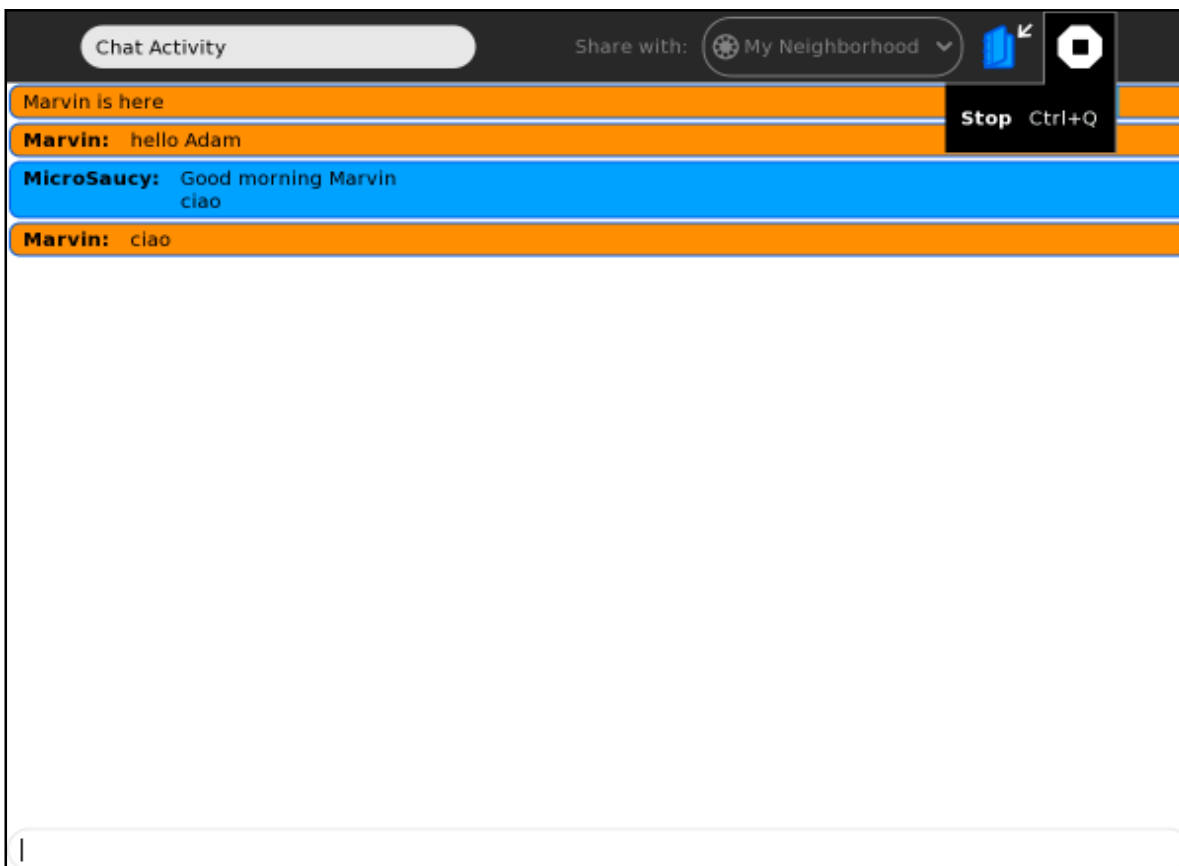


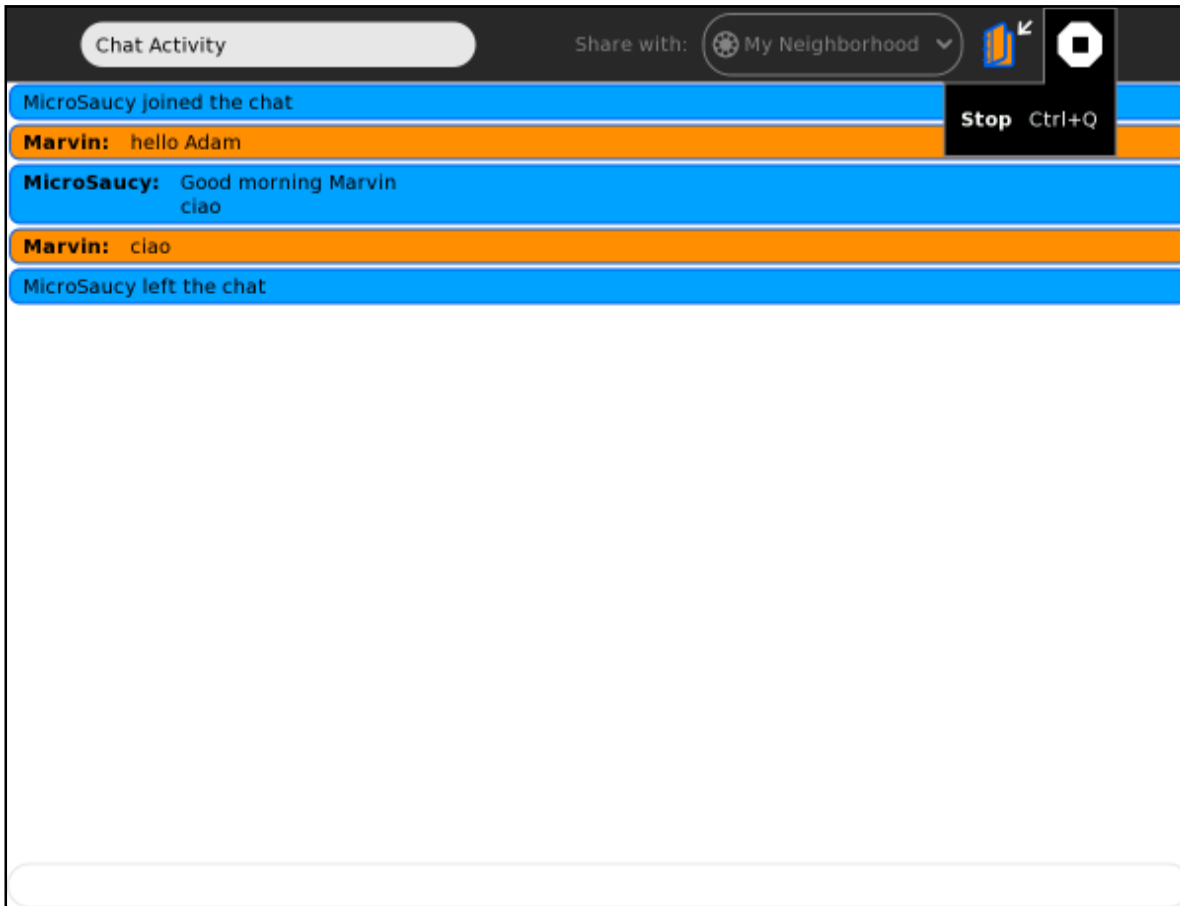
While you are collaborating, your collaborators' icons appear on the Frame.





When you leave the Activity, you end the collaboration.



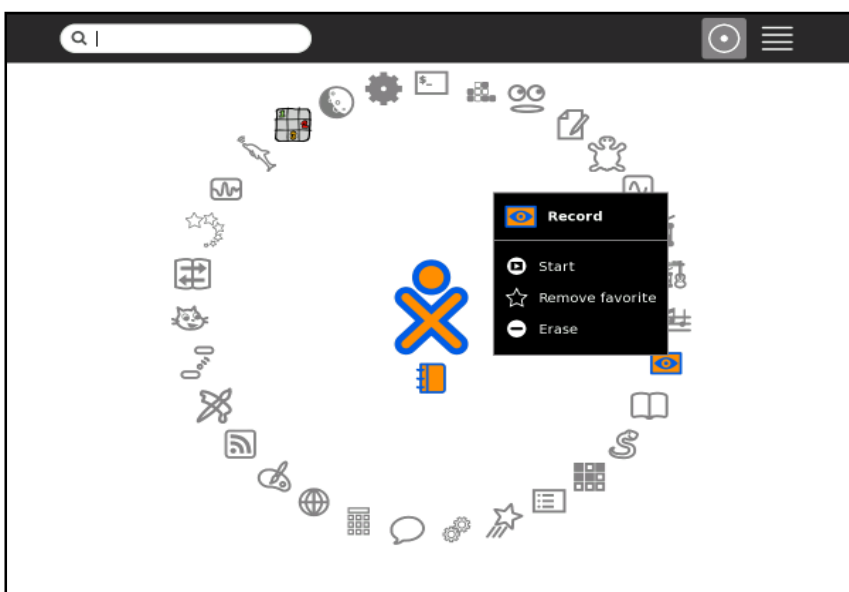


## 18.3 Sharing an Activity

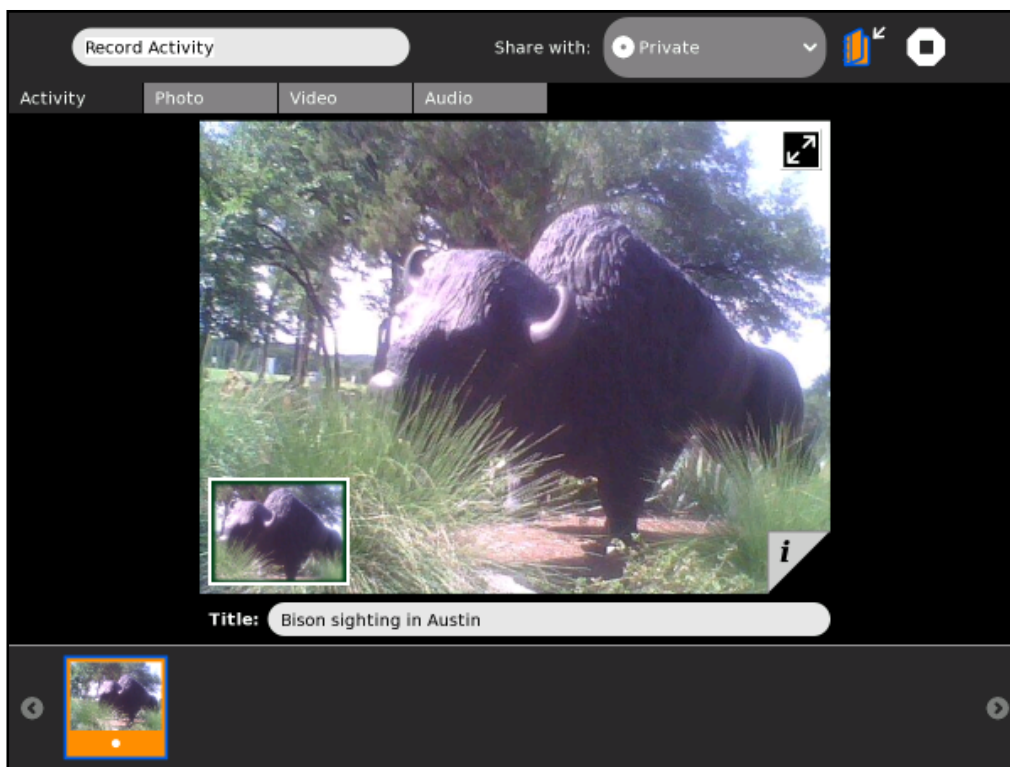
You can share an Activity if you want anyone from your Neighbourhood View to join you.

### 18.3.1 Step 1: Start the Activity.

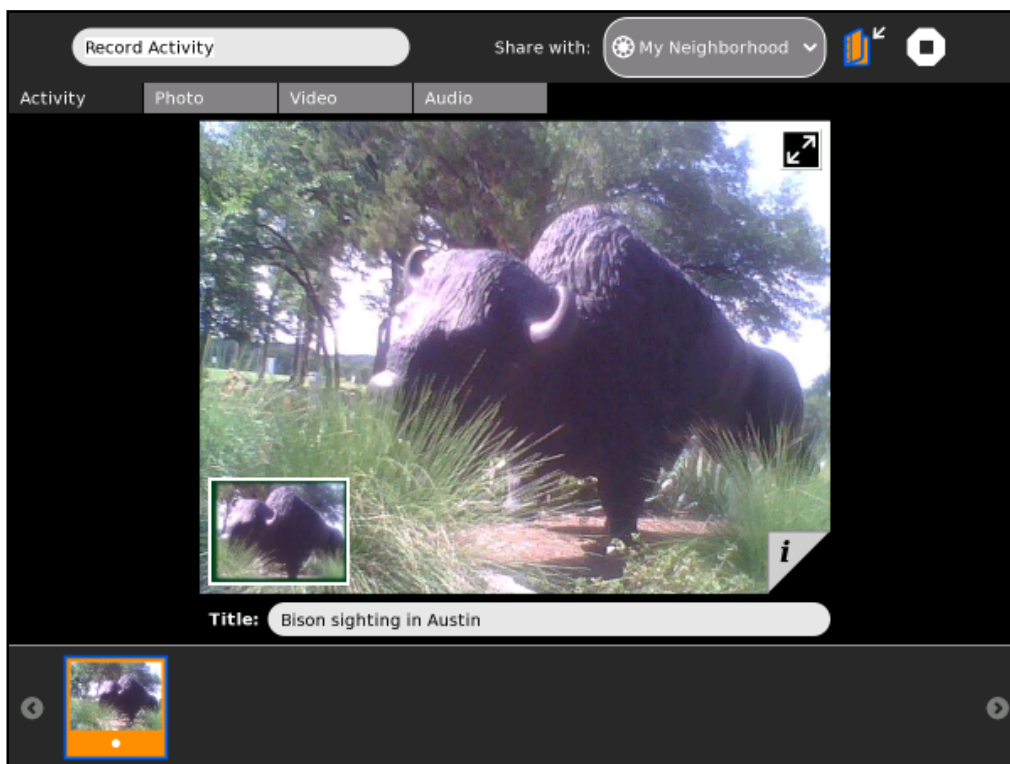
You must be running an Activity in order to share it. For example, open Record from the Home View.



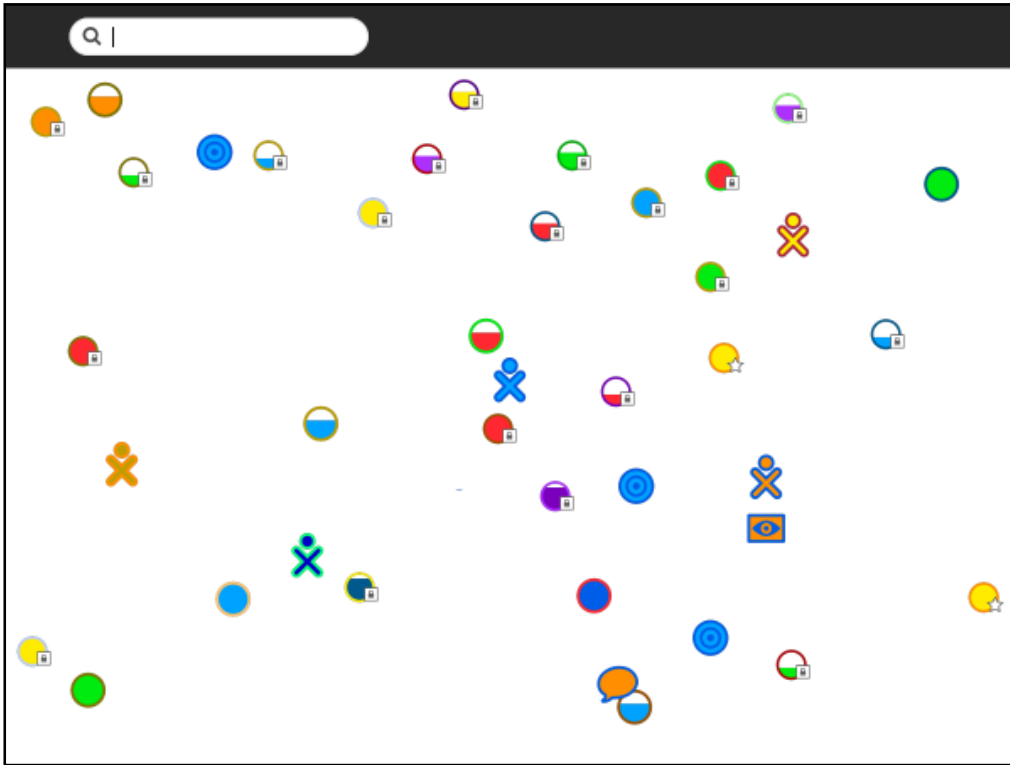
### 18.3.2 Step 2: Once the Activity is running, select the Activity tab.



### 18.3.3 Step 3: On the *Share with* menu, click *My Neighbourhood*.



An icon representing your shared Activity appears in the Neighbourhood View.

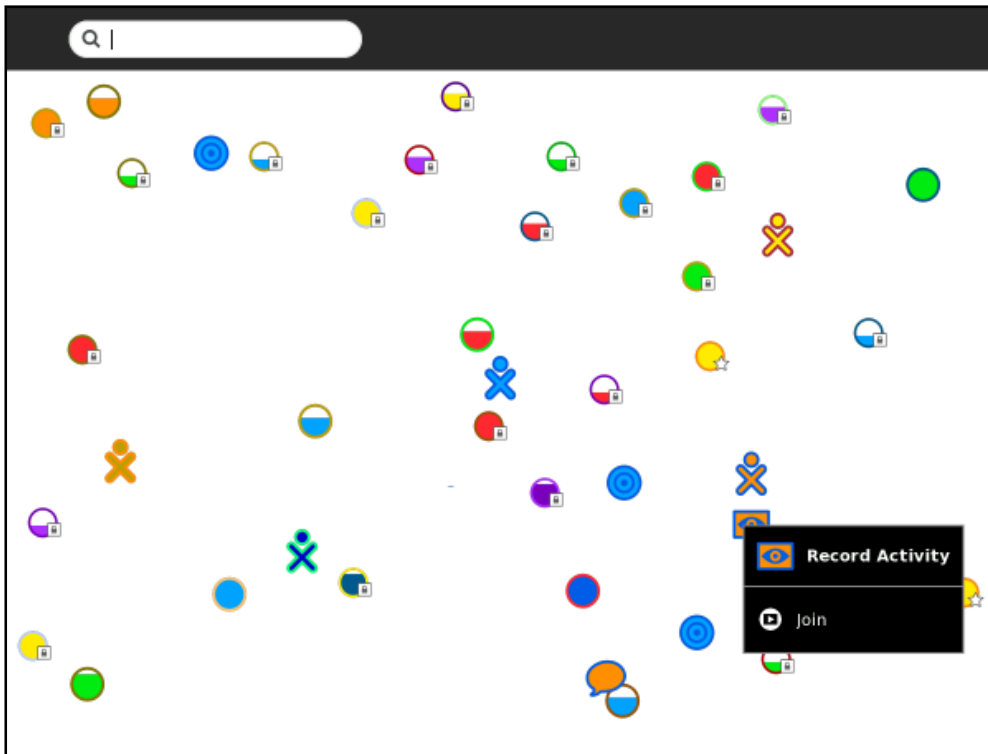


Your XO icon appears above the Activity icon in the Neighbourhood View.

## 18.4 Joining a Shared Activity

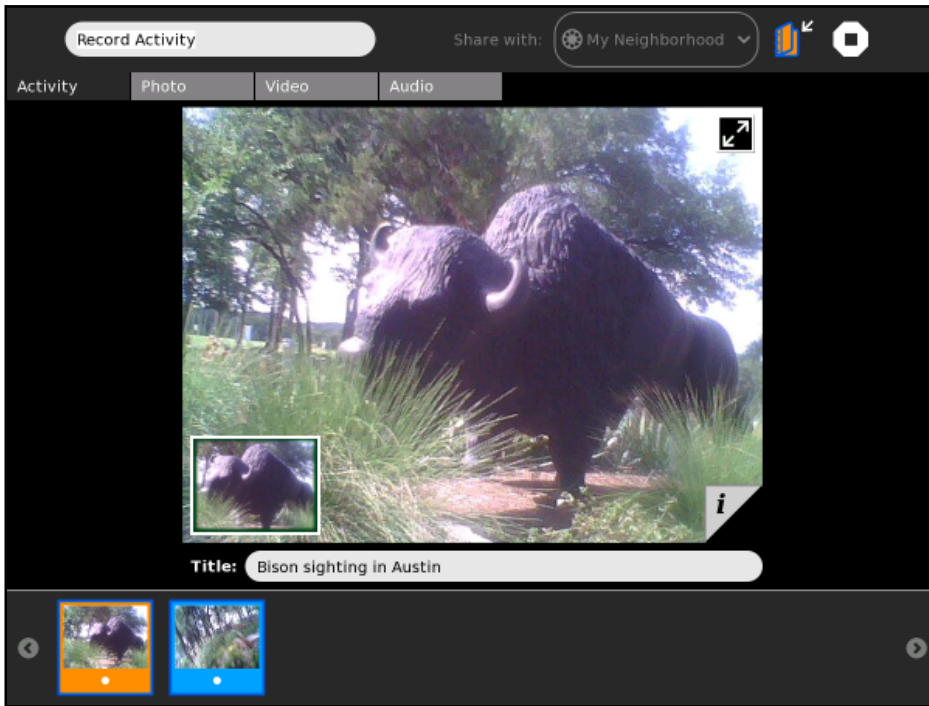
You can join any Activity that appears in the Neighbourhood View.

### 18.4.1 Step 1: From the Neighbourhood View, click the icon representing the shared Activity you would like to join.



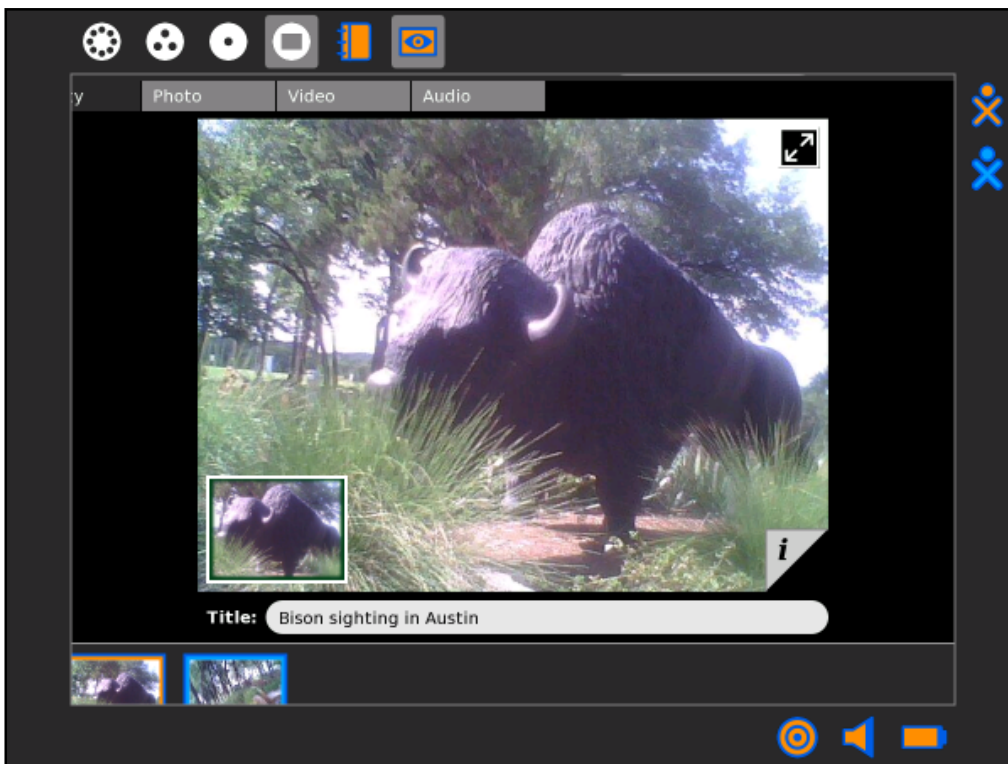
### 18.4.2 Step 2: Start collaborating.

The Activity opens as soon as you click the Activity's icon.



The approach to collaboration varies from Activity to Activity. In the Record Activity, thumbnails of photographs are shared. The photograph's frame is in the same colours as the XO icon of the person who took the photo.

On your Frame, you can see the icons of all of the people you are collaborating with.



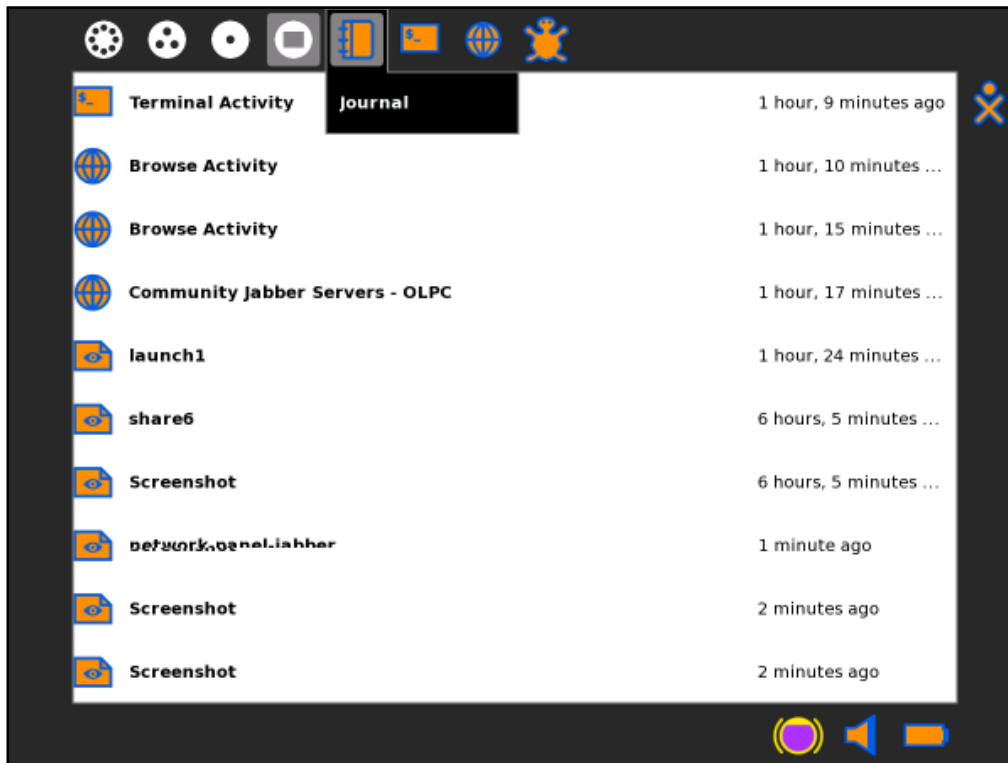
You can exit a shared Activity at any time by clicking the Activity tab and clicking the Stop icon.

