

Symbols, instances, and the library

Symbols and instances

A *symbol* is a graphic, button, or movie clip you create once in Adobe Flash CS4 and can use any number of times throughout your movie. Any symbol you create is automatically placed in a storage area called the *library* for the current document.

An *instance* is a copy of a symbol located on the Stage. An instance can be different from its symbol in color, size, and function. To create an instance of a symbol, drag the symbol from the library onto the Stage. Once you have created an instance, you can use the Color options in the Property inspector to change its brightness, tint, alpha, or RGB color settings.

Editing the symbol automatically updates all of its instances, but applying effects to an instance of a symbol updates only that instance.

Using symbols offers a number of advantages. Symbols add interactivity to your documents. They save space and reduce the download time of your finished movie because Flash does not have to save duplicate information for each instance. For example, if you create an animated wheel symbol, you can use several instances of the symbol to create the wheels on a train. The result is a much smaller file than if you had created each wheel separately. Symbols also help you maintain consistency throughout your Flash document. For example, if you have buttons throughout your document, using symbols ensures that all buttons look alike. You can easily edit all instances of buttons in a document at once when you use symbols to create them. You can also use symbols to share content between different documents.

When you create a new drawing in Flash, you're creating a shape, not a symbol. You can convert any shape to a symbol by selecting it and then selecting Modify > Convert To Symbol.

Libraries

The library is a container in each movie where Flash stores and organizes symbols, sounds, bitmap graphics, video, and other elements. The library is attached to the document you're working on. To open the Library panel, select Window > Library (**Figure 1**). If you share your document with someone else, and they open it on their computer, they will see the same library objects. You can also open libraries from other documents by selecting File > Import > Open External Library. As your documents become more complex, you'll find it helpful to use folders to sort your symbols into related groups within the library.



Figure 1 Library panel

Types of symbols

Flash has three types of symbols: graphic, button, and movie clip.

Each symbol has a unique Timeline and Stage, complete with layers. When you create a symbol, you choose the symbol type, depending on how you want to use the symbol in your document.

- Use *graphic symbols* for static images and to create reusable pieces of animation that are tied to the main Timeline. Graphic symbols operate in sync with the main Timeline. Interactive controls and sounds won't work in an animation sequence contained in a graphic symbol.
- Use *button symbols* to create interactive buttons that respond to mouse clicks, rollovers, and other site visitor actions. You define the graphics associated with various button states and then assign actions to a button instance.
- Use *movie clip symbols* to create reusable pieces of animation. A movie clip has its own Timeline that is independent from the main Timeline—think of it as a sub-Timeline nested inside the main Timeline. Movie clips can contain interactive controls, sounds, and even other movie clip instances.

Creating symbols

You create symbols in one of two ways:

- Select Insert > New Symbol. This creates a new symbol to which you must add content.
- Select an existing shape and select Modify > Convert To Symbol.