

4

Goals

Select a career and research the typical income and costs associated with it.

Create a budget template for family expenses.

Compare multiple spending scenarios, and analyze monthly expenses.

Select a vacation destination and estimate costs associated with the trip.

Create a poster to track progress towards saving money for the vacation.

Write a short summary report analyzing the affordability of the vacation.

Requirements

Recommended hardware and software:

- ▶ Macintosh computers
- ▶ Numbers (part of iWork '08)
- ▶ Pages (part of iWork '08)
- ▶ Internet access
- ▶ Color printer



Lesson 4

Solve a Problem: Reconcile a Household Budget



A relevant, real-world application for math is solving a budgeting problem. Students make a real-world decision, analyzing income and expenses, weighing their spending options, and ultimately deciding whether to make a large expenditure or not. Teaching students to use math and problem-solving skills within the context of a real life problem helps them understand the role of math in everyday life.

Using a spreadsheet helps students experiment with and compare different financial scenarios. Through an exercise like this, students are able to analyze financial data, arrive at a conclusion, and back up that decision with solid reasoning based on mathematical facts.

Project Summary



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As part of a lesson in math or career planning, students produce a budget to evaluate their household expenditures. Students choose which purchases to make in order to balance their budget. By using Numbers, students can quickly compare spending scenarios on a single spreadsheet.

In order to deepen student knowledge and augment the exercise, you can introduce several variables. Students can select a career and ascertain the average salary for that particular job. You can also introduce unexpected variables that affect the student's savings, such as home repairs, job bonuses, or an unexpected medical expense.

Once the initial budget is built, students pick a vacation destination and estimate the costs associated with their intended trip. They create a savings plan for the trip, and design a poster using Pages to track their savings progress. Finally, they defend their decision as to whether the trip is affordable or not.

Learning Objectives

After completing this project, students will be able to:

Academic

- ▶ Develop a logical approach for solving problems.
- ▶ Use critical thinking to make decisions between different options.

- ▶ Evaluate the fiscal impact of decisions about career and spending.
- ▶ Work in a partner setting, sharing responsibilities and learning to compromise to successfully complete the project.
- ▶ Analyze financial data, then create a summary report that clearly presents the group's decisions and rationale.

Technical

- ▶ Use the Internet to evaluate different cost options for products and services.
- ▶ Use a spreadsheet to model and evaluate the financial scenarios.
- ▶ Use Numbers to calculate individual costs of items.
- ▶ Use Pages to build a poster for tracking progress towards a goal.

Assessment Guidelines



Expense	Amount
Mortgage payment	\$550.00
Auto loan	\$280.00
Auto insurance	\$120.00
Auto expenses (gas, etc.)	\$100.00
Groceries (\$100.00/week)	\$433.33
Utilities	\$110.00
Telephone	\$35.00
Medical	\$30.00
Health insurance	\$25.00
Entertainment	\$180.00
Savings	\$75.00
Monthly Cash (\$50.00/week)	\$100.00

Student's Role

Students design their approach to the lesson, including the following:

- ▶ Organizing the products of the lesson (spreadsheet, poster).
- ▶ Researching careers and average salaries.
- ▶ Deciding on expenditures for their annual budget.
- ▶ Gathering and organizing their financial scenarios.
- ▶ Designing a progress-tracking poster.
- ▶ Creating a short summary report to accompany their data.

With the teacher's guidance, the students should create a rubric to assess the outcomes of the project.

Teacher's Role

Determine the criteria for evaluation of student's work throughout the project and explain how you will assess the parts of the project, including:

- ▶ The ability of the student pairs to work collaboratively and make effective compromises regarding household budget.
- ▶ The use of the writing process for the creation of the group's summary document.
- ▶ The use of spreadsheets to calculate costs associated with different scenarios.
- ▶ The use of modeling tools to display the financial options.
- ▶ The design of the group's poster.

Be sure to explain to students how you will evaluate their ability to reach the goals and objectives of the project, as judged by the final product.

Getting Started

Teacher Planning

In order for the lesson to succeed, the teacher will need a working knowledge of the technology and resources the students will use:

- ▶ The basic functionality of Numbers, the spreadsheet application included with iWork (see Lesson 10 of *Apple Training Series: iWork '08*).
- ▶ The basic functionality of Pages, the word-processing application included with iWork (see Lessons 7 and 8 of *Apple Training Series: iWork '08*).
- ▶ Identify websites ahead of time that show the different expenses associated with the lesson. These should include utilities, real estate, auto, etc. Where possible, use local expenses, as national averages may not be realistic for your area of the country.
- ▶ Identify resources students can use to investigate careers and related salaries. For jobs that require advanced training, be sure to have students calculate financial loan costs.
- ▶ Ensure that the necessary hardware and software are available to the students.
- ▶ Determine the amount of time to be spent on the project. Provide guidelines for project milestones. For example, how much time the students should spend deciding on their vacation destination.

Student Preparation

Tell the students the lesson objectives in advance, so they have time to prepare.

- ▶ Give students time to explore Numbers and Pages.
- ▶ Have students think about possible career options in advance.

Math at the Movies



TO REALLY UNDERSTAND MATHEMATICS,

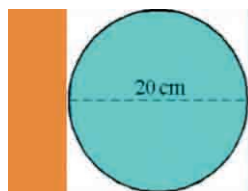
Students need to understand the concepts behind the facts. Nothing reflects deep knowledge more clearly than the ability to explain it to others. Digital arts projects allow students to explain, express, and explore.

And well-articulated explanations can be used from class to class, to tutor other students. Allowing a student to hear an explanation from another student can be an effective strategy that gives classwork ongoing life.

The idea of constructing an explanation of what one knows is especially relevant in geometry, an area of math that often depends on memorization. Digital arts projects offer students a new approach in which they integrate what they know in the course of making the digital film.

At Teach Elementary in California's San Luis Coastal Unified School District, Miss Lamphier's students collaborated in groups to create digital films as part of a unit on geometry. The process required team members to work cooperatively in order to write clear and accurate narrations about a specific geometry topic. Throughout the activity, students not only applied math skills, technology, and life skills, but also expanded their creative and critical-thinking capacities.

Mathematics is also a broad subject with deep historical roots and one that is applied everywhere in the world around us. It is a subject full of stories of people, invention, and intellectual curiosity. Digital stories about mathematics let students dig into that rich context in a way that makes the subject come alive.





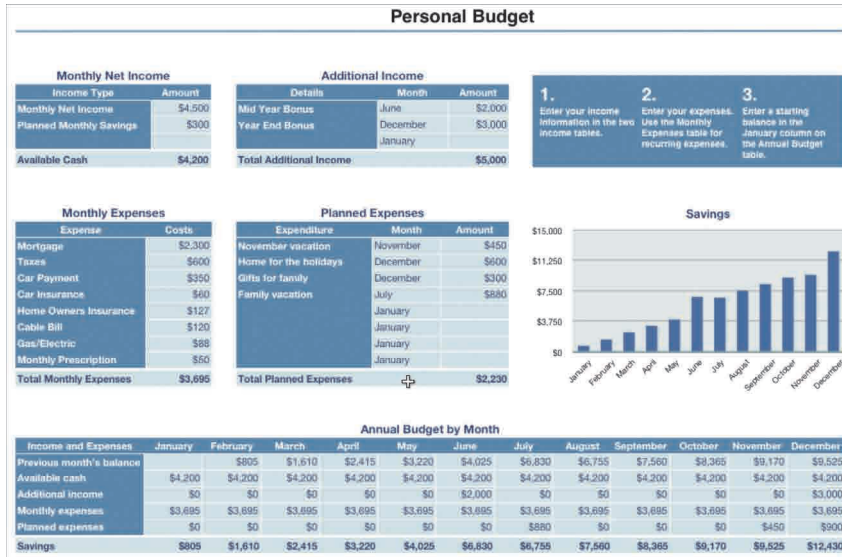
In Irving, Texas, at Austin Middle School, Ms. Williamson's second-period math students made digital stories about mathematicians, math theorems, and important moments in math history.