# 19 Switching Activities

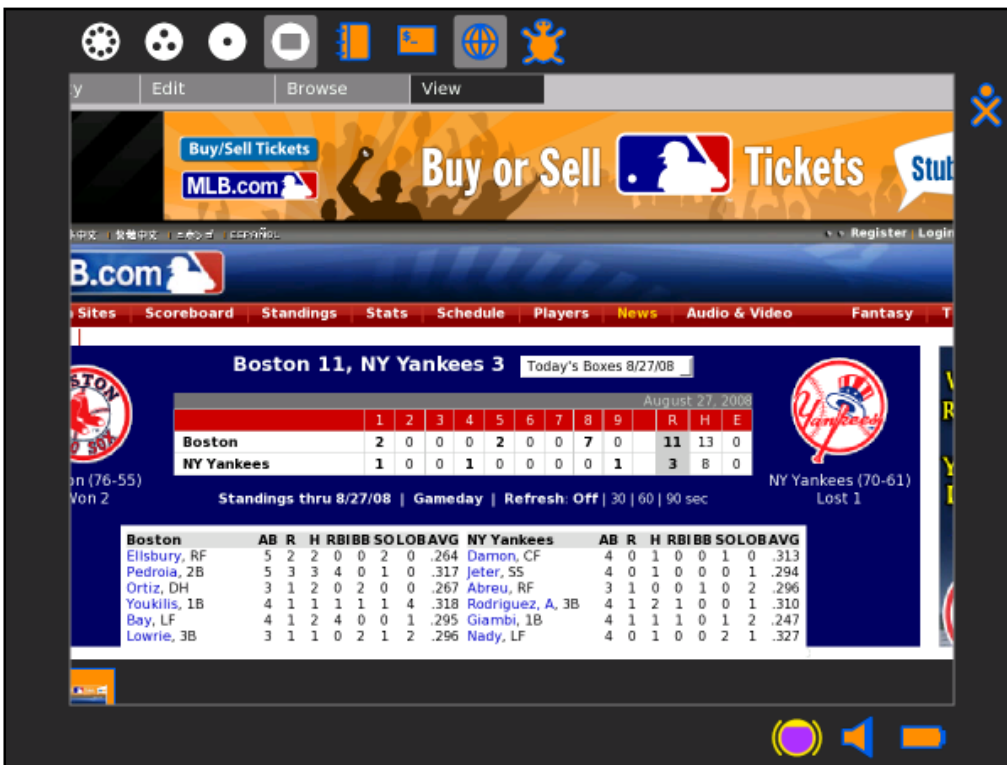
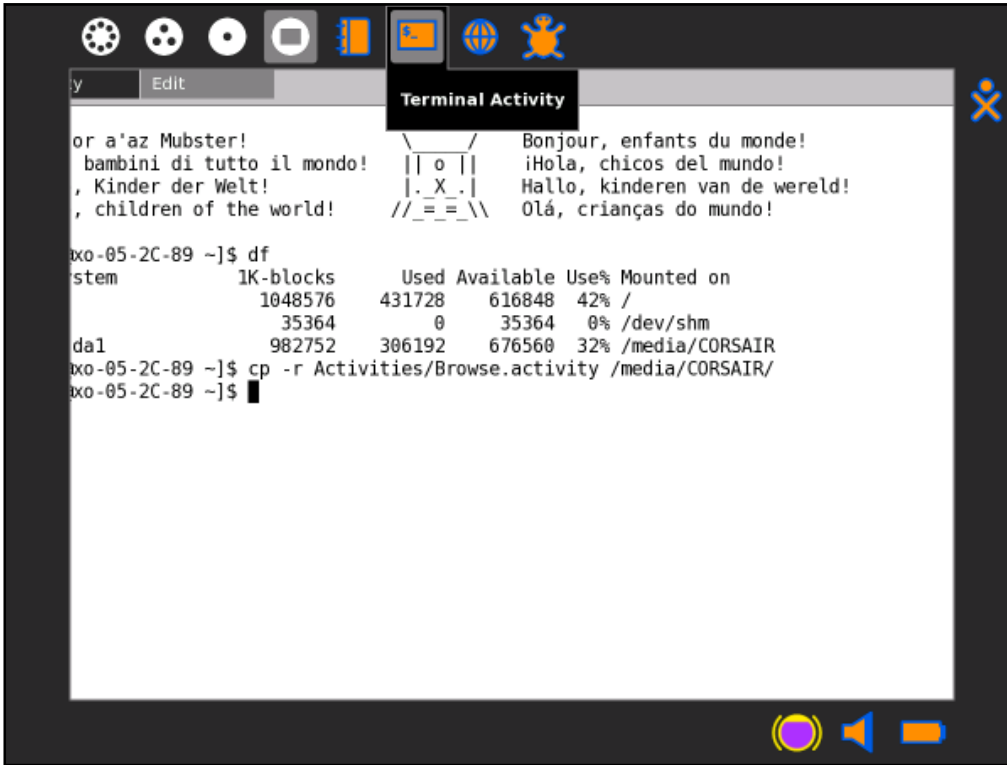
You can switch between Activities in two ways:

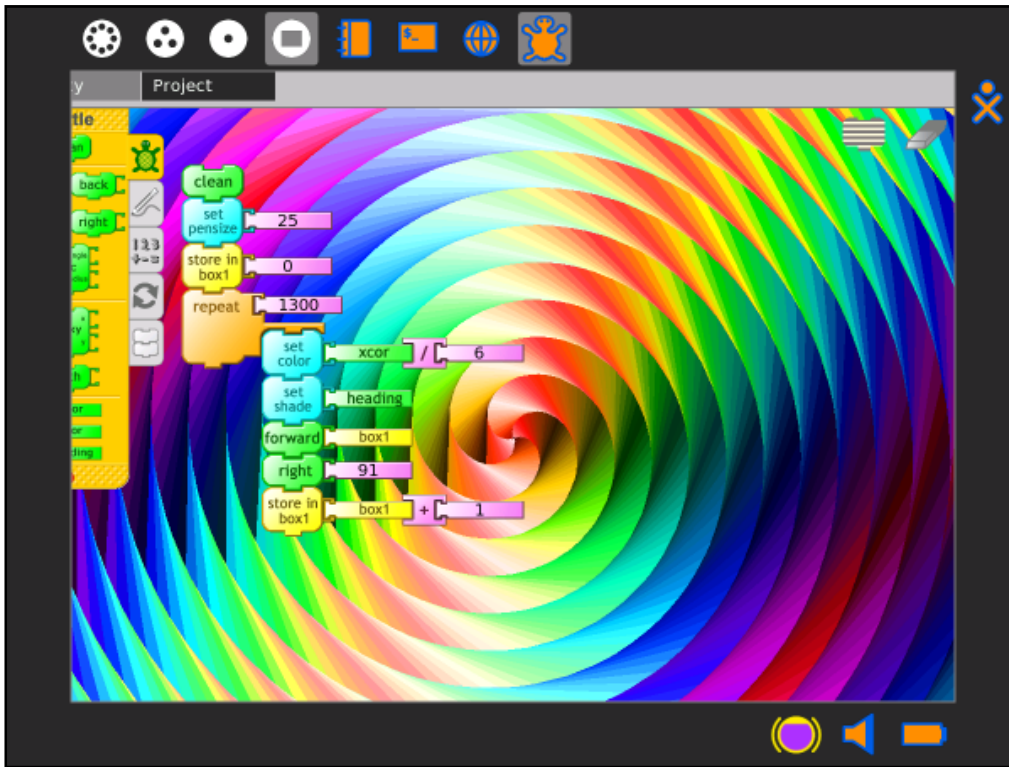
- In the Frame, click the icon of the Activity you want to switch to.
- Press **alt + tab** to cycle through your open Activities until you reach the one you want.

## 19.1 Switching Using the Frame









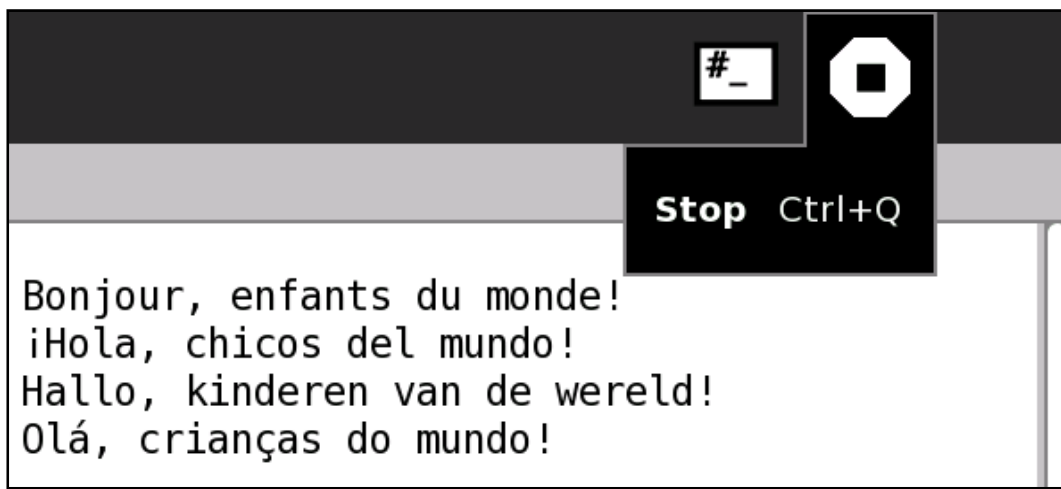
**Note:** You can use the Clipboard and the Journal to copy data between Activities.

# 20 Exiting Activities

You can exit an Activity in three ways:

- Click the "Stop" icon in the Activity's tool bar.
- Press **ctrl + q** (Note: pressing **alt + escape** also works in most cases).
- Click **Stop** on the hover menu for the icon of the Activity you wish to stop.

## 20.1 Using the Stop Icon



## 20.2 Stopping an Activity from the Frame



## 21 Installing New Activities

You can install new and different Activities, which you can download and install from a web site, your school server, a USB storage device, or an SD card.

There are two ways to install new Activities:

- Use the Browse Activity to download an Activity and then use the Journal Activity to install it.
- Use the Terminal Activity to install an Activity directly from a USB device with a typed command.

For details of these installation methods, see the XO Software user guide.

# 22 Activities Sampler

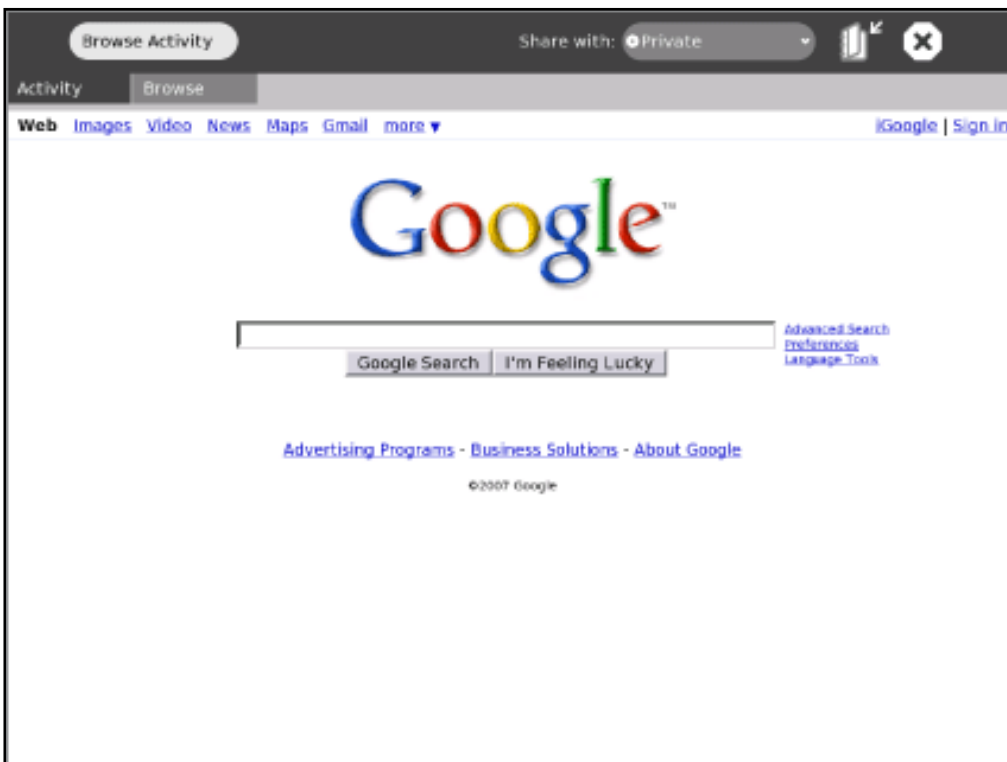


There are hundreds of Activities written for Sugar and new ones are being created daily. A good place to look for new activities is [wiki.laptop.org/go/Activities](http://wiki.laptop.org/go/Activities).

Many Activities (such as Write) are under constant extension and change by the world-wide Sugar team. Current versions are hosted at the **Sugar Labs Activity Library**, which can be accessed at <http://activities.sugarlabs.org/en-US/sugar/>

Below is a sampler of the variety of Activities created and supported by the Sugar community. References to a Chapter (e.g. "See the Browse Chapter" below) should be a hint for you to consult the Sugar Labs Activity Library.

## 22.1 Browse



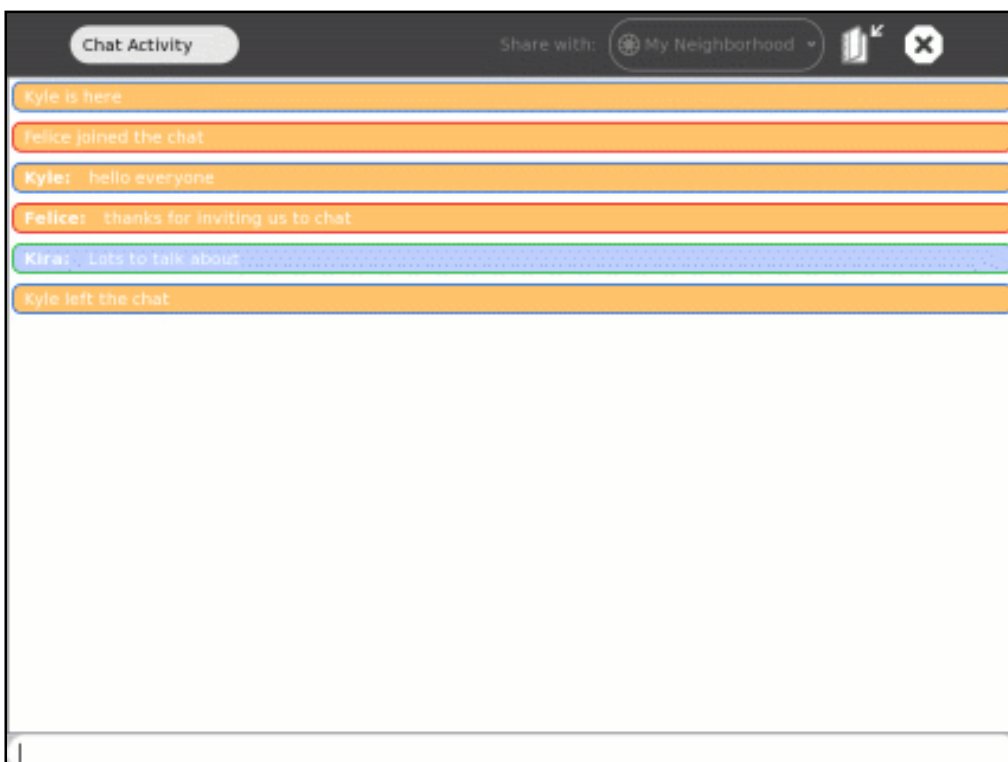
Browse is a simple Web application that lets you access and search the Internet and share bookmarks with your friends. (See the Browse chapter for more information.)

## 22.2 TamTamMini



TamTam Mini is a fun, powerful way to perform music and play instruments. It is simple enough to be used by even the youngest ages.

## 22.3 Chat



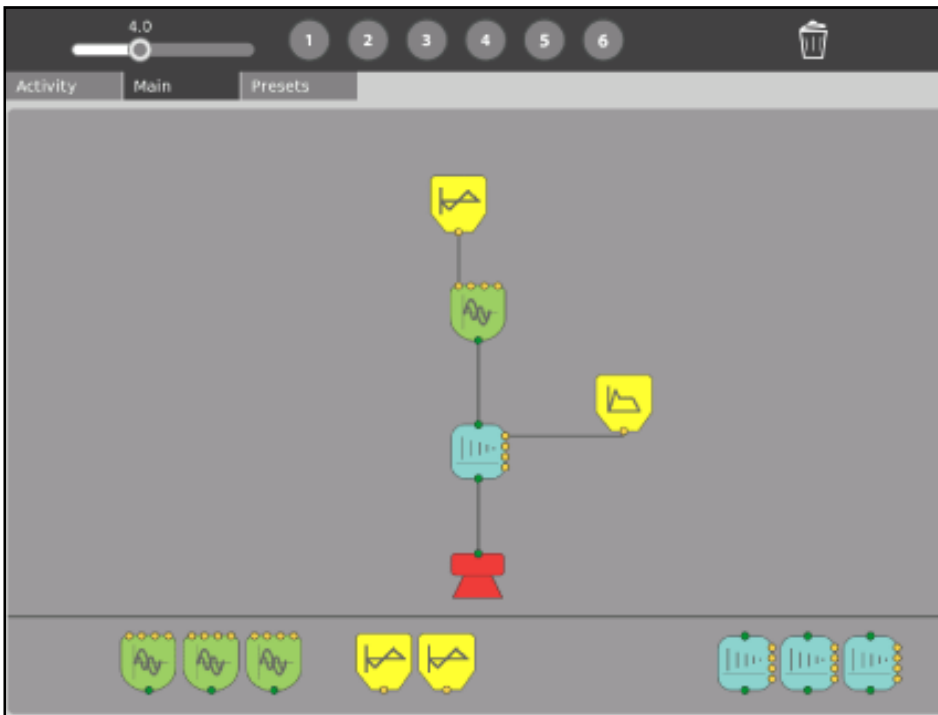
The Chat Activity lets you type messages that can be seen by other Sugar users. It can be used by two people or an entire classroom. (See the Chat chapter for more information.)

## 22.4 Memorise



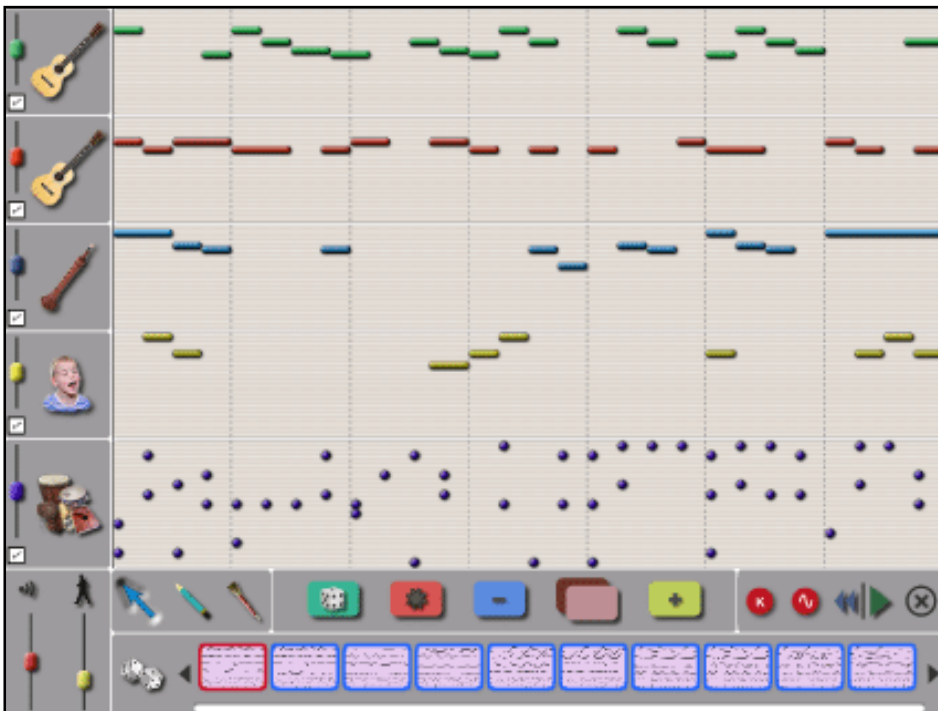
Memorise is the classic memory game of finding and matching pairs, but with a twist: the items in a pair can be any multimedia object, such as images, sounds and text. You can play existing games as well as create new ones.

## 22.5 SynthLab



SynthLab is a mini-lab for acoustic- and electronic-circuit construction. It is designed for older children who are ready to venture into more sophisticated sound design.

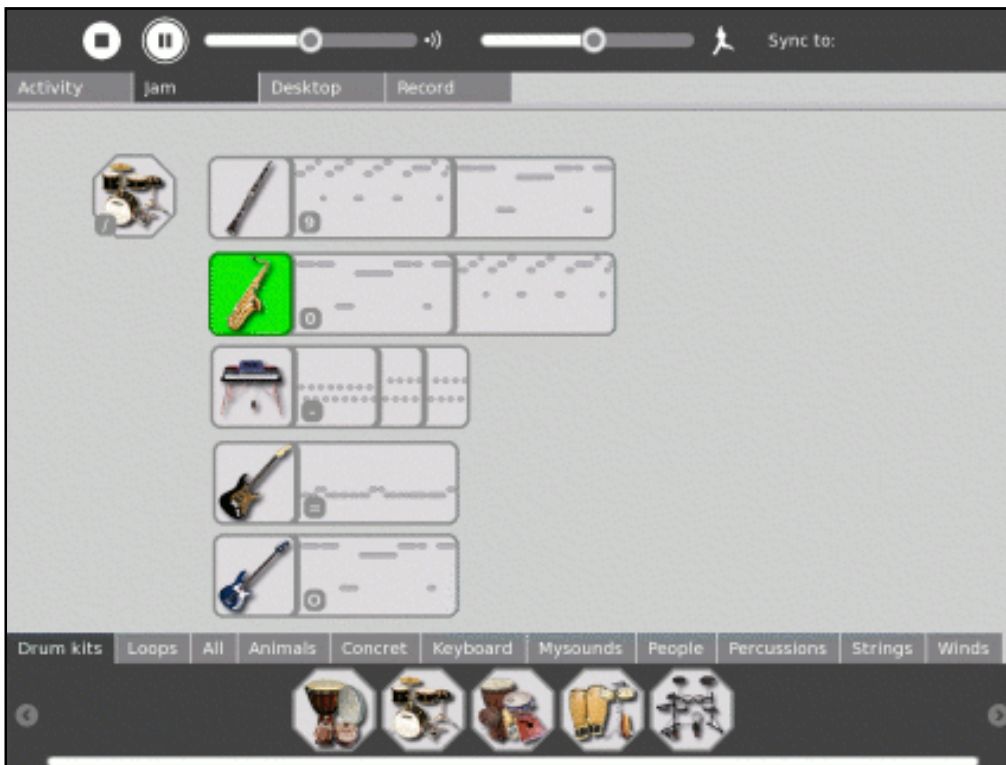
## 22.6 TamTamEdit



TamTam Edit is an intuitive environment for composing music. You can create, modify, and organise notes on virtual "tracks", which allow for virtually limitless variations in musical styles.



## 22.7 TamTamJam



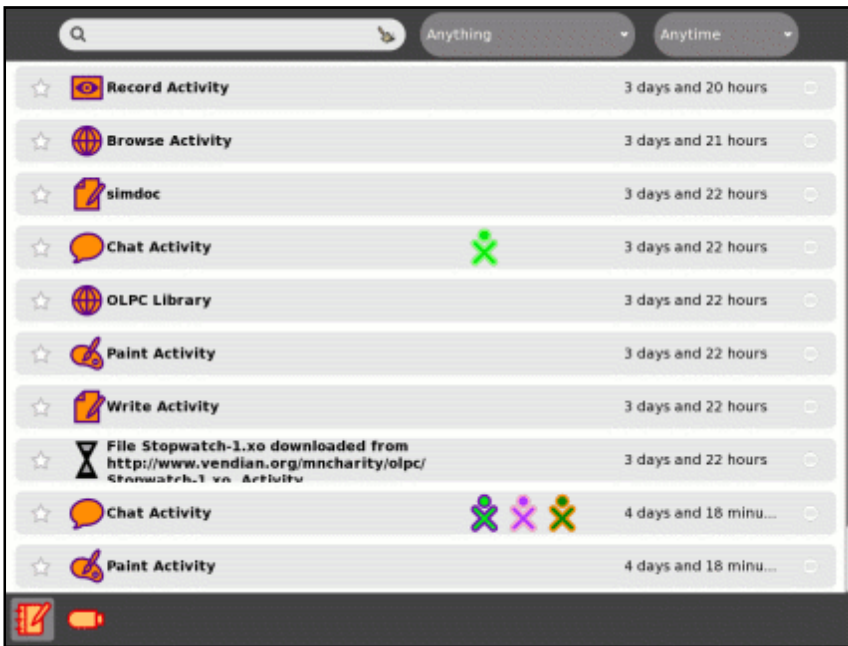
TamTam Jam is a fun, powerful way to perform music, play multiple instruments, and collaborate musically with other children.

