# The Flash Program

**Familiarize with Flash**

Familiarizing with Flash and understanding the basic concepts of animation are important first steps in learning how to use Flash effectively. Here is some information to help you cover these topics:

**Open and Close Flash:**

To open Adobe Flash, you can either double-click on the desktop icon or navigate to the program through the Start menu. Once the program is open, you can begin creating a new file or opening an existing one. To close the program, simply click on the "X" in the upper right-hand corner of the window or select "File" > "Exit" from the menu.

**Concept of Flash and Animation:**

Flash is a multimedia software platform used to create animations, games, and other interactive content for the web. It allows users to create graphics and animations that can be displayed in a web browser. In addition to animations, Flash also supports interactivity and the use of multimedia elements such as audio and video.

Animation, in general, is the process of creating the illusion of motion and change by rapidly displaying a sequence of static images that minimally differ from each other. The basic principle behind animation is that it takes advantage of the persistence of vision phenomenon, which allows our brains to perceive a series of still images as a continuous motion.

In Flash, animation is created by manipulating graphics or symbols over time by setting keyframes, defining the properties of the object at specific points in time, and using motion or shape tweens to interpolate between those keyframes. Flash also allows for the use of easing, which creates more natural-looking motion by applying gradual acceleration and deceleration to an object's movement.

By understanding the basic concepts of Flash and animation, students will be better equipped to navigate the program and create dynamic, engaging content for the web.\

**View a completed movie**

To run a completed movie in Flash, you first need to make sure that your movie is saved as a Flash (.swf) file. To do this, select "File" > "Publish Settings" from the menu, and then select "Flash (.swf)" as the file format. Then click the "Publish" button to generate the .swf file.

Once you have your .swf file, you can open it in Flash by selecting "File" > "Open" and navigating to the location where the .swf file is saved. Alternatively, you can simply double-click on the .swf file itself to open it in your default web browser.

When the movie is opened, it will begin playing automatically. You can use the playback controls to pause, rewind, or fast-forward the movie, or adjust the volume if it includes audio.

It is important to note that once a Flash movie has been published as a .swf file, it cannot be edited or modified in Flash. If you need to make changes to the movie, you will need to open the original Flash (.fla) file, make the changes, and then republish the movie as a new .swf file.

**Including a movie in a web page**

To include a Flash movie in a web page, you can follow these steps:

* Publish your Flash movie as a .swf file, as described in the previous answer.
* Open the HTML file where you want to embed the Flash movie. This can be done using any text editor or web development tool, such as Adobe Dreamweaver.
* In the location where you want the Flash movie to appear, insert an <embed> tag. Here is an example:

<embed src="mymovie.swf" width="500" height="300">

In this example, "mymovie.swf" is the filename of your Flash movie, and the "width" and "height" attributes specify the dimensions of the movie in pixels.

* Save the HTML file and open it in a web browser to see the Flash movie embedded in the page.

Alternatively, you can use the <object> tag to embed a Flash movie in a web page. Here is an example:

<object type="application/x-shockwave-flash" data="mymovie.swf" width="500" height="300">

<param name="movie" value="mymovie.swf">

</object>

This code does the same thing as the <embed> tag example, but includes a <param> element that provides additional information to the web browser about how to display the Flash movie.

By following these steps, you can easily include a Flash movie in a web page and share your creations with others online.

**Analyze a movie file**

To analyze a movie file in Flash, there are several tools and features you can use. Here are some of the key ones:

* **View Document Properties:**

To view the properties of a Flash movie file, select "File" > "Properties" from the menu. This will display a dialog box that shows various details about the file, including the movie dimensions, frame rate, background color, and more.

* **View the Movie Clip:**

To view the contents of a specific movie clip in the timeline, select the clip on the stage and then double-click on it. This will take you inside the clip, where you can see its individual frames and layers.

* **View Library Assets:**

To view the assets stored in the library of a Flash movie file, select "Window" > "Library" from the menu. This will display a panel that shows all the symbols, graphics, sounds, and other elements that are used in the movie.

* **View Movie Explorer:**

To get an overview of the structure and organization of a Flash movie file, select "Window" > "Movie Explorer" from the menu. This will display a panel that shows the various scenes, frames, layers, and objects in the movie, and allows you to navigate and edit them more easily.

**Introduction to movie file:**

A Flash movie file is a multimedia document created in Adobe Flash, which can contain animations, graphics, audio, and video elements. Flash movies are typically saved in .fla format, which is the native file format for Flash, but can also be published as .swf files for use on the web.

Flash movies are created using a timeline-based approach, where elements are placed on different frames and layers to create motion and interactivity. Flash also includes a library system, where commonly used elements can be stored and reused throughout the movie.

