

**Mississippi Department of Education
Office of Curriculum and Instruction**

Course Title: **Web Design and Media Rich Content**

Grade Level: **9, 10, 11, 12**

Carnegie Unit: **1**

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Web Design and Media Rich Content

Unit 1: Introduction to Web Design

Competency 1: Identify the components of Web design application software.

Suggested Enduring Understandings

1. Competing in a digital global economy entails having a presence on the Internet to reach mass consumers.

Suggested Essential Questions

1. Why is it important to have a Web page on the Internet?

Suggested Performance Indicators

- a. Research key vocabulary terms, and illustrate terminology used with Web design applications.

Suggested Teaching Strategies

- a. Use multimedia presentation equipment to introduce terminology.

Terminology may include the following:

- Root folder
- Cache
- Table
- Local site
- Flowchart
- Alternative text
- Browser
- URL

Suggested Assessment Strategies

- a. Administer a written test.

- b. Identify the basic components of a Web design application screen.

- b. Use presentation equipment to introduce the components of good and bad Web design application screens.

- b. Observation check for understanding

- c. Research certification requirements for a Web specialist.

- c. Use the Internet to research Digital Media Technology tests such as IC³ and MCPD: Web Developer

- c. Checklist for understanding

Certifications.		
d. Identify the elements of the graphic design software interface.	d. Using multimedia such as an interactive white board, introduce students to the workplace and panels of the graphic design software.	d. Use a teacher-created rubric as an assessment tool.
e. Demonstrate knowledge of best practices for designing a Web site, such as maintaining consistency, separating content from design, and using standard fonts and Web-safe fonts.	e. Using multimedia such as an interactive whiteboard, demonstrate examples of Web sites that are appropriately designed and show differences in correct and incorrect ways to design a Web site.	e. Use a teacher-created rubric as an assessment tool.
f. Demonstrate knowledge of page layout design elements and principles, and organize content consistently.	f. Students will create a simple Web-page report that will include the following elements: Title, link to a Web site, and a table with preset columns.	f. Teacher-created rubric as an assessment tool

Competency 2: Demonstrate skills needed for planning and creating a home page.

Suggested Enduring Understandings

1. A planned and detailed home page is important to effectively market your client's Web site to its visitors.

Suggested Essential Questions

1. What concepts are important when planning and creating a home page for a specific individual or company?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Research key vocabulary terms related to planning and creating a home page.	a. Use multimedia presentation equipment to	a. Administer a written test.

	introduce terminology such as home page, storyboard, navigation, layout, layers, absolute positioning, margin, fixed width, fixed height, and padding. ^{T3}	
b. Plan and create a detailed storyboard for the home page of a portfolio.	b. Using multimedia such as an interactive white board, show students a sample portfolio plan, and outline a navigation system and general layout. Then have them create their own individual storyboards.	b. Teacher-created rubric
c. Incorporate principles of good user interface design on a home page.	c. Students will make design decisions such as graphic, text, navigation, and color choices and placement.	c. Teacher-created rubric

Competency 3: Demonstrate knowledge of best practices for designing Web sites, such as maintaining consistency, separating content from design, and using standard fonts and Web-safe colors.

Suggested Enduring Understandings

1. Graphic design software assists Web designers in creating and designing a consistent page design and layout across a Web site.

Suggested Essential Questions

1. Why do you think the content page is the user's most frequent and final destination as it pertains to a particular Web site?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Research key vocabulary terms, and illustrate terminology used with creating content pages.	a. Use multimedia presentation equipment to introduce terminology and show how each affects Web	a. Administer a written test.

design.

Terminology may include the following:

- Import
- Copy
- Paste
- Consistency
- Paragraph style
- Usability

b. Demonstrate knowledge of designing a Web site.

b. Using multimedia such as an interactive whiteboard, show students a sample electronic portfolio, and discuss topics related to consistency of navigation, navigation choices, consistency of design and appearance, page elements, and benefits of consistency as it relates to usability.

b. Teacher-created rubric as an assessment tool

c. Make design decisions such as colors, layout, and structuring navigation through Web sites.

c. Students will import a text document into a Web page and set and modify document and text properties.

c. Teacher-created rubric as an assessment tool

Competency 4: Demonstrate proficiency linking Web content using hyperlinks, e-mail links, and named anchors.

Suggested Enduring Understandings

1. Moving between pages within your Web site creates a need to link those pages that are relative and do not include the complete URL.

Suggested Essential Questions

1. How do you know if you are having hardware or software problems?
 2. Why is the Internet so important to business?
 3. What is one of the most important marketing tools known today?
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Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Identify key vocabulary terms related to linking pages.	<p>a. Using multimedia presentation equipment, introduce terminology, and show examples.</p> <p>Terminology may include the following:</p> <ul style="list-style-type: none"> • Hyperlink • Link • Absolute link • Site-root-relative link • Link target • Named anchor • Pathname 	a. Administer a written and application test.
b. Demonstrate adding links using the Properties pane.	b. Discuss with the students their knowledge of dealing with links in various documents.	b. Observation check for understanding
c. Create links using the Hyperlink dialog box.	c. Discuss absolute, site-root-relative, and document-relative.	c. Observation check for understanding
d. Demonstrate three methods for using the property inspector to create links from text or an image to another document.	d. Prepare a PowerPoint demonstration showing students methods of linking documents.	d. Peer evaluation of completed links

Competency 5: Demonstrate knowledge of Web site accessibility standards that address the needs of people with visual and motor impairments.

Suggested Enduring Understandings

1. The use of nonstandard formats can cause significant accessibility and usability problems for some people.

Suggested Essential Questions

1. Why would you spend weeks working on a project before testing it?
2. Why do companies employ people who test

2. Evaluation is crucial in any quality activity. software?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Identify terminology and techniques associated with ensuring usability and accessibility.	a. Using multimedia presentation equipment, introduce terminology and show examples. Terminology may include the following: <ul style="list-style-type: none">• Multimedia• Alternative text (Alt text)• Accessibility• Usability• Embedded link• Navigation elements• Readability• Site structure	a. Evaluate performance assessment of individual exercises.
b. Demonstrate the ability to use visual clues about navigation, structure, and organization.	b. Organize students into groups of four or less, and discuss navigation and usability. Using multimedia, explain the importance of creating usable and accessible resources in Web pages.	b. Students prepare a self-reflection on what they have learned about the principles of good usability and accessibility and how navigation compares between print and Web media.
c. Demonstrate text-formatting guidelines that improve Web site readability.	c. Discuss the use of serif and sans serif fonts and the use of color, alignment, indentation, paragraph headings, and lists.	c. Distribute a complete Newspaper to grouped students, and let them peer analyze for usability and accessibility.

Competency 6: Demonstrate how to insert a graphical navigation bar created in a separate program.

Suggested Enduring Understandings

1. The use of a graphical navigation bar forces prioritization of thought and creates a solid foundation that can be progressively elaborated upon without losing sight of the entirety.

Suggested Essential Questions

1. What are the features of a graphical navigation bar?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
<p>a. Identify terminology and techniques associated with ensuring usability and accessibility.</p>	<p>a. Using multimedia presentation equipment, introduce terminology and show examples.</p> <p>Terminology may include the following:</p> <ul style="list-style-type: none"> • Button • Navigation bar • Up state • Over state • Down state • Over while down state • Active area • Roundtrip editing 	<p>a. Performance assessment of individual exercises</p>
<p>b. Demonstrate how to create three-state buttons and how to set the active area for a button using a multimedia authoring program.</p>	<p>b. Using multimedia equipment, demonstrate how to create a three-state button and how to set the active area for a button using a multimedia authoring program.</p>	<p>b. Peer evaluation</p>
<p>c. Demonstrate how to export a navigation bar from a different application.</p>	<p>c. Ask students to create buttons for each element of their navigation bars.</p>	<p>c. Peer evaluation</p>

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| d. Demonstrate how to use roundtrip editing to edit images with different software. | d. Ask students to export their navigation bars from creation software and then insert the navigation bars into their portfolio pages using their Web page application. | d. Self-reflection |
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Competency 7: Produce Web site designs that work equally well on various operating systems and browser versions.