## 22.8 Record



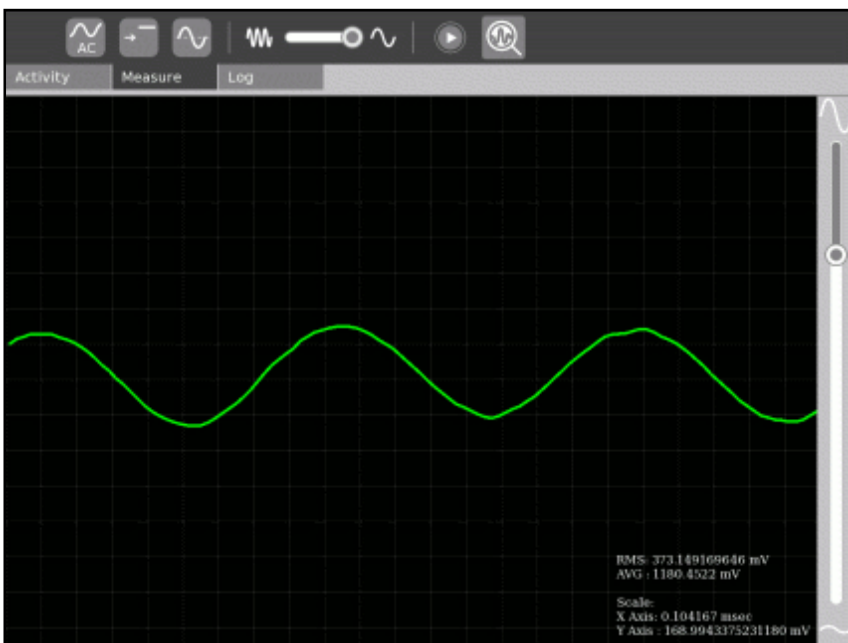
The Record Activity gives you a simple way to take pictures, view slide shows, and record video and audio—all content that can be shared with others. (See the Record chapter for more information.)

## 22.9 The Journal



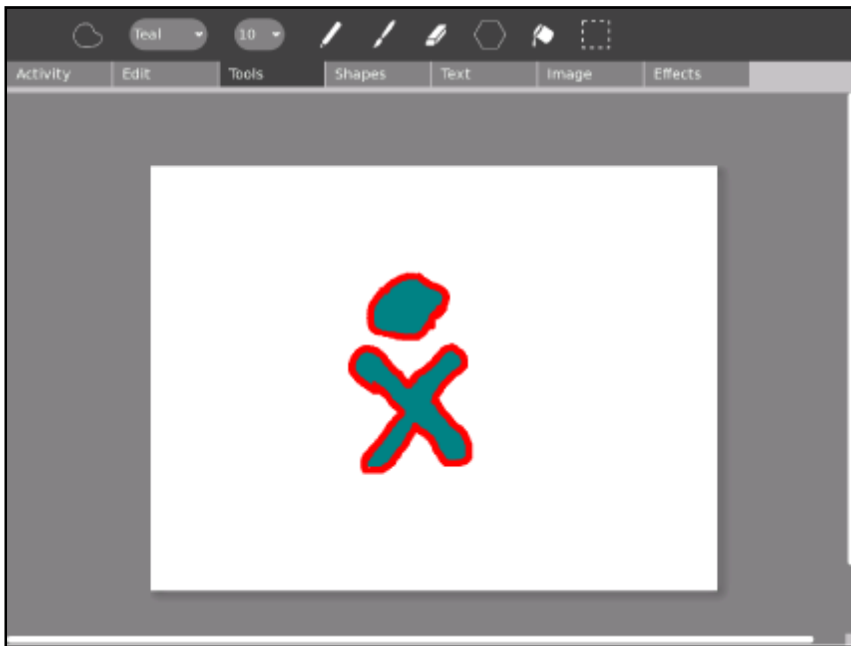
The Journal Activity is an automated diary of everything you do with your system. You can use the Journal to organise work or revisit a past project. Teachers and parents can use it to assess a child's progress. (See the Journal chapter more information.)

## 22.10 Measure



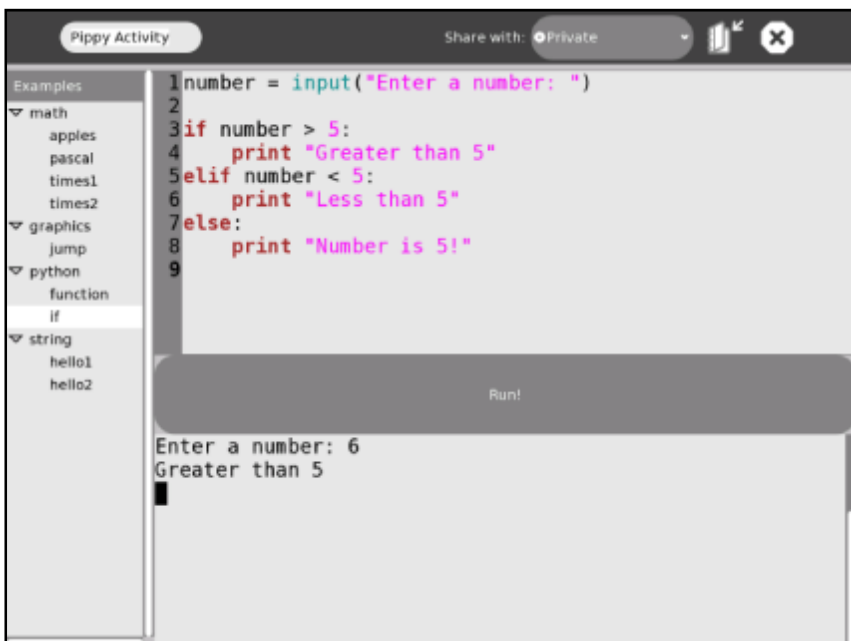
Measure is a tool that can be used to observe physical phenomena and real-world events. With it, you can measure and log data and create graphs. You can explore the data and connect events with each other.

## 22.11 Draw



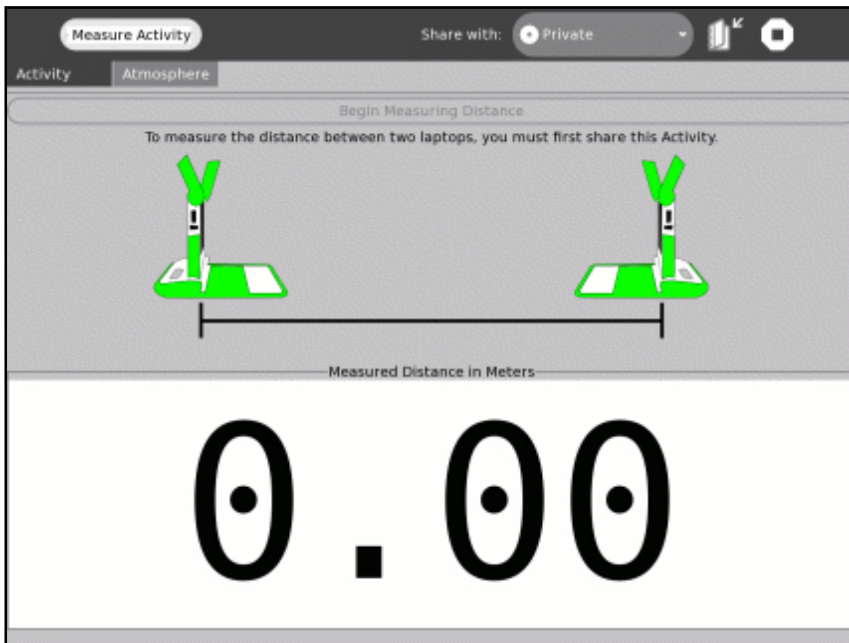
The Draw Activity gives you a canvas to draw pictures, by yourself or with friends. You can draw freeform images with a paintbrush and pencil, and use the dedicated toolbar to play and experiment with shapes. You can enter text, import images, and place items however you want.

## 22.12 Pippy Python



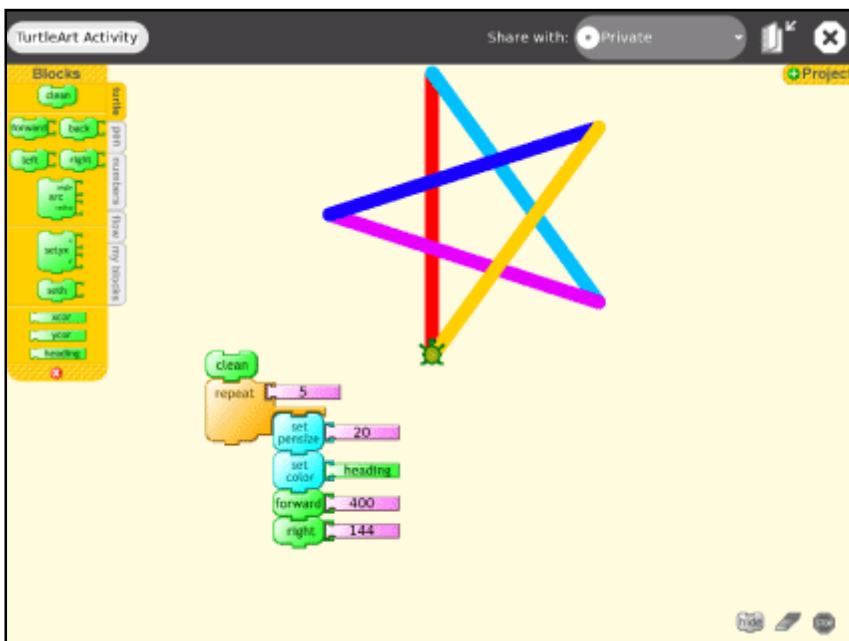
Pippy is a simple and fun introduction to programming in Python, the dynamic programming language underlying much of the software on the laptop.

## 22.13 Distance



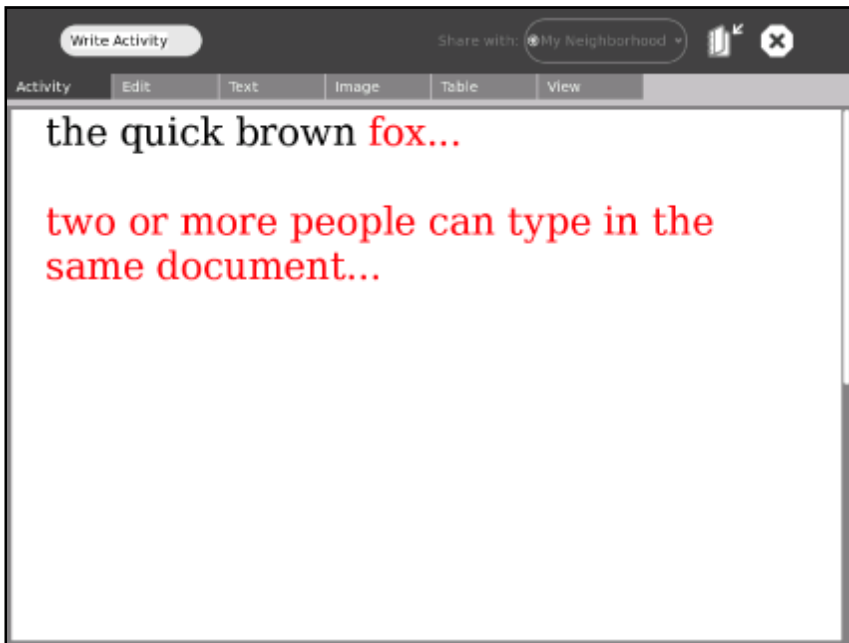
You can measure the distance between two laptops by measuring the length of time it takes for sound to travel between them. Along with the Measure and Record Activities, there are many ways to use the laptop to explore the physical environment.

## 22.14 Turtle Art



Turtle Art lets you program a Logo "turtle" to draw colourful and complex artwork. Simple programming elements easily snap together, to bring art to life. (See the Turtle Art chapter for more information.)

## 22.15 Write



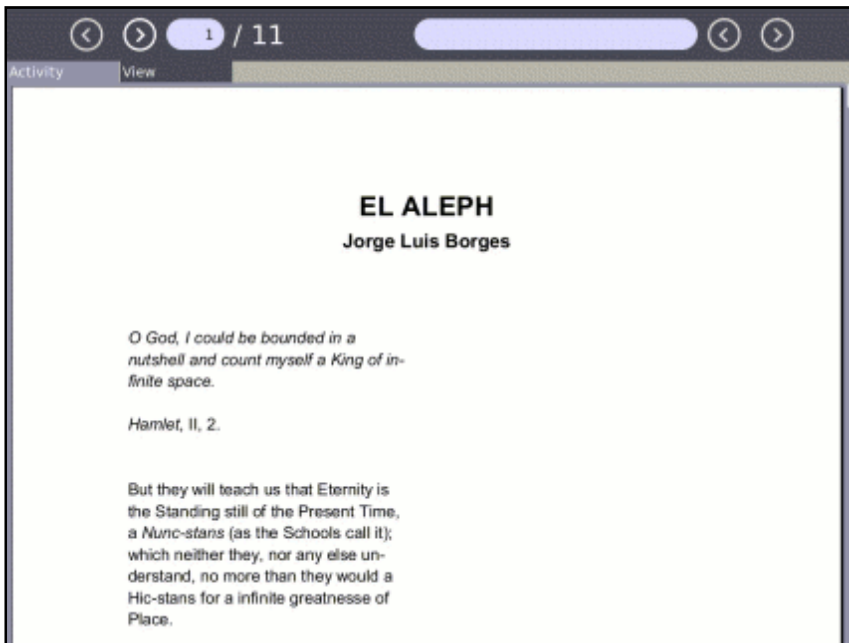
Write is a basic text editing application featuring straightforward tools and a simple interface. It provides an easy way to write a story, craft a poem, or complete an essay. It also has more advanced features like image insertion, table creation, and layout operations. It also supports collaborative real-time editing, so a group can work together to edit text easily and seamlessly. (See the Write chapter for more information.)

## 22.16 Etoys



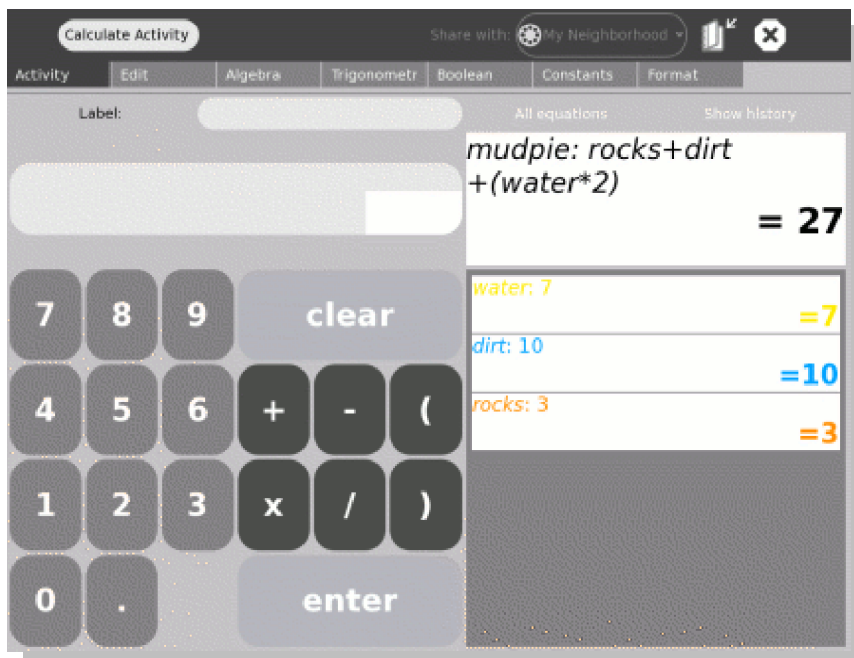
Etoys lets you create models, simulations, and games with text, graphics, and sound. This lets you explore ideas and learn by doing. You can also share desktops with other Etoys users in real time, encouraging immersive mentoring and play. Etoys has a worldwide community of users and developers who are working to create content, curriculum, and examples. (See [wiki.laptop.org/go/Etoys](http://wiki.laptop.org/go/Etoys) for more information.)

## 22.17 Read an eBook



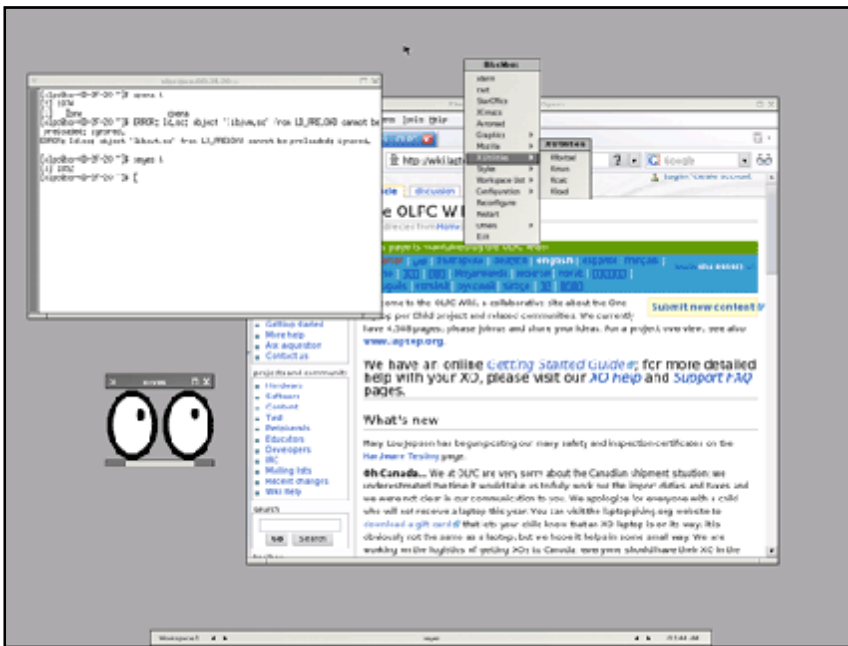
Sugar has a built-in eBook reader. The XO laptop has a screen that rotates 180 degrees and folds down on the keyboard, so you can read while holding the XO like a book. Read your favourite book on the XO while sitting outdoors in the sunlight.

## 22.18 Calculate



Calculate provides a generic calculator with a simple, straightforward interface. It is readable and easy to use for even the youngest children, but also supports more complicated mathematics.

## 22.19 X Windows



The X Windows Activity provides an X Windows System workspace within Sugar. Use this Activity to run standard X Windows programs.

## 22.20 Note to Parents & Teachers

There is an ever-growing array of downloadable content and built-in access to popular Web-based applications. This includes Google applications, SimCity, GCompris (a suite of award-winning educational software for children), and hundreds of other applications. There are currently thousands of software developers around the world developing content for Sugar. This community is interested in your feedback so that they can better serve the needs of children learning.

## 23 Going Beyond Activities

Sugar offers many ways to use a computer beyond just the display screen, although when you use Sugar in new ways, you can think beyond the display. Read on for new ideas of using Sugar or your XO beyond the Activity set and with the Activities currently available.

### 23.1 Create a Slideshow

You can install a program called "feh" to display images quickly and offer an automatic slideshow of pictures.

What you need to begin:

- A way to take pictures, such as an XO laptop or digital camera.
- A USB drive or SD card, and know the name of the device.
- An Internet connection.





## 23.1.1 Slide Show (step by step)

1. Take pictures of your family, school, home, and community with the Record Activity or a digital camera.
2. In the Journal Activity, drag the pictures onto the USB or SD icon on the Frame to copy the pictures onto a USB drive or SD card.
3. Open the Terminal Activity and click the root button.
4. Type the following command and then press **enter**

```
yum install feh
```

5. Enter **y** for yes when prompted for permission to go ahead with the installation.
6. After **feh** is installed you can run your slide show by typing the following in the Terminal Activity:  
`feh -F -D 5 --scale-down /media/cardname/ <enter>`

where **-F** plays full screen and **-D 5** plays the slideshow with a five second delay between images.

7. Press **ctrl-q** or **Q** to quit displaying the slideshow.

## 23.1.2 Ideas for expanding Slideshow in the Classroom

### Create

Make artwork in the Draw Activity instead of taking pictures using the Record Activity for your slideshow pictures.

Create a digital art or photography gallery with all of your computers hanging on the wall or leaning as if they were easels.

### Collaborate

Share pictures by copying files onto other student's SD cards or USB drives.

Have students collaborate with the Draw Activity by having each student draw for one minute, much like the Swarm Sketch site at <http://swarmsketch.com/>

Have students download pictures about a certain topic or use tags on sites like <http://flickr.com> to create a slideshow of only cats, dogs, or other pets.

### Adapt

Think of a place that could display the computer slide shows for a practical purpose, such as offering changing advertisement at a store or restaurant. How could students make a business model for selling advertisements, designing slides, and displaying them on their slide show like a billboard?

### Extend

Have students create collages or mosaics with more than one computer screen stacked on another, running the slideshows all at one time.

Research the command line parameters for **feh**. Can they modify the timing of the slideshow so that stacks of pictures create a larger image?

## Explore

Could students use their slideshow to convince someone to purchase a product or make a decision?

## Reflect

Make a video of your art or photography gallery premier or write a journal entry about your experience sharing photos or artwork.

# 23.2 Reading with Sugar

Read books that are stored on the computer or on the Internet. One way to read books is to open the Browse Activity, click the **books** link, and then click **encyclopaedia**, **picture books**, or **dictionaries**.



The Sugar OS contains a library that offers many interesting reading materials in many languages. These books are sometimes called "ebooks" for electronic books, and Portable Document Format (PDF) files are one type of ebook.

If you are using an XO, you might like to flip the laptop display so that it lays flat while reading ebooks.

## 23.2.1 Reading PDF files

The way to view PDF files is to select the file in the Browse Activity or in the Journal, and then click the arrow button to have the Read Activity open it.

The Read Activity and Watch & Listen Activity are two activities that are not started from the Home View. You access them through a "launching" Activity like Journal or Browse.

## 23.2.2 Reading epub files

Epub is an electronic book or ebook format that you can read on your computer after downloading and installing a reader such as FBReader, and downloading and storing the epub files that you want to read. To complete this procedure, FBReader must be installed.

## 23.2.3 Installing FBReader

To install FBReader, connect to the Internet, open the Terminal Activity and type:

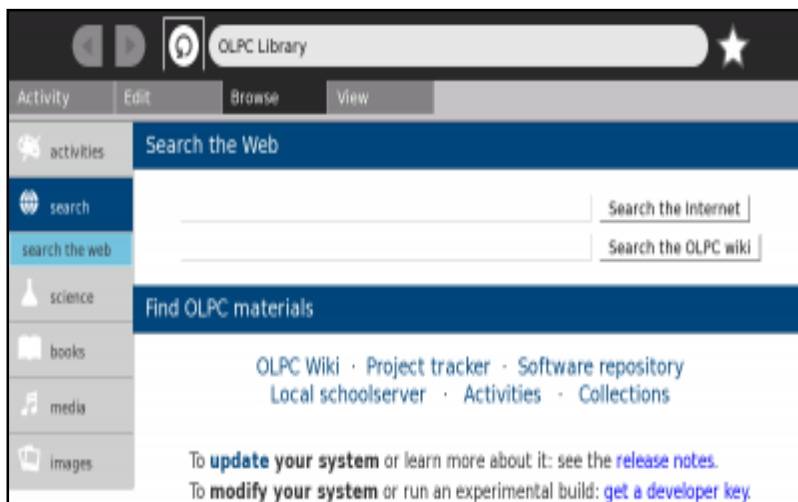
```
su yum install fbreader
```

After you press enter, the installer downloads and installs fbreader. Next, you'll want to download some epub books.

### Downloading and viewing books

To download and view epub books, follow this procedure.

1. Start the Browse Activity.

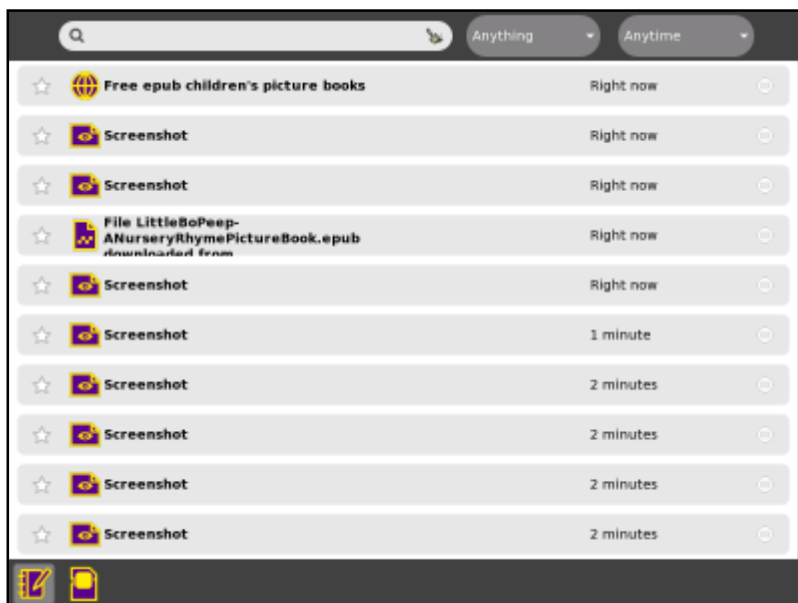


2. In the address bar type in <http://www.snee.com/epubkidsbooks> and press **enter**.
3. Scroll down to the book you want to download, and click the link.

Sugar displays a countdown while the file downloads



4. Switch over to the Journal Activity by clicking the Journal icon at the top of the Frame.
5. Insert an SD card or a USB device into the XO. The Journal shows an icon in a bottom bar when you insert external storage media.
6. Locate the downloaded epub file, but do not click it to launch it. Drag the file to the SD or USB icon in the bottom bar.



