

Animation basics

Project Overview

In this project, students will get an introduction to the basic principles of animation as they use Adobe Flash Professional to create a simple animated sequence. Through analyzing uses of interactive media and animation, they will learn to identify purpose and audience and how to apply principles of design and usability principles when creating interactive content. They will also learn about how and why designers chose to use interactive media and animation.

The focus of this project is building interactive media design skills, understanding how professionals use those skills to strengthen communication with interaction and animation, and using Flash Professional to create an a simple animation that combines images and text.

Student product: Animated sequence

Note: Portions of this project align to the Adobe Certified Associate objectives. Within the instruction steps and technical guides, the specific learning objectives for the exam(s) are referenced with the following format: ^{1.1}

Project Objectives

At the completion of the project, students will have developed the following skills:

Project management skills

- Defining purpose, goal, and audience
- Synthesizing and recommending changes during design process

Design skills

- Designing a custom experience
- Applying design principles
- Applying design aspects such as color, design, layout, contrast, and composition
- Integrating images and text

- Planning images and graphics based on needs of the project
- Understanding the role and purpose of usability

Research and communication skills

- Researching examples of interactive media
- Evaluating and analyzing various interactive media
- Understanding the role, purpose and use cases for interactive media
- Researching, evaluating and analyzing the use of Flash
- Understanding copyright issues and fair-use guidelines
- Advocating and practicing legal use of images
- Communicating and presenting design decisions
- Critiquing designs

- Participating in peer review
- Giving feedback on a project

Technical Skills

Flash

- Understanding the Flash Professional workspace
- Customize the layout of the workspace
- Define the tools and features in the workspace
- Work with rulers and guides
- Understanding file types
- Using drawing tools
- Working with graphic files
- Creating and modifying text
- Working with text and text effects
- Working with layers
- Organizing layers and libraries
- Creating folders and labels
- Creating and working with symbols
- Creating and working with instances
- Creating interactive buttons
- Importing images
- Optimizing images
- Using Trace Bitmap
- Using animation methods
- Working with frames and keyframes
- Working with eases and tweens
- Creating motion tweens
- Creating Timeline effects
- Creating transparent buttons
- Testing movies
- Publishing Flash documents

Project Activities

- *Activity:* Introduction to interactive media
- *Activity:* Getting started with Adobe Flash Professional
- *Activity:* Copyright and fair use
- *Activity:* Importing and organizing content in Adobe Flash Professional
- *Activity:* Creating content by using Adobe Flash Professional
- *Activity:* Getting started with animation
- *Activity:* Testing and publishing a Flash project
- *Activity:* Peer review
- *Activity:* Presenting a design project

Background preparation resources

[Technical and content information](#)

[Keywords](#)

[ISTE NETS*S Standards for Students](#)

[Adobe Certified Associate objectives](#)

Project Steps

1. Introduce students to goals of the project:
 - Introduce interactive media
 - Introduce design principles
 - Get started with Flash Professional
 - Analyze uses of Flash
 - Introduce Flash animation principles
 - Create and organize graphics and assets in Flash
 - Create and publish a simple animated sequence
2. Explain that, in this project, students will create a simple animation by creating their name in text form in Flash Professional, combining it with at least one image of themselves, and then animating their name and image in a way that represents something about themselves like a personality trait, interest, or hobby.

3. *Activity:* Introduction to interactive media
(Suggested time: 50-100 minutes)

ACA Exam Objectives: 1.1, 1.2, 1.6, 2.1, 2.2, 2.3, 4.1, 5.2

Use this activity to teach students how to:

- Research examples of interactive media
- Evaluate and analyze effective use of interactive media
- Understand the role and purpose of interactive media
- Apply design principles to interactive media content
- Design for usability

Note: If this is the first time your students are introduced to design principles, it is recommended to first complete the *Design principles* activity.

4. *Activity:* Getting started with Adobe Flash Professional
(Suggested time: 100-150 minutes)

ACA Exam Objectives: 1.1, 1.2, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5, 3.7, 4.2, 4.7, 4.10, 4.11

Use this activity to teach students how to:

- Understand the Flash Professional workspace
- Introduce the terminology and basic panels in Flash Professional
- Introduce the principles of Flash animation
- Identify and analyze Flash techniques

5. *Activity:* Copyright and fair use
(Suggested time: 50 minutes)

ACA Exam Objectives: 1.2, 1.2, 1.3, 1.4

Use this activity to teach your students about copyright issues and fair use guidelines as they relate to using content in their animations.

