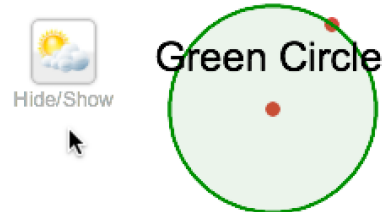# ACTIONS

Cabri allows you to attach actions to buttons, pages, and to any object which appears on the page. Actions will happen either when objects are clicked by the user or when particular conditions are met.

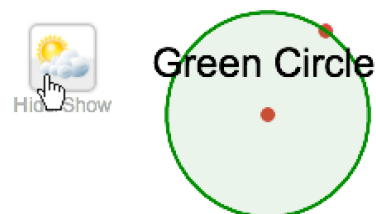Here is an example of a push button with a toggle hide/show action attached.

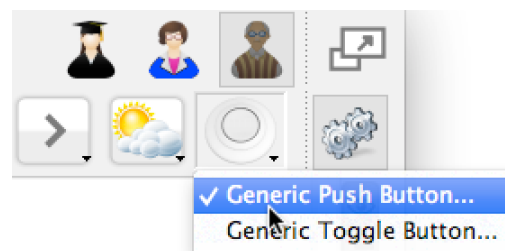When you click on this button, the circle, set up to be the object of the action, disappears.

The text, not an object of the action, remains visible.

Click on it again and the circle re-appears.

1. ATTACHING AN ACTION TO A PUSH BUTTON

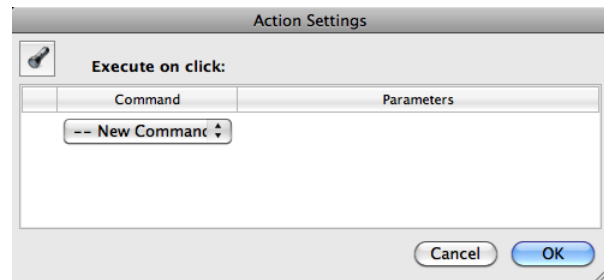Click on the **Edit buttons** icon on the upper right. Three new toolboxes will appear.

Choose the **Generic Push Button** tool from the **Generic Button** toolbox.

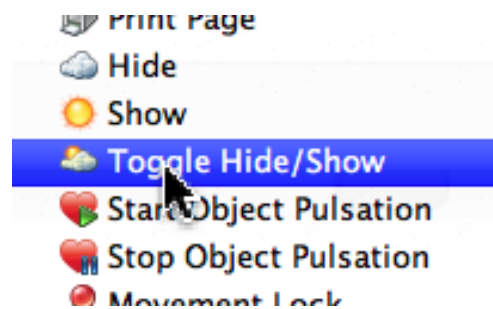This image will appear: click in the view to place the button.

An Action Settings dialog box will then appear.

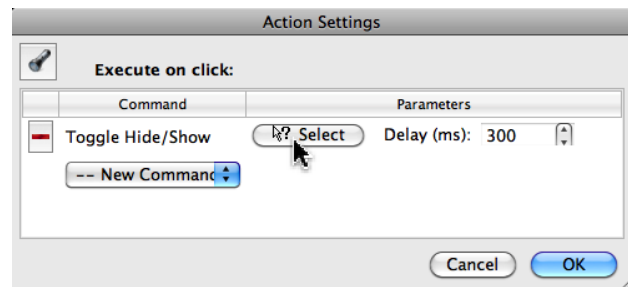Select a command from the drop-down New Command menu.

Here, the Toggle Hide/Show command is chosen.

Click on the Select button to select the objects in the figure to which the action will be applied.

If you click on the torch in the upper left of the box, all numbers will be highlighted and all hidden objects will flash, and may be selected.

In this case, click on the objects in the figure that you wish the button to hide. Selected objects will appear with a blue highlight.
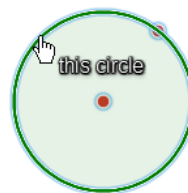
Note that objects may be selected from any page in the activity book.

To reset the selection before you finish selecting, click on a blank part of the page while pressing the Ctrl key (or alt on a Mac).
Once started, you can cancel the selection process by clicking on this button:

When you have finished selecting objects, click on the green tick next to the Select button.