Analyzing a Flash movie file involves understanding its structure, organization, and properties, as well as the individual elements that make up the movie. By using tools like the document properties, movie clip viewer, library assets panel, and movie explorer, you can gain a deeper understanding of how a Flash movie works and how to make changes to it.

**Create a new document**

To create a new document in Flash, you can follow these steps:

**Open a new file:**

Open Adobe Flash and select "File" > "New" from the menu. This will create a new, blank document for you to work with.

**Define document properties:**

To define the properties of your new document, select "Modify" > "Document" from the menu. This will open a dialog box where you can specify the dimensions, frame rate, background color, and other settings for your document.

**Specify grid settings:**

To help with alignment and positioning of objects in your document, you can turn on a grid by selecting "View" > "Grid" from the menu. You can also customize the grid settings by selecting "Modify" > "Grid" from the menu.

**Create and transform gradient background:**

To create a gradient background for your document, select the "Rectangle Tool" from the toolbar and draw a rectangle that covers the entire stage. Then, select the "Fill" color in the toolbar and choose "Gradient" from the options. You can adjust the colors and direction of the gradient using the Gradient panel. To transform the background, use the "Free Transform Tool" to resize or rotate the rectangle.

**Name and lock a layer:**

To organize your artwork and animations, you can create layers by selecting "Insert" > "Layer" from the menu. You can name a layer by double-clicking on its name in the Layers panel and typing a new name. To prevent accidental changes to a layer, you can lock it by clicking on the small padlock icon next to its name in the Layers panel.

**Description of Document and its properties:**

When you create a new document in Flash, you are essentially starting a new project. The document properties define the basic settings and parameters for the project, such as its size, frame rate, and background color. The grid settings help with alignment and positioning of objects on the stage, while the layers allow you to organize your artwork and animations. The gradient background can be a useful design element, adding depth and visual interest to your project. By naming and locking layers, you can better manage and control the elements in your project. Overall, understanding these concepts and tools is essential for creating successful and effective Flash projects.

**Create and mask vector art**

To create and mask vector art in Flash, you can follow these steps:

* **Add a layer:**

To add a new layer to your document, click on the "Insert Layer" button in the Layers panel. Layers allow you to organize your artwork and animations and work on them separately from other elements in your document.

* **Create and transform a duplicate shape:**

To create a duplicate shape, select the shape on the stage and choose "Edit" > "Duplicate" from the menu. You can also use the keyboard shortcut Ctrl/Cmd + D. To transform the shape, select the "Free Transform Tool" from the toolbar and use it to resize, rotate, or skew the shape as needed.

* **Create a "cut out":**

To create a cut-out effect, select the shape you want to cut out from and choose "Modify" > "Shape" > "Convert Lines to Fills" from the menu. Then, use the "Lasso Tool" or "Selection Tool" to select the area you want to cut out, and choose "Modify" > "Shape" > "Subtract" from the menu.

* **Create a mask:**

To create a mask, select the shape or object that you want to use as the mask, and choose "Modify" > "Mask" > "Group as Mask" from the menu. Then, select the shape or object that you want to mask, and choose "Modify" > "Mask" > "Masked Object" from the menu. You can also adjust the mask using the "Free Transform Tool" or other editing tools.

**Introduction to layer:**

In Flash, a layer is a separate level or plane within the timeline that can contain artwork, animations, or other elements. Layers are used to organize and manage the various components of a Flash document, making it easier to work on them separately and control their visibility and placement on the stage.

When you add a new layer to a Flash document, you can give it a name and adjust its properties, such as its color, opacity, and visibility. You can also add keyframes to layers to create animations or transitions, and use masking and blending modes to control how the elements on different layers interact with each other.

Understanding layers is essential for creating complex and visually appealing Flash projects, as they allow you to work with multiple elements and animations in a structured and organized way.

**Tween bitmap effects within a movie clip**

To tween bitmap effects within a movie clip in Flash, you can follow these steps:

**Import images into the library:**

To use bitmap images in Flash, you first need to import them into the library. To do this, choose "File" > "Import" > "Import to Library" from the menu, and select the image file(s) you want to use.

**Modify bitmap compression:**

Bitmap images can take up a lot of file space, so it's important to optimize their compression to reduce their file size. To do this, select the bitmap image in the library and choose "Properties" from the library options menu. Then, choose the compression settings that best fit your needs, such as JPEG, PNG, or GIF.

**Create a movie clip symbol:**

To create a movie clip symbol, select the bitmap image on the stage and choose "Convert to Symbol" from the right-click menu. In the Convert to Symbol dialog box, choose "Movie Clip" as the symbol type and give it a name.

**Tween bitmap effects:**

To apply tween bitmap effects to the movie clip, select the movie clip symbol on the stage and choose "Create Motion Tween" from the right-click menu. Then, choose the starting and ending positions and other properties for the tween, such as rotation, scale, or opacity.