Suggested Enduring Understandings

1. Quality assurance is required to ensure that a product (Web page) is capable of performing what it was designed to do.

Suggested Essential Questions

1. What is quality assurance?
2. What steps would you take to guarantee quality?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Identify terminology and techniques associated with ensuring quality assurance.	a. Using multimedia presentation equipment, introduce terminology and demonstrate or show examples. Terminology may include the following: <ul style="list-style-type: none"> • Quality assurance • Criteria • Compatibility • Testing • Broken links 	a. Evaluate performance assessment of individual exercises.
b. Conduct a quality assurance test on the students' electronic portfolios.	b. Using multimedia presentation equipment, explain the importance of creating usable and accessible resources in Web pages.	b. Create a checklist of the technical features students need to test.

c. Demonstrate how to conduct a technical and functional usability test.	c. Present an overview of how students will conduct a technical and functional usability test.	c. Once work is completed, students should fix problems found on checklist.
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Competency 8: Identify techniques and methods for basic usability tests and collecting site feedback.

Suggested Enduring Understandings	Suggested Essential Questions
1. Usability is required to ensure that a product is capable of performing what it was designed to do.	1. What is usability testing? 2. How would you conduct a usability test?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Identify terminology and techniques associated with ensuring usability and accessibility.	a. Using multimedia presentation equipment, introduce terminology and show examples. Terminology may include the following: <ul style="list-style-type: none"> • Usability test • Latent behavior • Observation • Feedback 	a. Evaluate performance assessment of individual exercises.
b. Demonstrate methods for collecting site visitor feedback and site evaluation information.	b. Using multimedia presentation equipment, explain the importance of creating usable and accessible resources in Web pages.	b. Students should create a test interview form to collect information from visitors to their sites and analyze results.
c. Identify characteristics of what a usability observation looks for.	c. Using multimedia, demonstrate the behavior pattern of a typical site visitor.	c. Peer evaluation

Competency 9: Demonstrate knowledge of using and managing assets, links, and files to publish and update site

files to a remote server.

Suggested Enduring Understandings

1. It is essential to use several tools and applications for content creation in publishing a Web site on the Internet.

Suggested Essential Questions

1. How do you upload to the Internet?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Identify key terminology and techniques associated with publishing a Web site.	a. Using multimedia presentation equipment, introduce terminology and show examples. Terminology may include the following: <ul style="list-style-type: none">• Root folder• Cache• FTP• Local host• Remote site• Site map• Get files• Put files	a. Evaluate performance assessment of individual exercises.
b. Demonstrate how to set up a remote site.	b. Using multimedia presentation equipment, introduce students to the concept of publishing a Web site.	b. Generate a list of techniques that can be used to publish files.
c. Demonstrate how to use the Web browser to open newly published sites.	c. Using multimedia presentation equipment, open your Web page software, and introduce students to techniques they will need to know to publish files.	c. A checklist observation to ensure quality assurance and usability was met

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| d. Identify how to navigate each page to ensure all files were successfully published and are valid and reliable. | d. Using multimedia, explain how to navigate to each page and make sure all files were successfully published and function as they should. | d. Peer evaluation of work completed |
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Competency 10: Use basic HTML tags to set up an HTML document, format text, add links, create tables, and build ordered and unordered lists.

Suggested Enduring Understandings

1. An essential part of making error corrections is to know how the error occurred.

Suggested Essential Questions

1. What does the acronym “HTML” stand for?
2. Why should you learn HTML if there is a program that will code for you?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Identify terminology and techniques associated with Hyper Text Markup Language (HTML).	a. Using multimedia presentation equipment, discuss and introduce terminology and show examples. Terminology may include the following: <ul style="list-style-type: none"> • Tag • HTML • Source code • URL • Align • Design view • Code view • Code and design view 	a. Evaluate performance assessment of individual exercises.
b. Demonstrate how to locate the code view and create tags using the Web browser.	b. Using a Web browser, show students how they can use code view to examine and write HTML code.	b. Present students with a code that has errors in it. Have students correct the code and submit for a grade.

References

Adobe Systems, Inc. (2008). *Visual design: Foundations of design and print production*. Retrieved November 21, 2008, from <http://www.adobe.com/education/instruction/teach/visualdesign.html>

Adobe Systems, Inc. (2008). *Adobe design center*. Retrieved September 15, 2008, from <http://www.adobe.com/products/tips/photoshop.html>

Kodak. (n.d.). *Tips and projects center*. Retrieved September 15, 2005, from http://www.kodak.com/eknec/PageQuerier.jhtml?pq-path=2/3/38&pq-locale=en_US

For additional references, activities, and Web resources, please refer to the Digital Media Technology P.A.C.E. Web site at <http://rcu.blackboard.com> (available only to registered users).

Web Design and Media Rich Content

Unit 2: Building a Basic Client Web Site

Competency 1: Gather information and data as it pertains to the development of a client Web site.

Suggested Enduring Understandings

1. A Web site can be a powerful and successful business tool when used appropriately.

Suggested Essential Questions

1. What techniques and software are available to build client Web sites?
2. How can the student use the design process for Web site development?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Define the scope of the project and related terms.	<p>a. Introduce the project with information about the client organization (name of organization, its mission and goals, product or service provided by the organization, an explanation of how it works, background and history, and why the organization is in search of a Web-design team).</p> <p>Related terms may include the following:</p> <ul style="list-style-type: none"> • Audience • Screen view • Flowchart • Design comp • Production storyboard • Design review • Launch plan 	a. Test for key terms, definitions, and phases of Web site development.
b. Identify the phases of a client Web site project to build a common class understanding and agreement for each phase and task (i.e., goals, target audience, content, and delivery requirements for the Web site).	<p>b. Explore the phases of Web site production.</p> <ul style="list-style-type: none"> • Structure: (1) Flowchart to portray the overall structure of the site (2) Screen views to block out the basic structure of site pages • Design: (1) Design of comps to provide detailed alternative page designs (2) Review of comps with client to ascertain client’s design preferences (3) Redesign based on client feedback (4) Production storyboard • Build and test: (1) Site production based on storyboards (2) Technical and usability testing, recording bugs, and design-change requirements (3) Revision based on test results (4) Technical and usability testing of revised site (5) Final presentation to client and final revision • Launch the plan. 	b. Create flowchart identifying the phases of Web site development.
c. Interview clients to	c. Discuss the kind of information the student needs	c. The student is

identify the goals and audience, the design and technical (delivery) requirements, and the main content.	from his or her client's goals and target audience in order to build an understanding of the client's needs. Students should interview clients and take notes to ensure all information has been collected to complete the Web site.	responsible for compiling a list of needs to be graded. Client Interview Worksheet
d. Write a brief design document incorporating information from clients.	d. Students will prepare the design document to include the headings Project Overview, Goals and Objectives, Audience, Content, Design Summary and Site Messages, and Technical (delivery) and Functional Requirements.	

Competency 2: Utilize the phases involved in planning a client Web site in order to effectively meet the client's needs.