Mathematics is part of the world around us, especially in the realm of architecture. Fifth-graders at San Jose Elementary School in California made digital stories about their experiences studying with a professional architect, Todd Smith.

During the course of a residency during which Mr. Smith visited Mr. Gamarra's class once a week, the architect introduced the students to the basics of architecture and took them on a field trip with other fifth-graders to the Walt Disney Concert Hall, a remarkable building designed by world-famous architect Frank Gehry. He also advised the students as they broke into small groups and created their own architectural models. At the end of the project, the models were included in a display for viewing by fourth-grade classes. To see their work, visit www.digitalartsalliance.org/peachpit/teachersguide.



Introducing the Project



The first step is to discuss the role that budgets play in households. Open the existing budget template in Numbers and print out enough copies for your class. Lead a discussion as you evaluate the different categories on the budgeting worksheet. Be sure that students understand how different items work together in determining household budgets.

Next, pair the students into groups of two. These student groups will evaluate several criteria in balancing their budgets. Their first job will be to determine their fictitious career paths.

You can vary the complexity of the tasks in this project and adapt them to match your educational goals and time constraints. For example, the lesson can be streamlined for a math class, with the number variables simplified to expedite the project. On the other end, in a career development course, students can do more research into their career options and choose between multiple career paths.

Select a Career



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There are several ways to implement this first task. It is up to you what constraints you place on the students' career selection process. Here are two scenarios you can use, depending upon your goals for the lesson.

Job Pool

Offer a pool of different jobs to select from. Working in pairs, students can randomly draw a career from the pool. You can choose to give students information about the salary of the jobs as well as provide information about the cost of education. This is a good approach if you want to streamline this first stage.

Job Search

Let the students, working in pairs, choose careers based upon their interests and goals. Be sure the students choose job categories that are broad enough to support salary research, and that they research the average salary associated with their desired jobs.

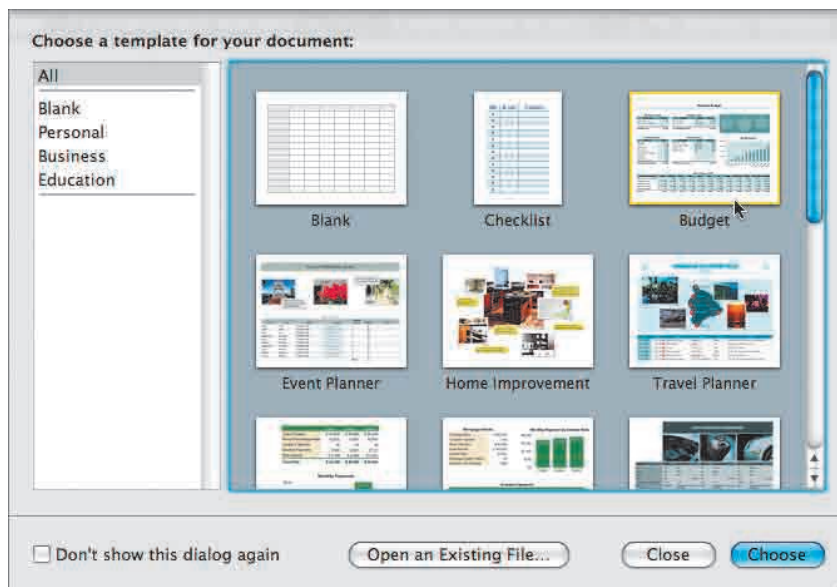
Create a Personal Budget Worksheet

After adequately researching their careers, students should create a personal budget worksheet to balance their household budget. Fortunately, Numbers offers an easy-to-use template that only needs a little bit of customization. The students can use Numbers to list and organize their expenses throughout the exercise.

- 1 Launch the Numbers application.

Depending on your computer's setup, you'll either find Numbers located in the computer's Dock or by navigating to the iWork folder inside your Applications folder.

- 2 From the Template Chooser, select the Budget template and click Choose.



A new document opens. This is a budget that can be adapted to work for the students' exercise. It will need to be reformatted slightly.

- 3 In the Sheets list, double-click the text labeling the sheet Checklist and rename it with the students' names.
- 4 Repeat for the title on the page as well.



- 5 Click the Monthly Net Income table to select it.
- 6 Enter the household income for monthly net income.

If a formula is needed, use something like this (Job A and Job B here represent the annual salary earned by each member of the group):

$$= (\text{Job A} + \text{Job B})/12$$

A screenshot of a spreadsheet. The main table is titled 'Additional Income' and has columns for 'Details', 'Month', and 'Amount'. It lists 'Year-End Bonus' for June, December, and January, with a total of \$5,000. To the left, a table for 'Monthly Net Income' is shown with columns for 'Income Type' and 'Amount'. The 'Monthly Net Income' cell contains the formula $= (42000 + 30000) / 12$ and the value \$5,700. A 'Planned Monthly Savings' cell is also visible with a value of \$500.

Additional Income	
Details	Amount
Year-End Bonus	\$5,000
June	\$2,000
December	\$3,000
January	
Total Additional Income	\$5,000

Income Type	Amount
Monthly Net Income	$= (42000 + 30000) / 12$
Planned Monthly Savings	\$500
Available Cash	\$5,700

- 7 Enter an amount into the planned monthly savings.
This amount should be between 5% and 15% of the Monthly Net Income cell.
- 8 Click the Additional Income table to select it.

- 9 Enter expected revenue (if any) not covered by the group's salary.

Monthly Net Income		A	B	C
Income Type	Amount	Details	Month	Amount
Monthly Net Income	\$6,000	Summer Job	July	\$1,500
Planned Monthly Savings	\$500	Year End Bonus	December	\$3,000
Available Cash	\$5,500	Coaching Camp	August	\$400
		Total Additional Income		\$4,900

This can include bonuses, financial investments, or part-time jobs. Let students know that they can revisit this additional revenue later in order to balance their budget, but must be able to justify the amount of money entered.

NOTE ► To erase a cell, simply highlight it and press the Delete key.

MORE INFO ► The spreadsheet features of Numbers are covered in Lesson 10 of *Apple Training Series: iWork '08*.

Calculate Monthly & Planned Expenses



Balancing a budget requires that the students make decisions about how to spend their money. Have the students generate a list of monthly expenses that they expect to incur.

They can use the list of expenses in the budget template as a starting point, but should also generate their own items and costs. Students should be prepared to cite their sources when assigning costs. The Internet is a useful tool for checking costs.

1 Delete all values in the Amount column for both Monthly and Planned Expenses tables.

2 Determine your monthly expenses.

Students should research the costs for things like mortgages, car insurance, and utility bills.

3 Click the Monthly Expenses table to select it.

4 Enter your expenses for the categories listed or modify the list.

If additional rows are needed, choose Table > Add Row Below.

