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Accessibility
This document is assistive technology agnostic and will briefly describe the different areas of the interface, point out how they are implemented for accessibility, and go into more depth where extra assistance may be needed.

If you need specific help with your assistive technology, please contact the Office of Disability and Access Services.

Desktop Versus Mobile View
Sakai has a responsive design to adapt to different screen sizes, so certain elements only display when an internet browser window is larger than 770 pixels in width. In the descriptions below, Desktop View will be used to refer to the display when an internet browser window is larger than 770 pixels in width. Mobile View will refer to the display on smaller windows.

Organization in Sakai

Always present in Sakai are the following:

1) Quick access Skip to...links
2) One of the following two items, depending on whether or not you are logged into Sakai:
   a) Before logging in: Login links
   b) After logging in: the My Sites menu and your profile picture and name
      (a menu you access to LogOut)
3) List of favorite sites (on DesktopView)
   a) Tool Menu for the current site
   b) Expand/Collapse Tool Navigation button (for sighted users, on Desktop View)
   c) Content area
   d) Footer
Sites
When logged in on Desktop View, your profile picture (which displays a silhouette of a student with a graduation cap by default) and name follow the Sites menu.

On Mobile View, your profile picture and name are at the top of the screen.

Selecting either your profile picture or name opens a menu with the following options:

1. Your profile picture and a Profile link that you can select to edit your picture or profile.
2. A MyConnections link that will take you where you can search for, add, and manage your connections.
3. A Calendar link that will take you to your aggregated calendar for all enrolled sites.
4. A Preferences link that will take you to a page where you can edit your Sakai notifications, time zone, language, and active sites.
5. A Tutorial link to start the Sakai introductory tutorial (this tutorial also appears the first time you log into Sakai).
6. A Log Out link to log you out and take you to back to the Gateway page of Sakai.

Favorite Sites List (Desktop View)
Location: On Desktop View only, the favorite sites list appears after your name.

1. Landmark: navigation (“Sites list begins here”)
2. Heading: Level 1 (“Sites list begins here”)

This list contains the links to sites you most commonly use. You can select which sites appear in the list by selecting them as Favorites from the Sites menu. Each favorite site’s tab will either take you to the site, or if you Tab into the menu and press the Down arrow key, supply you with a submenu of that site’s tools so that you can go straight to that tool on the selected site.
Using the **Up** and **Down** arrow keys, you can navigate the submenu to the site specific tool links. These links can be activated using the **Enter** key. If you have a large number of favorite sites, only the first ten sites will display in this list.

**Tool Menu for the Current Site**

**Location:** On Desktop View, the Tool Menu appears to the left of the screen. On Mobile View, it can be accessed by selecting **Tools** near the top of the screen.

1. **Landmark:** navigation (“Tools list begins here”)
2. **Heading:** Level 1 (“Tools list begins here”)
3. **Access key:** [L]

Pictured above is the Tool Menu of a **Home** site, in both Desktop View and Mobile View.

**Special Note:** The Help tool will always be present as the last item in the Tool Menu no matter what site you are on. This enables quick access to the Sakai help documentation.
Expand/Collapse Tool Navigation (Sighted Users Desktop View)

**Location**: On Desktop View only, at the bottom of the screen underneath the Tool Menu is a button to collapse or expand the menu. When collapsed, the Tool Menu displays with icons only, no text.

The **Expand/Collapse Tool Navigation** button display switches between << (to collapse the Tool Menu) and >> (to expand the Tool Menu), depending on the state of the menu.

**Content Area**

The content comes after the Tool Menu.

1. **Location**: On Desktop View, the content displays to the right of the Tool Menu. On Mobile View, the content appears underneath the **Tools** link.
2. **Landmark**: main
3. **Heading**: Level 1 “Content begins here”
4. **Access key**: [C]

At the top of the content area for most tools, you will find:

1. The **title of the tool** you are currently viewing. This is also a **Refresh Tool** link that returns you to the main page of the tool when clicked. Pictured above is an example of an **Assignments (Refresh Tool)** link.
2. The title will be followed by a Help button, which opens a new tab or window (depending on your internet browser preferences) with help documentation for the current tool.