Edit as necessary any other parameters that are presented and then click on OK to close the Action Settings dialog box.
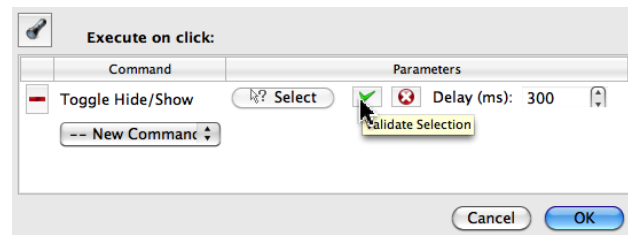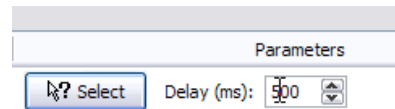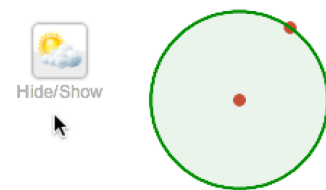
The new button will now appear.

NOTE: The button will not work until you return to normal tool use.

Click again on the **Edit Buttons** icon to return to normal tool use. The three extra toolboxes will disappear.
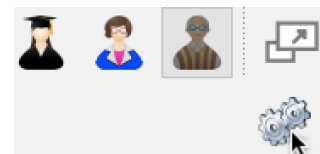
Perform the action attached to the button by clicking on the button. Note that if you selected any hidden objects, they will show rather than hide when the button is first selected.
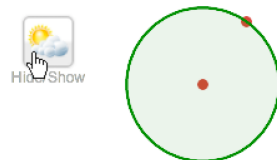
If you want to change the image that appears on the button (or add an image if the button is blank), select a different image from the **Media - Images** panel of the Inspector and drop it on the button.
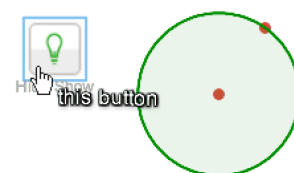
See the **MEDIA** documentation for further information.

You can also change the background colour of a button by selecting the button and choosing a fill colour from the **Attributes** panel of the Inspector.

Double-click on the button label to edit it. Use the **Text** tool to add a label to a button.

2. ATTACHING AN ACTION TO A TOGGLE BUTTON

Proceed as for a push button, but instead select **Generic Toggle Button**.
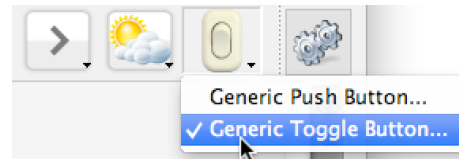
After placing the button in the view, this Action Settings dialog box will appear:
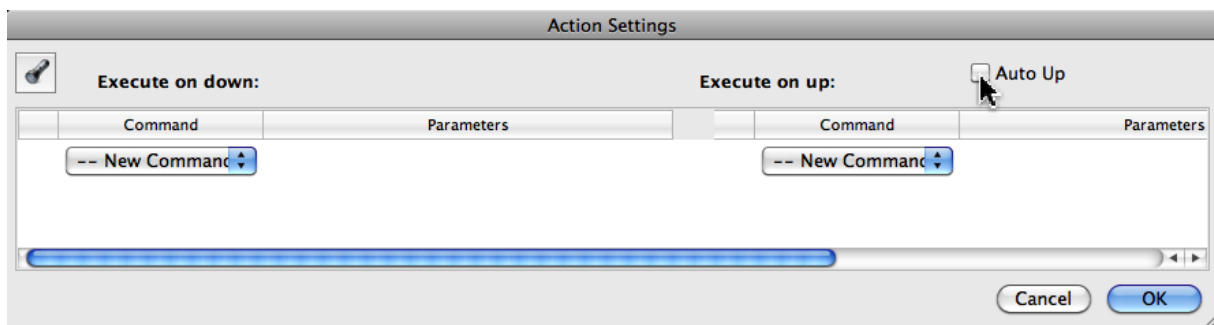
The toggle button has two states, and actions can be defined for each state. If you click to select Auto Up, the first state of the button happens when the user is clicking and holding down and the second state happens when the user releases the button. If Auto Up is not selected, the first state occurs when the button is first clicked and the second state occurs when it is clicked again.