Suggested Enduring Understandings

1. A Web site can be a powerful and successful business tool when planned appropriately.

Suggested Essential Questions

1. How can a student plan properly for a successful Web site?
2. What are the project phases in planning?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Discuss the project phases again in the context of the client Web sites.	a. Ask students to organize the planning of their tasks within the project phases. <ul style="list-style-type: none"> • Define: <ul style="list-style-type: none"> ○ Goals and target audience ○ Content and asset collection ○ Style information ○ Delivery requirements • Structure: <ul style="list-style-type: none"> ○ Flowchart ○ Screen view sketches • Design: <ul style="list-style-type: none"> ○ Design comps ○ Review with client ○ Redesign based on client feedback ○ Production storyboard • Build and Test: <ul style="list-style-type: none"> ○ Site production based on storyboards ○ Technical test (against storyboards) and bug list ○ Usability test ○ Revision based on test results ○ Technical and usability testing of revised site ○ Final presentation to client and final revision • Launch: <ul style="list-style-type: none"> ○ Launch plan 	a. Project Plan Worksheet
	Guide: Professional Web design and development process	

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| b. Define a project plan for a client Web site project. | b. Assign a completion date for the client site. Discuss reasonable time frames for each phase.

Ask students to discuss project plans and set due dates. | b. Check off completion dates for client sites. |
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Competency 3: Use an effective and functional structure in creating a client Web site.

Suggested Enduring Understandings

1. A Web site can be a powerful and successful business tool when structured appropriately.

Suggested Essential Questions

1. What techniques and software are available to properly structure client Web sites?
2. How can the student use the structuring process for Web site development?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Build a flowchart for the client site (screen view, flowchart, and information organization).	a. Define key terms. Review the structure phase of the project. Discuss how the flowchart and screen views communicate information about the organization.	a. Key terms test
b. Present the flowchart to the client.	b. Students will organize and outline their content considering technical features that might be relevant to convey the content provided by the client, such as calendars, forms, image maps, rollover images, pop-up menus, and so forth. Students will draw a flowchart for the client site using an organizational chart or visual design software.	b. Students will submit the flowchart for a grade. (Rubric)
c. Create screen views of the home page and sample content page for the client site.	c. Introduce the concept of making quick screen views of key pages in a Web site. Show students example screen views. Discuss the techniques involved in making screen views, such as using shapes to represent graphics, showing page layout and content layout, and communicating visual design without using specific graphics. Guide: Sample screen views Discuss page elements that may be affected by delivery requirements. Examine items in each team's delivery requirements, and ask students to describe how each requirement can affect their page designs. Ask students to present their screen views to the client. The client will give an assessment of how well the information organization and placement	c. Teacher observation Have peers act as clients and evaluate screen views for a grade. (Rubric)

meets their goals and addresses their target audience.

Have students revise their screen views in response to the client's feedback.

Competency 4: Apply techniques of design to create a suitable client Web site.

Suggested Enduring Understandings

1. A Web site can be a powerful and successful business tool when designed appropriately.

Suggested Essential Questions

1. What techniques and software are available to properly design client Web sites?
2. How can the student use the design process for Web site development?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Create design comps of a home page and a sample content page to show different looks.	<p>a. Introduce the concept of a design comp and emphasize (1) mood, (2) color, (3) fonts, (4) images, (5) text, (6) navigation elements, and (7) presentation.</p> <p>Assign each student to make at least one design comp of the home page and a sample content page—showing varying perspectives on the pages but still keeping the value of consistency between the home page and content.</p> <p>After individual students have completed their comps, each team will select their two best home page comps and their two best content page comps to share with clients.</p>	<p>a. Graded design comp (Rubric)</p> <p>Graded team process activity (Rubric)</p>

Competency 5: Utilize client feedback to improve a design concept.

Suggested Enduring Understandings

1. A Web site can be a powerful and successful business tool when designed appropriately and the student maintains open communication with the client.

Suggested Essential Questions

1. What techniques can be used regarding client input that has a direct impact on the design requirements and the end product?
2. How can the student use the client's input upon the completion of the review process?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Define the terms <i>active listening</i> and <i>production storyboard</i> .	a. Discuss key terms with students as they relate to storyboard production.	a. Written test on key terms
b. Use active listening skills during the client review.	<p>b. Students will present their concepts to the client.</p> <p>Students should actively listen to clients' feedback:</p> <ul style="list-style-type: none">• Take notes.	b. Allow peers to act as clients giving feedback to students.

	<ul style="list-style-type: none"> • Ask clarifying questions such as the following: <ul style="list-style-type: none"> ○ Can you identify online examples that solve this problem? ○ How would you solve this problem? ○ Would this solve this problem? 	Evaluate the students' note-taking abilities for a grade.
c. Revise design comps, and present revised design comps to the client.	c. Students will revise design comps based on client feedback and present their comps to the client again. Students can begin to incorporate final graphics and content as parts of the comps are approved.	c. Graded design comp revisions (Rubric)
d. Create production storyboards for client Web site.	<p>d. Discuss storyboards. Students will understand that their storyboards are how they communicate page layout as well as font and color decisions within the team, so storyboards must include a high level of detail.</p> <p>Guide: Production Storyboard</p> <p>Students will create storyboards for all the pages in their site. Storyboards should include the following elements for each site page:</p> <ul style="list-style-type: none"> • Site name • Page title • Document name • Page sketch (layout) • Background • Heading texts (specification of fonts, font sizes, styles, borders, margins, alignment, padding, and colors) • Body texts (specification of fonts, font sizes, styles, borders, margins, alignment, padding, and colors) • Description of all text, graphics, Flash movies, and video, including the order in which these elements are displayed • Buttons, links, and their destinations • Graphics, video, or Flash movie files needed for the page 	<p>d. Production Storyboard Worksheet</p> <p>Rubric</p>

Competency 6: Utilize cascading style sheets to ensure consistency of style and theme.

Suggested Enduring Understandings

1. A Web site can be a powerful and successful business tool when best practices for designing a Web site are followed.

Suggested Essential Questions

1. What techniques can be used to implement a reusable design?
2. What software is available for Web site design?

Suggested Performance Indicators

- a. Define key terms

Suggested Teaching Strategies

- a. Examine the uses of cascading style sheets.

Suggested Assessment Strategies

- a. Test on key terms

<p>related to cascading style sheets.</p>	<p>Terms may include the following:</p> <ul style="list-style-type: none"> • Cascading style sheets (CSS) • Tag style • Class style • Selector style • Linked style sheet • External style sheet 	<p>and the importance of CSS.</p>
<p>b. Create a style sheet for use with the client Web site.</p>	<p>b. Discuss the importance of CSS as follows:</p> <ul style="list-style-type: none"> • Simplify text formatting. • Enable design of consistent-looking pages. • Enable site-wide changes. <p>Using a sample Web page, demonstrate style features on the CSS styles panel to show students the types of styles they can create.</p> <p>Guide: CSS styles panel in (Dreamweaver)</p> <p>Students will select a style in the CSS styles panel and either make changes to an existing property in the Properties pane or click Add Property and select a property to add and manipulate. Students can also complete this same action by clicking the Edit Style button at the bottom of the panel. They can make a change to the features of the style to see how the change is implemented on the page.</p> <p>After manipulating styles, students should create a new style and add it to the sample CSS. Have students create the following:</p> <ul style="list-style-type: none"> • A redefined style (e.g., an H1 tag that is bold and green, with a 25-point Arial font) • A new style class (e.g., a tag called special that is italic and yellow, with a 10-point Times font) • Demonstrate how to turn internal styles into a new external style sheet. Ask students to start creating external style sheets for their client sites as they follow along with the demonstration. <p>Guide: How to create Cascading Style Sheets</p> <p>Have students complete the style sheets for their client sites, applying what they have learned about creating and editing styles to implement the styles required by their design comps.</p>	<p>b. CSS Styles Panel Worksheet (in Dreamweaver)</p> <p>CSS Style Sheets Rubric</p>

Competency 7: Develop a final product for the client utilizing all design phases, feedback, and peer collaboration.