7. Start the Terminal Activity.
8. Click in the Terminal window and find the name of the external storage device, which is in the /media directory. For example, type: `df`
9. You will see the name of your SD card or USB device in the row with /media/ before it. You need that name to copy the epub file from the external media to the correct location for FBReader to find the book file.

```
Terminal Activity
[olpc@xo-0D-6E-E1 ~]$ df
Filesystem      1K-blocks    Used Available Use% Mounted on
mtd8             1048576    344808    703768    33% /
tmpfs            35676      0        35676     0% /dev/shm
/dev/mmcblk0p1  30352      3848     26512    13% /media/5962-0A04
[olpc@xo-0D-6E-E1 ~]$ cd /media/5962-0A04
[olpc@xo-0D-6E-E1 5962-0A04]$ ls
browsedownload.png
browse.png
File TheThreeBears.epub downloaded from_http__www.snee.com_ebooks_TheThreeBears.epub..zip
journal files.png
LittleBoPeep.epub
Screenshot_1_2_3_4_5_6_7_8.png
Screenshot_1_2_3_4_5_6_7.png
Screenshot_1_2_3_4_5.png
Screenshot_1_2.png
sdcard2.png
sdcard.png
snee.com.png
[olpc@xo-0D-6E-E1 5962-0A04]$ mv "File TheThreeBears.epub downloaded from_www.snee.com_ebo
oks_TheThreeBears.epub..zip"
```

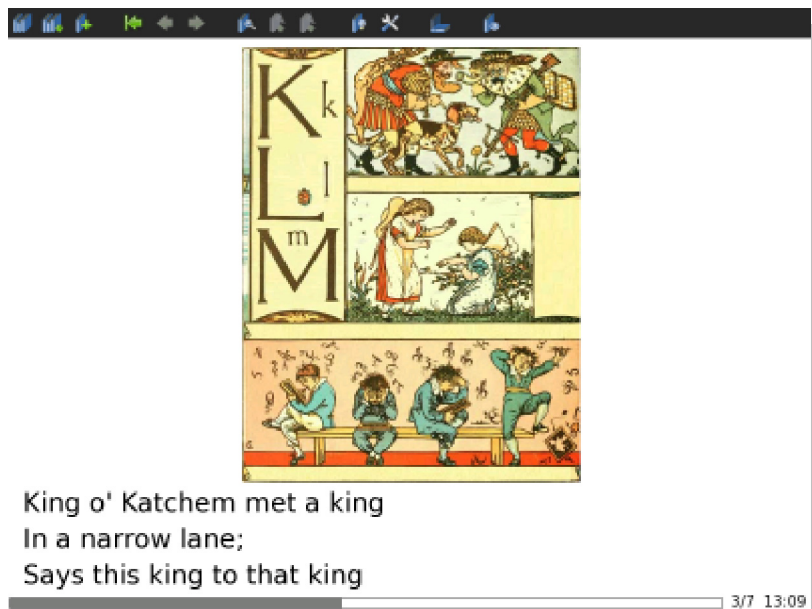
10. Change to the media directory where the epub file is stored and rename the file to something shorter. For example, type:

```
cd /media/USBMEM mv "File TheThreeBears.epub downloaded
from_http__www.snee.com_ebooks_TheThreeBears.epub..zip" TheThreeBears.epub
LittleBoPeep-ANurseryRhymePictureBook.epub
```

11. Copy the newly named file to the ~Books directory. For example, type:

```
cp TheThreeBears.epub ~/Books
```

12. Launch FBReader by typing FBReader at the Terminal Activity prompt. The screen displays the book you downloaded with FBReader's toolbar at the top of the screen.



## 23.2.4 Ideas for expanding Ebooks in the Classroom

### Create

Make your own ebook by either creating a PDF file using a free PDF creator online or by learning about the epub3 format to make your own book.

Ask students to learn about reading by reading more and more books and charting the class's progress in completed books read over a period of time.

### Collaborate

Share your favourite books by copying files onto other student's SD cards or USB drives.

Have students write an email or letter to the author of their favourite books, asking them interview-style questions about working with others while authoring books.

### Adapt

Who else might like to read the books you've downloaded? Can you find books that your family might enjoy together? What about books about your area of the country?

### Extend

Use the Write Activity to keep a journal while reading your book. What discussion questions do you have for your class after reading the book?

Look the book up online at Amazon.com and read reviews for the book. Do you have the same reactions to the book as another reviewer?

### Explore

How do students use reading in their everyday lives to make decisions or otherwise act upon what they've read?

### Reflect

Write a review to convince others to read a certain book. What aspects of the book can you use to convince someone that it is worth the time investment to read it?

## 23.3 Demonstrate Turtle Art

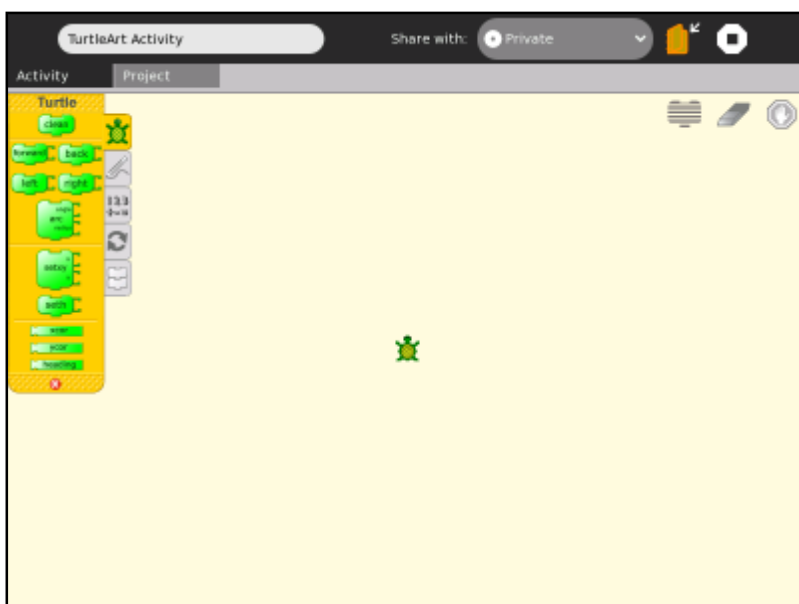
Turtle Art is a colourful visual activity to use in a classroom setting where students can give the turtle commands and even spell out their names.



### 23.3.1 Turtle Art Activity (step by step)

You may want to demonstrate this on a computer that can be displayed on an overhead projector. If you have the XO Emulator running on a Windows laptop, execute the following steps in the Emulator then invite the children to emulate and expand on you.

1. Open the Turtle Art Activity.



2. Click Project.

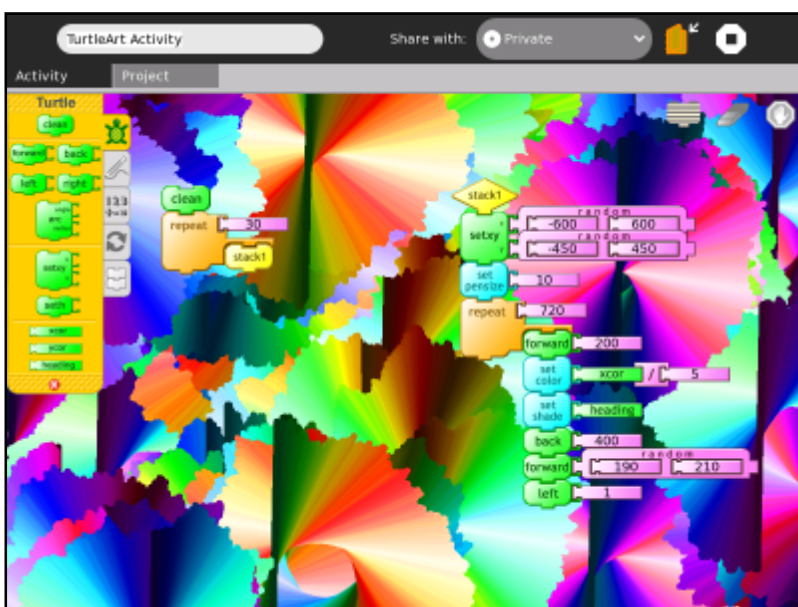
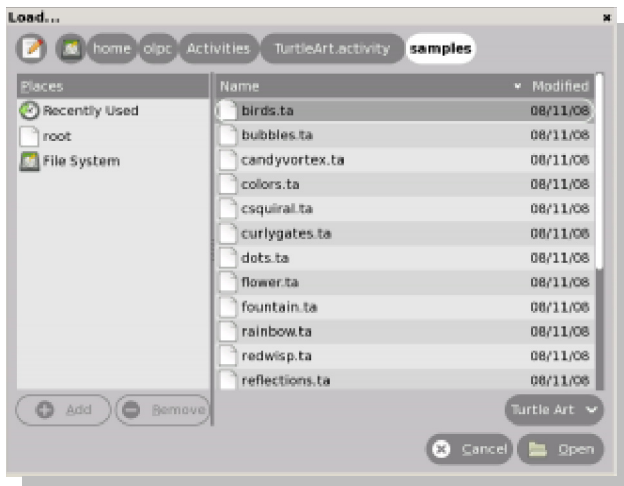


1. Click the Samples icon.



2.

3. Select a sample file such as **birds.ta** and click Open.

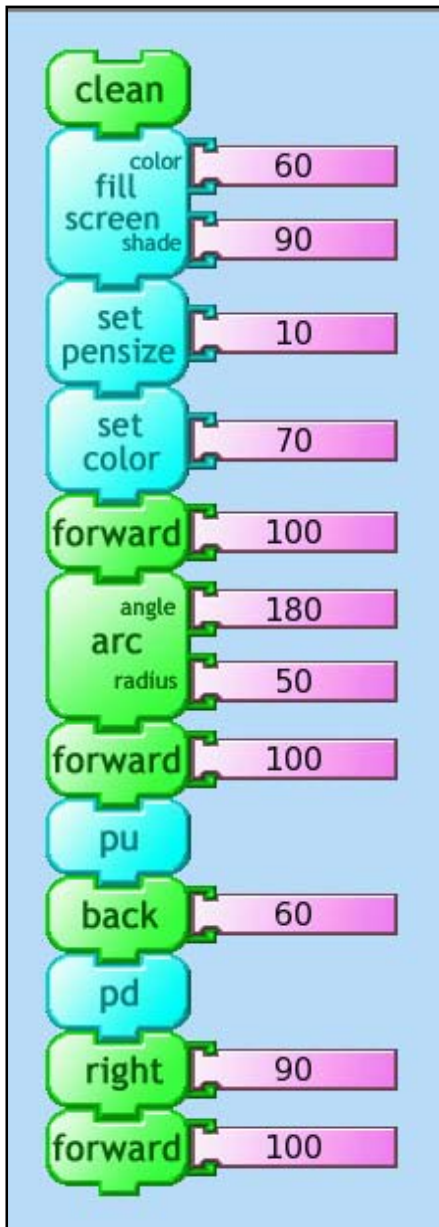




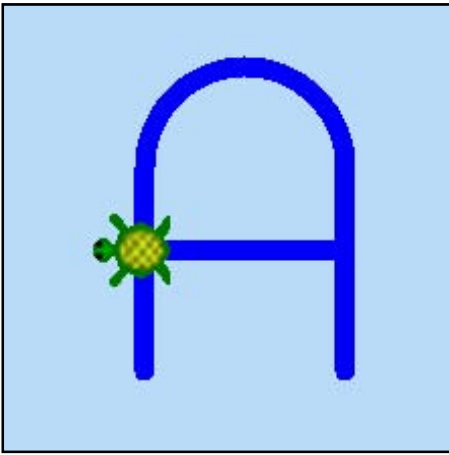
## Create

Have students follow the instructions for creating letters. What shape will this set of commands make? Try it and see.

1. Drag each puzzle piece onto the turtle's floor.
2. Next, click the bar next to the piece, then type numbers to enter the number values you see, such as colour and shade.
3. Once all the pieces are locked together, click the first puzzle piece to start your turtle.



Did your turtle draw this shape?



If your turtle didn't draw the shape of an uppercase A, or if the colour is different, check each puzzle piece one at a time, pretending that you are the turtle trying to understand the command you gave it. When you see a number or a piece that is out of place, change it and try again.

### **Collaborate**

Have students share their letter drawings and use combinations for their names to work together in the classroom, such as having kids with N in their name share their turtle's commands by sending .ta files to each other.

### **Adapt**

How can the turtle commands be adapted for giving someone directions to a nearby store? Would you tell a person to pick up a pen and set it down? How about telling a person how many degrees to turn? Try to tell another classmate how to walk in a curved line by using the turtle commands.

### **Extend**

Could your turtle draw plans for a house or for a path through a maze?

### **Explore**

What's going on underneath the surface of the Turtle Art Activity is putting together a set of commands in a program, much like how computers take instructions and give results. Explore the idea of giving commands to something other than a turtle, such as a computer.

### **Reflect**

Your Turtle's commands are stored in the Journal for you to review from time to time. Store the commands that make up your name.

# 24 Multi-view Lesson Plans using Moodle

## 24.1 Multiple Views of the World

Modern thought about Knowledge and Learning has concluded that we don't really know anything until we have seen it from at least two different perspectives. This belief is firmly held by Marvin Minsky, the founder of the field of Artificial Intelligence, and his close colleague Seymour Papert, the modern champion of constructionist learning and the spiritual force behind the educational activities on the XO. One can understand this by contemplating a tetrahedron held in one hand—we don't really understand its shape until we rotate it a little in one direction or another.

While XO Activities have been shown to fully engage a child's mind, as seen in the many countries where XOs have been deployed, children in the Australian Educational system have had another opportunity for self-discovery in the Learning Objects developed by the government-sponsored Learning Federation. The TLF Learning Objects are brilliantly conceived and executed, but have remained under-utilized in the Australian classroom largely because the relatively few computers and the consequent queuing to use them has not encouraged teachers to create Lesson Plans that fully exploit this resource.

Our use of Moodle can change all that. Known variously as a Course Management System (CMS), Learning Management System (LMS) or Virtual Learning Environment (VLE), Moodle enables teachers to bring multiple resources into their Lesson Plans, and is dual accessible by teacher and student. Since TLF Learning Objects can run on an XO in parallel with the XO native Learning Activities, Moodle can combine both suites of Learning resources into a carefully crafted Lesson Plan that provides multiple views of the world for each child that has an XO.

Moodle was originally an acronym for Modular Object-Oriented Dynamic Learning Environment, mostly meaningful to programmers and education theorists. It's also a verb that describes the process of lazily meandering through something, doing things as they occur to you to do them—an enjoyable tinkering that often leads to insight and creativity. This is an apt description of Constructionism and Creativity, and of how a Teacher might go about joining XO and TLF resources.

## 24.2 Teachers use

Teachers can create courses and lessons with their related resources, by editing and customising the learning management platform to suit the needs of the schools and their students. A course (e.g. "Reading - Grade 1") is a program of study or set of lessons. Each lesson is a collection of resources (a file to be accessed by the students, an XO laptop activity to perform, a Learning Foundation learning object to run, etc).

Courses and lessons are created to support the school curriculum by offering a fun and exciting way for the students to learn. Once created, courses and lessons are stored permanently on the school server and can be used and shared by any teacher within the school.

Teachers are the only ones with the right to add, update and delete a course/lesson.

## 24.3 Students use

Students are the ones accessing the courses and lessons.

## 24.4 Knowing more

There is a dedicated website offering various information and documentation on Moodle:  
<http://moodle.org/>

# 25 Getting started with Moodle

## 25.1 What do you need to access Moodle?

### 25.1.1 Accessing Moodle

Moodle, a package of learning Management software, is installed on a server at the school and is accessible through any computer connected to the school network. You can access Moodle from:

- A school laptop/desktop connected to the school network
- An XO laptop

Before starting, ensure the following:

- Your computer is connected to the school network (with network cable or a wireless connection)
- Your computer has an installed web browser (e.g. Internet Explorer, Firefox, etc) and a network access to access Moodle home page.

### 25.1.2 Accessing Moodle from an XO laptop

Before starting, do the following:

Step 1 Ensure your XO laptop is connected to the school network



Step 2 Go to *Neighbourhood* by pressing the button

Step 3 Find a network icon (coloured circle) with a network name such as Ellemor 1, Ellemor 2, etc and click on *Connect*



Once a connection is made, the icon changes to

Step 4 Start the Browse activity

If you are unsure about getting your XO laptop connected to the school network, read the *XO laptop – software user guide* or *Troubleshooting and Glossary guide*.

### 25.1.3 Accessing Moodle from a school laptop

Step 1 Ensure your laptop is connected to the school network

Step 2 Start the Microsoft Internet Explorer program

# 26 Accessing Moodle

## 26.1 Accessing Moodle home page

- Step 1 If you are using a school laptop or computer, start *Internet Explorer*. If you are using an XO laptop, start the *Browser* activity
- Step 2 In the address bar, type <http://moodle> or <http://10.110.14.101>

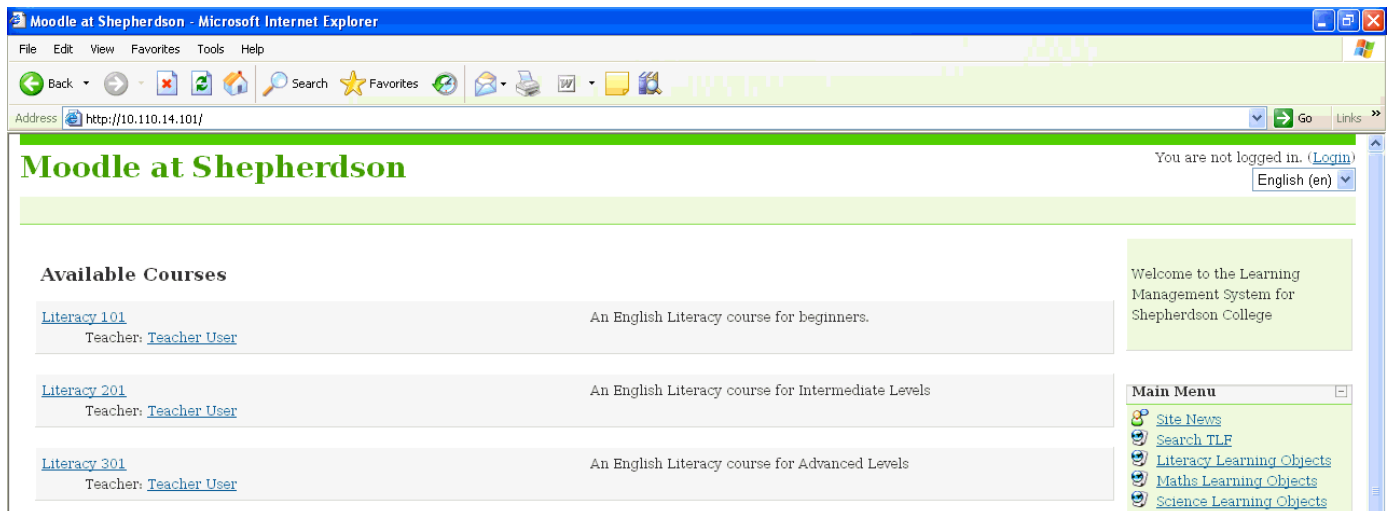


Figure 1: Moodle Home page

## 26.2 Login to Moodle

From the Moodle home page:

- Step 1 Click on *Login* (top right end corner)
- Step 2 Enter your details Username and Password
- Username: *teacher*
- Password: *teacher*
- If you are unsure about the username and password, ask your school IT manager
- Step 3 Click on *Login*

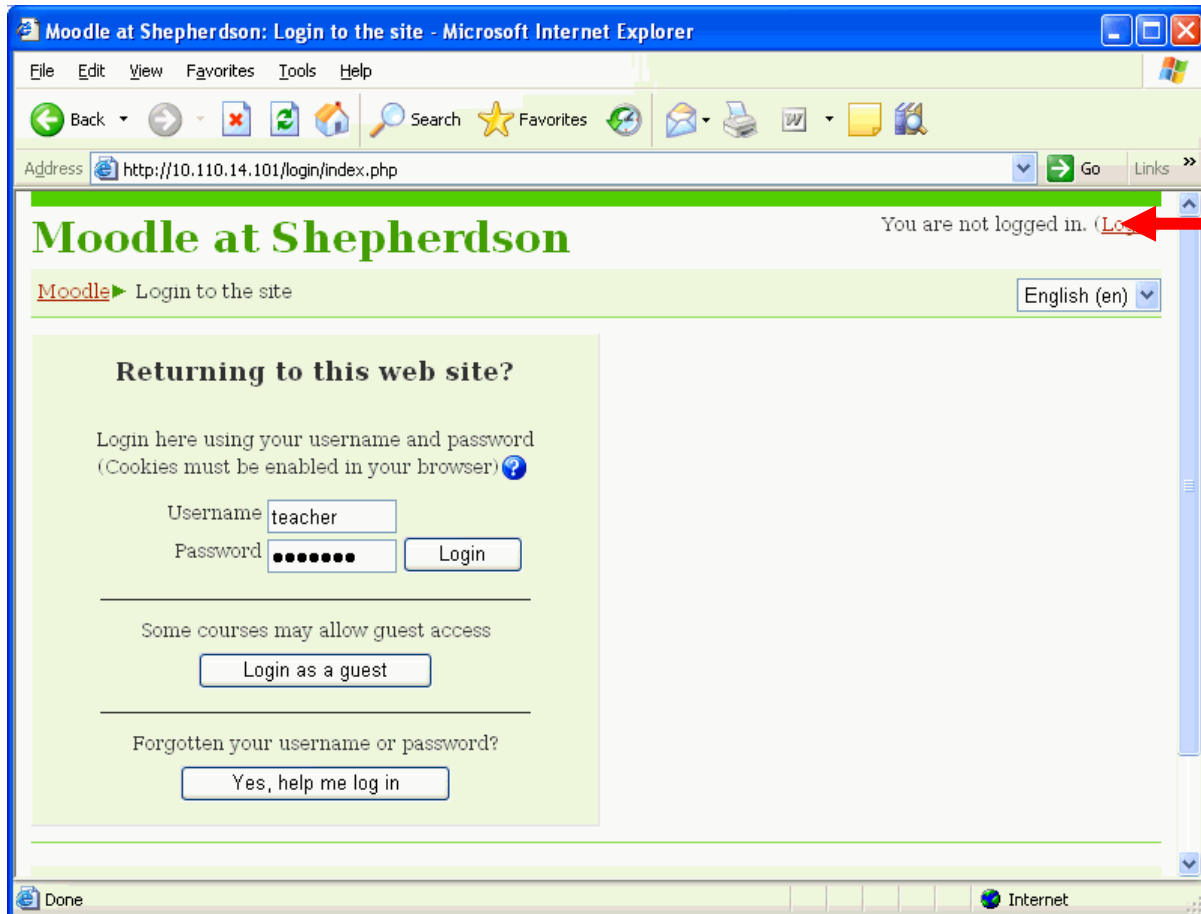


Figure 2: Moodle Login page

## 26.3 Course Home page

You can now view the course Home page showing the list of courses and lessons available. The screen has the following information

- **Course category** section: this section shows a breakdown of the courses and lessons available by course categories. These courses and lessons are the ones you will create for your needs and the ones the students will access.
- **Turning editing on** button: click on this button to switch to the editing mode which allows you to add/update/delete courses and lessons. This button is only visible and available to teachers. Students don't have this option. Once clicked, you can then create new courses/classes and update existing one. To switch off the editing mode, simply click on **Turn editing off**. You can now see the students view.
- **Main menu** section: this is a list of shortcuts to a common set of resources:
  - **Search Learning Federation**: allow you to search *The Learning Federation catalogue (This is a catalogue of learning objects the teacher can use in the class)*
  - **Literacy Learning Objects**: *this is a reference list of all the TLF literacy learning objects with an indication of the grade / year level and the link to access it*
  - **Maths Learning Objects**: *this is a reference list of all the TLF Maths learning objects with an indication of the grade / year level and the link to access it*
  - **Science Learning Objects**: *this is a reference list of all the TLF Science learning objects with an indication of the grade / year level and the link to access it*

- **User Guides: this gives you access to 3 user documents:**
  - *XO laptop – Software user guide*
  - *XO laptop – Hardware user guide*
  - *Moodle and The Learning Federation user guide*
- **Troubleshooting guide and Glossary**
  - *Troubleshooting and FAQ: this gives you access to a document with frequently asked questions / issues with their answers/ resolution.*
- **My Course** section: this is a simple list of shortcuts to all courses available :
- **Calendar** section: currently not use

*Additional links could be added by your school IT manager.*

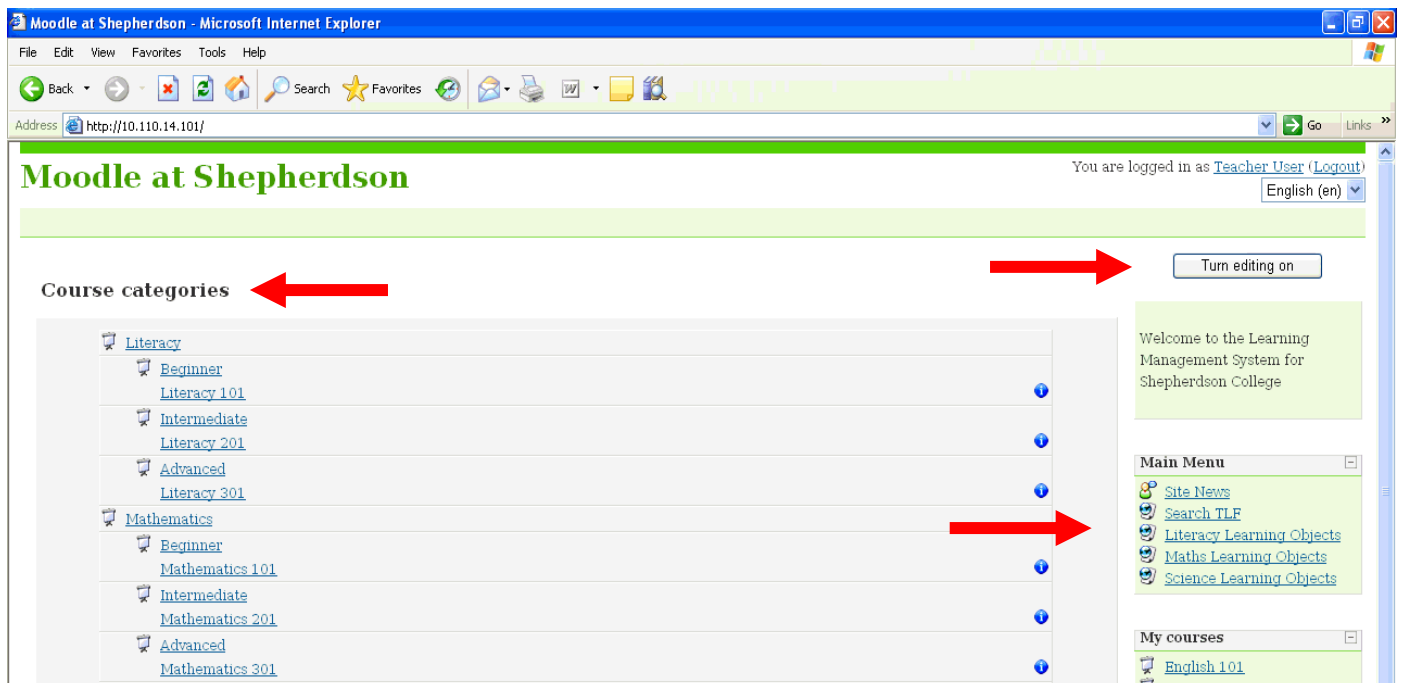


Figure 3: Moodle home page



# 27 Courses

## 27.1 What is a course?

In the simplest of terms, a Moodle course is a set of learning *activities* presented in a specific *format*. This format can be open-ended consisting of a number of topics, or it can be more formal such as structured around a beginning and ending date, or it can openly encourage informal learning. Moodle allows you to select one of these three formats while setting up your course:

- Topic (for open-ended or ongoing enrolment – self paced learning)
- Weekly (structured, with a beginning and ending time period – e.g. school environments)
- Social (Forums that encourage informal modes of learning – peer interaction)

For our need, we will only use the Topic format.