Access Keys to Navigate the Content Area
Most content views use some or all of these Access keys:

- Delete, remove, or cancel – Access key: [X]
- Edit or revise - Access key: [E]
- Help - Access key: [0]
- Refresh - Access key: [U]
- Save - Access key: [S]
- View or preview - Access key: [V]

Special Note:

The exact keyboard commands to trigger an Access key depend on your computer operating system and Internet browser. Commonly used browsers tend to follow the following commands:

Most Windows browsers: Shift + Alt + [the Access key]
Most Mac browsers: Ctrl + Option + [the Access key]

Rich-Text Editor Accessibility
In most areas of Sakai where text can be entered, you can use the Rich-Text Editor to edit and format your text, and to add links, images, or media.

Enlarging Screen Elements, Modifying Colors/Contrast
You can use the browser’s zooming function to increase text size. Sakai will work well with up to 200% zoom.

If you need a higher level of magnification, or if you need to have the cursor/pointer augmented, you may be more comfortable using a third-party magnifier such as MAGIC (opens new window) or Zoom Text (opens new window).

To change color and contrast settings, use the operating system settings, browser settings, or your preferred browser plug-ins.
What does it Mean to Make Content Accessible?

Everybody experiences the world, including content they access on the internet, in their own way. How someone experiences content on the internet can be vastly different depending on the computer or device and size of the screen on which they view it, and how they interact with it.

For example, while some people read text and interpret images they view, others use assistive technology to listen to content using a screen reader. Meanwhile, some people click on links using a mouse or similar device, while others navigate using a keyboard or by tapping on touch screens.

Improving the accessibility of content is about reducing basic barriers to comprehension, such as providing alternative text for images, so that those who cannot see the images can grasp their meaning. Similarly, making captions or transcript text available for a video file can make it accessible to someone who cannot hear audio.

Types of Inaccessible Content

Certain types of content tend to be more inaccessible than others. Below is a list of the worst offenders that can cause barriers to comprehension, when they are not marked up for assistive technology to present them adequately or when they lack critical contextual information. Read on for more information on how to make each item in the list more accessible.

1. Images
2. Tables
3. Videos and audio files
4. Links
5. Lists of items
6. Background and text colors
7. Page structure that isn't clearly defined, such as important information which is conveyed only with reference to a location on a page (e.g. "Click the link at the top left corner of the page" as opposed to "Click the Reset link")
8. Line breaks (Shift + Enter/Return) instead of paragraph breaks (Enter/Return)

Some Guidelines for Making Content Accessible

Sakai uses a single consistent Rich-Text Editor across all areas where text can be added that is more than a few lines. This editor is based on the most recent stable version of the CK Editor.

When creating content using the Rich-Text Editor, it is important that the author follow the simple guidelines below to ensure that the content can be read and understood by all.
Creating well-structured and accessible content is a best practice which ensures that content is compatible with assistive devices, such as screen readers, and robust enough to be copied and pasted to other contexts or presented in unanticipated contexts. Making content accessible is also a legal requirement.

The technical measure of accessibility for a web-based resource is the WCAG 2.0 standard from the W3C. The requirements of the WCAG 2.0 are summarized in the four-letter acronym POUR:

- **Perceivable** - Information must be presentable to users in ways they can perceive.
- **Operable** - User interface components, navigation and structure must be operable.
- **Understandable** - Information and the operation of user interface must be understandable, and structural elements should be used in a meaningful way.
- **Robust** - Content must be robust enough so that it can be interpreted reliably by a wide variety of technologies, including assistive technologies.

These relatively simple considerations make a big difference if applied when content is created. The W3C provides more information in their Introduction to Understanding WCAG 2.0.

**Alternative Text**

How Can I Make Images More Accessible?
Users with some disabilities will be unable to see images and/or comprehend what they are meant to convey. Alternative Text can help give context and meaning to an image.