5 Be sure to check that the Total Monthly Expenses formula calculates all costs.

Monthly Expenses		Planned Expenses		
Expense	Costs	Expenditure	Month	Amount
Mortgage	\$2,500	Summer Vacation	July	
Taxes	\$350	Home for the Holidays	December	\$500
Car Payment	\$450	Gifts for Family	December	\$450
Car Insurance	\$60	Home Improvements	September	\$3,000
Home Owners Insurance	\$165	Spring Break Trip	April	\$900
Cable Bill	\$80		January	
Gas/Electric	\$135		January	
Car Gas Bill	\$160		January	
Food	\$800			
Entertainment	\$300			
Clothing	\$140			
Total Monthly Expenses	\$5,140	Total Planned Expenses		\$4,950

6 Click the Planned Expenses table to select it.

7 Students should enter all additional expenses they anticipate incurring, leaving the vacation trip field empty.

Determine Vacation Plans

Next, have the students determine how much money they have left over, and plan a vacation accordingly. You may want to have students create an additional spreadsheet to total the costs of their trip. Be sure students account for the following categories on their trip:



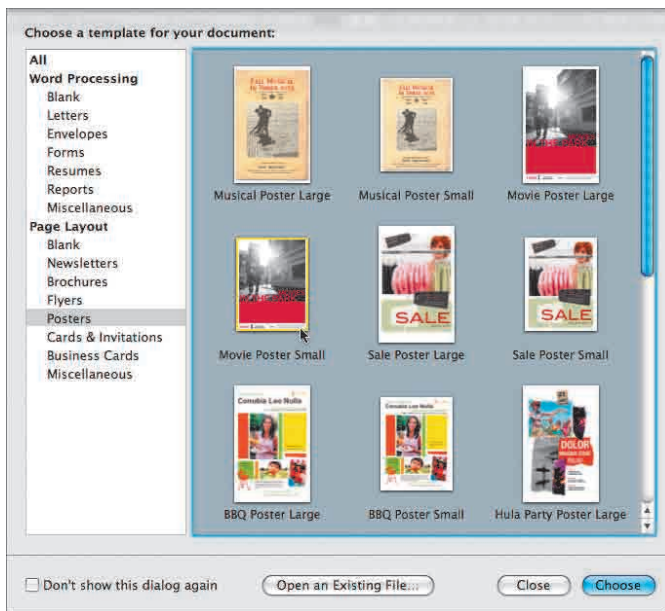
iStockphoto/skodonell

- ▶ Lodging
 - ▶ Air Transportation
 - ▶ Ground Transportation
 - ▶ Meals
 - ▶ Entertainment
- 1 Once a vacation amount is calculated, have students enter it into the Planned Expenses table.
 - 2 Ensure that the budget is balanced and adequate funds are in savings.
 - 3 Have students print out a copy of all budgets to submit for grading.

Prepare a Poster to Track Savings

Once the students have completed their budget, they can create a poster to track their progress in saving for the vacation. The poster should serve both as a reminder of the financial goals they are striving for and as a tool for tracking their progress towards their goal.

- 1 Launch Pages. The Template Chooser opens.
- 2 Click the Page Layout category and choose Posters, then select one of the templates, and click Choose.



A new, untitled document opens. The poster is ready to be designed. Students need to replace the placeholder text on the poster so that it contains the information needed. This is an easy process that involves just a little typing.

- 3 Double-click any text block and replace the placeholder text.

TIP If needed, you can disable hyphenation in the Text Inspector by clicking the More button and selecting the “Remove hyphenation for paragraph” checkbox.

- 4 Click outside the text block to exit it.

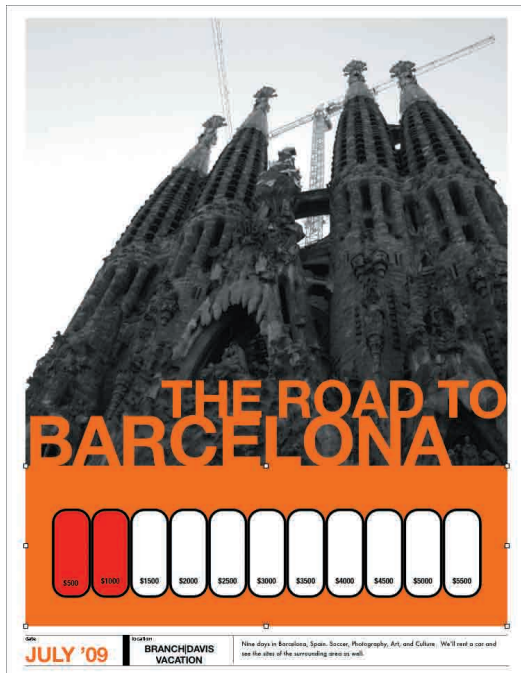
TIP You can add additional text boxes by choosing **Insert > Text Box**.

- 5 Gather or take any photos you want to use in the poster, and import them into iPhoto. Students are encouraged to organize their images in iPhoto by gathering them all in an Event or Album.
- 6 In the toolbar, click the Media button to open the Media Browser; then choose Photos and click the iPhoto icon.

The contents of your iPhoto library will be displayed in the browser (if needed, click the disclosure triangle to reveal the contents of your iPhoto library).

- 7 Drag any photo from the Media Browser and drop it on any image placeholder. The photo is added to your poster. If you need to resize an image, it's easy to do.
- 8 Click the Edit Mask button, then drag the corners of the photo to resize it. When finished, click the Edit Mask button again.

TIP You can modify a photo by choosing **View > Show Adjust Image**.



- 9 Have students create a progress bar using the drawing tools of pages.

Inserting a series of connected boxes is an easy way to track progress. Use one box for each \$500 needing to be raised towards the trip's budget.

- 10 Save your work by choosing File > Save.

Publishing the Project

Once the student groups have completed their budgets, have them print all of the associated pieces for grading. Printing in Pages and Numbers is identical; students simply choose File > Print. Be sure to have students check their formulas before submitting.

The final item that students should include in their package for grading is a short summary document. Have the group discuss and defend their decision regarding expenses, income, and their planned trip. Depending on the age and ability level of the students, the summary will vary in length. The teacher should set clear guidelines on the expected length of the summary. For middle school and high school students, a two-page summary could be expected. Additionally, have students provide a list of sources used to determine values of expenses and revenues.

Assessing the Project

There are several ways to evaluate the student's performance for the lesson. Be sure to evaluate all aspects of the project, looking at the ability to solve a problem, as well as the technical presentation of the information.

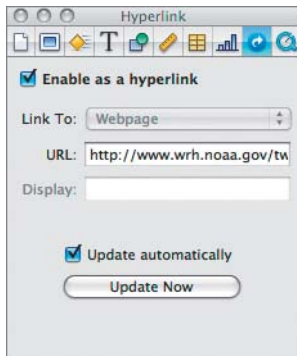
- ▶ Students should submit their budgets and posters in printed form. These can be graded for accuracy and clarity in presentation.
- ▶ Assess the students' overall performance as a group.
- ▶ Invite discussion, journal entries, or other follow-up activities regarding the project to assess the effectiveness of individual group members in creating the commercial.
- ▶ Have students complete self-assessment rubrics to justify their achievements in making a case.

Online Appendix

Tip #6: Add a Web Page to a Presentation

Sometimes when you're making a presentation, it's useful to add a snapshot of a web page. Rather than make this snapshot be just an image of the web page, you can make it a link to the actual web page—a slide of live content that can be updated automatically when you are connected to the Internet.