Suggested Enduring Understandings

1. A Web site can be a powerful and successful business tool when designed appropriately and the student demonstrates knowledge of best practices for designing a Web site.

Suggested Essential Questions

1. What technical features of the software can be used to complete Web site pages?
2. How can the students use the create graphic assets for their client sites?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Work collaboratively to build a client Web site.	a. Define the following terms: <ul style="list-style-type: none"> • Template • Library • Search engines • Check in • Check out • Meta tags 	a. Test on terms
b. Use templates and libraries to build consistent Web pages.	b. Have students work together to figure out what elements of the final comps will be on all pages of the site. Explain how using templates helps keep the site consistent while a team produces the site. Ask students to use Fireworks to create the common graphic page elements from their final comps and export each of the Fireworks graphics. They will use these graphics on the content page template.	b. Teacher observation of graphic design element
c. Apply cascading style sheets to templates.	c. Briefly demonstrate to students the templates available in the Web design software. Have students use Web site software to create a template for their content pages, following their storyboards. Their templates should incorporate their style sheets. Encourage them to use tables, paragraph styles for headings, and indentation to create and maintain a page structure and a meaningful content hierarchy. Students should insert the graphics they created in Fireworks. Make sure they add editable regions and save their files as templates. Guide: How to use templates	c. Reusable Elements Rubric
d. Discuss and demonstrate library features as they	d. Discuss the types of elements that can be stored in a library. Briefly demonstrate how to add an element to the library and how to place	

relate to templates.

a library item in a document by dragging or by using the Insert button. Have students add elements to the library for later use throughout the site, such as logos, buttons, and mottos. In particular, they should add to the library any elements that are used more than once on site pages.

Guide: How to use libraries

Discuss the importance of templates and libraries as tools for promoting consistency in Web site design. Other techniques with which students should be familiar include managing reusable assets in the Assets panel, applying styles to text, using standard fonts, and using Web-safe colors.

Introduce the procedure for checking out the Web site software files in and out. Discuss how this procedure supports collaboration within a team and eliminates the possibility that two different team members simultaneously make different changes to a file.

Guide: How to check files in and out

e. Create a Web site using templates.

e. Have students use their templates to build all the pages for their client Web sites, inserting elements from the library as appropriate. Using the template, all team members can work on the pages and still maintain uniformity of site design.

e. Evaluation of hands-on performance

Competency 8: Test the Web site for usability and accessibility.

Suggested Enduring Understandings

1. A Web site can be a powerful and successful business tool when designed appropriately and the student assures quality assurance.

Suggested Essential Questions

1. What tests can be conducted to evaluate usability of the client's site?
2. What items should a student include in a checklist for testing a client site?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Conduct a technical test on a client Web site, and compile a bug list.	a. Define the following key terms: <ul style="list-style-type: none"> • Technical testing • Bug list • Usability testing • Latent behavior 	a. Test on key terms
b. Conduct a usability	b. Have students begin the process of technical	b. Evaluate student

test on a client Web site.	<p>testing by making a checklist—also called a test plan—of the technical features they need to test, as those features are specified in their design documents and storyboards. The checklists might include the following:</p> <ul style="list-style-type: none"> • Test links to make sure they go to proper destinations. • Check for layout elements that should appear on every page (e.g., banners across the top, navigation bars). • Check the spelling of all text (such as content paragraphs and button labels) on every page. • Check that the site works in at least of the two major browsers, Netscape Navigator and Internet Explorer. If students have access to both Macintosh computers and computers with Windows installed, they should test their sites on each platform. 	checklists.
c. Compile the results of technical testing and usability testing of a client Web site, make necessary revisions, and add the client site to an electronic portfolio.	<p>c. Have students test each other’s sites, or have each team follow the test checklist on their own site. Make sure testers write down the bugs and problems they find so the team knows everything that needs to be fixed.</p> <p>To prepare for usability testing, have student teams make a usability test interview sheet for testers to complete as they go through a site. Interview worksheet ideas can be found at www.pantos.org/atw/35317.html.</p> <p>Pair students from different teams, asking one partner to test the other’s site, following the usability test worksheet. The other partner should observe the tester and document the tester’s actions, looking for latent behavior.</p> <p>After the first test is completed, have partners switch roles and perform the usability test for the other student’s site.</p> <p>From the peer feedback and personal notes, ask students to propose written solutions and implement them. If they do not plan to implement a proposed solution, make sure they document why they choose not to do so.</p> <p>Ask teams to revise their sites based on information from the technical and usability tests.</p>	<p>Testing a Client Web Site Rubric.</p> <p>Launching a Client Web Site Rubric</p>

Competency 9: Compose a marketing plan to publicize the client Web site.

Suggested Enduring Understandings

1. A Web site can be a powerful and successful business tool.

Suggested Essential Questions

1. How can audience awareness be created for the client’s Web site?
2. How should a client’s Web site be marketed?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
<p>a. Create a basic marketing plan for the client Web site.</p>	<p>a. Define the following terms:</p> <ul style="list-style-type: none"> • Launch • Promote • Marketing 	<p>a. Test on terms</p>
<p>b. Present a Web site and marketing plan to the client.</p>	<p>b. Students will investigate how to use Web search engines to promote or market a Web site. Students should explore and contrast the following options:</p> <ul style="list-style-type: none"> • Find a search engine that offers free submission of Web sites. Make a list of their submission procedures. • Find a search engine or promotion site for which you pay to submit your site. State the cost, and discuss whether the benefits of the service are worth the cost. <p>Students will outline a brief launch plan for the client site that is based on the above research. Have students think about their target audience and goals when selecting the organizations and methods they might use for promoting the site.</p> <p>Discuss how to organize a formal presentation to the clients. Students should point out the following:</p> <ul style="list-style-type: none"> • Highlights of the client site • Explanation of how the client site functions and how it markets the clients business or product. <p>Students will create formal presentations and then present to the clients.</p>	<p>b. How to Promote a Web Site Worksheet</p> <p>Grade for launch plan.</p> <p>Have students participate in class-wide critique of some final products.</p> <p>Launch Plan and Client Presentation Rubric</p>

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Web Design and Media Rich Content

Unit 3: Media Rich Content for Web Design

Competency 1: Apply media rich concepts in order to enhance a Web site.

Suggested Enduring Understandings

1. Designers choose different ways to present their Web site content—from animated graphics to rich client interfaces. How do they do it?