To link commands (such as Show/Hide or Start Animation/Stop Animation) choose both actions and then select objects and parameters for the first command. These will then automatically be selected for the second command. Commands and parameters have been chosen below so that when the button is pressed down, or clicked for the first time, a circle is shown. When the button is released, or clicked for the second time, the circle is hidden.
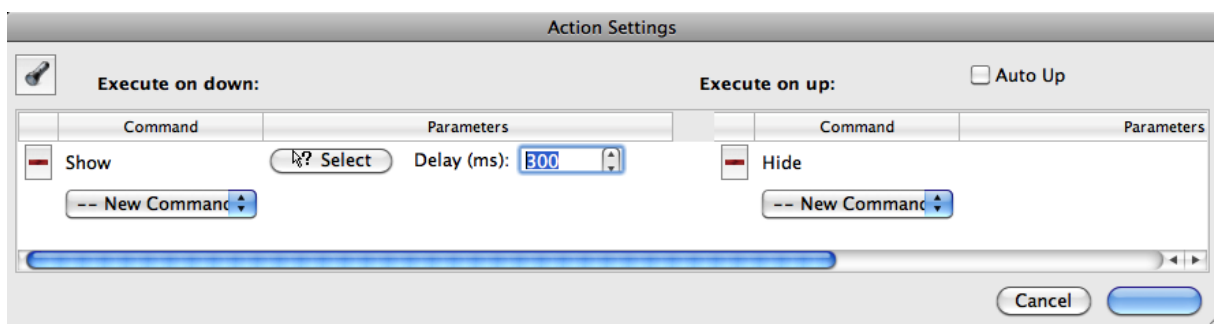
3. MOVING A BUTTON

In normal tool use mode, use a selection rectangle to select the button. It may then be dragged to another location, or moved using the normal keyboard movement keys.

In edit button mode, buttons may be dragged directly, or selected and moved using the normal keyboard movement keys.

4. ATTACHING AN ACTION TO A PAGE

Select the **Action On Load…** entry from the **Page** menu.

In the Action Settings dialog box that will appear, choose and define actions as for a push button. Actions will take place every time the user enters the page.
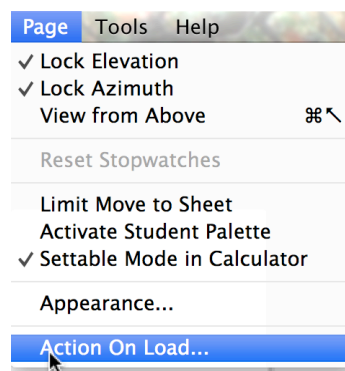
5. ATTACHING AN ACTION TO A BOOLEAN

Right-click on an existing Boolean (`ctrl` – click on an Mac) and select the New Action option.
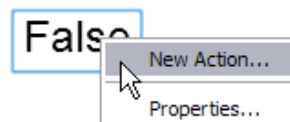
Like a toggle button, a Boolean has two states for which actions can be defined: **TRUE**, and **FALSE**. (Actions cannot be defined for the **?** state of a Boolean).
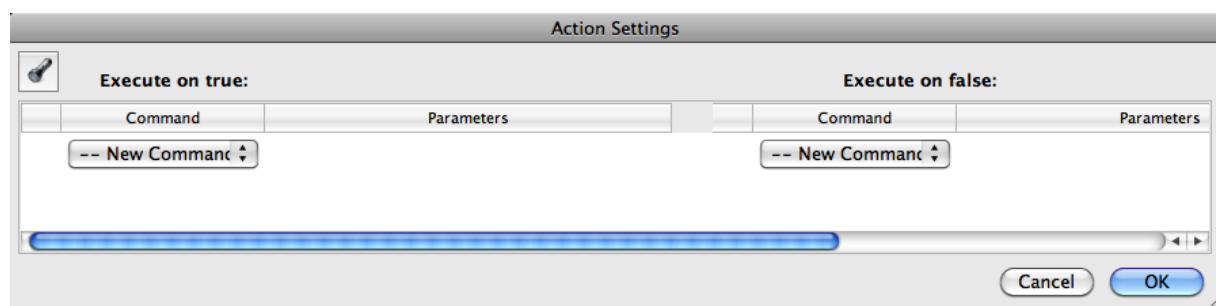
Choose and define commands in this dialog box as for a toggle button. These commands will be executed when the Boolean becomes **TRUE** or