- 1 Select a slide in the slide organizer.
- 2 Choose Insert > Web View. In the Hyperlink Inspector, select the check box Enable as a hyperlink.
- 3 Enter the web address in the URL field. Make sure the Update automatically check box is selected.



The Web View is added to the page, but needs to be resized.

- 4 Drag an edge of the Web View to size it.

You can offset the Web View to improve readability. Adding a drop shadow can also help.

- 5 Enable the drop shadow in the Graphics Inspector, and set the offset and blur values to 10 px.
- 6 Choose File > Save to save your work.

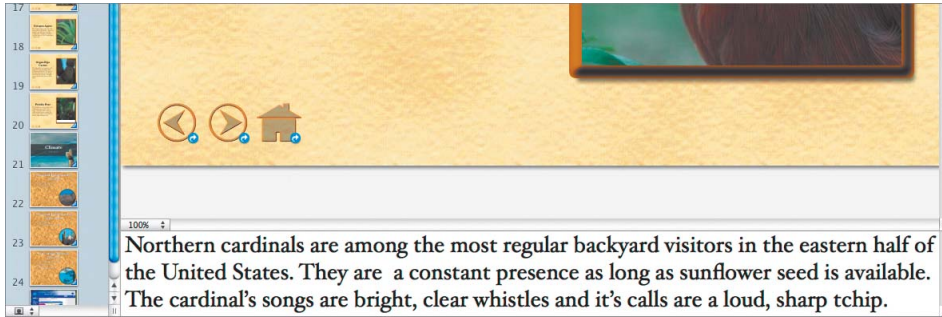
Tip #7: Print a Presentation

There are times when it's useful to hand out copies of your presentation with not just the slides, but with your presenter notes included as well. These notes can be a great takeaway and can help students review the information you presented more thoroughly. They can also help other teachers who want to give the same presentation to their students.

- 1 Open a Keynote presentation.
- 2 Click the View button in the Toolbar and choose Navigator.

TIP If notes aren't visible, choose View > Show Presenter Notes to see notes for a presentation. Click in the field below the Canvas to add presenter notes.

- 3 Select a slide and click in the area below it to add notes.



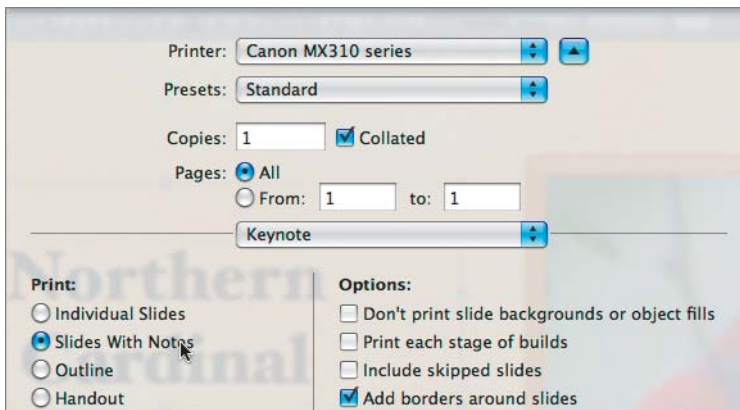
- 4 Choose File > Print; then Click the disclosure triangle next to the printer name.



- 5 From the expanded menu that appears, choose Keynote from the pull-down list below the Presets menu.

- 6 In the Print options, select Slides With Notes.

This option prints a single slide per page with your speaker notes below.



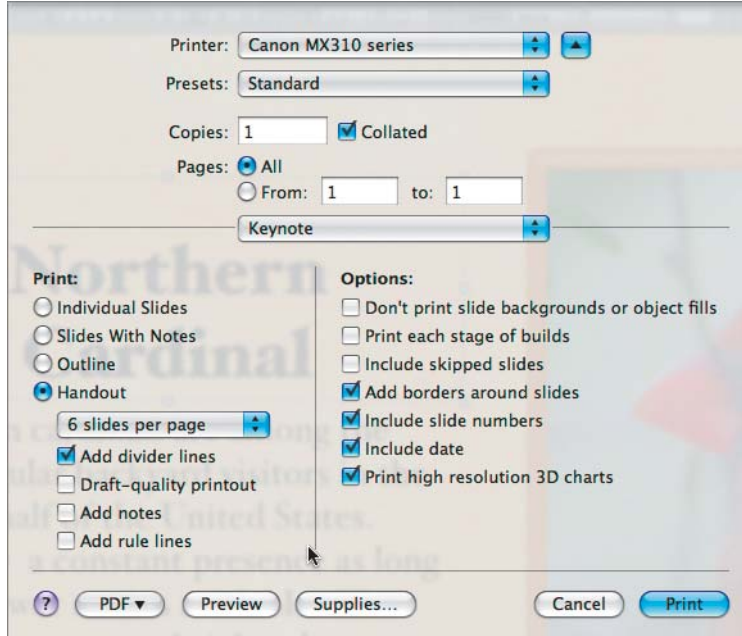
- 7 Select other printer options such as the number of copies and print quality.
- 8 Click Print.

You can also print multiple slides per page if you'd like to save paper.

- 1 With the presentation open, choose File > Print.
- 2 In the menu below the Presets menu, make sure Keynote is selected.
- 3 In the Print options, select Handout.

This option prints multiple slides per page as well as other user-specified information. You can specify between 2 and 6 slides per page.

TIP Want a simpler handout? Select Outline and just print your outline instead. This will create a text-only version of your presentation.



- 4 Use the pop-up menu under the Presets menu to access and adjust other printer options such as the number of copies and print quality, and then click Print.

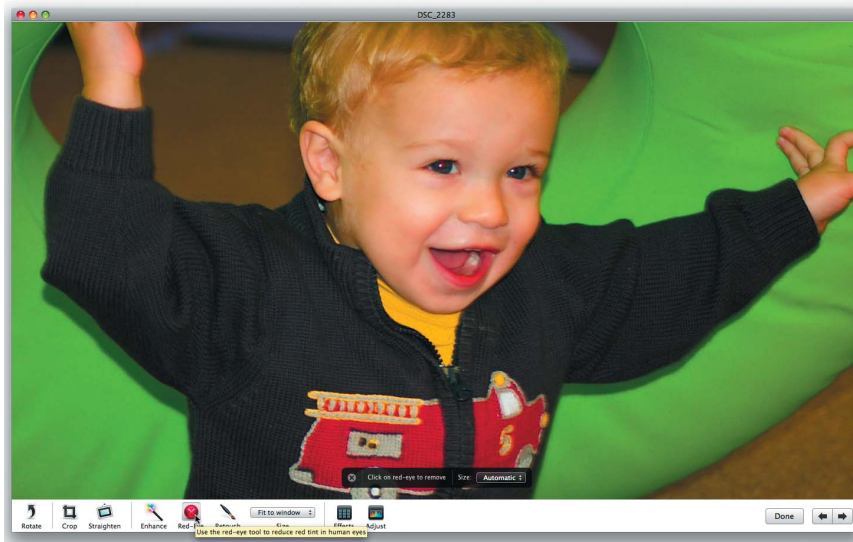
TIP To save printing costs (and speed up printing), use the Draft-quality printout option.

- 5 Save your work by choosing File > Save.

Tip #8: Fix Red Eye

Photos taken in low light often show red-eye (which is caused by the reflection of the flash). iPhoto offers an easy-to-use tool to significantly reduce the appearance of red-eye.