Suggested Essential Questions

1. How do you make the animation work on a Web site?
2. How do you put music on a Web site?
3. How do you make interactive buttons on a Web site?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
<p>a. Identify parts of a rich media software program workspace, including the following:</p> <ul style="list-style-type: none"> • Timeline • Frames • Layers • The stage • Scenes • Tools • Panels • Property inspector • Symbols • Instances • Libraries 	<p>a. Show students Web sites that use Flash elements. Discuss how designers use Flash to enhance the user experience. Some elements to discuss include the following:</p> <ul style="list-style-type: none"> • Navigation systems • Integrated user interface • Animated screen elements • Rich media advertising <p>Note: Rich media advertising consists of communication using a combination of graphics with video, audio, or animation. An example is banner ads.</p> <p>Using a slide presentation, introduce students to the Flash interface. You might open the sample animated face document to explain and demonstrate the following elements:</p> <ul style="list-style-type: none"> • Flash document: Where you create your Flash content. You save a Flash document as a file with a .fla extension. • Tools panel: Tools for drawing, painting, writing, selecting, moving, modifying, viewing, and coloring • Panels: Additional tools for modifying and creating objects • Property inspector: Where you set or change the most commonly used attributes of objects in a Flash document • Movie: A published Flash document. Explain the difference between FLA and SWF files. • Stage: Where you compose the content of a Flash document • Timeline: Where you organize and control the content of a Flash document over time, using 	<p>a. Written test that contains key terms, phrases, or concepts</p>

layers and frames

- **Frame:** A single picture in a series that forms the content of a Flash document
- **Keyframe:** A frame in which you define a change in what is displayed on the stage or include frame actions to modify action on the stage
- **Layers:** Where you organize the various content elements in a Flash document
- **Scene:** Each document can contain multiple scenes, each with its own timeline and stage. Scenes can be placed within other scenes.
- **Edit bar:** Indicates the current scene. On the right side, you can select the scene to open on the stage or change the magnification for viewing the stage.
- **Symbol:** An element stored in a library for reuse in a Flash document
- **Instance:** A copy of a symbol when it is on the stage. Each instance references the complete information stored in the corresponding library symbol, without duplicating that information. The use of instances minimizes the file size of a Flash movie.
- **Library:** Where you store and organize symbols
- **Tweening:** An automated way to create smooth movement and changes over time
- **Sounds:** Music loops or sound effects that play during the movie or are triggered by an action
- **Actions:** ActionScript statements that control an object or the timeline when a movie is played

Presentation: Introduction to Adobe Flash CS3

Worksheet: The Flash workspace

Guide: The Flash workspace

Electronic file: sample_animated_face.swf

Electronic file: sample_animated_face fla

b. Create an interactive animated movie that incorporates motion and shape tweens, sound, and buttons.

b. Using the “I do, we do, you do” method, build a simple animated face with students. Highlight the following elements:

- Drawings on separate layers
- A shape tween on one layer
- A motion tween on another layer
- A static object that persists throughout the movie on a separate layer

Guide: How to create an animated face

Electronic file: sample_animated_face.swf

Electronic file: sample_animated_face fla

During the process of creating the animated face with students, find opportunities to discuss the

b. Performance-based assessment that includes the use of rich media to include the following:

- Video
- Audio
- Animation

Written test that contains key terms, phrases, or concepts

following:

- Various ways to open, close, expand, and collapse panels
- Stage size and its relationship to screen resolution
- Document properties and settings (and how to open the Document Properties dialog box)
- How non-symbol shapes merge if you place one over the other in the same layer
- The difference between bitmap images and vector images in Flash
- Drawing tools, such as shapes and lines
- Selection tools, such as marquee, lasso, and magic wand
- The timeline and its use in animation
- How keyframes differ from regular frames
- Frame rate and timing (typically 12 frames per second) and the effect of frame rate on file size
- The definition of shape in Flash
- Symbols, instances, and the library
- Editing modes, such as editing an object on the stage or editing a symbol
- Locking and unlocking layers to protect objects you are not manipulating
- Publishing the face using different methods
- The differences between an SWF file and its corresponding FLA file

Guide: Symbols, instances, and the library

Guide: Frames and keyframes

Guide: How to create motion and shape tweens

As you build the Flash document, watch for the following teaching opportunities:

- When you create an instance of an object from the library, discuss why you use symbols and libraries.
- When you create tweens, discuss the two kinds of tweens.

Once students have created the initial face, pair students and have them check each other's animated faces. They should test and discuss the following:

- Select each keyframe, and determine if more than one object is highlighted on the stage. (Objects should be on separate layers if they are to be animated.)
 - Select each keyframe, and determine if an object is a shape or a symbol and if the correct type of tween has been applied. (Motion tweens animate symbols; shape tweens animate shapes.)
-

-
- In turn, select each keyframe along the timeline, and make sure the object is in the expected location on the stage based on the point in the movie.

Inform students that these techniques for checking that their Flash document is clean will help when they are looking for errors in more complex movies later.

Once students successfully create the simple face, inform them that they will now add some user control and a soundtrack.

Using the “I do, we do, you do” method, introduce students to the basic concepts of using ActionScript to stop their movies from looping. Some key terms you might want to define as you step students through this process include the following:

- Class
- Object
- Property
- Variable
- Method
- Function
- Event

Guide: How to get started with ActionScript

Building on the basic concepts of ActionScript, demonstrate how to create a button to stop and play the movie. Watch for the following teaching opportunities:

- When you create a button, make sure students understand the different button states.
- What are events handlers and listeners?

Guide: How to create a button symbol

Demonstrate how to add sound on a separate layer and use actions to make sure the sound stops when the movie stops. Be sure to discuss copyright issues related to sounds students propose to add to their movies.

If students complete their animated face and buttons early, challenge them to add one or more of the following features on their own; then have them show the result to a partner and explain how they created the feature.

- Add eyebrows that do not move.
 - Add eyebrows that move up as the eyes move.
 - Add a tongue that comes out as the face smiles.
 - Add eyes that open and close as the face smiles.
-

Ask students to share their completed movies with the rest of the class.

Have students add their animations to a new animation section in their portfolios to illustrate their graphics work.

Competency 2: Examine the properties and benefits of Adobe Flash software.

Suggested Enduring Understandings

1. Web Sites with animation and video look more attractive than sites that are static.

Suggested Essential Questions

1. What are the key elements to a good animation?
2. How are animations, movies, and sound added to a Web site?
3. How are animations and movies created for a Web site?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
<p>a. Identify the use of technical elements such as tweens, images, text animations, actions, and sound in Adobe Flash CS3 movies and ads on the Web.</p>	<p>a. Have students open one or more Web sites that illustrate a variety of Flash techniques. (Alternatively, you could open such sites on the teacher workstation.)</p> <p>As a class, identify the following Flash techniques on the Web sites:</p> <ul style="list-style-type: none"> • Motion tweens • Shape tweens • Movie clips • Buttons • Combinations of symbols, such as buttons that contain animated movie clips • Sound (number of sounds used, number of times a sound is looped) • Stop actions • Go to and play actions <p>Have students speculate on the types or combinations of techniques that might be involved to create some of the more complicated effects they see.</p> <p>Discuss the purposes for implementing content as rich media. You might include the following:</p> <ul style="list-style-type: none"> • Incorporating audio and video • Providing continuity • Providing transitions • Illustrating change over time • Getting multiple layers of information from one part of the display • Enriching graphical representations • Visualizing three-dimensional structures 	<p>a. Ask students to find a professional Web site that contains a variety of Flash techniques.</p> <p>Students must identify the Flash techniques that are used such as tweens, movies, sound, buttons, and so forth.</p> <p>Analyzing Flash on the Web Worksheet</p> <p>Have students attempt to recreate the techniques they have identified.</p> <p>Have students write a journal entry or reflective paragraph that describes how they might incorporate these techniques in their Web site design.</p>

- Attracting attention

If time permits, challenge students to comment on one or more of the following:

- A surprising technique
- A challenging technique
- An unidentified technique
- A creative design solution

Competency 3: Incorporate video and multimedia elements into Web design.

Suggested Enduring Understandings

1. Know how to incorporate video into Web site design properly and efficiently.

Suggested Essential Questions

1. How is video a more compelling form of media for some Web sites?
2. Is video seen on Web sites the future of most multimedia types including television?

Suggested Performance Indicators

- a. Examine Web sites that incorporate Flash video.

