This document explains several types of Mac OS X assistance available for people with visual, dexterity, or hearing impairments.

For people with low vision .......................... 2

*Increase the visibility of the items on the computer screen.*

- Turn on the Zoom magnifier
- Change screen resolution
- Use high contrast colors

For people who are blind ............................ 3

*Make the computer read text out loud.*

- Turn on VoiceOver to convert text to spoken English
- Enable access for assistive devices

For people with dexterity problems .............. 4

*Make the computer keyboard or mouse easier to use.*

- Use Slow Keys so you can take your time as you type
- Use Key Repeat to change the wait time between keystrokes
- Use Mouse Keys to operate the mouse with the keyboard

For people with hearing difficulties ................ 5

*Have the computer show sounds visually.*

- Flash the screen when an alert sound occurs

For people with low vision

Increase the visibility of the items on the computer screen.

- Turn on Zoom magnification
- Change screen resolution
- Use high contrast colors

Turn on Zoom magnification

1. On the Apple menu or the Dock:
   - Select System Preferences

2. In the System category:
   - Click Accessibility.
   - Click Zoom.
   - Select the On button under Zoom.
   - Select the settings you want from the list.

   **Recommended settings:**
   - Use keyboard shortcuts to zoom
   - Smooth images

   **Note:**
   Use these keyboard combinations to zoom:
   - Command-Option-equal (=) makes the screen image appear larger (zooms in).
   - Command-Option-hyphen (-) makes the screen image appear smaller (zooms out).

3. To close the Accessibility window:
   - Click the Close button in the upper left corner of the window.

Change screen resolution

1. On the Apple menu or the Dock:
   - Select System Preferences

2. In the Hardware category:
   - Click Resolution: Scaled.
   - Select a resolution from the list.

   **Recommended settings:**
   - 1024 x 768 (minimum)
   - 1280 x 960

Use High Contrast colors

1. On the Apple menu or the Dock:
   - Select System Preferences

2. In the System category:
   - Click Accessibility.
   - Click Display.
   - Select Use grayscale
   - Drag the Enhanced Contrast slider to the right to increase the contrast.

   **Recommended setting:**
   - Set the slider to the middle

3. To close Accessibility window:
   - Click the Close button in the upper left corner of the window.
Mac OS X
For people who are blind

Make the computer read text out loud.

- Turn on VoiceOver to convert text to spoken English
- Enable access for assistive devices

Turn on VoiceOver
1. On the Apple menu or the Dock:
   - Select System Preferences
2. In the System category:
   - Click Accessibility.
   - Click VoiceOver.
   - Select Enable VoiceOver.

   Note: With VoiceOver turned on, you use the VoiceOver cursor to move around the screen and hear descriptions of the items it lands on.

   Recommended settings:
   - Click Open VoiceOver Utility and make selections to fit your working style.

   Try the following setting:
   - Select Verbosity, then select the Announcements tab.
   - At the bottom of the page, select the checkbox for Speak text under mouse after delay, and then move the slider to a longer delay.
   - To close the VoiceOver Utility Window, click the Close button in the upper left corner of the window.

Enable access for assistive devices
1. On the Apple menu or the Dock:
   - Select System Preferences
2. In the System category:
   - Click Accessibility.
   - Select the checkbox at the bottom of the window for Enable access for assistive devices.
   - In the Authenticate window, type in an administrator’s name and password.

   Contact your computer administrator for help with this task.

   Note: You can now attach special equipment to control your computer.

   - To disable access, uncheck the checkbox for Enable access for assistive devices.

3. To close System Preferences:
   - Click the Close button in the upper left corner of the window.
Use Slow Keys

1. On the Apple menu or the Dock:
   - Select System Preferences

2. In the System category:
   - Click Accessibility.
   - Click Keyboard.
   - Select Enable Slow Keys.
   - Select Options.
   - Drag the Acceptance Delay slider to set a delay before the key is pressed.
   - To hear a feedback sound each time the computer accepts a keystroke, select Use click key sounds.
   - Click Done.

3. To close System Preferences:
   - Click the Close button in the upper left corner of the window.

Use Key Repeat

1. On the Apple menu or the Dock:
   - Select System Preferences

2. In the Hardware category:
   - Click Keyboard.
   - Select the Keyboard tab.
   - Drag the Key Repeat slider to set how fast characters repeat.
   - Drag the Delay Until Repeat slider to set a delay before the character begins to repeat.

3. To close System Preferences:
   - Click the Close button in the upper left corner of the window.

Use Mouse Keys

1. On the Dock:
   - Select System Preferences

2. In the System category:
   - Click Accessibility.
   - Click Mouse & Trackpad.
   - Select the checkbox for Enable Mouse Keys.

   Note: You can now use the numeric keypad in place of the mouse.

3. To close System Preferences:
   - Click the Close button in the upper left corner of the window.

Keyboard Shortcuts for Mouse Keys

<table>
<thead>
<tr>
<th>Action</th>
<th>Shortcut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Move up</td>
<td>8</td>
</tr>
<tr>
<td>Move down</td>
<td>2</td>
</tr>
<tr>
<td>Move left</td>
<td>4</td>
</tr>
<tr>
<td>Move right</td>
<td>6</td>
</tr>
<tr>
<td>Move diagonally</td>
<td>1, 3, 7, and 9</td>
</tr>
<tr>
<td>Click the mouse button</td>
<td>5</td>
</tr>
<tr>
<td>Hold down the mouse button</td>
<td>0</td>
</tr>
<tr>
<td>Release the mouse button</td>
<td>Period (.)</td>
</tr>
</tbody>
</table>
For people with hearing difficulties

Have the computer show sounds visually.

- Flash the screen when an alert sound occurs

Use Flash Screen

1. On the Apple menu or the Dock:
   - Select System Preferences

2. In the System category:
   - Click Access.
   - Click Audio.
   - Select the checkbox for Flash the screen when an alert sound occurs.
   - To turn off flashing, uncheck the box.

3. To close System Preferences:
   - Click the Close button in the upper left corner of the window.