- 1 Launch iPhoto.
- 2 Select a photo that needs adjustment in the photo Browser.
- 3 Click the Edit button.



- 4 Zoom in tightly on the area that needs fixing by using the size slider.

- 5 Click the Red-Eye button to select the Red-Eye tool and choose an option from the pop-up menu:
 - ▶ **Automatic** – Uses the default pointer size.
 - ▶ **Manual** – Drag the size slider to pick a size that matches the size of the pupils.
- 6 Position the pointer over one of the affected pupils and click once.



Repeat for the second eye.



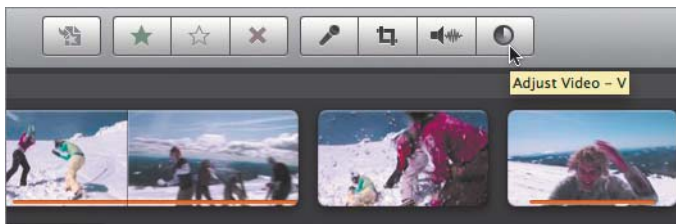
- 7 Click the Red-Eye button again to close the red-eye tool or select a different editing tool.
- 8 When you're finished editing the picture, click Done.

Tip #9: Adjust the Image Quality of a Movie

Student videography can often be improved by making adjustments in iMovie. While it's always ideal to shoot video properly and make it look great “in-camera,” students can use the power of iMovie to improve their end results. iMovie offers adjustments for levels of

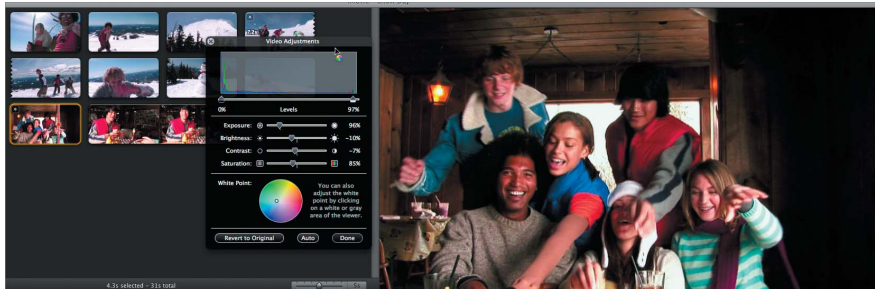
black and white, exposure, brightness, contrast, saturation, and white point settings on any video clip that's been added to a project.

- 1 Launch iMovie.
- 2 Select the video clip that needs fixing.
- 3 Click the Video Adjustments button to open the Video Adjustments window.



TIP Click the Auto button to have iMovie attempt to improve the image quality automatically. For basic adjustments, this can be quite effective.

- 4 Choose one or more of the following effects to improve the footage:



- ▶ **Levels:** Use this to change the black and white levels. Drag the left slider to increase black; drag the right slider to increase white.
- ▶ **Exposure:** Use this to control the amount of shadows and highlights. Dragging to the right intensifies the highlights, to the left intensifies shadows.
- ▶ **Brightness:** This controls the overall light level. Dragging to the left makes the image darker. Be sure to try the Exposure adjustment first.

- ▶ **Contrast:** This affects the relative contrast of light and dark tones in the image
- ▶ **Saturation:** This affects the color intensity of the image. Dragging to the right makes the colors richer.
- ▶ **White Point:** Click on an area of pure white in the image to properly set the white reference point in the image.

5 When finished editing the picture, click Done.

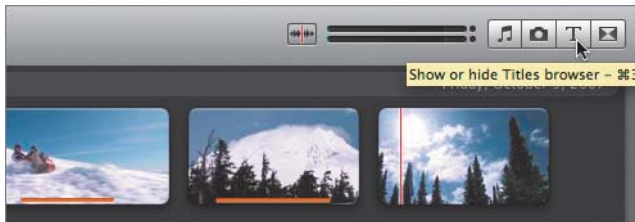
NOTE ▶ You can restore the image to its original look by clicking “Revert to Original.” iMovie does not permanently alter the source video or the image you’re adjusting; you can revert back to the original at any time.

Tip #10: Adding Titles to a Movie

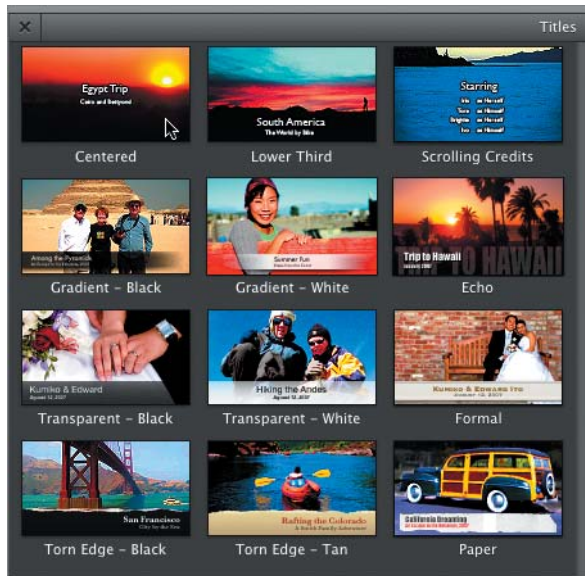
In most movies, you’ll need to add important information to a video shot—such as identifying who is speaking—as text over the video. The use of text in a video is called *titles*.

iMovie offers several title styles to choose from. The Titles option can be used for titles, subtitles, and scrolling blocks of text (called *credits*). One frequent use of a scrolling block of text is when citing resources for a project, which students should be encouraged to do.

- 1 Launch iMovie.
- 2 Open your initial edit of your video project.
- 3 Choose Window > Titles or click the Titles button in the toolbar.

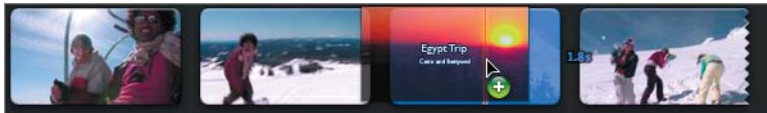


- 4 Choose a title style depending on your needs.



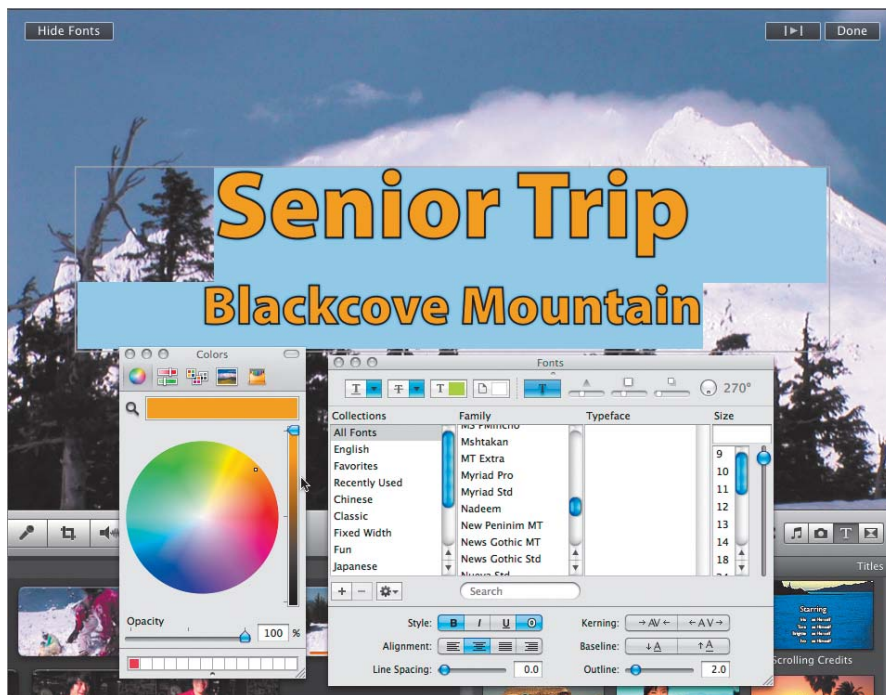
iMovie offers useful templates for identifying speakers, introducing sections, or displaying credits.