Suggested Teaching Strategies

- a. Brainstorm with students the different kinds of video they have seen on the Web and what type of video player these sites use. Some examples follow:
 - Video trailers of upcoming movies (QuickTime) www.apple.com/trailers/
 - Television show previews (RealPlayer) www.pbs.org/wnet/nature/preview.html
 - News videos (Windows Media Player) <http://video.msn.com/video/p.htm?rf=http://www.msn.com/>
 - Case studies (Flash video in Flash Player) www.adobe.com/education/products/creativesuite/customers/hed/index.html

As you view these sites, you might ask students to identify some of the general challenges of incorporating video on a Web site. Some topics you can use to guide the conversation include the following:

- **Bandwidth limitations:** Video files are generally quite large, requiring megabytes of data to display even short video clips.
- **Complex video authoring for the Web:** No standard tool sets exist for creating interactivity, navigation control, and fusion of video with other rich media content.
- **Time-consuming player downloads:** Most video playback requires site visitors to download a plug-in or application to view a video.
- **Lack of compelling integration of video and**

Suggested Assessment Strategies

- a. Assess knowledge of different types of media players and terminology associated with the use of these players using a pre-assessment quiz and a follow-up post-test.

other Web content: Most video formats restrict playback of video to a separate generic window, interrupting the user experience.

Discuss how Flash video addresses these challenges. The benefits of Flash video implemented through Flash Player include the following:

- **Availability:** Flash Player is the most widely installed Internet video client, running on over 94% of all Internet-connected personal computers.
- **Creative control:** Designers can integrate Flash Video into a Web site by customizing the skin that frames the video.
- **Video in context:** Because Flash treats Flash Video as a media type, you can integrate video directly into a Web page just as you would any image or sound you bring into Flash.

Show students how Flash video is used to enhance the experience of different audiences. Some examples you might start with include the following:

- News: Flash video to provide recent news and events
www.cnn.com/video/
- Entertainment: Flash video to show the latest Asian music videos
www.iatv.tv/music/
- Research: Online polls using video interactivity as part of the poll (click Take a Sample Poll)
<http://hertzresearch.com/software.html>
- Case studies (Flash video in Flash Player)
www.adobe.com/education/products/creativesuite/customers/hed/index.html

b. Appropriately incorporate video in a Flash document for use on a Web site.

b. Have students identify ways in which these videos address the intended audience and the site purpose and goals.

Demonstrate the ways to incorporate video into a Flash document. You might want to highlight the following aspects of incorporating video:

- Delivery options, such as progressive, streaming, and embedded video
- How delivery option affects the file size of the published Flash document
- Video file formats that can be used in a Flash document
- The advantages of storing video files outside the published Flash document

b. Allow students to peer evaluate knowledge of video delivery options using the Internet and appropriate Web sites.

Guide: How to produce video for use on the Web
Electronic file: sample_video.mov

Break students into small groups, and have each group use the sample video to create a Flash video.

- | | | |
|--|--|---|
| <p>c. Identify challenges with using video on the Web and the ways in which Flash video addresses these challenges and improves user experience.</p> | <p>c. Assign one of three scenarios to each group:</p> <ul style="list-style-type: none"> • A local news team is reporting a story about the Golden Gate Bridge on its Web site. • A movie director is shooting the trailer for a movie based in San Francisco. • A tourism Web site is creating a feature to lure tourists to San Francisco. | <p>c. Evaluate the project using a rubric to determine quality of the work.</p> |
|--|--|---|

Ask each group to write a two- or three-sentence narration that will appeal to the audience each organization is trying to attract.

Have each group record its narration, import the audio into the Flash document with the video, and apply appropriate audio compression settings. Ask each group to modify the skin of its video to appeal to its target audience.

Guide: How to import sound

Competency 4: Utilize motion tweens to enhance the user experience.

Suggested Enduring Understandings

1. Animations on a Web site enhance the viewer’s experience.

Suggested Essential Questions

1. Why are Web site animations more attractive than static text and graphics?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
<p>a. Examine Web sites that use masking and path animation techniques.</p>	<p>a. Introduce masking and path animations by showing students some sites that use these specific techniques, such as the following:</p> <ul style="list-style-type: none"> • The Digital Classroom’s example of the movement of molecules: http://thedigitalclassroom.com/showcase/flash/flash2.htm • 20 Enhancing user experience with Adobe Flash CS3 © 2007 Adobe Systems Incorporated • National Geographic’s Lewis and Clark Journey map : www.nationalgeographic.com/lewisandclark/journey_leg_1.html 	<p>a. Allow students to perform a self-evaluation on their knowledge of masking and path animation by illustrating these techniques on appropriate Web sites.</p>
<p>b. Build mask effects and path animations</p>	<p>b. Explain that the motion tweening learned in the first activity to simply change position can be</p>	<p>b. Allow students to peer evaluate the</p>

<p>involving advanced motion tweens.</p>	<p>applied in different ways to create more advanced effects.</p> <p>Have students indicate the ways in which using these techniques enhances the user's ability to understand the information being presented.</p> <p>Demonstrate to students the steps to create a masking effect and a path animation.</p> <p>Electronic file: mask_sample.swf Electronic file: path_anim_sample.swf</p> <p>Break students into small groups. Assign each group to create either a masking effect or a path animation.</p>	<p>work of their classmates.</p>
<p>c. Identify how masking and path animations can be used to enhance user experience on the Web.</p>	<p>c. Have students build an example of the effect and brainstorm three applications for their effect. Have them use the guides and rulers in Flash to accurately line up the objects they use when creating their masking and path animation effects.</p> <p>Note: Be sure to provide students with any needed assets for them to create the effect.</p> <p>Guide: How to use guides and rulers Guide: How to create masks Guide: How to use a motion guide for animation Guide: How to create and edit symbols</p> <p>After students have had a chance to complete their tasks, have a few groups share their samples and explain the applications they would see for their techniques.</p> <p>Let students know that later in the course they will create a digital narrative and design a Web site for a client. In each of these projects, students will have the opportunity to apply what they have learned about Flash video, masking, and path animation.</p>	<p>c. Use a rubric to evaluate students' animation techniques.</p>

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Web Design and Media Rich Content

Unit 4: Planning a Digital Narrative and Creating a Script

Competency 1: Utilize effects and film techniques to make a story more effective.

Suggested Enduring Understandings

1. Well-developed narratives contain effective transitions and effects, both visual and auditory.

Suggested Essential Questions

1. What effects and transitions can I use to make my story more effective?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Examine online examples that use various Adobe Flash CS3 techniques.	a. Introduce techniques for creating filming and transition effects; show students some sites that use these techniques, such as www.becominghuman.org and www.usolympicteam.com/kids/toons/index.shtml . Explain that certain filmmaking techniques can be incorporated into motion, shape, and text tweens to enhance the narrative capabilities of Flash. You might discuss the following: <ul style="list-style-type: none"> • Pan, tilt, and zoom effect: Moving the camera horizontally across a scene is called a pan. Moving the camera up or down across a scene is called a tilt. Moving the camera away from or toward a subject in a scene is called a zoom. • Camera angles: The rule of thirds and adjusting the viewing angle can help emphasize a certain aspect of the subject. • Cross fades: A transitional effect for moving from one image to another. This technique appears to fade in one image while another fades out. Another version of the cross fade is a color fade—dissolving between different color instances of the same object. • Bounce effect: A moving object rebounds before stopping. This technique grabs attention and can focus the visitor on an area of the screen. • Transitions: Multiple techniques (such as flipping, fading, and color fading) used to move from one section of a digital narrative to another Electronic file: pan-zoom_example fla, Electronic file: fade_example fla Electronic file: bounce_example fla	a. Give a pretest reflecting the content of the competency for creating effects and film techniques.