6. *Activity:* Importing and organizing content in Flash Professional
(Suggested time: 50-150 minutes)

ACA Exam Objectives: 2.1, 2.5, 3.3, 3.7, 3.8, 4.3, 4.6, 4.7, 4.8, 4.10, 4.12, 4.13

Follow these steps to utilize this activity for this project:

- a. Use this activity to introduce how to import and organize content, how to create buttons, and work with symbols in Flash Professional.
- b. For this project use the steps that focus on how to import images and sound, organize content, and work with symbols. Ask students to import some images and graphics into Flash. Explain that they should have at least one image of themselves along with two or more images or graphics that represent themselves.
- c. Ask students to turn the graphics into symbols, give them instance names, and store and organize them in the library for future use in this project.

7. *Activity:* Creating content by using Adobe Flash Professional
(Suggested time: 100-150 minutes)

ACA Exam Objectives: 3.8, 4.2, 4.3, 4.4, 4.5, 4.9

Follow these steps to utilize this activity for this project:

- a. Use this activity to introduce drawing tools, how to work with bitmaps, how to optimize file sizes, and how to create and modify text in Flash Professional.
- b. Ask students to create their name as a text-based piece of content to be used in their animation. If time allows, they can also create additional graphics to use in their animation.

8. *Activity:* Getting started with animation
(Suggested time: 100-200 minutes)

ACA Exam Objectives: 3.6, 4.10

Follow these steps to utilize this activity for this project:

- a. Use this activity to introduce how to use animation methods, create timeline effects, work with frames and keyframes, and create and work with eases and tweens.
- b. Explain that they will now take their images, graphics, and name and animate them. Explain that they should use design principles so the images and their name become animated in a way they think represents a part of their personality, an interest, or hobby. For instance, if a student is interested in basketball their name and images could be animated like a bouncing basketball.

9. *Activity*: Testing and publishing a Flash project
(Suggested time: 100-200 minutes)

ACA Exam Objectives: 1.3, 2.3, 4.14, 4.15, 5.1, 5.2

Follow these steps to utilize this activity for this project:

- a. Use this activity to teach your students how to publish and test interactive media, use the Device Simulator, resize content for multiple screens, and publish mobile applications.
- b. For this project, focus on publishing and testing interactive media. Explain that students should now test their animation to make sure it is functioning properly. Pair students in two and ask them to conduct a peer review of their animations. Use the *Peer Review* activity to create guidelines for your students when giving and receiving feedback. (Suggested time is 30-50 minutes).
- c. From the feedback ask students to make any needed adjustments to their animation.
- d. Explain that students will now publish and/or display their animations. Choose from several options, depending on time and resources. Have your students publish and/or display their animations in the following ways:
 - Published as a SWF or HTML5 file that can be previewed in a browser.
 - Published as an image in JPEG, PNG, or GIF format.

18. *Activity*: Presenting a design project
(Suggested time: 50-100 minutes)

ACA Exam Objectives: 1.6

Follow these steps to utilize this activity for this project:

- a. This activity introduces your students to presenting their work to a variety of audiences. Use the tips in this activity to help your students learn how to communicate their ideas clearly.
- b. Ask several or all of your students to present their animations to the class, explaining the design choices they made, what kinds of animation techniques they used and why, what lessons they learned in creating and publishing their animation, and what additional things they would like to learn.

Extension Activities

You can extend the project in the following ways:

- *More design investigation*: Add more graphic design exploration to this activity by having students use the Internet to find examples of each design principle.
- *Reflection supplement*: Ask students to write up the decisions they made in planning their animations. This document will help students reflect on their process and provide a framework for the next time they plan interactive media.
- *Technical help in the classroom*: To encourage students to develop self-sufficiency when seeking help, you can assign a small group or pair of students to research challenging skills and present their findings to the class. Ask them to define key terms (such as optimization) and to explain the relevance of these terms to the task at hand. Then ask students to give a three- to five-minute oral report at the beginning of class, demonstrating the skill and reporting their findings.

- *Great uses of animation:* Ask students to look on the web for sites with animated elements that inspire them. They should write brief descriptions of impressive elements and how they think these elements could be created in Flash.
- *Fast finishers:* For students who finish early, ask them to redesign and develop their animations for a second personality trait, interest, or hobby.

Assessment

This is a high level view of what student should create during this project. Refer to the assessment rubrics in each activity for more detailed/specific assessment rubrics for each part of the project.