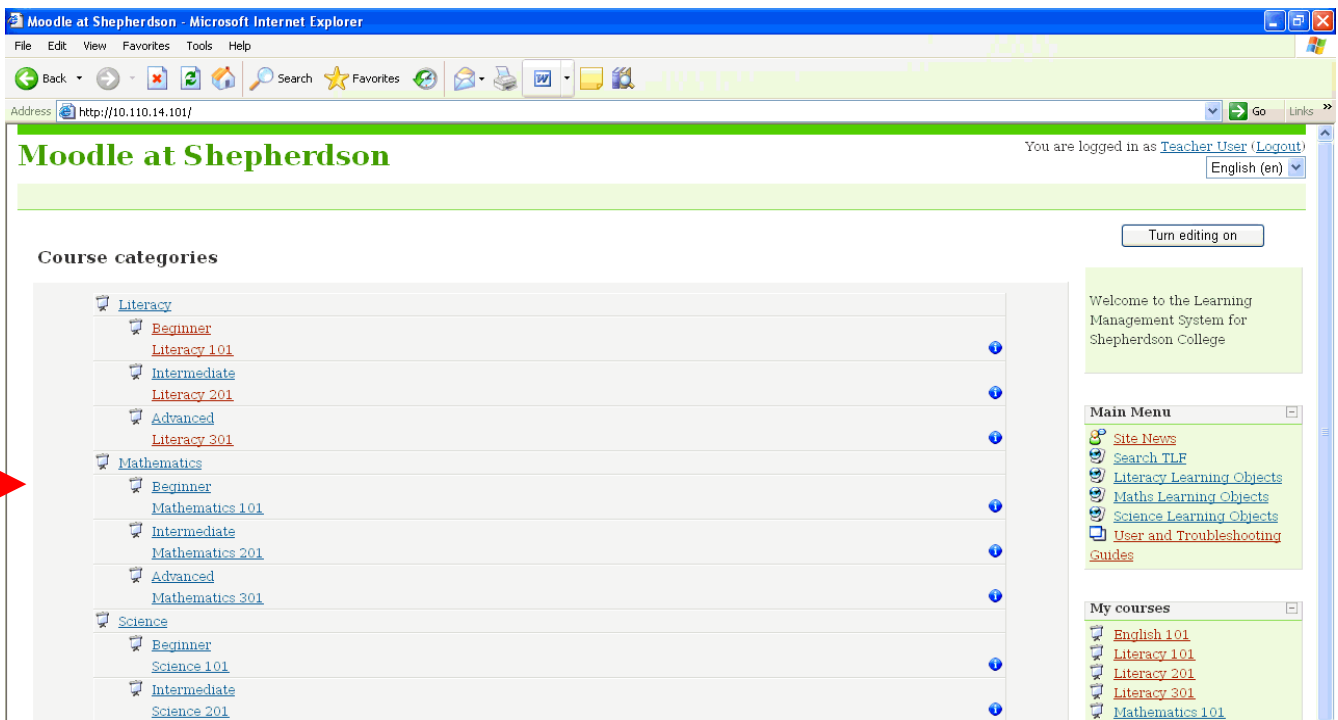


Figure 4: Course category list screen

## 27.2 Viewing a Course

Courses are accessible from various places. The easiest way to browse the courses is from the Course home page (*course categories* section). Courses could be viewed by everyone logged into Moodle, including students.

In order to easily manage the numerous courses, these are grouped under two levels of categories (top and second):

- The top level (e.g. Literacy) is a course category.

- The second level (e.g. Beginner, Intermediate, Advanced) is a second course category level.
- Finally, the third level (Literacy 101) is the name of a course.

If you need to find the meaning of a specific category, just click on the category and a new window will open showing more information about the category.

To view the details of a course, do the following:

- Step 1 Ensure that the editing button (top right) reads Turn edition on. If not, click on the button
- Step 2 Click on a course name (e.g. Literacy 101), to view the course details.
- Step 3 You can now see all the lessons which have been created for this course. Each lesson may have one or more activities/topics
- Step 4 Click now on one of the activities (e.g. Words and pictures: first letter). This will start the activity. The activity could be a TFS learning object, a document to read, an image to look at, a web site address to go to, etc

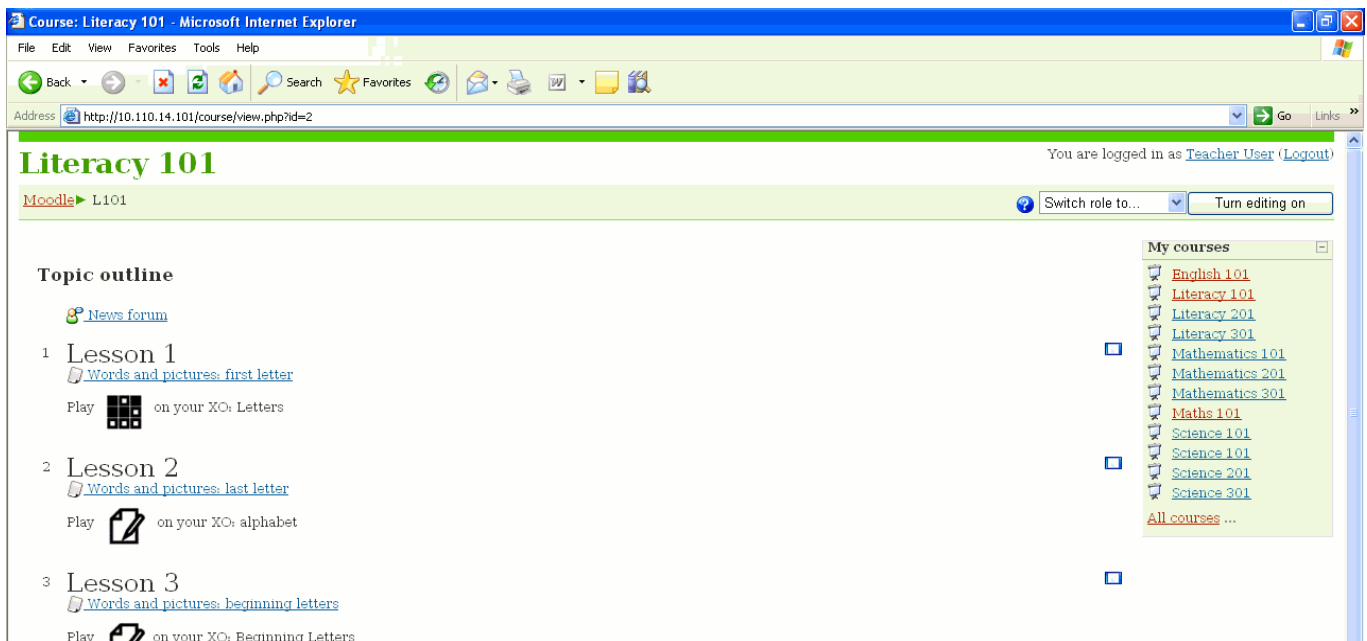


Figure 5: Lesson screen

## 27.3 Creating a new Course

Course categories and courses are visible and accessible to everyone. Therefore, it is important to centralise the changes and make them infrequently so users won't be confused.

It is recommended that Teachers decide how they would like to structured this courses list. The top category could be learning topics, year/grades, curriculum driven, etc. Once the categories and top courses are agreed by the teachers, the school IT manager will create them on the school Moodle.

It is expected that it will take few iterations to get the categories / courses right.

## 27.3.1 Creating a new Category

Only the school IT manager has the right access to perform this.  
You may need to create a new category, prior creating a course.

- Step 1 Log in to *Moodle* as an *administrator*
- Step 2 Click on *Course* on the left *Site Administration* section
- Step 3 Click on *Add/edit courses* link
- Step 4 Click on *Add a new category* button at the bottom of the screen
- Step 5 Select the *parent category*
- Step 6 Enter a *category name* which will be displayed in the *course categories list*
- Step 7 Enter a *description* which will be displayed when the user clicks on the *category name* in the *course categories list*
- Step 8 Click on *Create category* button

Your new category is now created and should be visible to you and all users

The screenshot shows the Moodle administration interface for 'Moodle at Shepherdson'. The browser address bar indicates the URL: `http://10.110.14.101/course/index.php?categoryedit=on`. The page title is 'Moodle at Shepherdson' and the user is logged in as 'Admin User'. The breadcrumb trail is 'Moodle > Administration > Courses > Add/edit courses'. The 'Course categories' table is the central focus, listing existing categories and their associated courses. At the bottom of the table, there are two buttons: 'Add a new course' and 'Add new category'.

Course categories	Courses	Edit	Move category to:
Literacy	0	[Edit] [Delete] [Move]	Top
Beginner	1	[Edit] [Delete] [Move]	Literacy
Intermediate	1	[Edit] [Delete] [Move]	Literacy
Advanced	1	[Edit] [Delete] [Move]	Literacy
Mathematics	0	[Edit] [Delete] [Move]	Top
Beginner	1	[Edit] [Delete] [Move]	Mathematics
Intermediate	1	[Edit] [Delete] [Move]	Mathematics
Advanced	1	[Edit] [Delete] [Move]	Mathematics
Science	0	[Edit] [Delete] [Move]	Top
Beginner	1	[Edit] [Delete] [Move]	Science
Intermediate	1	[Edit] [Delete] [Move]	Science
Advanced	1	[Edit] [Delete] [Move]	Science
Practice	0	[Edit] [Delete] [Move]	Top
English	1	[Edit] [Delete] [Move]	Practice
Maths	1	[Edit] [Delete] [Move]	Practice
Science	1	[Edit] [Delete] [Move]	Practice

Figure 6: Create category screen

## 27.3.2 Creating a new course

Only the school IT manager has the right access to perform this.

- Log in to *Moodle* as an *administrator*

- Click on *Course* on the left *Site Administration* section
- Click on *Add/edit courses* link
- Click on *Add a new course* button at the bottom of the screen

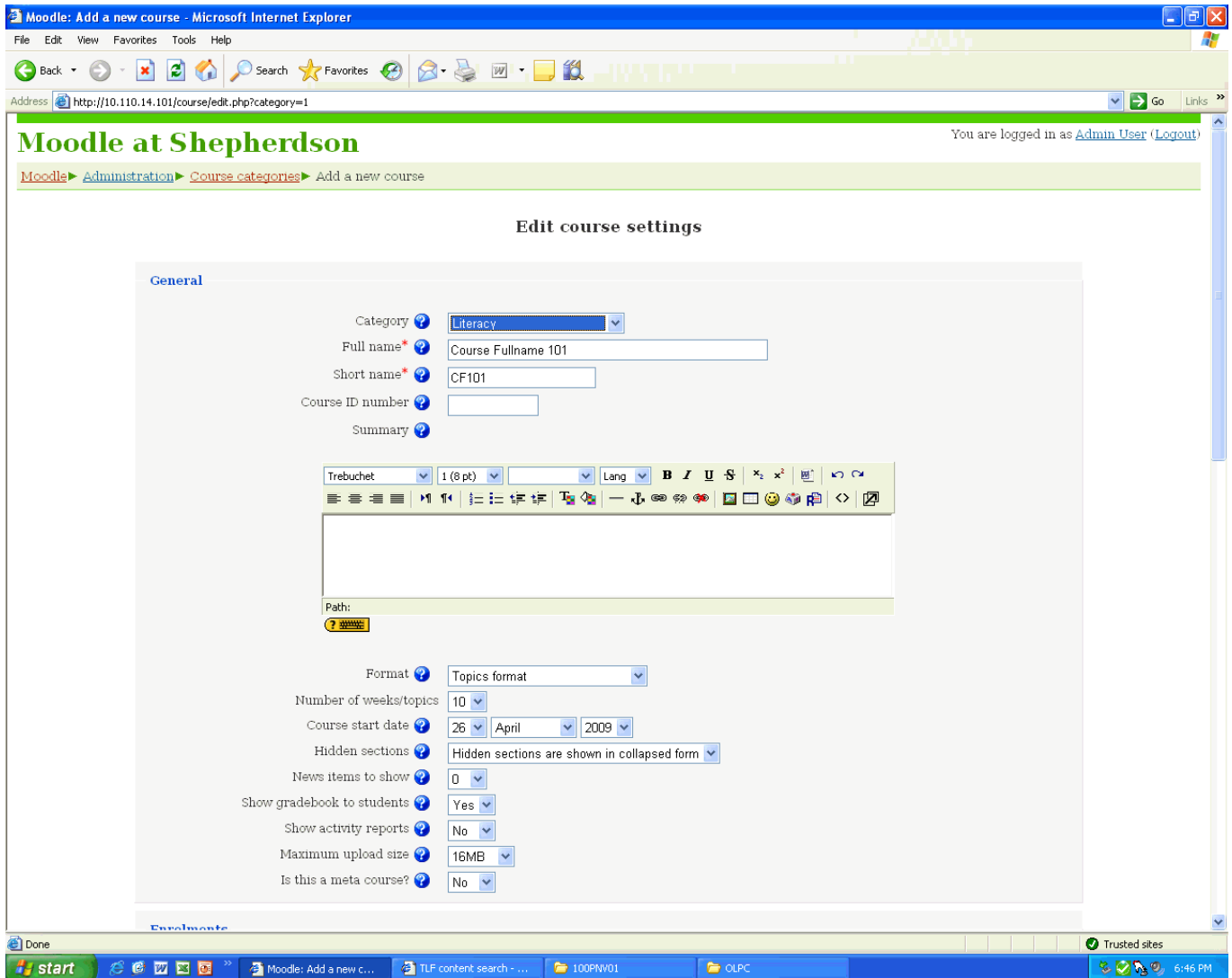


Figure 7: Create new course screen

Below is a description of the most important fields to be filled out:

**Category:**

It is likely that your course may be one of several selections available at the Moodle site front page. Courses are typically assigned to a category (e.g. Language Arts, Workplace Safety etc.), and your Moodle administrator may have done this when the course template was created. If not, make a selection from the Category value list that places your course in the correct category for your school.

**Full name:**

Give your course a full name, as it will appear in the header area of the home page (e.g. Moodle 101), and in the site front page category.

**Short name:**

This is the name that will appear in the Navigation bar “breadcrumbs” are (e.g. M101)

***ID Number:***

If you have an official code name for this course then use it here. Otherwise, leave blank.

***Summary:***

Enter a brief description for your course; about a paragraph of information that describes it to someone visiting the site front page.

***Format:***

Select Topic as the display format for the course.

***Enrolment period:***

If you would like to set a time limit for how long a participant can be enrolled in your course, make a selection here. If you do not wish to set an enrolment period limit, select Unlimited.

When you set enrolment period limits, a participant will be automatically unenrolled from the course on the specified number of days after they have first entered the course.

***Availability:***

This option allows you to "hide" your course completely. It will not appear on any course listings, except to teachers of the course and administrators. Even if students try to access the course URL directly, they will not be allowed to enter.

***Your word for.....:***

These four fields allow you define what names will appear within the course for teachers and students.

# 28 Lessons

## 28.1 What is a lesson?

A Moodle course is a collection of *lessons*. Lessons then are a collection of topics which could be a resource or an activity. For the purpose of our implementation, we will only use *resources*.

A resource could be:

- An internal resource you create yourself and which will be stored in Moodle (e.g. a narrative page about bullying) or
- An external resource which exists outside Moodle and your activity points to this resource for students to access it (web site link, a TFS activities, a Google image, etc)

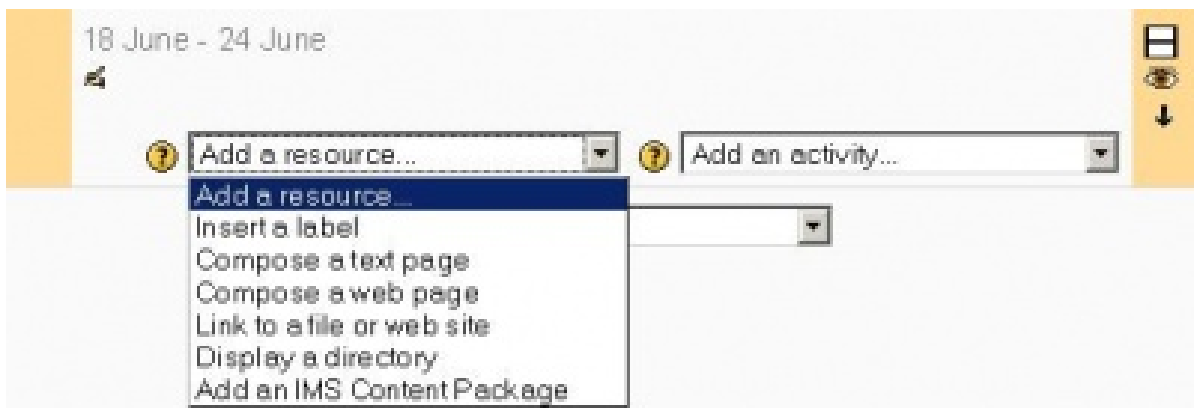


Figure 8: Resource types

There are four types of resources you can add to the lesson:

Name	Description
Insert a label	A label is a way to add text to the content area of your course. Labels can be used to give a quick instruction or for telling users what to click on next.
Compose a text page	A Text page resource is a simple page written using plain text. Text pages aren't pretty, but they're a good place to put some information or instructions.
Compose a web page	A web page resource is a page written using HTML. You can create or copy/paste HTML to this resource to make a fancy page.
Link to a file or a web site	The resource you would like to add could point to a file that you need to upload on the system, to a internet website or a school intranet link.

## 28.2 Creating a new lesson

Teachers have the right access to perform this.

- Step 1 Log in to *Moodle* as teacher
- Step 2 Click on *Turn editing on* button (upper right corner) on the *Course home page*
- Step 3 Click on the course name (e.g. Literacy 101) in the *Course categories* list where you would like to add/update/delete a lesson (e.g. Math 101). You can now see the list of topics for the course. If no lessons have been added, then the screen may look quite empty

Each course has up to 10 lessons.

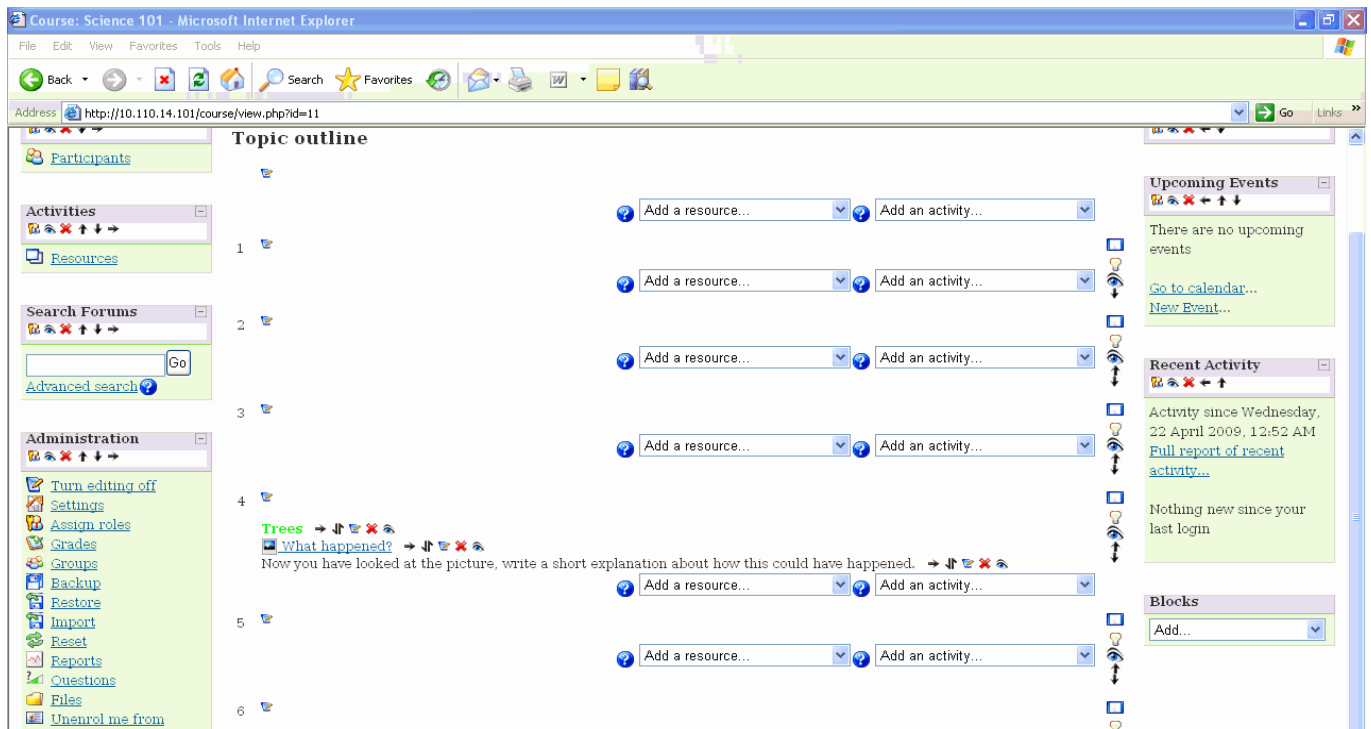


Figure 9: Create a lesson list screen

## 28.2.1 Create a lesson title

First of all, you need to create a lesson title

- Step 1 choose the location where you would like the lessons to be created (number from 1 to 10, left column)
- Step 2 Choose *Insert a label* in the *Add a resource...* drop down list next to the location number chosen
- Step 3 Type the name of the lesson e.g. Measurement Lesson in the *label text* box
- Step 4 Format the label (e.g. bold, blue colour, font size 14pt)
- Step 5 Click on *save and return to course*
- Step 6 Click on *Add a new course* button at the bottom of the screen

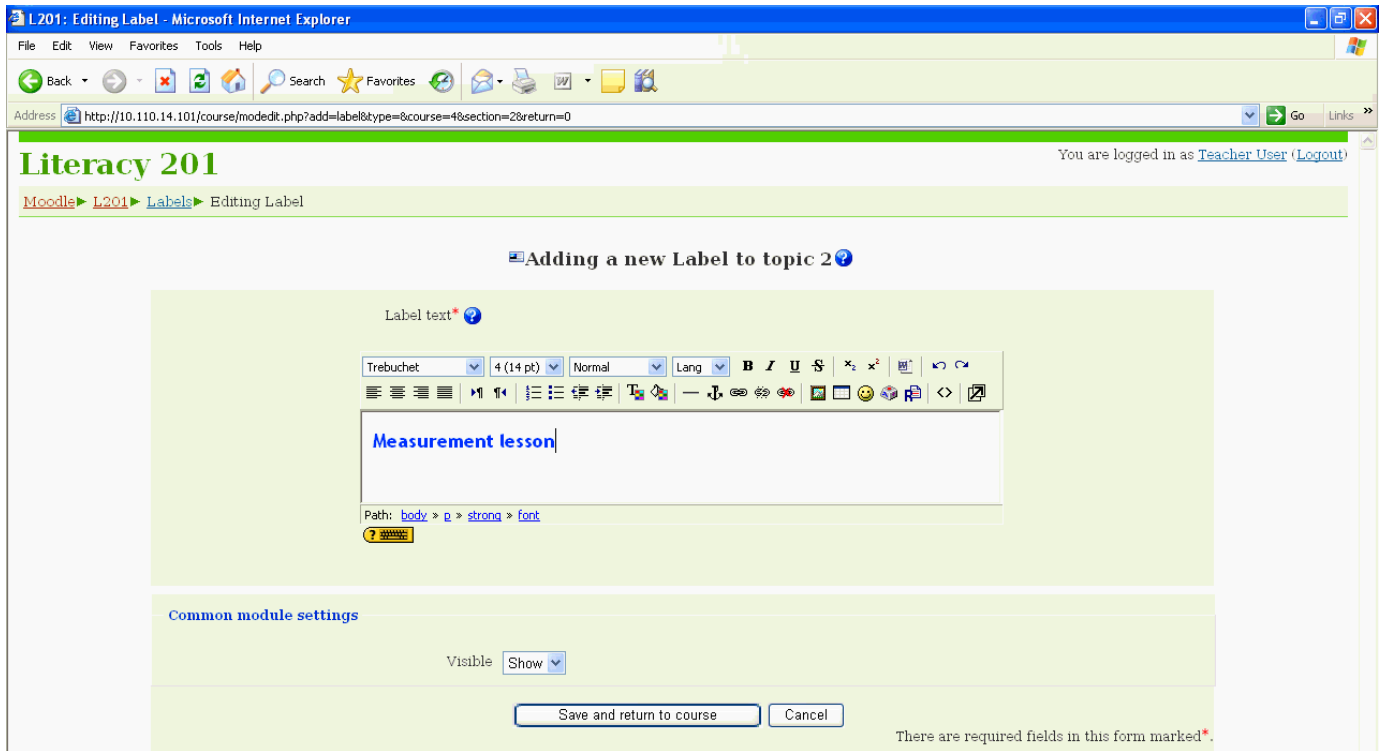


Figure 10: Create a label for the lesson

Once the title of the lesson is created, you need now to add topics/exercises to the lesson by adding lessons resources. There are 4 types of lesson resources you can add:

## 28.2.2 Add a resource to the lesson

Once the lesson title is created, you can now add a series of resources (such as learning objects, links, reference material, etc) to the lesson.