When to Add Alternative Text Descriptions for Images

- **Simple image with "simple meaning"** - add descriptive alternative text of 10 to 169 character as outlined below. The alternative text should describe the educational/informational purpose of the image.
- **Complex image with "rich meaning"** - add a paragraph above or below the image that goes into more detail. Some pointers, such as "Next image," or "Previous image," will help tie them together. If the image is referenced from elsewhere in the document, add a paragraph below it that can serve as a caption, and then refer to it. If the longer alternative text is not feasible, create a link to an external Web page that contains an appropriate description.
- **Decorative image** - if the image is purely decorative or used for visual formatting, the alternative text description should be left blank to hide it from users of assistive technology.
Examples of Text Alternatives for Images

- **Alternative Text:** “Scientist in a lab filling a vial with fluid”
- **Description in the text before or after the image:** “Next/Previous image shows a female forensic scientist, who is filling a vial containing a small amount of blood with fluid to denature the sample as part of the process of the PCR analysis method of DNA profiling. In the background is a centrifuge which will aid in the process of extracting the DNA from the sample of blood.”

Steps to Add Alternative Text to a Newly Embedded Image

1. If you do not already have an image embedded in the text box, click on the **Image** icon in the Rich-Text Editor's toolbar to insert an image. The **Image** icon displays a picture that looks like a landscape, with mountains and a sun.
2. In the **Image Properties** dialog window, enter short, meaningful descriptive text in the **Alternative Text** box.
3. Click **OK** to confirm the addition of the text.
Steps to Add Alternative Text to an Existing Image

1. Click on the image you have embedded in the text box to select it.
2. Click on the **Image** icon in the Rich-Text Editor's toolbar. The **Image** icon displays a picture that looks like a landscape, with mountains and a sun.
3. In the **Image Properties** dialog window, enter short, meaningful descriptive text in the **Alternative Text** box.
4. Click **OK** to confirm the addition of the text.

Accessible Tables

Users of screen readers cannot read tables the same way sighted users do. Sighted users can tell at a glance what column and row a given cell is associated with, but a screen reader user needs a properly coded table. To make tables usable, additional steps will need to be taken to make them accessible.
Simple Table Example
The image below displays a simple table: books read by 2 people. Only column headers are needed to identify who read which books.

<table>
<thead>
<tr>
<th>John</th>
<th>Tomiko</th>
</tr>
</thead>
<tbody>
<tr>
<td>Game of Thrones</td>
<td>Crime and Punishment</td>
</tr>
<tr>
<td>Ender's Game</td>
<td>Brothers Karamazov</td>
</tr>
<tr>
<td>Farewell to Arms</td>
<td>Sound and Fury</td>
</tr>
</tbody>
</table>

Complex Table Example
In the image below, there is a complex table: books read by 2 people each week. Both column and row headers are needed.

In the second example, a screen reader user will know that *The Sound and the Fury* was the book read by Tomiko on Week 3.

<table>
<thead>
<tr>
<th>Week 1</th>
<th>John</th>
<th>Tomiko</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Game of Thrones</td>
<td>Crime and Punishment</td>
</tr>
<tr>
<td></td>
<td>Ender's Game</td>
<td>Brothers Karamazov</td>
</tr>
<tr>
<td>Week 3</td>
<td>Farewell to Arms</td>
<td>Sound and Fury</td>
</tr>
</tbody>
</table>
Steps to Making Accessible Tables
When adding tables, add a row and/or column to be used as a heading for each as appropriate. The table creation menu contains Headers options that allow for selecting the first row, column or both.

Add a Summary of the table that will inform readers of the table's content. Good examples are: "Data from recent study," "Table of inputs and outputs," etc.

Tables should only be used for tabular data, not for layout.

Making Accessible Audio and Video Content
When you include video or audio content in your document, you must provide an alternative method for your audience to understand the content if they cannot hear the audio or see the images in the video. You can improve video and audio accessibility by providing transcripts and captions, and descriptions of video images.