- 5 Drag the title to the project and let it hover over the video where you want it placed.



A purple shadow appears representing the frames that the title will cover.

- 6 You can drag the title to reposition it.
- 7 Select the text in the viewer and replace it by typing your own text.



- 8 Click Show Fonts in the Viewer if you want to change the font, style, or color of the text.

NOTE ► If the text has a colored block behind it, you can modify that too. Select the colored block to open the Colors window, then choose a new color.

- 9 To preview the animated title, click the Play button in the upper-right corner of the Viewer.
- 10 To modify any title, just click its icon and make your changes in the Viewer.
- 11 When finished, resume editing or close your project.

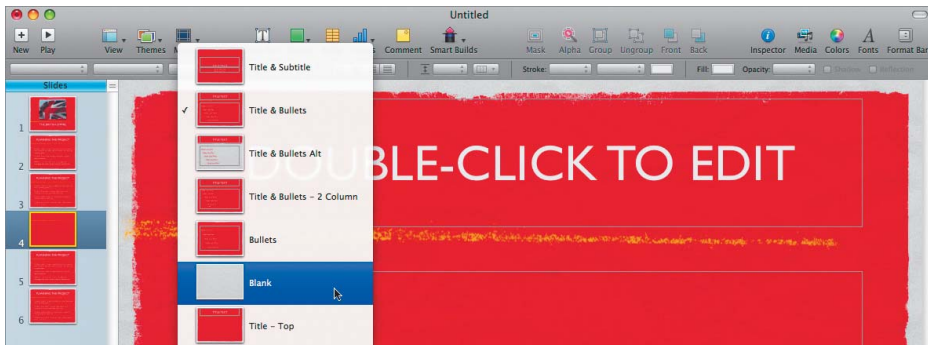
Tip #11: Add a Movie to a Presentation

Text is often considered the most important part of a presentation, but in today's media-rich world it is the supporting media that can make a presentation stand out, and the use of multimedia that helps develop both visual and media literacy.

Fortunately, adding a movie to a slideshow is as simple as drag and drop. Keynote supports a wide variety of media formats, including movies. The heart of this support is QuickTime, the versatile media player that comes installed on your Mac. In fact, if you can open a file in QuickTime, you can use it in Keynote. This flexibility makes it easy for you to design movie-enhanced presentations.

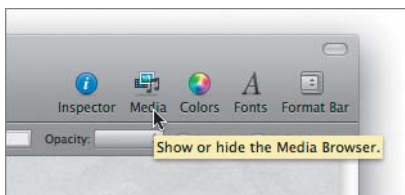
In Keynote, placing video on a slide is similar to adding a photo to a slide. You just navigate to the file and drag the video onto a slide.

- 1 Select a slide in your presentation or in the Toolbar, Click the New Slide button.



TIP If you want to make a movie fill the screen, click the Masters button in the Toolbar and change a slide's layout to Blank.

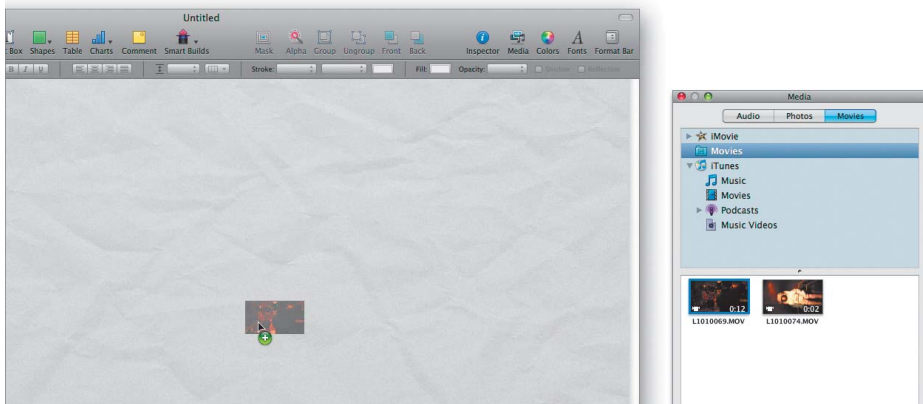
- 2 Click the Media Button in the Toolbar to open the Media Browser.



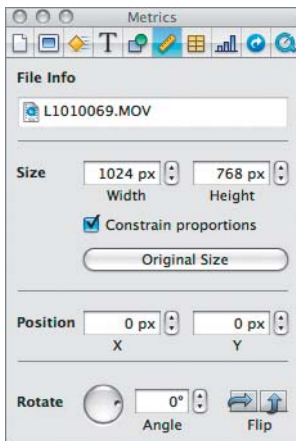
- 3 Click the Movies tab in the Media Browser.
- 4 Click the Movies folder to show only clips in your Movies folder.

TIP You can also access movies from iTunes (such a podcasts) or any iMovie projects by navigating to them on your hard drive.

- 5 Drag the movie file onto the canvas of the slide, and release the mouse button.



- 6 Click on the movie file to select it in your canvas, and then select the Metrics Inspector.
- 7 Enter a size for your movie.



If you want it to fill the slide, change the Size dimensions to match the canvas size of your slides (such as 1024 x 768). The movie scales to the size of the canvas.

TIP The .m4v file format uses H.264 compression, which scales very cleanly. This format requires QuickTime 7 or newer, but works very well. It nicely balances file size and image quality for optimal playback. The file will look good for playback, but will not require a lot of disk space.

- 8 To center a movie, enter a position of 0 px for both the X and Y coordinates in the Position fields of the Metrics Inspector.

These coordinates place the upper-left corner of the movie at the upper-left corner of the slide. Because this slide and movie are exactly the same size, the movie completely fills the slide.

- 9 Click the Play button to test your movie.
- 10 When the movie finishes, press the Esc key to exit your presentation.

TIP You can adjust what part of the movie plays as well as its volume by using the QuickTime Inspector.

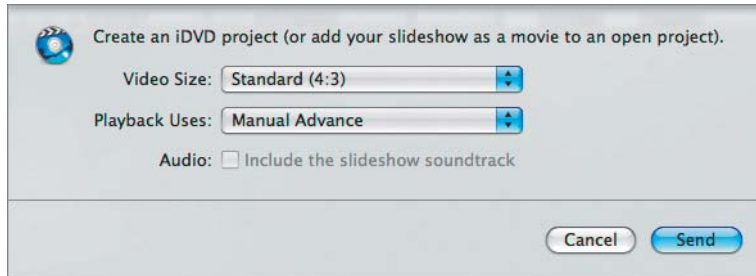
- 11 Press Command-S to save your document.

Tip #12: Convert a Presentation to DVD

As a backup, you might want to publish your Keynote presentation to a DVD. You can also create DVDs to distribute your presentation to people who could not attend. In fact, if you navigate to File > Record Slideshow, you can record the audio of the presentation as well as the timing for each slide. All of this can be burned to a DVD as well, and saved in a student portfolio.