b. Work with custom colors and gradients in Flash.	b. Explain to students that they are not limited to the colors in the default color palette. They can create new colors and gradients by using the Color Mixer panel.	b. Create a checklist that assesses students' abilities to create new colors and gradients.
	Guide: How to apply colors and gradients	Have students submit their thoughts on the discussion topics via blog entries.
	Briefly demonstrate how students can use graphic filters to create text effects.	
	Guide: How to create text effects with filters	
	Discuss how to import images, including the difference between importing to the stage and to the library. Discuss the differences between bitmap images and vector graphics.	
	Guide: How to import images	
	Discuss how Flash allows designers and developers to deliver filmmaking and traditional animation techniques over the Web by offering media-rich effects and animation with support for video and audio content, smaller file sizes, and easier authoring. Some questions to guide the discussion around these effects might include the following:	
	<ul style="list-style-type: none"> • How does each of these techniques enhance the site? • Why might the developer have used Flash instead of HTML? 	
c. Develop transition effects built through motion, shape, and text tweening in preparation for enhancing a narrative.	c. Divide students into small groups. Assign each group a filmmaking or transition technique to learn independently. Ask each group to build an example of its assigned technique and discuss where this technique might be used and how it would relate to the audience and message. Remind groups that they will teach their techniques to the class.	c. Use a rubric to evaluate students' projects as they relate to the DOK of the stated competency.
	Guide: How to create transitions with motion tweens	
	Guide: How to create timeline effects	
	Guide: How to use filmmaking techniques	
	Worksheet: Examples of effects	
d. Build filmmaking effects involving advanced motion and shape tweens.	d. You might highlight some technical aspects of Flash you are asking students to use when creating the effects: <ul style="list-style-type: none"> • Frame rate and how it affects playback, timing, and published movie size 	d. Teacher assessment of hands-on project

- Frame labels and the benefits of using them when adding actions

Note: You might have early finishers look specifically at these technical aspects of Flash and comment on their uses as well as their effects on the size of a published movie.

Have each group explain to the class when and why its assigned technique is used. The group should then lead the class through the process of creating an example of the technique.

Note: You might have one member of the group show the steps for creating the technique while the other members of the group help students in the classroom as teaching assistants.

Wrap up the activity by explaining to students the concept of sharing resources online (similar to the presentation activity in class). The Internet provides a vast amount of general information and many specific tutorials on Flash. Explain to students that a good idea is to establish a need, categorize the type of effect they need, investigate options, and then download and customize a sample FLA file.

Show them how they might search for new techniques at sites such as www.flashkit.com.

Competency 2: Compose a digital narrative and script in order to effectively communicate through multimedia.

Suggested Enduring Understandings

1. Narratives that are well planned and well designed are more effective than those that are not.

Suggested Essential Questions

1. Are stories that are rehearsed more effective than those that are impromptu?
2. Does “well-planned” and “well-designed” look more professional?
3. What does it mean to “plan” and “design” a narrative?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Plan and design a narrative to effectively communicate a message.	a. Introduce areas where digital storytelling is used. You might look at different types of online narratives: Documentaries, personal opinions, and cartoons and animations. You might also look at non-Web narratives such as commercials. Some places to find online narratives include the following: <ul style="list-style-type: none"> • Arizona State University and the Institute of 	a. Plan and design a narrative to effectively communicate a message.

Human Origins created this documentary:
www.becominghuman.org.

- Second Story's site contains links to a variety of Web sites with interactive features on subjects ranging from the visual arts, architecture, and music to history, geography, and the sciences: www.secondstory.com.
- Youth Radio's Web site has examples that use Flash to animate commentaries on various subjects with varying degrees of seriousness: www.youthradio.org/animation/index.shtml.
- USA Olympics kids' site contains cartoons: www.usolympicteam.com/kids/toons/index.shtml.

Have students analyze and discuss each narrative you present. You might structure their analysis with the following questions:

- What type of narrative is it (such as documentary, cartoon, or personal opinion)? Describe how the words and visuals are used to make it this type of narrative.
- What is the primary audience? Describe how the words and visuals target this specific audience.
- How relevant is the narrative content to the overall purpose of the site?
- What is the message of the narrative? (Summarize in one sentence.)
- How long is the narrative piece? Does it seem too long for the amount of visual action? Does it seem too short? Why or why not?
- How does the narrative meet the site purpose, address the target audience, and enhance the overall goals of the site?

Remind students of the design and development process they followed in creating Web sites. Point out that as they create a digital narrative they will engage in the same phases of the design and development process: Defining the project, structuring the narrative, designing the narrative, building and testing the narrative, and finally publishing or launching the narrative.

b. Write a script for a digital narrative.

b. As part of the definition and structuring phases, have students write a short narrative for a Web site and indicate the goals, audience, and message of the narrative, the length of time it will take to view the narrative, and the delivery requirements for the narrative (such as download speed, screen resolution, and Internet connection speed). You

b. Allow peer evaluation of students' work using the attached rubric to evaluate students' narrative.

might present the following criteria to help contain the project:

- The audio recording for the narrative does not exceed 45 seconds.
- The length of the movie does not exceed 1 minute.
- The number of written and spoken words is not more than 50.
- The narrative contains at least one transition effect.
- The narrative contains at least one filmmaking technique.
- The narrative contains no more than five different filmmaking and transition techniques.

Worksheet: Analyzing and scripting a digital narrative

You might also suggest that students consider using one of the techniques they learned in the previous unit, such as producing video, creating masks, or creating path animations.

Allow students time to write their scripts.

c. Peer critique narrative scripts, considering audience and time frame.

c. Pair students, and have them trade scripts with their partners.

Ask partners to read each other's scripts, analyze the goals of the narratives, and analyze the specific audiences, message of the narratives, and the time they believe it will take for the narratives to be read or animated.

Have partners discuss their analyses to make sure the goals, audience, message, and time frame match what was intended.

Have students revise their narrative scripts based on feedback from their partners.

c. Have students write a reflective journal entry on unit content.

Competency 3: Design an animation storyboard in order to plan and organize a digital narrative.

Suggested Enduring Understandings

1. Storyboarding is the format for planning and designing a narrative.

Suggested Essential Questions

1. Why do people take the time to storyboard their ideas?
2. Will storyboarding make for better narratives?
3. How will I be able to use storyboarding to convey my ideas for a narrative?

Suggested Performance

Suggested Teaching Strategies

Suggested Assessment

Indicators		Strategies
<p>a. Create an animation storyboard.</p>	<p>a. Introduce animation storyboards and flowcharts by showing students examples of storyboards used to create cartoons, films, or other narratives. You might highlight the following ideas:</p> <ul style="list-style-type: none"> • Flowcharts describe the overall information architecture or flow of the movie, and storyboards are detailed versions of the flowchart. • Storyboards do not need great drawings, just rough sketches to visually represent the scenes. • Although detailed drawings are not necessary in these storyboards, they all contain detailed descriptions of animations, interactions (such as dialog boxes), and sounds. • Flash storyboards are similar to cartoon animation storyboards but give details about text and images, (drawn and imported), video, audio, and effects (such as fading, color changing, rotation, and zooming). • Designers make storyboards for each section of a narrative. Sections occur when there is a logical break or transition in the script (when a new image is displayed or an action happens). • Often you create a storyboard for another designer or programmer. Keep this in mind when you decide what level of detail to include in your instructions. <p>Go through the narrative summary and storyboard elements while highlighting and explaining these elements in a completed summary and storyboard. (You can use sf_fog.swf to show students a produced version of the narrative that is illustrated in the Sample Narrative and Storyboard guide, if you choose.)</p> <p>Narrative summary elements:</p> <ul style="list-style-type: none"> • Flowchart • General movie settings • Main project folder, together with image, video, and audio subfolders • Frame rate, background color, and movie dimensions <p>Storyboard elements:</p> <ul style="list-style-type: none"> • Sketches of each section, indicating objects or images and their placement on the stage at the beginning of the section (initial state) and at the end of the section (final state) • Section descriptions for both the initial state 	<p>a. Use assigned worksheets as a method of assessing students' DOK based on the correctness of answers.</p>

and the final state of the section

- Displayed text
- Description of images drawn in Flash
- Filenames for imported images, video clips, and sounds
- Description of imported images
- Text of any voice recording
- Any other general color or setting descriptions for the section, such as background, transparency, or object size