Below are some suggestions when creating a resource to a lesson:

If you want to add .....	Resource recommended to use
a learning object from The Learning Federation	Link to a file or a web page
a link to a website or a image	Link to a file or a web page
a fancy page with graphics, text formatted	Compose a web page
a reference to a XO activity (Write, Speak, Maze, etc)	Insert a label
a simple page of text with instructions	Compose a text page

### Add a resource... Insert a label

A label is a way to add text to the content area of your course. Labels can be used to give a quick instruction or for telling users what to click on next.

Use a label to create the lesson name or to give quick instruction to students to what to do.



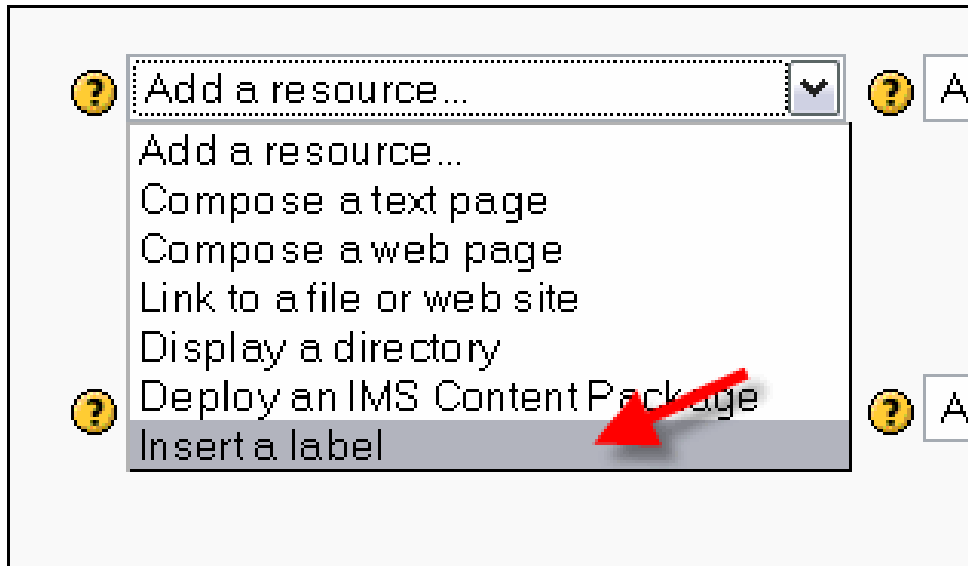


Figure 11: Create a label for the lesson

#### How to create a label

- Step 1 Type the text you would like to display in to white box
- Step 2 Format the text by changing the font type, size, colour, indentation, etc
- Step 2 You can hide the resource from students by selecting "Hide" here. It is useful if you do not want to make the activity immediately available.

Tip: if you want to include the XO activity icon e.g.  within the label

- Step 1 Go to *Moodle Course Home* page (type <http://moodle> or click on *Moodle* on the top crumbed link)
- Step 2 Click on *XO Activities Images* link in the Main Menu section
- Step 3 Right click on the activity icon representing the activity you want your students to use, and click *Copy*
- Step 3 Paste the image next to the text you typed for your label

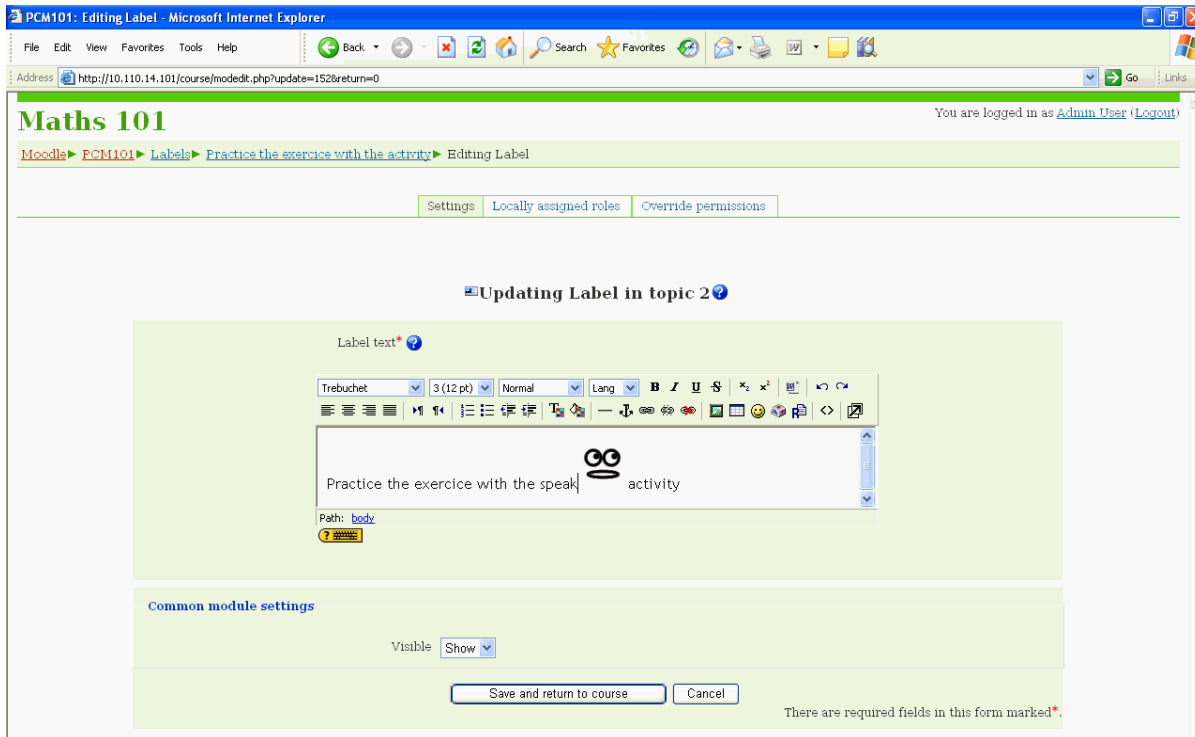


Figure 12: Label resource with a XO activity icon embedded

### Use a label to display an external web page within a label

An exciting possibility for labels allows external or internal pages to be displayed in the middle of the Moodle screen (instead of just putting a link to them)

- Step 1 Create a label
- Step 2 Click on the raw HTML code (use the editor button <>)
- Step 3 Insert code like: `<iframe width="100%" height="200" align="middle" src="http://www.google.com" border="0"></iframe>`

Additionally, labels allow more flexible formatting of Moodle resources e.g. place links to resources in a table so that many can be offered in the same line, thus reducing the need to scroll through a course page. You can change the size of the windows by changing the “height” value

#### Quick Tip

Before entering any text hit the Shift+Enter key (hold-down the Shift key and hit the Enter key on your keyboard) to skip to the second line. This will prevent labels and resources from bunching up together. Be careful NOT to hit the Enter key alone since this will create an undesired paragraph.

When you're finished be sure to click the Save changes button.

## Add a resource... Compose a text page

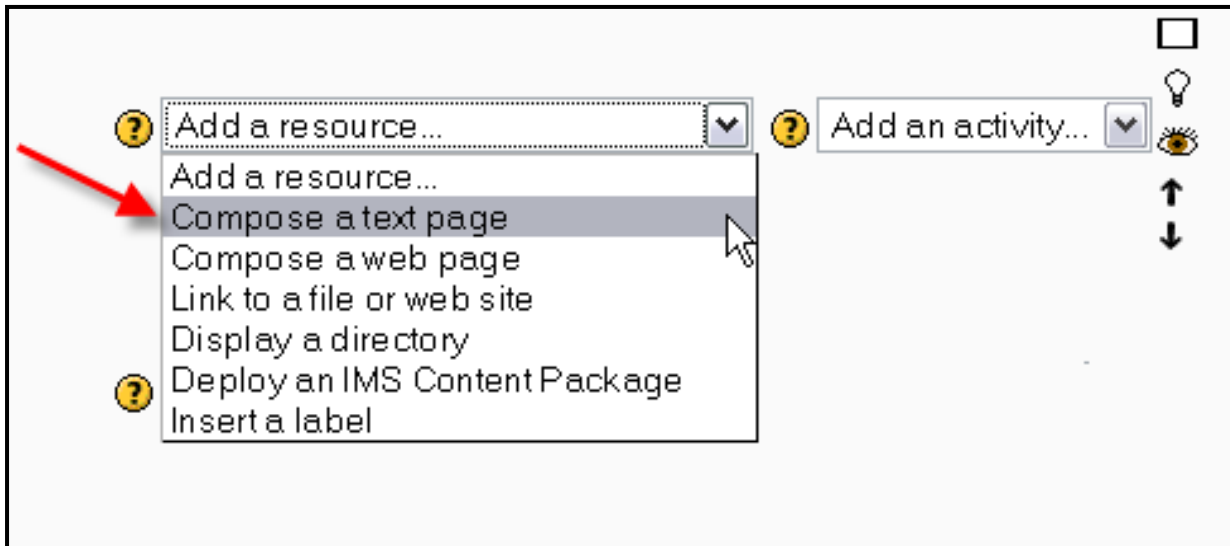


Figure 13: The "Add a resource..." drop-down menu

- Step 1 From the course main page, click the "Add a resource..." drop-down menu within the topic you wish to add a text page
- Step 2 You'll be taken to a page labelled "Adding a new Resource to topic x."
- Step 3 You must type a Name for the text page. This is what your students will click on, so have it make some sense.
- Step 4 Add a summary (optional). The summary is displayed on the Resources index page.
- Step 5 Type your text in the Full text box. You can paste text from MS Word or any other location. A number of formatting options are available to help turn your plain text into nice-looking web pages.
- Step 6 Choose whether you want this resource to open in the same window or a new one. If you choose New Window, you can choose what attributes the new window will have. Make sure you allow the window to be resized and scrolled; otherwise your students might not be able to read the bottom of the page!
- Step 7 Choose if you want to hide or show this to students.
- Step 8 Once you've made your choices, click on the "Save Changes" button. You will be seeing a preview of what your new resource looks like.

## Add a resource... Compose a web page

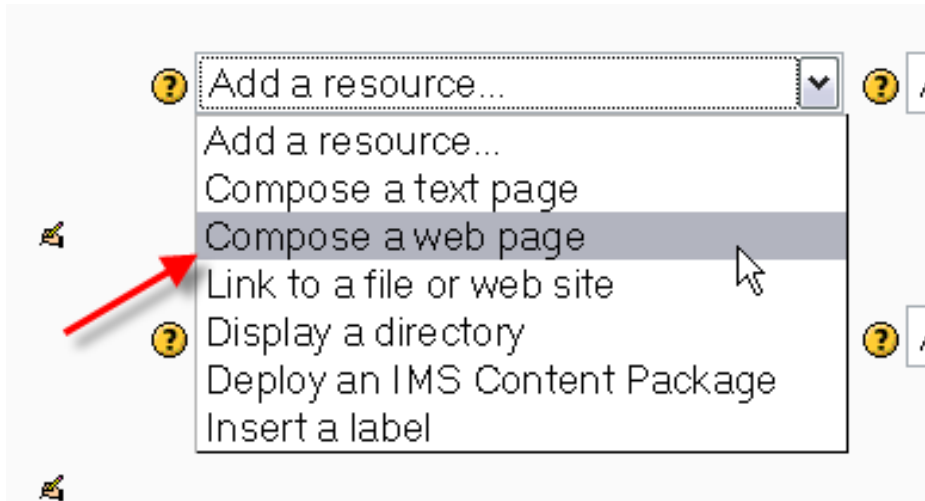
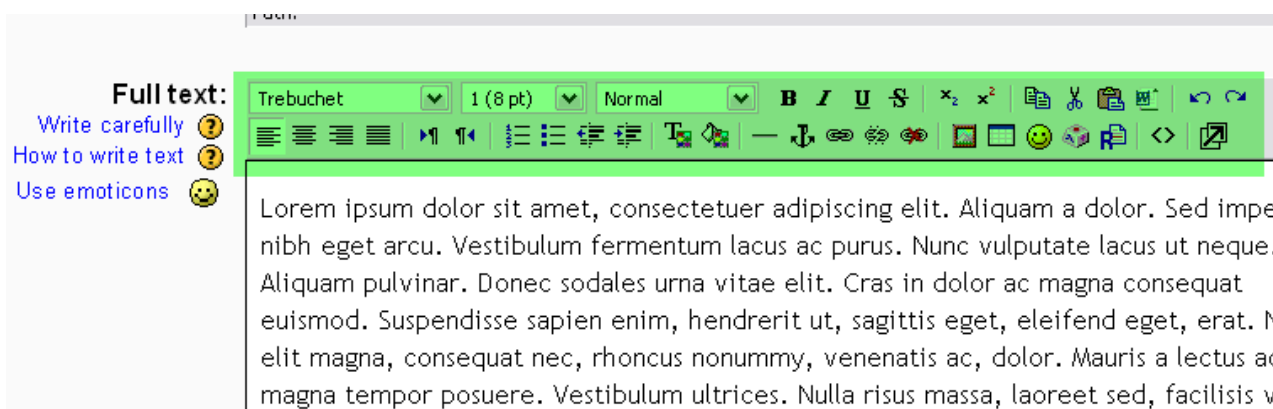


Figure 14: The "Add a resource..." drop-down menu

- Step 1 From the course main page, click the "Add a resource..." drop-down menu within the topic you wish to add a web page
- Step 2 You'll be taken to a page labelled "Adding a new Resource to topic x."
- Step 3 You must type a Name for the web page. This is what your students will click on, so have it make some sense.
- Step 4 Add a summary (optional). The summary is displayed on the Resources index page.
- Step 5 Enter (type or paste) your text in the Full text box.
 

*TIP:* Note that if your browser offers you the [HTML editor](#)'s WYSIWYG edit tools you can toggle back and forth between text and HTML source modes. The HTML mode can be especially useful in cleaning up glitches in the text display. The enlarge editor window can also be very useful when you have a lot of text to work with.
- Step 6 Choose whether you want this resource to open in the same window or a new one. If you choose New Window, you can choose what attributes the new window will have. Make sure you allow the window to be resized and scrolled; otherwise your students might not be able to read the bottom of the page!
- Step 7 Once you've made your choices, click on the "Save Changes" button. You will be seeing a preview of what your new resource looks like.



Figure

15: example of WYSIWYG tool

In most browsers, you will be able to use the WYSIWYG tools.

### Add a resource... Link to a file or a web site

Although it's easy to generate content directly in Moodle, you can also upload any type of electronic file you like. All you need to do is make sure your students can access it with the appropriate software on their computers.

Once you've added a file to your files area, you can easily add it as a resource for your students.

- Step 1 In Editing Mode, select "Add Link to File or Web Site" from the Resource menu from the content block where you want to add the link to the file.
- Step 2 On the Edit page, click the "Choose or upload a file" button. A new window will pop up with the files area directory structure.
- Step 3 Find the file you want to add in the files area. You can also upload a new file here if you'd like.
- Step 4 On the right side of the files list, you will see a "Choose" link in bold. Click that link. The Files window will close, and the path to the file will be entered into the file name.
- Step 5 You can choose to display the file in a new pop-up window. Most of the time, you won't need to worry about this with uploaded content.
- Step 6 The name of the resource will now be an active link in the content block.

### Adding media content

Adding media content can help you communicate some ideas and processes more easily than text alone. Imagine trying to teach a language without learners able to hear it spoken. Or trying to learn how volcanoes work with either seeing a video or an animation. Fortunately, Moodle makes it easy to add rich media content to your course. The Moodle media filters will automatically recognize your media type and put the right sort of link in to your web page so students can access it easily.

Note:

If the video and the flash file are too complex, it is possible that the XO laptop will not be able to render the content properly. Please check if it works properly before making this content available to your students

If these instructions don't work, contact your system administrator and ask if the media filters are enabled in the filters settings.

Media content may be added using the same steps as for adding a link to a file.

- Step 1 In Editing Mode, select "Add Link to File or Web Site" from the Resource menu from the content block where you want to add the link to the media file.
- Step 2 On the Edit page, click the "Choose or upload a file" button. A new window will pop up with the files area directory structure.

- Step 3 Either upload the media file, or if you uploaded it previously, find the file you want to add in the files area.
- Step 4 Click the "Choose" link. The Files window will close, and the path to the file will be entered into the filename.
- Step 5 The name of the resource will now be an active link in the content block.

MP3 files are automatically embedded in a streaming player made with Flash.

*TIP:* The file does not change? After repeated uploads of a new file, the old version remains? Very possibly this is a server cache problem (not a Moodle setting). Ask your site administrator or hosting service if there is a server cache setting that is causing this problem. Often removing an unnecessary cache will solve this.

Location

Type in the URL of the file or web page here. You may use the two buttons below to help you.

**Choose or upload a file...** – If you click on this button, a popup window will appear with the course files. You will be able to browse the files and **choose** (option located to the right of the file) the one which you want to make available as a resource. If the file is not there you can upload it first.

**Search for web page...** – If you click on this button, a popup window will appear with the Google search engine. You can use Google to search the web for a webpage which you want to make available as a resource.

Notes:

It is not possible to force web pages or files stored anywhere other than in Moodle to be downloaded. In these cases, checking the force download box has no effect.

If the resource is a PDF file (stored in Moodle or on a different site), the force download box should be checked in order that students using IE7 or Firefox 3.x can view the PDF. This work-around is necessary because of the way browser handles PDF files. (This behaviour is very difficult to predict, as it is highly dependent on the versions of browsers and Adobe Reader/Acrobat installed. Some combinations of FF3 and Reader, as well as IE7 and Reader don't need this workaround.)

TIP: if you want the lesson resource to be a learning object from The Learning Federation, you need to do the following:

- Step 1 Open a new window of Microsoft Internet Explorer (click the Start button and select Internet Explorer)
- Step 2 Access **Moodle** (see section 26 above)
- Step 3 Search The Learning Federation catalogue to select a learning object (see section 29.3 below)
- Step 4 Click on the learning object name to start the activity

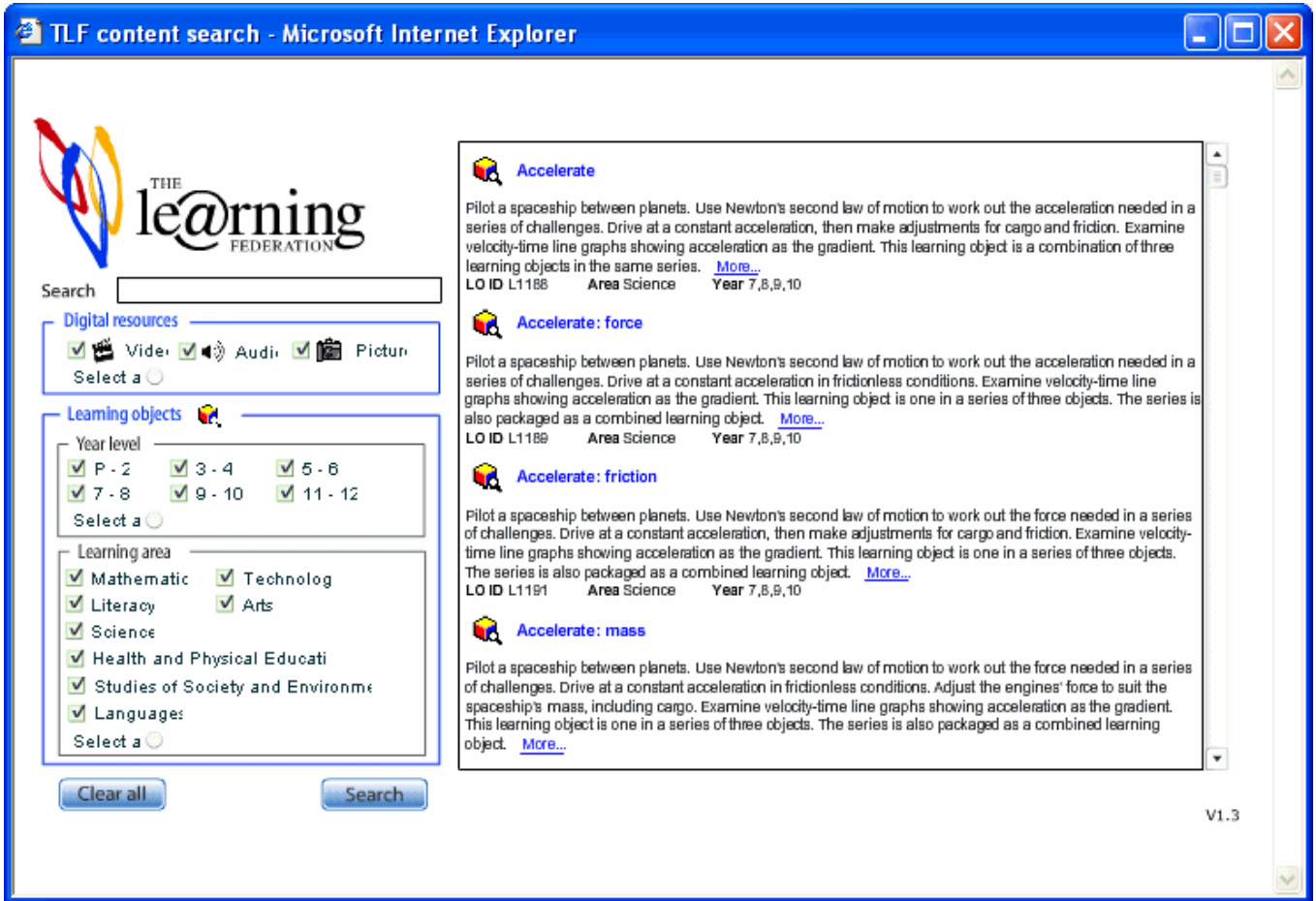


Figure 16: Selecting a learning object

- Step 5 Once the activity has started copy the URL from the address bar of the activity browser window

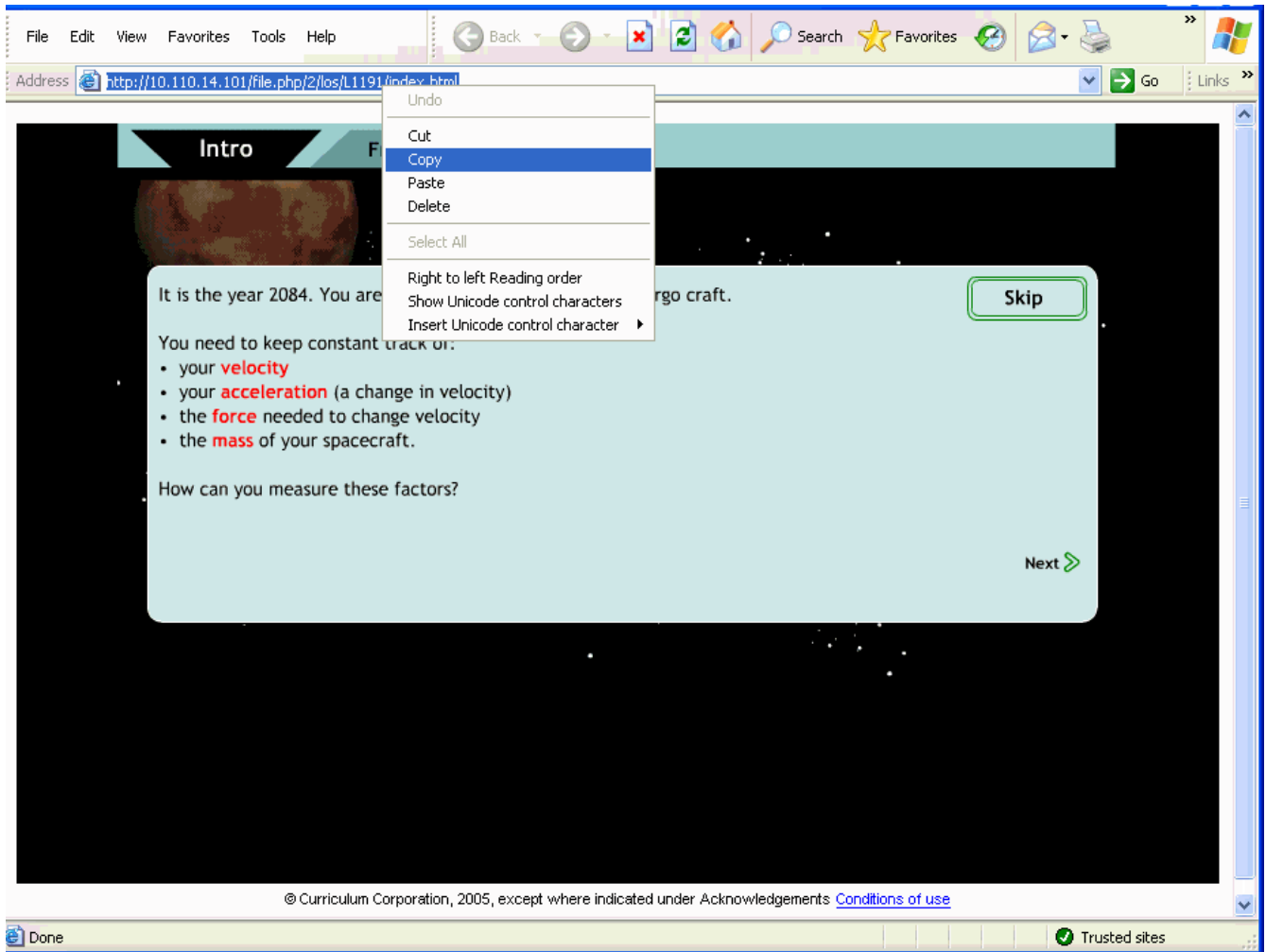


Figure 17: Copying the URL of the Learning object

- Step 6 Close The Learning federation window
- Step 7 Paste the link you just copied into the *Location* field

### Same or new window

Resources may normally be displayed either in the same browser window or in a new window (assuming in Moodle 1.9 that the “force download” box is left unchecked).

To display a resource in a new window:

- Step 1 Click the Show Advanced button in the Window area.
- Step 2 Select “New window” from the Window drop-down menu.
- Step 3 Select the new window options.

Keep page navigation visible on the same page

If a resource is to be displayed in the same browser window to enable users to easily return to the course page, the file can be displayed in a frame, or embedded within the page, so that the Moodle navigation remains on the top of the page.



Note that this option is normally not necessary for media types such as movies, audio files and flash files, as without this option turned on they will be embedded within a navigable page.