when it becomes **FALSE**. Note that the Boolean needs to change state for the action to be executed: for example if a Boolean is **TRUE** and an action is defined for "true", this action will not be executed until the state of the Boolean changes to **FALSE** (or **?**) and then changes back to **TRUE**. If a Boolean changes from **TRUE** or **FALSE** to **?**, no action is executed.

5. ATTACHING AN ACTION TO ANY OTHER OBJECT ON THE PAGE

Right-click (`ctrl` – click on a Mac) on the object (point, circle, image, text, number, container, etc.) and select the New Action option.
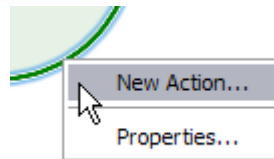
Choose and define commands in the Action Settings dialog box as for a push button. These commands will be executed every time the user clicks on the object.

6. CHANGING AN ACTION

For objects on the page (including buttons), right click on the object containing the action you want to change, and select Edit Action….

For actions attached to the page, select the menu option **Page – Edit Action**.

For buttons, you may click on the **Edit Buttons** icon and then double-click on any button. An Action Settings dialog box will appears. Modify, add or remove actions. You may also change the objects selected for each action.

7. CHANGING OBJECTS UPON WHICH ACTIONS OPERATE

If only one action is attached to any object on the page, you may change the objects upon which the action operates, without editing the action, by right-clicking and selecting Choose Action Objects. This box will appear:

. Select or deselect the required objects and click on the tick to finish.

If more than one action is attached, and for actions attached to the page you will need to edit the action and change object selection from within the Action Settings dialog box.

8. DEBUGGING ACTIONS

You can execute actions for debugging purposes.

For objects on the page, right click on the object containing the action you want to check. Select Execute to launch the action. For toggle buttons and Booleans you may execute the action for either state.

For actions attached to the page, select **Page – Execute Action**.

9. COMMAND LIST

Here is the list of all the available commands in Cabri.

Select Tool
- **Effect:** Sets the parameter tool as the current tool.
- **Parameter:** Tool to be set as current. A button with this action has the same effect as the corresponding tool button when it is dragged onto the page. It is useful when you want to add further actions to a button (e.g. to count the number of times the student selects the tool). Tool buttons dragged to the page may also have further actions added.

Go to Page
- **Effect:** Goes to the page specified as parameter.
- **Parameter:** Page to go to. You can specify the Previous, Next, First, or Last page, or a page number. If you later add or delete pages, page number parameters are automatically adjusted.

Open URL
- **Effect:** Opens the URL specified as parameter.
- **Parameter:** The URL to open.

Open Activity Book
- **Effect:** Opens the Cabri Activity Book specified as parameter.
- **Parameter:** The Cabri Activity Book to open. You can either type its name or browse to it using the icon on the right-hand side.

Return to caller
- **Effect:** Returns to the calling Cabri Activity Book and closes the current one (after asking whether the user wants to save any changes).
- **Parameter:** None.

Reset Activity
- **Effect:** Resets the Activity to its initial state. This has an effect only in Student and Teacher mode. The initial state of an Activity is defined when the file is published.
- **Parameter:** None.

Play a Sound
- **Effect:** Plays the sound specified as parameter.
- **Parameters:**
    - File to be played. You can either type its name or browse to it using the icon on the right-hand side. Supported formats are MP3 and WAV. Relative paths are relative to the current Activity Book.
    - The number of times the file is to be played.

Stop a Sound
- **Effect:** Stops the sound specified as parameter.
- **Parameter:** File to be stopped. If the specified file is not being played this command has no effect.

Beep
- **Effect:** Plays a beep (the standard "mistake" sound)
- **Parameter:** None.

Print Page
- **Effect:** Prints the current page.
- **Parameter:** The page orientation for printing (Landscape or Portrait).