Transcripts
Transcripts are required to provide basic accessibility. A transcript is a textual version of video or audio content that can be read either visually or by a screen reader, searched by a web browser or other software, and scanned by a reader for important information.

A transcript should contain the words spoken in a video or audio clip, and additional descriptions, explanations, or comments that may be beneficial. For example, a transcript of a video that shows children playing ball in a school gymnasium might describe the room and indicate when the teacher blows a whistle to get the students' attention.
If you do not have a transcript of your video or audio content readily available, you can create a transcript yourself. Note that if you did not create the video or audio yourself, you may encounter copyright issues in creating your own transcript. Please refer to your institution's Copyright Policy for more information. For some video and audio content, you may be able to find an existing transcript by searching in your institution's library catalog or online.

*Note: Minutes are not sufficient for a transcript of an audio or video of a meeting (unless done by a court reporter or someone who can capture every word).*

Video Captioning
Captions are like the text of a transcript synchronized with audiovisual content so that someone can get the audio information in text at the same time as the corresponding image displays in the video. Captions for audio files can also help non-native speakers to follow along and understand better.

Accessible Lists
If you think of a vertical series of items as a list, you should include it in your page as a numbered or bulleted list. Screen readers can identify lists; for example, a bulleted list containing two items may begin: "List of two items. Bullet 1."
Create a Numbered List

To create a *numbered list* in a document, click the **Insert/Remove Numbered List** button. This button has a picture of the numbers 1 and 2, each followed by lines that represent text. If you have already entered text in the editor from which you want to create a list, select the text, then click the button.

Create a Bulleted List

To create a *bulleted list* in a document, click the **Insert/Remove Bulleted List** button. This button has a picture of two bullets, each followed by lines that represent text. If you have already entered text in the editor from which you want to create a list, select the text, then click the button.

**Background and Color Choices**

Many users will have visual impediments that will require good contrast in the documents you are producing. The best way to help these users is to make sure that the contrast between background and foreground has a ratio of 4.5:1 or higher. Leaving the defaults of the editor intact is best - black text on white, with a ratio of 21:1.

**Contrast Example**

The image below contains examples of text with varying contrast ratios, and indicates whether the level of contrast would be adequate.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Contrast ratio</th>
<th>Passes?</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is example text. Some of it bolded. Some of it italicized.</td>
<td>19.56:1</td>
<td>Yes</td>
</tr>
<tr>
<td>This is example text. Some of it bolded. Some of it italicized.</td>
<td>7.7:1</td>
<td>Sort of</td>
</tr>
<tr>
<td>This is example text. Some of it bolded. Some of it italicized.</td>
<td>5.48:1</td>
<td>No</td>
</tr>
<tr>
<td>This is example text. Some of it bolded. Some of it italicized.</td>
<td>16.63:1</td>
<td>Yes</td>
</tr>
<tr>
<td>This is example text. Some of it bolded. Some of it italicized.</td>
<td>20.62:1</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Change Foreground and Background Colors

1. If you need to edit the text color, click on the **Text Color** button, which resembles a letter A with an underline: A.
2. To edit the background color of the text, which displays as if you had highlighted the text with a highlighter, click on the **Background Color** button to the right of the **Text Color** button. The **Background Color** button resembles a solid black box containing a white letter A.
3. Clicking on either of these buttons will display a Color Picker, from which you can select a color, such as **Black** or **Maroon**. **Yellow** is a **Background Color** commonly used to highlight text. Click on a color to select it.

Document Accessibility

Organizing your page with helpful titles and headings creates an outline that helps your audience access the most important information more quickly and easily.

Assistive technology users rely heavily on page titles and headings to navigate complex content. Structuring complex content will help all users parse it as well. Headings allow users to jump from one part of a document to another, without using a mouse. Screen readers will interpret headings for those who use them.