The use of frames can break accessibility, so this option will be completely ignored if the user has chosen the "Screenreader" option in their profile.

For standards compliance reasons, keeping page navigation visible without a frame (i.e. using an object tag to embed the file) is preferable to with a frame. However, certain Moodle themes are not compatible with the "Yes, without frame" option.

### **New window options**

- Allow the window to be resized – Checking this will allow the user to change the size of the window after it has opened. Unless you have a specific reason for not allowing the user to resize, you should leave this checked.
- Allow the window to be scrolled – You can prevent the user from scrolling the new window. Again, unless you have a specific reason to prevent the user from scrolling, leave this checked.
- Show the directory links – This will display the user's bookmark or favourites bar in his browser.
- Show the location bar – You can hide the address bar, and thus the site's URL, in the pop up by unchecking this box.
- Show the menu bar – The menu bar is the browser menu that allows the user to set bookmarks, print, view the page source, and perform other browser functions.
- Show the toolbar – The browser toolbar has the back and forward buttons, as well as the reload and stop buttons.
- Show the status bar – The status bar is the lower area of the browser that shows how much of the page has loaded and the target of a link.
- Default window width and height – You can set the size of the new window to match the size of the linked page.


### **Visible to students**

You can hide the resource from students by selecting "Hide" here. It is useful if you don't want to make the activity available immediately.

## 28.3 Updating a lesson

To update a lesson or a lesson resource, you just need to edit the item you would like to update:


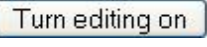
Step 1 Go to the lesson page

Step 2 Next to the lesson name or the lesson resource, click on the icon update: 



Step 3 Update the lesson name or the lesson resource and click **save**

## 28.4 Organising the lessons, and topics within lessons

At anytime, you can change the appearance of the lessons and the lesson topics e.g. you can change the order of the lessons, the order of the topics within a lesson, delete a lesson / lesson topic, hide temporary a lesson / lesson topic.








The Turn Edit On or Off option can be found as a link in the administration block  Turn editing on or as a button  at the top right of a course homepage. This option is only available to teachers of the course who also have editing rights or to those users who are assigned site administration rights. Turn editing on allows teachers to change the appearance and functionality of the course. You can turn editing off again by pressing the button or the admin block link again (both now renamed turn editing off!).

You will see these icons frequently when editing is on:

-  – the edit icon lets you alter/update whatever resource or activity it is next to.
-  – the help icon will popup a relevant help window

### Blocks


You will see these icons when editing blocks:

-  the block is visible. Clicking the eye will hide the block from students
-  the block is hidden. Clicking the eye will show the block to students
-  clicking this icon will remove the block from the course
-  this icon will move the block upwards
-  this icon will move the block down
-  this icon will move the block to the bottom of the left column
-  this icon will move the block to the bottom of the right column



Existing blocks can be moved up, down or sent to the right or left column of the course. They can also be set to visible or hidden. They can be removed completely by pressing the X icon.




### Sections



Topics are the most common types of section formats. The section description that appears to student can be edited with the  edit icon.

Sections can be moved up or down to change the order in which the course is displayed. Sections can also be hidden from, or made visible to, learners. If the course is topic based then a topic can be set as current (or indeed the current status can be removed).

-  the open-eye icon means an item is visible to students. It will close when you click on it
-  the closed-eye icon means an item is hidden from students. It will open when you click on it.

-  the marker icon allows you to make a section current
-  this icon will move the section upwards
-  this icon will move the section down








The following icons are visible when editing is both on and off

- This icon is used to show only the selected section
  
- This icon is used to show all sections in a course

## Activities and Resources



Course resources and activities may be added, removed, indented, moved, updated, deleted, hidden, shown or assigned to groups. The teacher can edit individual activities and resources in a section by clicking on their individual icons.

-  - the edit icon goes to the "update" or "settings" screen for the activity or resource
-  - the open-eye icon means an item is visible to students. It will close when you click on it
-  - the closed-eye icon means an item is hidden from students. It will open when you click on it
-  - the right icon is used to indent course elements (there is also a left icon)
-  - the move icon allows course elements to be placed anywhere
-  - the move here icon appears when moving a course element
-  - the delete icon will permanently delete something from the course

# 29 Accessing The Le@rning Federation

## 29.1 About The Le@rning Federation

The Le@rning Federation develops digital curriculum content for all Australian and New Zealand schools. The project is a collaborative initiative of all Australian and New Zealand governments. Since 2001 our high-quality, innovative content has seeded and supported schools' moves into 21st-century education, and has begun the digital education revolution.



The content is free for all Australian and New Zealand schools. All copyright fees are paid upfront, so schools are not liable for further copyright payments to collection agencies such as Copyright Agency Limited.

The content is developed specifically to support students' learning of key concepts and skills detailed in all Australian and New Zealand curriculum documents. Teachers, students, jurisdiction officers, cultural and public organisations, and multimedia developers have all played parts in our work.

For more information about The Learning Federation, read <http://www.thelearningfederation.edu.au/>

## 29.2 Learning objects available

Hundreds of learning objects are available. To discover them, you have three options:

- Search online for learning objects: see next section (Searching The Learning Federation)
- Print and read the catalogue: [http://www.thelearningfederation.edu.au/for\\_teachers/catalogues/catalogues.html](http://www.thelearningfederation.edu.au/for_teachers/catalogues/catalogues.html)
- Access a master index of the relevant learning objects to remote classroom environments (focused on students with ESL – English Second Language)
  - **Literacy Learning Objects:** *this is a reference list of all the TLF literacy learning objects with an indication of the grade / year level and the link to access it*
  - **Maths Learning Objects:** *this is a reference list of all the TLF Maths learning objects with an indication of the grade / year level and the link to access it*
  - **Science Learning Objects:** *this is a reference list of all the TLF Science learning objects with an indication of the grade / year level and the link to access it*

## 29.3 Searching The Learning Federation

To access and browse the learning objects, do the following steps:

- Step 1 On the teacher laptop, start your internet explorer (Microsoft Internet Explorer, Firefox, etc)
- Step 2 In the address base, type *Moodle*

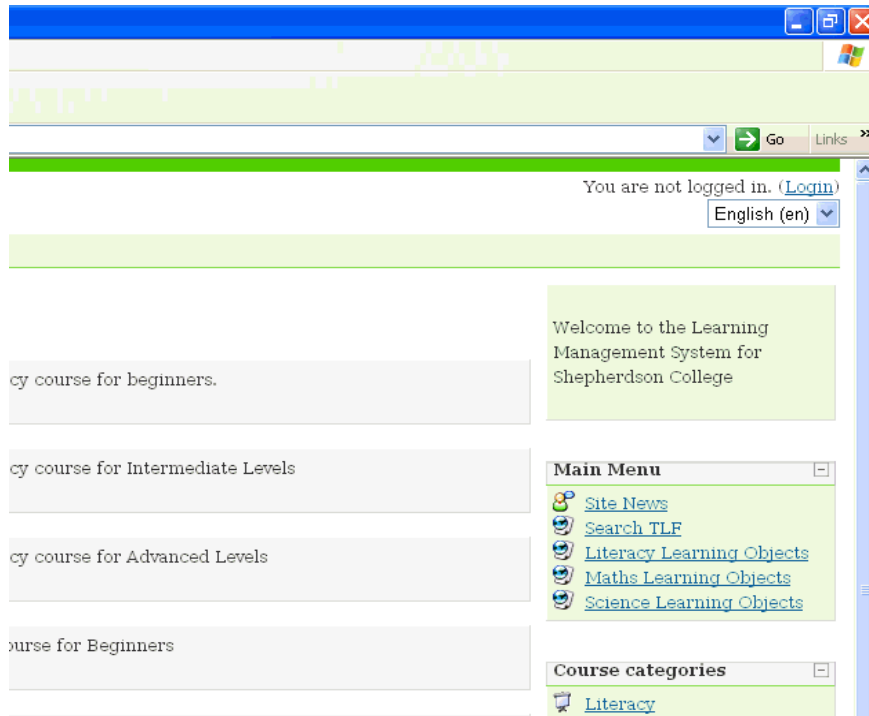


Figure 18: Moodle home page

- Step 3 Click on *Search The Learning Federation* from the main menu section (right side)
  - Step 4 Once the learning objects catalogue has loaded, Select a or many multiple *Year level*
  - Step 5 Select a or many *Learning area*
  - Step 6 Click *Search*. You will now see a list of training material.
- Please note *digital resources* are not available at this stage.



Figure 19: Learning objects

Step 7 Browse the list of learning objects to find what you need.

- Please note that some learning objects are too complex to run on the XO laptop. To find out which one are **NOT** XO laptop friendly learning objects, check the ones in bold on the learning objects list (see section 29.2 above)
- Click on *more...* if you need to find out more about a specific learning object (objective, educational value statements, learning area, user level, strand)
- Click on the learning object name to launch the object

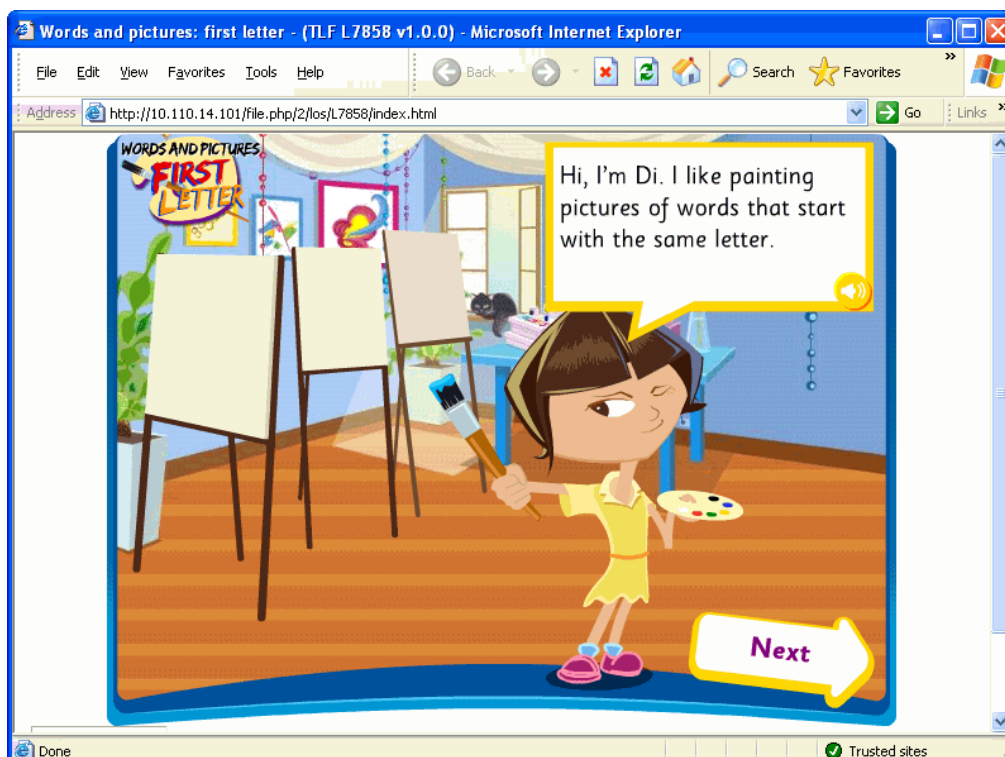


Figure 20: Example of a learning object launched

# 30 Teaching with the XO Emulator

This chapter is not about software running on the XO. It is about an independent piece of software that should be installed on every teacher's Classroom Laptop. Currently this needs to be a Windows machine, though a Macintosh version might eventually become available.

## 30.1 The Need for an XO Emulator

The XO computer does not have a display output port. This was a deliberate design decision, made to keep the manufacturing cost of the XO to a minimum and thus get more XOs into the hands of children. In most classroom situations children do not need an external display since they can send text and images to each other via the mesh network.

The case for the teacher is different. To quickly show the children how to use the XO and explore its learning environment the teacher needs to demonstrate the point and click motions of the XO graphical interface by projecting these onto a classroom screen. This can be done from the teacher's laptop via the XO Emulator, which will put into full view exactly what the child sees on his or her XO screen.

## 30.2 How does the Emulator differ from a real XO?

The XO computer is rich in IO modalities such as Video Cam recording and playback, sound recording, mixing and interactive performance, along with data-gathering capacity that comes from attaching sensors to the audio input connector (see the Measure activity). These are all hardware-dependent features that have no equivalent in a software-only Emulator, and are demonstrable only on a real XO.

In addition, the Mesh Network by which XOs communicate with each other depends on 802.11s wireless connectivity that is enabled by the XO's "ears". This has no equivalent on standard laptops, so an Emulator host is not visible on the XO Neighbourhood View, nor is that view available to the Emulator machine.

All other XO screen objects and interactions are available on the Emulator. This includes moving the Cursor across the screen to reach a graphical object, clicking on that object to launch an Activity, the Activity itself with all of its features (except hardware-dependent ones as described above), the Journal, the Frame, the collection of Activities currently open and how to close them, accessing the School OLPC Server, accessing Moodle and its Lesson Plans, accessing and launching the TLF Learning Objects, accessing the Internet and surfing the Web, how to exit from each of these, and how to correctly shut down an XO.


For these actions the XO Emulator provides an excellent means of demonstrating XO features to the class, and the teacher should make full use of this from the very first day of describing the XO. Moreover, having the class pay periodic attention to an Emulator projection provides a healthy break for the children's eyes, as well as a re-establishing the teacher's control and refocusing the class on the Lesson Plan at hand.

Note, however, launching the actual Emulator requires a strict sequence of actions, as does exiting from it so as to preserve its state on the teacher's machine. These must be strictly followed as described below.

## 30.3 Starting the XO Emulator

- Step 1 On your laptop desktop, double click on the icon *VirtualBox*
- Step 2 On the next screen, select *Virtual\_OLPC* and click on *Start*. It may take few minutes to start
- Step 3 Once the XO page appears, you need to switch in full screen mode so you can see everything and you don't need to scroll: Press *RIGHT CONTROL* key (CTRL key next to the arrows key) and key *F*. You should see your screen in full now
- Step 4 In the middle of the screen, you should see the little white arrow (mouse). You need now to switch to the XO mouse: simply *LEFT CLICK* with the mouse. Your cursor should now be the big thick black arrow

## 30.4 Using the XO Emulator

- Frame Because your laptop keyboard doesn't have a Frame button (  ), if you want to see the frame, move your mouse to a corner of the screen, the frame will appear and you can click on any icons within the frame
- Record Because your laptop doesn't have all the features that XO laptops have such as the webcam, you won't be able to take pictures, record movies with the XO emulator

## 30.5 Stopping the XO Emulator

**VERY IMPORTANT: DO NOT shutdown the XO emulator as you would a normal XO laptop. Instead do the following so that the emulator state is preserved:**

- Step 1 Switch the display back into normal mode. Press *RIGHT CONTROL* key (CTRL key next to the arrows key) and key *F*. You should now see a menu on the top of the screen
- Step 2 From the *Machine* menu (top left on the screen), select the *Close* option
- Step 3 **VERY IMPORTANT:** Select *Save the machine* state and click *OK*

Once this has completed, you may close the host laptop as normal.

## 30.6 Acknowledgement

The idea of using an XO Emulator to assist the teacher in the classroom came from Jim Sligar of Rawa Community School in Punmu WA.



# 31 Glossary

## 31.1 XO laptop

XO is the little magic green machine as many people like to call it.

The **XO** is an inexpensive subnotebook computer designed for children in developing countries to have access to knowledge and opportunities to "explore, experiment and express themselves" (constructionist learning). The laptop is developed by the [One Laptop per Child](#) (OLPC) non-profit organization and manufactured by [Quanta Computer](#).

These rugged, low-power computers use flash memory instead of a hard drive, and come with a distribution of [Linux](#) derived from RedHat's Fedora as their pre-installed operating system, which comes stored in both a copy on the flash memory and in the on-board [ROM](#) backup. Mobile ad-hoc networking via [802.11s WiFi mesh networking protocol](#) is used to allow many machines to share Internet access as long as at least one can see and connect to a router or other access point.

More information could be found at [http://en.wikipedia.org/wiki/XO\\_\(laptop\)](http://en.wikipedia.org/wiki/XO_(laptop))

## 31.2 Moodle

Moodle is an Open Source Course Management System (CMS), also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE). The focus of the Moodle is on giving educators the best tools to manage and promote learning to their students. Moodle is accessible by the teachers and the students.



Moodle is the software you will use to create courses and lessons to be used by the students.

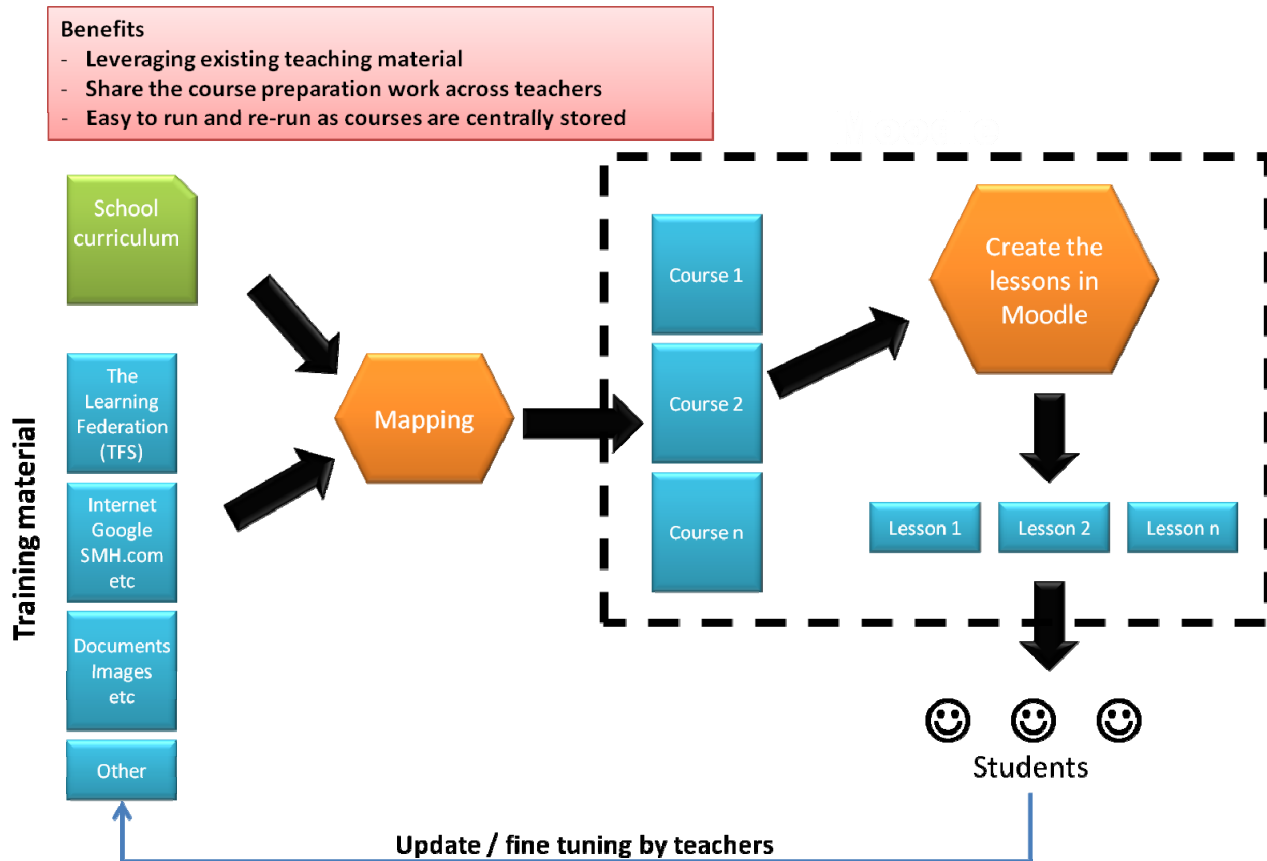
While the XO laptop makes the LEARNING experience more fun to students, Moodle makes the TEACHING experience more fun and easier for teachers

Teachers can create courses and lessons with their related resources by editing and customising the learning management platform to suit the needs of the schools and their students. A course (e.g. Reading – Grade 1”) is a set of lessons. Each lesson is a collection of resources (a file to be accessed by the students, a XO laptop activity to perform, a Learning Federation learning object to run, etc).

Courses and lessons are created to support the school curriculum by offering a fun and exciting way for the students to learn. Once created, courses and lessons are stored permanently on the school server and can be used and shared by any teacher within the school.

Teachers are the only ones with the right to add, update and delete courses/lessons. Students are the consumers of the resources prepared by the teachers.

## Using XO laptop as an education tool supporting the school curriculum



The word *Moodle* was originally an acronym for *Modular Object-Oriented Dynamic Learning Environment*, which is mostly meaningful to programmers and education theorists. It's also a verb that describes the process of lazily meandering through something, doing things as they occur to you to do them, an enjoyable tinkering that often leads to insight and creativity. As such it applies both to the way Moodle was developed, and to the way a student or teacher might approach studying or teaching an online course.

### 31.3 The Learning Federation

The Le@rning Federation develops digital curriculum content for all Australian and New Zealand schools. The project is a collaborative initiative of all Australian and New Zealand governments. Since 2001 our high-quality, innovative content has seeded and supported schools' moves into 21st-century education, and has begun the digital education revolution.



Basically, The Learning Federation contains a series of learning objects for various grades and topics (English, math, science, etc).

The content is free for all Australian and New Zealand schools. All copyright fees are paid upfront, so schools are not liable for further copyright payments to collection agencies such as Copyright Agency Limited.

The content is developed specifically to support students' learning of key concepts and skills detailed in all Australian and New Zealand curriculum documents. Teachers, students, jurisdiction officers, cultural and public organisations, and multimedia developers have all played parts in our work.

For more information about The Learning Federation, read <http://www.thelearningfederation.edu.au/>

# 32 Troubleshooting Connectivity

You can look at [http://wiki.laptop.org/go/Support\\_FAQ](http://wiki.laptop.org/go/Support_FAQ) for many technical troubleshooting tips, but you should read through all the information on this page to troubleshoot the wireless connectivity yourself.

## 32.1 Understanding Wireless Router Configuration

Connect your router to any computer, and then use a web browser to view the router's configuration page and change the router's settings.

Here are some common router manufacturer's administrative addresses, usernames, and passwords used for configuring router information. To find a more complete list, you may try visiting another computer that has an internet connection (for example, the local library) and searching the Internet for **router default logins**.

Router	Address	Username	Password
3Com	http://192.168.1.1	admin	admin
D-Link	http://192.168.0.1	admin	
Linksys	http://192.168.1.1	admin	admin
Broadband	http://192.168.2.1	admin	admin
Netgear	http://192.168.0.1	admin	password

If you are unable to connect a computer to your router to do this, call your Internet Service Provider and ask them for assistance. They should be able to access your router remotely, get the needed information for you, and even make any needed changes.

Your wireless router settings may contain Wired Equivalent Privacy (WEP) or Wi-Fi Protected Access (WPA) for security protection. Find out which type of security it uses and the passphrase either by asking your ISP or by using the router's configuration pages.

Based on the type of security system being used (WPA or WEP), the Wireless Key type varies. For WPA, you use a Passphrase key (for example, "password", "tHisisAp4ssword"). For WEP, use either a Hex key (for example, "4f4c504321", usually all keys that consist of only of 0-9 and a-f) or its corresponding ASCII key ("OLPC!"). 40-bit Hex keys are 10 letters/numbers long, corresponding to 5 letter/number ASCII keys.

### WEP Password Types (40-bit)

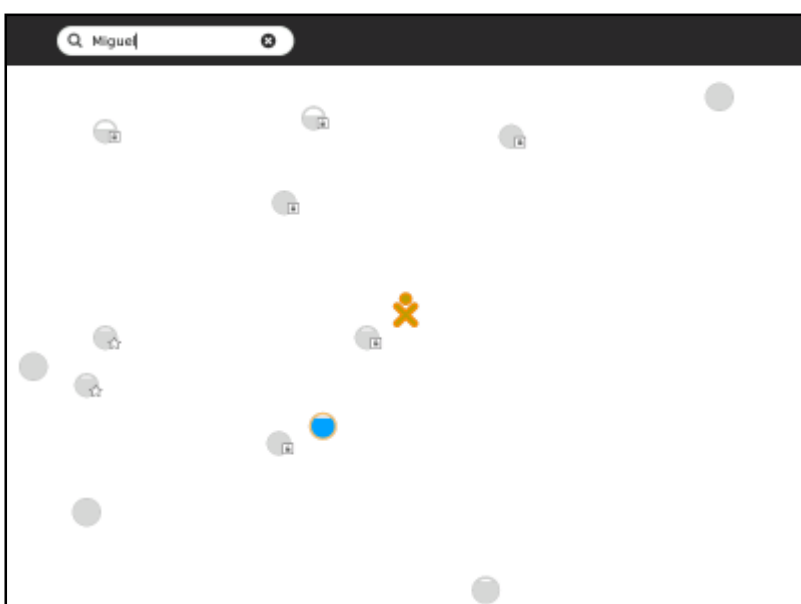
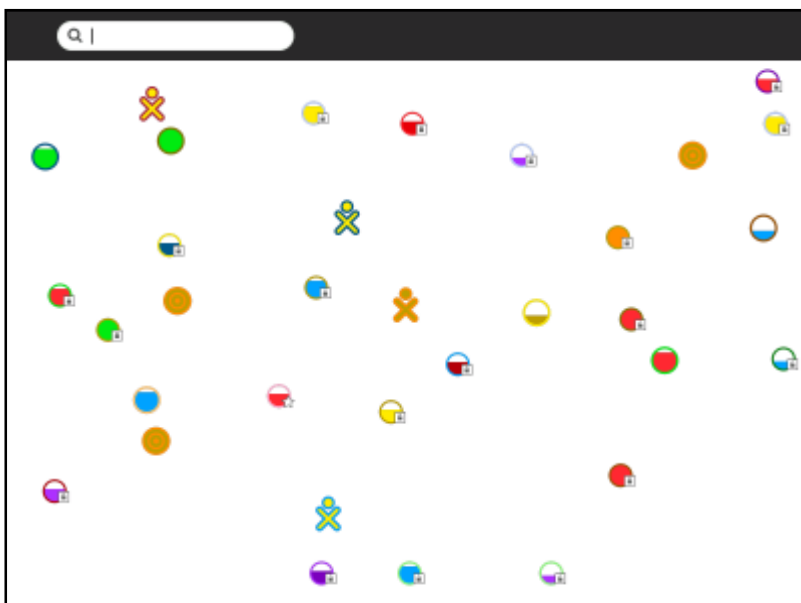
ASCII: O | L | P | C | !  
 Hex: 4f | 4c | 50 | 43 | 21

## 32.2 Common Connectivity Problems & Solutions

Inability to connect with an Access Point from the Neighbourhood View is the most commonly reported symptom. The symptom is usually a flashing circle icon where the access point circle icon never appears in the Frame or the circle's menu never contains "Connected." This flashing animation indicates the XO is trying to connect, but the lack of connection indicators tells you that it fails to connect. If this happens, try the troubleshooting suggestions just below.