Transition description:

- Description of any effects (such as fading, movement, or color change) that can be created with text effects, motion tweens, or shape tweens

Guide: Sample narrative summary and storyboard

Electronic file: sf_fog.swf

b. Develop techniques for an effective animation storyboard.	b. As part of the design phase, have students create digital narrative flowcharts and storyboards based on their scripts. Some items for students to keep in mind as they build their flowcharts and storyboards include the following: <ul style="list-style-type: none">• The narrative look and feel should be consistent with the site into which it will be placed.• The narrative should exemplify effective design principles.• Elements included in the narrative should be accessible. Discuss why accessibility is important to Web site sponsors as well as site visitors. Identify elements of an SWF file that can be read by screen readers.• Text should be formatted to enhance readability. Discuss minimum font sizes, use of screen fonts, when to use serif and sans serif fonts, use of font color, use of alignment and text placement, line spacing, and indentation.	b. Students create a presentation to describe the plan and design of their storyboard to peers. Use a rubric to evaluate students' storyboards.
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Worksheet: Narrative summary and storyboard

Competency 4: Produce a digital narrative from a peer-created storyboard.

Suggested Enduring Understandings

1. Implementation of the storyboard leads to a well-designed narrative.
2. Time management is essential in developing professional narratives.

Suggested Essential Questions

1. How well can I use my storyboard and create what I had intended?
 2. How far from the storyboard can I deviate and still be an effective designer?
 3. Does storyboarding incorporate a wide use of time management skills?
 4. How important is time management in a
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professional environment?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
a. Import optimized images and self-recorded audio into Adobe Flash CS3.	<p>a. Have student authors collect or develop assets for their narratives.</p> <ul style="list-style-type: none">• Record audio, if there is to be a spoken narrative.• Gather images, sound loops, and video.• Gather or create content.• Optimize assets, such as graphics, sound, and video. <p>Pair students, and have the partners trade their finished storyboards and all necessary assets for each partner to produce the other’s digital narrative.</p> <p>Explain to producers that they need to make sure they have enough information to build the digital narrative.</p> <p>Have partners discuss the storyboards and ask questions to clarify the author’s intent.</p> <p>Before students begin production, review optimal image use and file management in Flash. Some techniques include the following:</p> <ul style="list-style-type: none">• Optimize images in Fireworks <i>before</i> importing them into Flash. This step reduces image file size before creating effects in Flash.• Apply appropriate audio compression settings to the document.• Name layers and organize layers into folders.• Organize items such as buttons, graphics, movie clips, and imported images into folders in the library.• Label frames to organize sections of the document.• Set appropriate JPEG quality when publishing.	a. Use a rubric to assess students’ digital narratives.
b. Produce a digital narrative from a flowchart and animation storyboard.	<p>b. Have partners build each other’s narratives, following the instructions given in the author’s flowchart and storyboard. Steps to guide their process might include the following:</p> <ul style="list-style-type: none">• Set up the document.<ul style="list-style-type: none">○ Create a new document in Flash, and set document properties.○ Import images, audio, and video.○ Organize the library.○ Save the document file.	b. Use a checklist to determine if all assigned elements of narrative are included in the submitted product.

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- Build the narrative. (These steps are not sequential but provide a checklist of tasks to complete, as indicated on the storyboard.)
 - Create new assets, such as drawings and text. Format text to enhance readability.
 - Convert objects to symbols, as appropriate.
 - Create layers for different elements, and organize the layers into folders. (It is usually a good idea to get all elements into the Flash document and then go back and animate them.)
 - Set audio compression options.
 - Insert and label keyframes at appropriate points in the narrative, including the beginning of each section.
 - Add effects.
 - Make the content accessible.
 - Test and publish the document.
 - Test and refine each section and transition.
 - Test the completed movie.
 - Check spelling.
 - Publish the movie, making sure to select the option that compresses the published SWF file.
 - Test the published movie before and after it is uploaded to the Web.

After they complete their narratives, have students review their produced narratives with the authors of the animation storyboards.

Have students work together to reconcile what the author intended with the narrative. Some questions to guide their review might include the following:

- Does the content (audio and text) of the digital narrative achieve the goals and message intended by the author? If not, what content needs to be added?
- Does the digital narrative contain all the images, audio, and video the author provided? If not, what needs to be added?
- Do the techniques used to animate the narrative contribute to the overall message and goals? If not, what techniques need to be changed, removed, or added?

Have student producers revise their work according to the changes specified by the author.

Competency 5: Prepare a digital narrative for publishing by collecting feedback and editing accordingly.

Suggested Enduring Understandings

1. Reviewing and redesigning leads to a more professional narrative.

Suggested Essential Questions

1. What can I do to improve the quality of my work?
2. Is there anything that I might have implied that might be misunderstood?
3. How can I use peer evaluation to make me a better professional?

Suggested Performance Indicators	Suggested Teaching Strategies	Suggested Assessment Strategies
<p>a. Conduct a peer review of a digital narrative.</p>	<p>a. Have students run their final digital narratives and conduct a technical test, such as making sure buttons work and tweening occurs as expected.</p> <p>Guide: How to test a digital narrative</p> <p>Have students conduct a usability test of their narratives. You might have students make a user test interview sheet for testers to fill out as they go through the narrative as they did when testing the Web sites in Unit 3. Students should remember to observe the tester and document the tester’s actions, looking for latent behavior.</p> <p>Ask students to swap narratives with a new partner (not the producer of their narrative).</p> <p>Have the author briefly explain the intended message, goals, and audience of the narrative.</p>	<p>a. Have other professionals critique students’ narratives.</p>
<p>b. Incorporate peer-suggested changes into a digital narrative.</p>	<p>b. Ask partners to review each other’s digital narratives. Some questions to guide their review might include the following:</p> <ul style="list-style-type: none"> • Does the narrative convey the intended message and address the stated goals? • How do the effects and visual content enhance or detract from the overall message and goals of the narrative? • How does the text and audio content of the narrative enhance or detract from the overall message and goals of the narrative? • How well do the effects and visual content reach the intended audience? • How relevant is the content to the overall site into which it is placed? • How well does the text and audio content of the narrative reach the intended audience? • Does the narrative fall within the required time 	<p>b. Use a rubric to assess the review process.</p>

and word limits?

- How accessible is the content to visitors with disabilities?

Worksheet: Evaluating a digital narrative

After the review, have student authors make any necessary changes to their narratives.

c. Publish a digital narrative as an HTML document.

c. Have students publish their digital narratives.

c. Work is completed.

Ask students to present their final digital narratives to the class. Some questions to guide their presentations might include the following:

- What are the goals, message, and intended audience?
 - What effects and techniques are used to support the goals and message?
 - How do the effects and techniques work to reach the intended audience?
 - What did the producer and reviewer add to the final production of the narrative?
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For additional references, activities, and Web resources, please refer to the Digital Media Technology P.A.C.E. Web site at <http://rcu.blackboard.com> (available only to registered users).