Note that for this reason, you should not use headings for typographical effects. If you need to increase or decrease the font size of large blocks of text, please use the **Normal Paragraph Format** and select a new **Font size** from the **Size** menu or use **Styles**.
Add Structure with Headings

If a document can be outlined or you have an outline in mind when writing it, then adding headings will convey its structure. Use short title-like headings that describe content which follows.

Nest headings appropriately:

- **Heading 1** > **Heading 2**
- If you have a section containing three sub-sections, it might look like this:
  - **Heading 2**, **Heading 3**, **Heading 3**, **Heading 3**
- In most cases, you should start with a **Heading 1**.

Steps to Add Document Headings

Headings are available from the **Paragraph Format** menu. By default, this menu will say **Normal**.

1. When you position your cursor in the text box, the name of this menu will change to match the **Paragraph Format** of your text. In a blank document, it will say **Normal**.

2. Click on the **Format** menu (**Normal**, in a blank document) to select a **Heading**.
Notes:

- The default size of the Headings can always be adjusted with the Size menu. The default size of some of the higher-level headings (the ones with small font sizes, e.g. Heading 5-Heading 6) may need adjustment.
- Conversely, do not use headings for typographical effects; users of assistive technologies can navigate through a document by jumping from heading to heading. If you need to increase or decrease the font size of large blocks of text, please use the Normal Paragraph Format and select a new font size from the Size menu.

Use Inline Styles

Using the right style to format a bit of text is very helpful as it "codes" it appropriately. The following types of formatting are all available in the Styles menu:

- **Italic Title** - Makes selected text an italicized Heading 2.
- **Subtitle** - Makes selected text an italicized Heading 3, colored pale gray.
- **Special Container** - Inserts a block of text (a <div> HTML element) which can be used to group together several items in a document and/or format them with background color or borders. As with paragraph breaks, using <div> containers to group items in meaningful ways can assist with navigation because keyboard users can skip from one group of elements to another.
- **Small** - Without setting a specific font size, this style makes selected text slightly smaller than the text that surrounds it.
- **Computer Code** - Indicates a block of text that has been identified as computer code; for example, a list of HTML tags to indicate how to code in HTML.
- **Keyboard Phrase** - Defines keyboard input.
• Sample Text
• Variable
• **Deleted Text** - This puts a strikethrough through selected text (a line through the middle of the text to cross it out).
• **Inserted Text** - This underlines text.
• **Cited Work** - Visually, text is *italicized*.
• "**Inline Quotation**"
• **Language: RTL** - Indicates that the language reads from right to left. Some examples of RTL languages include Hebrew and Arabic.
• **Language: LTR** - Indicates that the language reads from left to right. English is an example of an LTR language.

If you are curious to see what these do, add one and switch to **Source** view - Inline quotation will use `<q>`, which will signify the opening of an inline quotation, very helpful. **Cited Work** will create an element that presents itself as such. Conversely, avoid using these special formats to achieve a typographical effect. For example, **Cited Work** produces italic text, but it would be confusing to a screen reader if you used it just for that reason.

**Use Paragraph Breaks**
A paragraph break (hit Enter or Return on the keyboard) is always more meaningful than a line break (hit Shift + Enter or Return on the keyboard). A paragraph break inserts what looks like a double-space in between one line of text and another, and allows screen reader users to parse the information on the page more readily.

Although programs like Microsoft Word have options to create single-spaced documents with paragraph breaks, web pages do not. You may find using a line break more esthetically pleasing than a paragraph break, but line breaks can create problems for screen reader users.

While a screen reader can interpret a paragraph break as "blank," a line break may not be indicated to the user. The text on the new line may sound like a new sentence, instead of the start of a new paragraph.
Images with Examples of Paragraph and Line Breaks

1. The first image above depicts a poem, *Mary Had a Little Lamb*, where line breaks were used to separate each line.

2. In the second image, paragraph breaks separate the lines.

While the line breaks may "look better" for a visual reader, a screen reader user will hear the poem that is split up with line breaks as one contiguous sentence: "Mary had a little lamb, his fleece was white as snow, etc."