### 32.2.1 Is the WiFi hotspot dot visible in the Neighbourhood View?

Go to the Neighbourhood View and type the name of your SSID in the Search box to highlight your access point. Each circle network icon represents a Service Set Identifier (SSID). On one of the icons in the Neighbourhood View, you should see your Wi-Fi hotspot's network name.



If you cannot see the network name there may be a few reasons for this, so continue troubleshooting.

### Is the name of the network a hidden SSID?

If your SSID/Network Name is set to be Hidden in the router configuration, it is not possible for the XO to connect to your wireless network through the Sugar User Interface.

You may connect manually by typing commands in the Terminal Activity. To do so, launch the Terminal Activity and type these commands:

```
su -l
/sbin/iwconfig eth0 mode managed essid myhiddennetwork
/sbin/dhclient eth0
```

As an explanation, the **su** command creates a root process. The **iwconfig** command connects to your hidden network (of course, substitute the name of your access point for the string *myhiddennetwork* in the above example). Finally, **dhclient** asks for an IP address from the access point.

### Is your Wi-Fi router filtering connections based on a MAC Address?

You can prevent other computers from using your wireless router by configuring it to filter by MAC Address. A MAC Address is a unique address embedded in your computer's network adapter. While MAC address filtering is not a secure method of protecting a network, some routers use it, and it could prevent your XO from using that access point.

To fix a filtering problem, you can find the MAC Address and add it to the list of allowed computers that can connect with the wireless router.

To do so, launch the Terminal Activity and type these commands:

```
/sbin/ifconfig -a eth0
```

The MAC address is in the first line next to the HWAddr tag: and is in the form of "00:17:C4:XX:XX:XX"

In the WiFi router configuration for filtering, add the MAC Address you found with the **ifconfig** command.

### Is your WiFi router configured to support 802.11b or 802.11g or both?

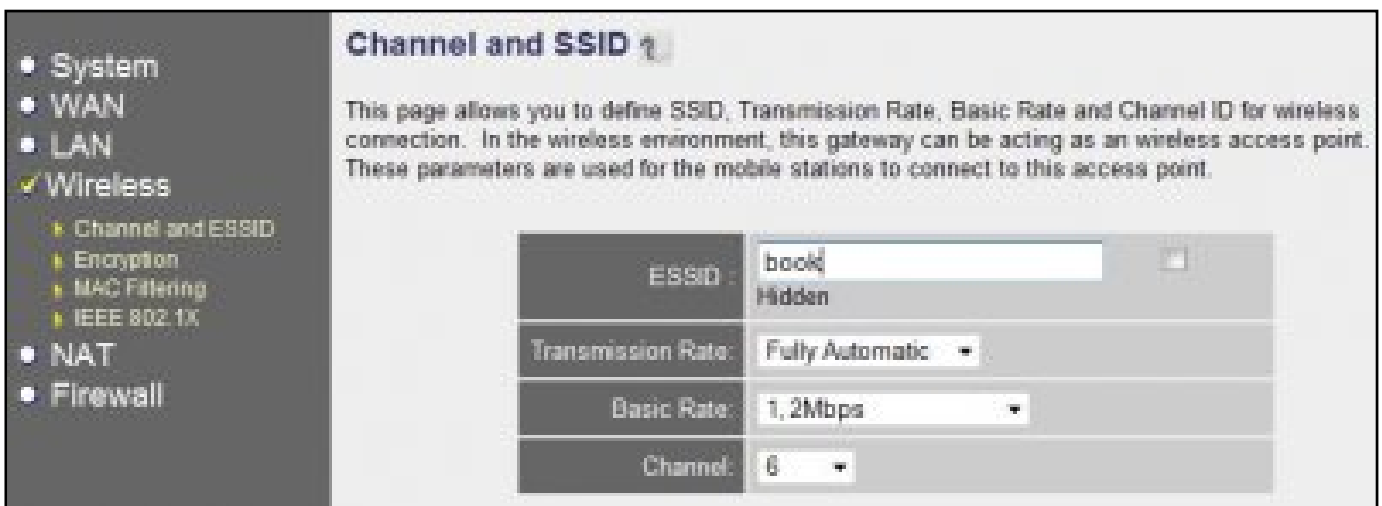
Read the documentation for your wireless router to determine how to configure it for 802.11g support, or to determine if it is using the 802.11g protocol. In this example, the Mode drop-down list is where you would look for protocol settings. It may not work to have both **g** and **b** modes as shown, so try different configurations to see if another configuration works.



### Are the access point settings not in channels 1, 6, or 11?

Is your access point working on another channel that is not in 1, 6, or 11? For some older builds, the XO expects to find access points in one of these three channels, the three non-interfering channels available to 802.11g wireless protocol.

Try changing your access point to one of the three channels and check if you can associate your XO to it. Refer to your access point's documentation for information on changing the frequency channel that your access point broadcasts on. This image shows an example of the settings for a wireless router. The Channel field is where you change the frequency setting.



### Why can't the XO Browse when connected?

Symptom: Your XO shows that your Internet connection is working, but you cannot browse or search any pages.

Most likely, the XO has failed to receive DNS information from your internet access point. If this is the case, you would be able to access the Internet for sites named directly with IP addresses but not their common names. In other words, <http://209.85.133.18> would work but <http://www.google.com> would not.

Verify what the XO has received (from the Internet access point) for DNS information by using the Browse Activity and looking at this URL:

```
file://localhost/etc/resolv.conf
```

This page should show the IP address of the DNS server assigned by the Internet access point. If there isn't an IP address on this page, or if the IP address assigned is wrong, this would account for the behaviour you're seeing.

If there is no IP address, or the address is wrong, you'll need to determine why the Internet access point is failing to supply one, but this is likely to be misconfiguration of the access point.

## 32.3 Connecting to the Internet Without Wireless Access

If you cannot successfully or consistently connect to the Internet using Wi-Fi, you can use a USB-to-Ethernet connector to hook up to a wired connection rather than wireless. Examples of products that have worked for other users include the Linksys USB100M and the Zoltan Tech USB2.0 Fast Ethernet adapter, which cost about USD \$10-\$25.

If you want to connect to your XO wirelessly with a dial-up connection, you can do it with an older version of Apple's Airport Extreme (A1034). Apple no longer sells them, but they are available on the Internet for between \$18 and \$36. Be sure the one you get has a port for the phone line, and preferably, with a phone cord included. Directions for connecting with it are on the Wiki at [http://wiki.laptop.org/go/Wifi\\_Connectivity#Apple\\_Airport](http://wiki.laptop.org/go/Wifi_Connectivity#Apple_Airport).

## 32.4 Connecting While Travelling

Your XO makes a wonderful travelling companion. You can connect to a wide variety of public WiFi sites often found in community centres and libraries, even in restaurants and hotels. All you will need to do is to obtain a correct password and log on according to the instructions above. Many places will not require a password to connect and the process will be even easier. Remember, however, that passwords provide an extra layer of internet security. Without them, you run a slightly higher risk of experiencing some type of Internet fraud.



## 32.5 XO laptop proxy server details




In order to access Moodle, The Learning Federation and internet from the XO laptop, you need to configure your XO laptop to connect to the school network:

- Step 1 Open the browser activity 
- Step 2 Click on Browse
- Step 3 Type *about:config* in the address bar
- Step 4 In filter field type *proxy*
- Step 5 Double click on *Network.proxy.http*
- Step 6 Type your proxy address (e.g *shephceec1* or *10.110.14.101*) and click *OK*
- Step 7 Double click on *Network.proxy.http\_port*
- Step 8 Type *8080* and click *OK*
- Step 9 Double click on *Network.proxy.no\_proxy\_on*
- Step 10 Type *localhost, 127.0.0.1, moodle address (e.g. 10.110.14.101)* and click *OK*
- Step 11 Double click on *Network.proxy.type*
- Step 12 Type *1* and click *OK*



## 32.6 “Address Not Found” error message in the browser activity (Problem to access internet)

With your XO laptop you can browse the internet. If you receive an error message “Address Not Found” when you are trying the browse internet, check the following:

You need to be connected to the school network


- Step 1 Display the Frame by clicking  on your keyboard (upper right)
- Step 2 You should see the network icon  (the colour may differ. This means that you laptop is connected to a network. To find out the name of the network and the channel, mouse over the icon. The name of the network must be *Ellemor* while the channel could be various numbers which may differ on the different laptop.
- Step 3 If you don't see this icon, if the network name is not *Ellemor*, or if the icon has a different shape, then you are NOT connected to the right network. Follow step 4
- Step 4 Go to the *neighbourhood* view: click on 
- Step 5 Click on the icon named *Ellemor* and click on *Connect*
- Step 6 Wait to see *Connected*. You are now connected to the school network

If the previous troubleshooting doesn't fix the problem, then you need to verify your network username and password

- Step 1 Go to the Home  view
- Step 2 Click on the browser  activity
- Step 3 Type the URL of the site you would like to go (e.g. [www.google.com.au](http://www.google.com.au))
- Step 4 If you receive the message “The proxy shephcec1:8080 is requesting ...”, then follow the instructions on the *I have to supply a Username and password* section.

Another check you may want to do is to ensure the “proxy server” details are properly configured. Read details in section XO laptop proxy server details of this guide.

Finally, if you still have the issue, restart your computer


- Step 1 Click  on
- Step 2 Right click on your own icon (XO) and select *Restart*

## 32.7 Laptop not starting and/or Laptop starting but shuts down by itself



- The battery may be flat. Recharge the battery by plugging the laptop to the power supply. An orange led should light up during the charging process.
- At the back of the laptop, ensure the battery is properly inserted in the battery bay.
- The battery may be not properly registered with the laptop. Remove the battery from the laptop battery bay, wait one minute and reinsert the battery. Start the laptop.

## 32.8 There is no sound from the XO laptop

If you are using an activity which generate sounds (e.g. speak) and you can't hear anything, this may be because there is another application running in the background which use also the audio Codec. You can have only ONE application opened with sound features.


- Step 1 First, check if the volume of the laptop is down. Click  on to increase the volume

If the problem is still present, try the following:

- Step 1 Show the frame on the XO laptop: press the  key (top right) to display all the other running applications.
- Step 2 Locate the other applications which are using the sound capability (you may have opened the same activity twice)
- Step 3 Close all the activities using the sound feature including the one you want to use
  - a. for each activity, click on the Activity menu (left top) and then click on the Stop button 
- Step 4 From the activity wheel, restart the activity you would like to use

## 32.9 Laptop is slow or hangs

If your laptop is slow when you are running an activity, you may have too many activities running on the XO laptop:

- Step 1 Show the frame on the XO laptop: press the  key (top right) to display all the other running applications.
- Step 2 Close all the activities
- Step 3 Restart the activity you would like to use

If you are starting your XO laptop, it may take some time before you can see the home page (1 or 2 minutes). This is normal, please be patient !

If you are starting your XO laptop and it takes more than a couple of minutes, remove the battery, wait 30 seconds, reinsert the battery and try again. If it is still not booting, ask your school IT manager to reinitialise your laptop by “reflashing” the operating system.

## 32.10 Accessing a file from a USB key

You can access a file from a UBS key to open it in internet explorer

- Step 1 Insert your USB key into one of the USB slots (on the sides of the screen)
- Step 2 Start the Browser
- Step 3 In the address bar, type <file:///media> and Enter
- Step 4 You should now see the icon of a folder with the name of your USB key. Double click in the folder icon to view the content of the USB key

## 32.11 Why the battery indicator changes colour

The colour of the battery icon indicates the status of the battery

- Red means the battery is flat and your computer may stop at anytime. Plug your computer into a power supply to recharge it
- Orange/Yellow indicates the battery of the XO laptop is not fully charged
- Green indicates your XO laptop battery is fully charged

## 32.12 Why the home view (activities) is different on some students' laptops

When the student starts their laptop, you may see different screens (called Home view) showing the list of activities:

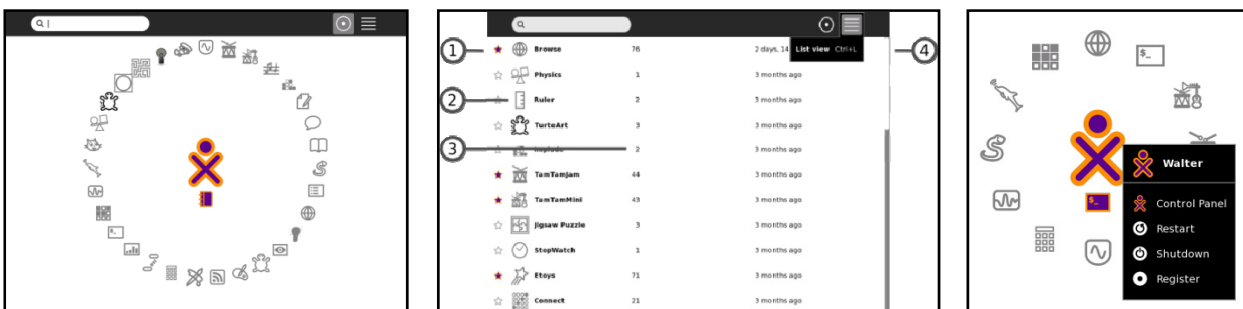
- A large ring of activities with small activities icons
- A tabular list of activities
- A small ring with large activities icons

The screen displays the list of available activities based on the students' preferences. Basically, there are three major views:

- Your favourite Activities in a ring (Ring mode)
- Your installed Activities in a list (List view)
- Your favourite Activities arranged freeform (Freeform mode)

The activity list shows ALL the activities while the ring view shows only the favourite activities. So if you have a small number of favourite, then the ring will be smaller with bigger size icons.

If you have many favourites, then you will see a bigger ring with small icons.



### How to add / remove favourites to the ring?



Click on the list view icon to select the list view. For each activity you would like to display on the ring, click on the Star image in front of the activity name.

## 32.13 How to set up the student name to a new laptop

If you have a new student, you need to register his name in the computer, so his name could be displayed on the home page.

If you are using a new laptop never used, follow the steps described in the XO Laptop hardware – user guide, section 3.1 – Starting for the First Time

If you are recycling an existing laptop which was used previously, you can change the user name and the icon colour by following these steps:



- Step 1 Go to the *home view* by pressing
- Step 2 Click on the XO icon at the centre of the page
- Step 3 Click on *Control Panel*
- Step 4 Double click on *About me*
- Step 5 Change the existing name to the student name
- Step 6 Click on the XO image to pick the colour you like
- Step 7 Click on *Done*
- Step 8 Click on *Restart* the laptop

# 33 Repairs

Your XO is built and designed for repair work to be completed with only your hands and a screwdriver, and the case includes extra screws in case you need them.

For photos and step-by-step instructions on repairing your XO or putting replacement parts in, go to <http://wiki.laptop.org/go/Repair>.

Refer to [http://wiki.laptop.org/go/Repair\\_center\\_locations](http://wiki.laptop.org/go/Repair_center_locations) to get to the most recent directory of repair centres, if you do not want to repair your XO yourself.

## 33.1 Recalibrating the Touchpad (Jumpy Cursor)

The XO touchpad does not offer a click mechanism like some touchpads. You must click the long button marked with an X to select something on the screen. Sometimes the touchpad seems to behave erratically or makes the cursor jump on the screen.

Step 1 If the pointer is not following your finger on the touchpad, or if it jumps to the corners when you touch the touchpad, please try this recalibration procedure:

Step 2 Hold down the three keys at one time: the upper left, upper right, and lower right of the keyboard and the fourth key, **fn**, the lower leftmost key, as the last one pressed, and then release them all.



Step 3 If this doesn't help, try shutting down the laptop and removing the battery for ten seconds before restarting.

Step 4 Finally, plug a standard USB mouse into your laptop to bypass the problem.

## 33.2 Checking for Keys that Stay Down or Appear Stuck

Your XO must have a developer's key to do this keyboard test. Refer to [http://wiki.laptop.org/go/Developer\\_key](http://wiki.laptop.org/go/Developer_key) for more information about developer's keys.

Step 1 With the XO off, hold down the "check mark" game button (above the power button) while pushing the power button. After start up, the screen displays "Release the game keys to continue" and shows a text diagram of which key is pressed.

Step 2 Release the "check mark" game button.

- Step 3 Next, after you see "Type the Esc key to interrupt automatic startup," press the **escape** key in the upper left hand corner of the keyboard layout (a circle with an x). The XO displays an ok prompt.
- Step 4 At the ok prompt, type: test keyboard and press **enter**. A blue keyboard map displays on the screen.
- Step 5 Press keys one at a time to see the keyboard map turn the key light blue. If the display on screen shows a light blue key constantly, the keyboard has a problem with that particular key sticking. Refer to a repair centre for full diagnosis and repair at [http://wiki.laptop.org/go/Repair\\_center\\_locations](http://wiki.laptop.org/go/Repair_center_locations).
- Step 6 Press the **escape** key (circle with an x) again to exit the keyboard test.
- Step 7 At the ok prompt, type reboot to restart.

## 33.3 Repairing Damage to the Keyboard

If your keyboard becomes damaged, normally it has to be replaced. Replacements are available through the repair centres. Information on spare parts and repair centres can be found at [http://wiki.laptop.org/go/Repair\\_center\\_locations](http://wiki.laptop.org/go/Repair_center_locations).

## 33.4 Restoring the Software to Factory Defaults

If you want to completely wipe clean the XO, you can try upgrading the activated laptop to re-flash its entire "disk image" including both its operating system and its Activities. Refer to Resetting your XO for detailed instructions. Please be aware that ALL DATA WILL BE LOST.

## 33.5 Troubleshooting the Internal XO Hardware

The XO can give you information about possible repairs that are needed.

Start by pressing the power button for a second, and then answer the following questions.

### 33.5.1 Does the Power LED half-circle light up?

When the power button is pressed once, and the power LED doesn't turn on, first try resetting it.

To reset the XO, remove all power sources from the laptop:

1. Take the battery out and remove the power adapter.
2. Wait two minutes. This allows embedded hardware to lose all power and reset itself.
3. Replace at least one source of power, either the battery or power adapter, and watch the power/battery LED while you do so.

The battery LED should flash orange momentarily (about a quarter of a second) when power is first reapplied. If you do not see this flash, you either have a motherboard hardware problem or faulty EC firmware installed. Contact a repair centre for assistance.

If the power LED doesn't turn on or flash, but the laptop proceeds to illuminate the backlight and even start, the problem may be either the LEDs themselves or the power LED driver. The LEDs are in series, so if one fails they may both fail to light.

On rare occasions, the power button becomes stuck mechanically. In this case, the laptop does not detect the depression of the power button, and does not turn on. Ensure that the power button is moving freely by pressing it a few times.

If the battery LED flashed on restoration of power and the power button isn't stuck, and no other signs of life are detected, then you can't determine the reason for failure. Contact a repair centre for assistance.

## 33.6 Does the Display Light Up?

After starting the XO and viewing the power LED, the next visible feedback from the XO is that the display lights up. The LCD display should be initialised with white, then begin to show text or graphics. The backlight for the screen should be turned on, even if the backlight was previously turned off.

If this does not happen then the boot sequence may not be operating correctly. Next, look at the Microphone activity LED to see if it is lit. If the power LED and the microphone LED are both lit then a serious boot error has occurred and you should contact a repair centre for assistance.

### 33.6.1 Can you hear the startup sound when the XO starts?

If the startup sound does not play, this usually indicates a problem that a repair centre needs to fix.

#### Yes, the startup sound plays

If the display doesn't initialise, but the boot sound plays, then this is probably a problem with the display.

#### No, the XO boots normally, but no boot sound plays

If no boot sound is played, but the machine boots normally and has audio, it is possible that the default boot volume has been changed to 0. While the boot sound is playing, you can adjust the volume using the *volume adjust* keys. This modified volume setting is saved and used for future boots. Try increasing the volume right after starting the laptop a few times, and see if the boot sound returns.

If no boot sound is played, and the machine boots normally but has no audio see [http://wiki.laptop.org/go/XO\\_Troubleshooting\\_AV](http://wiki.laptop.org/go/XO_Troubleshooting_AV).



## 33.7 Does the Display Remains Blank After Starting Up?

Sometimes the display is active (including backlight), but no text or graphics appear. This problem can be caused by removing the power to an XO while it is upgrading the firmware. You should contact a repair centre for assistance.

## 33.8 Does the Display Say "Connect Power to Proceed"?

Sometimes a firmware update requires two sources of power, both a battery and a power adapter. If this is the problem, provide both sources of power and reboot. The XO should proceed with a firmware update and boot normally.

## 33.9 Is the Display Showing an XO Icon Only?

This means that the XO has started the startup process.

You can see much more information about your Open Firmware by holding the "check mark" game button (above the power button) after powering on. That makes Open Firmware display more detailed messages about what it is doing during the secure boot process (including early boot messages from the Linux kernel). The messages are in English only.

### 33.9.1 Is it showing an XO icon with a serial number and three icons below it?

If the laptop powers up, but stops when displaying the XO icon in the middle of the screen, followed by a serial number (e.g. CSN74902B22) and three icons (SD disk, USB disk, Network signal strength), it is looking for its activation lease. This should eventually print "Activation lease not found" at the top of the screen and power-off soon thereafter.

The solution is to re-activate the laptop. Obtain a copy of the lease (or a new lease) from your country activation manager, place it (named "lease.sig") in the top-level directory of a USB key and boot the laptop. See the "what to do with activation keys" section within: [http://wiki.laptop.org/go/Activation\\_and\\_Developer\\_Keys](http://wiki.laptop.org/go/Activation_and_Developer_Keys).

### 33.9.2 Is it showing an XO icon with a "sad face" above it?

This means that Open Firmware couldn't find a signed operating system on the internal flash memory. Firmware bootup also looks on USB memory sticks and SD cards for signed operating system software.

Try upgrading or re-installing the software: [http://wiki.laptop.org/go/Secure\\_Upgrade](http://wiki.laptop.org/go/Secure_Upgrade).

### 33.9.3 XO icon with a single dot below it?

If the XO powers up, but stops when just displaying the XO icon in the middle, with a single dot below it, it means that something was wrong when the Linux operating system started. When this happens, try upgrading or reinstalling the XO.

If this has happened to the same XO more than one time, consider a repair centre for full diagnosis and repair at [http://wiki.laptop.org/go/Repair\\_center\\_locations](http://wiki.laptop.org/go/Repair_center_locations).

## 34 Getting Support

An entire community built this XO and everything on it, and we want to help you with it. OLPC has proven that volunteer-driven support works, often with far more heartfelt caring than any corporate help desk!

If you have any questions about the XO, ask a teacher for help, a friend, or search on the Internet. If you have a question about your XO, there is a very good chance it is already answered within our expanding Support FAQ / RTFM knowledge base:

- [http://wiki.laptop.org/go/Support\\_FAQ](http://wiki.laptop.org/go/Support_FAQ)
- Then look into the <http://support.laptop.org> web site's extensive helpful guidance for exploring and fixing your XO, allowing you to solve challenging issues right alongside others. Specifically, check out:
- Getting Started <http://laptop.org/start>
- Email Lists <http://lists.laptop.org>
- Live Chat <http://forum.laptop.org/chat> or <http://wiki.laptop.org/go/IRC>
- OLPC Community Wiki <http://wiki.laptop.org>

If you are still unable to find an answer online, please email [help@laptop.org](mailto:help@laptop.org).

Finally, if you are satisfied with the hard work volunteers have brought you here, please consider giving back, by joining our dedicated community: [http://wiki.laptop.org/go/Support\\_Gang](http://wiki.laptop.org/go/Support_Gang)

# 35 Keyboard Shortcuts

You can use key presses instead of moving the pointer for some actions on the XO. This list shows the keys that you press at the same time to get the described results. Note: not all shortcuts will work in all Activities.



Key combination	Description
<b>ctrl + c</b> ( <b>shift + ctrl + c</b> in Terminal)	Copy the selection
<b>ctrl + v</b> ( <b>shift + ctrl + v</b> in Terminal)	Paste the selection
<b>ctrl + x</b> ( <b>shift + ctrl + x</b> in Terminal)	Cut the selection
<b>ctrl + u</b> while using the Browse Activity	Launch the Write Activity and view the source code for the current web page
<b>alt + esc</b>	Quit an Activity
<b>alt + tab</b>	Cycle forward through running Activities
<b>shift + alt + tab</b>	Cycle backward through running Activities
<b>alt + enter</b>	Toggle full-screen mode
<b>alt + spacebar</b>	Toggle tray visibility. This command may not work in all applications.
<b>alt + 1</b>	Save a snapshot of the current screen into the Journal
<b>ctrl + alt + erase</b>	Restart Sugar, the graphical interface for the XO
<b>fn + 1</b>	Neighbourhood View
<b>fn + 2</b>	Group View
<b>fn + 3</b>	Home View
<b>fn + 4</b>	Activity View
<b>shift + alt + r</b>	Rotate the display
<b>esc + Frame icon key + RightArrow + fn</b> (the four corners keys on the keyboard)	Reset the touchpad if the pointer behaves strangely when you use the touchpad
<b>fn + spacebar</b>	View source code system wide. This command may not work in all applications.

<b>fn + up arrow</b>	Page Up
<b>fn + down arrow</b>	Page Down
<b>fn + left arrow</b>	Home
<b>fn + right arrow</b>	End
<b>ctrl + brightness down</b>	Backlight off – black&white mode
<b>ctrl + brightness up</b>	Full brightness – colour mode
<b>ctrl + volume down</b>	Mute
<b>ctrl + volume up</b>	Full volume