Hide
- **Effect:** Hides the objects or layer specified as parameters.
- **Parameters:**
    o One or more objects or a layer.
    o A fading time in milliseconds. The objects will disappear gradually if you specify a value greater than 0.

Show
- **Effect:** Shows the objects or layer specified as parameters.
- **Parameters:**
    o One or more objects or a layer.
    o A fading time in milliseconds. The objects will appear gradually if you specify a value greater than 0.

Toggle Hide/Show
- **Effect:** Toggles the visible status of the objects or layer specified as parameters.
- **Parameters:**
    o One or more objects or a layer.
    o A fading time in milliseconds. The objects will appear or disappear gradually if you specify a value greater than 0.

Start object pulsation
- **Effect:** Gives a pulsating effect to the objects specified as parameters.
- **Parameters:**
    o One or more objects.
    o A pulsation period in milliseconds. Must be greater than 100.
    o The number of time the objects will pulsate.

Stop object pulsation
- **Effect:** Removes pulsating effect from the objects specified as parameters.
- **Parameters:** One or more objects.

Movement Lock
- **Effect:** Prevents the objects specified as parameters from being moved.
- **Parameters:** One or more objects.

Movement Unlock

- **Effect:** Allows the objects specified as parameters to be moved.
- **Parameters:** One or more objects.

Editing Lock
- **Effect:** Prevents the objects specified as parameters from being edited.
- **Parameters:** One or more objects.

Editing Unlock
- **Effect:** Allows the objects specified as parameters to be edited.
- **Parameters:** One or more objects.

Reset Positions
- **Effect:** Resets the position of the objects specified as parameters to the position they had when selected as parameters for this command.
- **Parameters:** One or more objects.

Set Values
- **Effect:** Sets the value of a target object (number, Boolean, slider, stopwatch, number of tries counter, input box, text, expression) to the current value of a source object. This will cause an expression to be re-evaluated. See the **NUMBER** and **CALCULATIONS AND EXPRESSIONS** documentation for more details.
- **Parameters:** One or more objects. The first object selected is the target object and the second is the source. Select the first object twice to return it to its value at the time of defining the action.

Increase Values by 1
- **Effect:** Increases by 1 the value of the numbers specified as parameters. For Boolean parameters, **FALSE** is changed to **TRUE**, and **TRUE** remains **TRUE**.
- **Parameters:** One or more numbers or Booleans.

Decrease Values by 1
- **Effect:** Decrease by 1 the value of the numbers specified as parameters. For Boolean parameters, **TRUE** is changed to **FALSE**, and **FALSE** remains **FALSE**.
- **Parameters:** One or more numbers or Booleans.

Reset Values
- **Effect:** Reinitializes objects.

  Number, stopwatch, slider, number of tries are set to 0

  Input box becomes empty

  MCQ becomes unchecked
- **Parameters:** One or more objects.

Start Animation
- **Effect:** Starts animation of the points specified as parameters. This button has no effect if animation has not been initialized for the points or the global animation state is not enabled. See **ANIMATION** documentation for further details.
- **Parameters:** One or more points.

Stop Animation
- **Effect:** Stops animation of the points specified as parameters. If these objects are not animated, this command has no effect.
- **Parameters:** One or more points.

Set Container State
- **Effect:** Sets the state of a container (*Reduced/Closed/Opaque*) See the **CONTAINERS AND TOKENS** documentation for more information.
- **Parameters:** One or more containers.

Delete Container Tokens
- **Effect:** Removes the tokens contained in the containers specified as parameters. See the **CONTAINERS AND TOKENS** documentation for more information.
- **Parameters:** One or more containers.

Start Stopwatch
- **Effect:** Starts the stopwatches specified as parameters.
- **Parameters:** One or more stopwatches.

Stop Stopwatch
- **Effect:** Stops the stopwatches specified as parameters.
- **Parameters:** One or more stopwatches.

Trigger Button Action
- **Effect:** Activates the buttons specified as parameters
- **Parameters:** One or more buttons.

Enable Flip Page
- **Effect:** In Student mode, the current page will flip back to reveal the next page when the user moves to another page.
- **Parameters:** None.

Disable Flip Page
- **Effect:** In Student mode, the next page will simply appear when the user moves to another page.
- **Parameters:** None.