- 1 With a Keynote presentation open, choose File > Send to iDVD.
- 2 Specify the size of the video you want to create:
 - ▶ Standard: Exports slides for viewing on a standard video display. Use this option if your original presentation has a 4:3 aspect ratio, using a resolution such as 800 × 600 or 1024 × 768.

- ▶ **Widescreen:** Exports the slides for viewing on a widescreen video display. Use this option if your original presentation has a 16:9 aspect ratio, as is used by HD displays.

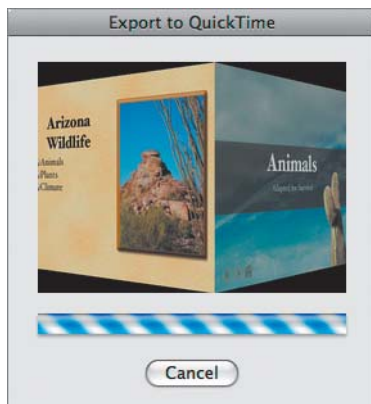


3 Choose a Playback Uses method:

- ▶ **Manual Advance:** This option gives viewers total control over the slideshow as they can click to advance slides. This is a good option for self-paced learning or as a backup of your presentation.
- ▶ **Recorded Timing:** This option uses timings that you have recorded for a slideshow using the command File > Record Slideshow.
- ▶ **Fixed Timing:** This option runs the slideshow with no user interaction. You must set slide duration and build options. If slides contain automatic build timings, those will be used.

4 Click Next. Then give the file a name and target your Movies folder.

5 Click Export.



A QuickTime movie file is written to disk. Depending on the number of slides, it can take a few minutes to create the DVD video file.

Before the export finishes, iDVD will launch automatically.

- 6 When the export finishes, click the Play button to test the DVD project:
 - ▶ You can click Play Movie to watch the entire movie.
 - ▶ You can click Scene Selection to see an index of the presentation.

Now let's choose a theme for the main menu of the DVD that matches the look of the slideshow.

- 7 Click the Themes button to access all available themes.
- 8 Choose a theme set from from the popup menu.
- 9 Click the theme to apply it to the main DVD menu. Then click OK to apply the theme family to all menus.



Now you need to add your content to the DVD menu to complete its design.

- 10 Click the Edit Drop Zones button to access all of the drop zones for the project.

Drop zones are places in the menu where you can add (or drop) your own content. These allow you great flexibility for customizing a menu.

- 11** Using the Media Browser, add video clips or photos to the drop zones in your menu template. Simply drag the photo or video from the Media Browser into a drop zone.



- 12** You can easily modify text on any buttons. First, single-click a button to select it.
- 13** Single-click a button a second time to modify its text.
- 14** Click the Preview button to preview the DVD.

Watch the project all the way through to ensure smooth playback. Be sure to click the Play button on the remote control to advance between each slide. When you've finished the preview, click the Exit button on the remote to stop previewing the DVD.

TIP Your slides are likely using a 4:3 aspect ratio (such as 1024 × 768). You may need to change your iDVD project from 16:9 to 4:3. Simply choose Project > Switch to Standard (4:3).

- 15** You can now click the Burn button to create the DVD. (Note that you can burn the iDVD project to DVD at any time—you don't need to do it now.)



The Burn button will open to reveal the yellow and black icon, and you will be prompted to insert a blank DVD.

- 16** When you are done with the DVD project, quit iDVD and save your work.

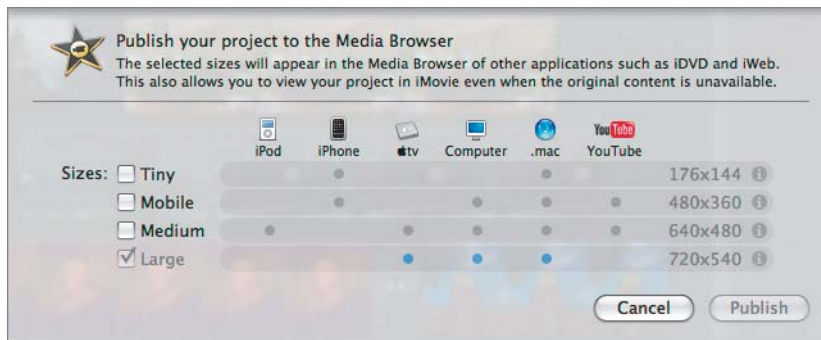
Tip #13: Put a Movie on a Web Page

Sharing a video with iWeb is easy once you understand a few key facts about how video works on the web. It is important to keep your videos short and their file sizes small (ideally less than 10 MB). You should also avoid overlapping pictures or objects on top of a movie, since web browsers want a movie to be the topmost layer.

If you are exporting the video for podcasting, the file will likely be larger than 10 MB. This is okay because podcasting prefers higher quality video than most streaming video. The larger size isn't as much of an issue because podcasts are generally downloaded before watching, plus there is an increased prevalence of higher speed Internet connections among podcast users.

Getting your movies to a web page is easy, but requires that you choose the right method. Sharing a video from iMovie is the easiest way to get a video to the web.

- 1 Launch iMovie and select a project in the Project Library.
- 2 Choose Share > Media Browser.



- 3 Select a size that matches your web needs (Tiny, Mobile, or Medium are well-suited).
- 4 Click Share. The smaller movie will take a few minutes to render for the web.
- 5 Open iWeb and select the page type you'd like to use:
 - ▶ **Movie template** – This is meant for holding a single movie to a webpage. Your movie will play exactly where you place it.

- ▶ **Photos template** – Movies can also be added to a photo page. When the browser clicks the thumbnail, the movie plays in a window
 - ▶ **Blog or Podcast template** – If you add a movie to either one of these page types, iWeb will treat it as a video podcast.
- 6 Click the Media Browser button, then click the Movies tab.
 - 7 Click the disclosure triangle next to iMovie to see the list of your projects.
 - 8 Select an iMovie project. Any movies you've Shared will appear listed at the bottom of the Media Browser.



- 9 Drag the selected movie to the desired page.

TIP You can also access videos in your iTunes library (such as podcasts) and any other movies stored in the Movies folder.

- 10 When the site is ready, click the Publish button.
- 11 Save your work by choosing File > Save.

Tip # 14: Fix the Exposure of a Photo

A common problem with photos shot by students (and many other people) is incorrect exposure. Your students' photos will often end up too dark or too light because inexperienced photographers aren't always aware of inadequate lighting on the subject, or too much light in the background. Fortunately, iPhoto offers an easy fix.

NOTE ► Editing a photo changes its appearance in the photo library and all of its uses. You should try to fix photos before you start to use them. Otherwise, choose Photos > Duplicate to make a new copy.

- 1 Launch iPhoto.
- 2 Select a photo that needs adjustment in the photo Browser.
- 3 Click the Edit button.



- 4 Click the Adjust button. The Adjust window opens offering several useful controls
- 5 Drag the Exposure and Contrast sliders to taste.



- 6 If the sky is blown out or the shadows are too dark, use the Highlights and Shadows sliders.

TIP ▶ After make adjustments to a photo, you can press the Shift key to compare the edited photo to its original state.

- 7 When you've finished editing the photo, click Done.