	0 – Does not meet expectations	3 – Meets expectations	5 – Exceeds expectations
Animated sequence	Absent or incomplete.	Student understands animation methods and uses them to create an animation that combines at least one image with a text-based graphic of their name that represents something about themselves. Students publish their animations as SWF or HTML5 files and as an image.	Student understands animations methods and uses them to create an animation that combines two or more images and graphics with a text-based graphic of their name that represents something about themselves. Student understands design principles and clearly employs them to create a visually engaging animation. Students publish their animations as SWF or HTML5 files and as an image.

Background preparation resources:

- To view video tutorials aligned with the skills required to complete this project, visit Adobe TV: <http://tv.adobe.com>.
- For more teaching and learning resources on the topics in this project, search for resources from the community on the Adobe Education Exchange: <http://edex.adobe.com/>
- For an overview of the interface and for more information on the technical aspects of *Adobe Flash Professional*, see *Flash Help*.

Keywords:

- design principles
- animation
- frame
- graphic
- input
- instance
- keyframe
- method
- object
- property
- scene
- symbol
- tween
- variable
- copyright

ISTE NETS*S Standards for Students

This project is aligned to the ISTE NETS*S Technology Standards. Depending on the subject and content area the student selects you may research your own state content standards to see how this project aligns to your state requirements.

ISTE NETS*S: Curriculum and Content Area Standards – NETS for Students

1. Creativity and Innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. Students:

- a. apply existing knowledge to generate new ideas, products, or processes.
- b. create original works as a means of personal or group expression.
- d. identify trends and forecast possibilities.

2. Communication and Collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. Students:

- b. communicate information and ideas effectively to multiple audiences using a variety of media and formats

3. Research and Information Retrieval

Students apply digital tools to gather, evaluate, and use information. Students:

- a. plan strategies to guide inquiry.
- b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
- c. evaluate and select information sources and digital tools based on the appropriateness to specific tasks

4. Critical Thinking and Problem Solving

Students use critical thinking skills to plan and conduct research, manage projects, solve problems and make informed decisions using appropriate digital tools and resources. Students:

- a. identify and define authentic problems and significant questions for investigation.
- b. plan and manage activities to develop a solution or complete a project.
- d. use multiple processes and diverse perspectives to explore alternative solutions

5. Digital Citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. Students:

- a. advocate and practice safe, legal, and responsible use of information and technology.
- b. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
- c. demonstrate personal responsibility for lifelong learning.

6. Technology Operations and Concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations. Students:

- a. understand and use technology systems.
- b. select and use applications effectively and productively.
- d. transfer current knowledge to learning of new technologies.

Adobe Certified Associate Exam Objectives

Adobe Certified Associate, Interactive media objectives

- 1.1 Identify the purpose, audience, and audience needs for interactive media content.
- 1.2 Identify interactive media content that is relevant to the purpose of the media in which it will be used (websites, mobile devices, and so on).
- 1.3 Understand options for producing accessible interactive media content.
- 1.4 Demonstrate knowledge of standard copyright rules (related terms, obtaining permission, and citing copyrighted material).
- 1.6 Communicate with others (such as peers and clients) about design and content plans.
- 2.1 Identify best practices for designing interactive media content for desktop and mobile browsers, applications, games and HD video.
- 2.2 Demonstrate knowledge of design elements and principles.
- 2.3 Identify general techniques to create interactive media elements that are accessible and readable.
- 2.5 Organize an interactive media design document.
- 3.1 Identify elements of the Flash interface.
- 3.2 Use the Property inspector.

- 3.3 Use the Timeline.
- 3.4 Adjust document properties.
- 3.5 Use Flash guides and rulers.
- 3.6 Use the Motion Editor
- 3.7 Understand Flash file types.
- 3.8 Identify best practices for managing the file size of a published Flash or HTML document.
- 4.1 Make interactive media content development decisions based on your analysis and interpretation of design specifications.
- 4.2 Use tools on the Tools panel to select, create, and manipulate graphics and text.
- 4.3 Import and modify graphics.
- 4.4 Create text.
- 4.5 Adjust text properties.
- 4.6 Create objects and convert them to symbols, including graphics, movie clips, and buttons.
- 4.7 Understand symbols and the library.
- 4.8 Edit symbols and instances.
- 4.9 Create masks.
- 4.10 Create animations (changes in shape, position, size, color, and transparency).
- 4.12 Import and use sound.
- 4.13 Add and export video.
- 4.14 Publish and export Flash documents.
- 4.15 Make a Flash document accessible.
- 5.1 Conduct basic technical tests.
- 5.2 Identify techniques for basic usability tests.

For more information

Find more teaching materials for using Adobe software in your classroom on the Adobe Education Exchange: <http://edex.adobe.com/>.



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