**Test the movie:**

To test the movie and see the tween bitmap effects in action, choose "Control" > "Test Movie" from the menu. You can also publish the movie to various formats, such as SWF or HTML, for use on the web or other platforms.

**Introduction to bitmap compression:**

Bitmap compression is the process of reducing the file size of bitmap images without significantly affecting their quality. Bitmap images are made up of pixels, and the more pixels an image has, the larger its file size will be.

Flash offers several compression options for bitmap images, including JPEG, PNG, and GIF. Each compression type has its own strengths and weaknesses, and the best choice will depend on factors such as the image content, intended use, and desired file size.

To optimize bitmap compression in Flash, you can adjust the compression settings for individual images in the library or use tools such as the Bitmap Properties panel to modify compression for multiple images at once. By reducing the file size of bitmap images, you can improve the performance and loading times of your Flash projects.

**Load dynamic text at runtime**

To load dynamic text at runtime in Flash, you can follow these steps:

**Import the logo:**

To import the logo, choose "File" > "Import" > "Import to Stage" from the menu and select the logo file.

**Create a dynamic text field:**

To create a dynamic text field, choose the Text tool from the toolbar and draw a box on the stage where you want the text to appear. Then, select the box and choose "Dynamic Text" from the Text options in the Properties panel. Give the text field a name, such as "myText".

**Use the loadVariables action to load text:**

To load text at runtime, you can use the loadVariables action. In the Actions panel, add the following code:

myText.loadVariables("myText.txt");

This code tells Flash to load the text from the file "myText.txt" and display it in the "myText" text field.

**Test the movie:**

To test the movie and see the loaded text in action, choose "Control" > "Test Movie" from the menu. You can also publish the movie to various formats, such as SWF or HTML, for use on the web or other platforms.

**Introduction to runtime & logo:**

Runtime refers to the period during which a program is running, as opposed to the time when it is being developed or compiled. In the context of Flash, loading dynamic text at runtime means that the text is not hard-coded into the project, but is instead loaded from an external file or source while the project is running.

A logo is a symbol or design used to represent a company or organization. In Flash, logos can be imported as image files and used as part of a project. By loading dynamic text at runtime and incorporating logos, you can create more dynamic and flexible Flash projects that can be customized or updated easily without having to manually edit the project code.

**Add animation and navigation to buttons**

To add animation and navigation to buttons in Flash, you can follow these steps:

**Import the library of another FLA file:**

To import the library of another FLA file, choose "File" > "Import" > "Open External Library" from the menu and select the FLA file. This will import the library items from the external file into your current project.

**Align buttons:**

To align buttons, select the buttons you want to align and choose "Modify" > "Align" from the menu. This will give you options to align the buttons to the top, bottom, left, right, or center of the stage.

**Enable simple buttons:**

To enable simple buttons, convert a graphic or movie clip symbol to a button symbol by selecting the symbol and choosing "Convert to Symbol" from the menu. In the dialog box that appears, choose "Button" as the symbol type.

**Modify a button state:**

To modify a button state, select the button symbol and choose "Edit" > "Edit Button" from the menu. This will open the button editor, where you can modify the Up, Over, Down, and Hit states of the button.

**Add actions to buttons:**

To add actions to a button, select the button symbol and open the Actions panel. Here, you can add code that will execute when the button is clicked, rolled over, or rolled out.

**Add button navigation:**

To add button navigation, you can use the "gotoAndPlay" or "gotoAndStop" action to navigate to a specific frame in the timeline. For example, you can add a "Click" action to a button that navigates to frame 10 by adding the following code:

on (release) {

gotoAndStop(10);

}

**Introduction to library with its uses:**

In Flash, the library is a panel that contains all of the assets used in a project, such as symbols, sounds, and images. The library allows you to easily manage and organize your assets, and reuse them throughout your project. You can create new symbols and import external files into the library, and then drag and drop them onto the stage to use them in your project. By importing the library of another FLA file, you can easily reuse assets from other projects and incorporate them into your current project.

**Add streaming and event sounds**

To add streaming and event sounds in Flash, you can follow these steps:

**Add a streaming sound:**

To add a streaming sound, select "File" > "Import" > "Import to Library" from the menu and select the sound file you want to import. Once the sound is in your library, drag it onto the stage or create a new sound symbol by selecting "New Symbol" from the menu and selecting "Sound" as the symbol type. Once you have added the sound to the stage or to a symbol, you can adjust its properties in the Properties panel.

**Add an event sound to a button:**

To add an event sound to a button, select the button and choose "Edit" > "Edit Button" from the menu. In the button editor, select the frame you want to add the sound to and open the Properties panel. In the "Sound" section of the panel, select the sound you want to use from the drop-down menu. You can adjust the volume and other properties of the sound in the Properties panel.

**Introduction to streaming:**

Streaming is a method of playing audio or video files on the internet without having to download the entire file first. When you stream media, the file is downloaded and played simultaneously, which allows users to start listening or watching the media as soon as the file starts to download. This is useful for large media files, such as music or video, that would take too long to download before playing. In Flash, you can add streaming sounds to your project by importing the sound file and adjusting its properties in the Properties panel.

**Organize Library panel**

The library panel in Flash is used to manage all the assets of your project, including symbols, graphics, sounds, and video files. To organize your Library panel in Flash, you can use the following tips:

* **Use folders:** You can create folders within your library to keep related items together. To create a new folder, right-click on an empty area within the library panel and select "New Folder" from the context menu.
* **Use naming conventions:** Giving your assets descriptive names can help you quickly find what you need within the library panel. You can rename an asset by selecting it in the panel and pressing F2 or right-clicking on it and selecting "Rename" from the context menu.
* **Use symbols:** Symbols are reusable objects that can be used throughout your project. By creating symbols for frequently used assets, you can keep your Library panel more organized and reduce file size. To create a symbol, select the asset and choose "Convert to Symbol" from the right-click context menu.
* **Use the Search field:** The Library panel includes a search field that can be used to find specific assets quickly. Simply enter the name or keyword you are looking for in the search field, and the panel will display any assets that match your query.
* **Use the filtering options:** The Library panel includes several filtering options that can help you quickly locate specific types of assets. For example, you can filter the panel to display only symbols, bitmaps, or sounds by using the drop-down menu at the top of the panel.

**Familiarise with Action Script and Components**

**ActionScript** is the programming language used in Adobe Flash to create interactive applications and animations. With ActionScript, you can add interactivity to your Flash movies, create dynamic animations, and control the behaviour of your applications.

**Components,** on the other hand, are pre-built pieces of ActionScript code that perform a specific function, such as a scroll bar, menu, or text field. They are designed to simplify the process of creating interactive Flash applications by providing ready-made code that can be customized and used in your projects.

Together, ActionScript and Components form the foundation of interactive Flash applications and animations. By mastering these tools, you can create dynamic and engaging projects that respond to user input and provide a high level of interactivity.

# Project Work:

Here are some project ideas for your students in Flash:

**Create an interactive game:** Your students can create a simple game in Flash, such as a maze, a platformer, or a puzzle game. They can use Flash's tools and features to create the game mechanics, graphics, and sounds.

**Create an animated short film:** Your students can create an animated short film in Flash, complete with characters, backgrounds, and sound effects. They can use Flash's animation tools to bring their ideas to life.

**Create an interactive storybook:** Your students can create an interactive storybook in Flash, with pages that turn, animations that play, and sounds that bring the story to life. They can use Flash's design tools and ActionScript to create an engaging and interactive experience.

**Create a website:** Your students can create a website in Flash, complete with navigation, graphics, and multimedia. They can use Flash's website templates or create their own designs from scratch.

**Create an educational tool:** Your students can create an educational tool in Flash, such as a quiz, a tutorial, or a learning game. They can use Flash's interactivity tools and ActionScript to create a fun and engaging learning experience.

These are just a few project ideas to get your students started. Encourage them to be creative and explore the full potential of Flash to create unique and engaging projects.

Certainly, here are some details on how to create an educational tool in Flash:

**Define the objectives:** Before creating an educational tool in Flash, it's important to define the objectives of the tool. What do you want the tool to achieve? What should the users learn from the tool? Define the learning outcomes and goals before starting the design process.

**Create a storyboard:** Once the objectives are defined, create a storyboard or a rough sketch of the tool. This will help you visualize the user experience and the design of the tool.

**Design the user interface:** Use Flash's design tools to create an intuitive and user-friendly interface for the tool. Make sure the design is consistent and matches the objectives of the tool.

**Add interactivity:** Use Flash's interactivity tools and ActionScript to create a fun and engaging learning experience. Add quizzes, games, animations, and other interactive elements to keep the users engaged and motivated.

**Test and evaluate:** Test the tool with a group of users to see if it achieves the objectives and learning outcomes. Evaluate the tool and make changes based on the feedback received.

Other factors to consider when creating an educational tool in Flash include:

**The target audience:** The design and content of the tool should be tailored to the target audience, whether it's students, teachers, or other learners.

**Multimedia elements:** Use Flash's multimedia capabilities to add audio, video, and images to the tool to make it more engaging and informative.

**Accessibility:** Ensure the tool is accessible to users with disabilities by following accessibility guidelines and standards.

**Compatibility:** Check the compatibility of the tool with different browsers, operating systems, and devices to ensure a seamless user experience.

By considering these factors and following the steps outlined above, your students can create an effective and engaging educational tool in Flash.