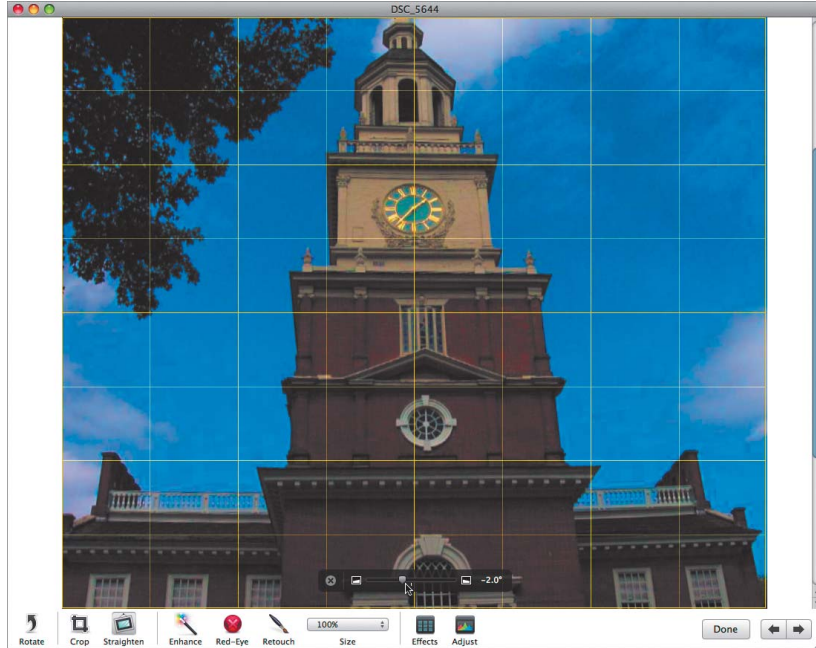
TIP ▶ If you have several photos shot in similar conditions, click the Copy button in the Adjust window. You can then select another photo and click the Paste button to reuse the adjustment settings and apply them to the new photo.

NOTE ▶ If you need to change a photo, you can always re-open the Adjust window. You can reset an edited photo to its original state by opening the Edit window and clicking the Reset button. iPhoto always retains the original photo you imported.

Tip #15: Straighten a Photo

Student photographers are not known for their stability. That is to say, they often end up with photos that seem to lean. Fortunately iPhoto makes it easy to fix a crooked-looking photo. Photos can be straightened by rotating them 10 degrees or less in either direction.

- 1 Launch iPhoto.
- 2 Select a photo that needs adjustment in the photo Browser.
- 3 Click the Edit button.
- 4 Click the Straighten button.



- 5 Drag the Straighten slider until the photo appears level. Use the yellow alignment guides to assist you.

TIP After make adjustments to a photo, you can press the Shift key to compare the edited photo to its original state.

- 6 When finished editing the picture, click Done.

NOTE ► If you need to rotate a photo 90 degrees at a time, use the Rotate button in the toolbar.

MORE INFO ► More tips on using iLife and iWork in the classroom are available at this book's companion web page: www.peachpit.com/ats.teachersguide

iLife and iWork Training and Certification

Apple offers Associate-level training and certification for the iLife and iWork product suites. Educators and students can earn certification to validate entry level skills (Apple Certified Associate), complementing the professional level skills (Apple Certified Pro) that are offered at our Apple Authorized Training Centers (AATCs).

The iLife '08 and iWork '08 courses are based on *Apple Training Series: iLife '08* by Michael Cohen, Jeff Bollow, and Richard Harrington, and *Apple Training Series; iWork '08* by Richard Harrington. The books include DVDs with all required media. Course descriptions appear at <http://training.apple.com/training/>.

By passing an Apple certification exam, students can distinguish themselves to colleges or prospective employers as skilled users of the chosen applications. Once you earn iLife '08 or iWork '08 Trainer status by passing the associated \$150 online exams, you can offer certification to your students. If you feel that you need additional preparation before taking the trainer exam, you may want to attend a course at one of our AATCs. To find a course in your area, visit <http://training.apple.com/schedule>.

Both courses include an end-user exam, which earns either *Apple Certified Associate, iWork '08* or *Apple Certified Associate, iLife '08* certification. Your school can purchase exam codes for \$45. Students who pass will receive a certificate and certification logos.

Once you pass the Trainer exam, information on how to purchase exam codes will appear in the results email. If you do not pass the exam, retake instructions will appear in the results email. For more information, email associatecertification@apple.com.

Resources for iLife and iWork

- ▶ **iLife Online Tutorials.** Visit www.apple.com/ilife/tutorials/.
- ▶ **iWork Online Tutorials.** Visit www.apple.com/iwork/tutorials/.
- ▶ **Apple Discussions.** A rich online community is available at discussions.apple.com. There are several groups for all of the iLife and iWork applications.
- ▶ **Apple Support Pages.** For technical support and articles, visit Apple's support website; www.apple.com/support/ilife/ and <http://www.apple.com/support/iwork/>.
- ▶ **Apple – Education.** The Apple website offers extensive case studies and educational resources. To browse offerings organized by grade level, visit www.apple.com/education/.
- ▶ **Apple Training Series books.** The official guides to both iLife and iWork offer hands on practice. Be sure to see the back of this book for discounted pricing offers.

Instructions for iLife and iWork Training & Certification

Apple offers Associate-level training and certification for the iLife and iWork product suites. Now educators and students can earn certification to validate entry level skills (Apple Certified Associate) to complement the professional level skills (Apple Certified Pro) that are offered at our Apple Authorized Training Centers (AATC).

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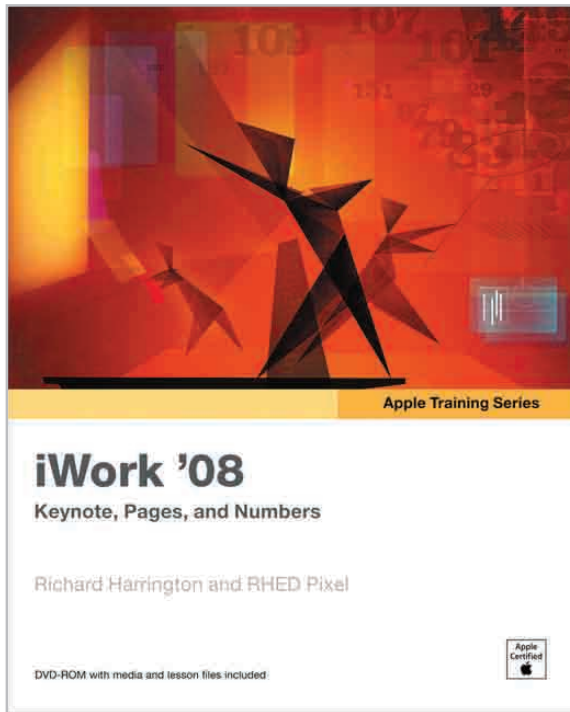
Taking the Trainer Exam

Once you pass the Trainer exam, information on how to purchase exam codes will appear in the results email. If you do not pass the exam, retake instructions will appear in the results email, so do not discard this email. If you have any questions, please email associatecertification@apple.com.

1. Log on to <http://ibt.prometric.com/apple> using your Tech ID. If you do not have a Tech ID, you can sign up for one at <https://certifications.apple.com>.
2. Click **Secure Sign-In (uses SSL encryption)** and log in with your Prometric Prime ID and password. If you don't already have a Prometric Prime ID, click **First-Time Registration** and follow the instructions to create a Prometric Prime ID and password.
3. Click **I Agree** to the Privacy Notice and click **Continue** to verify your information and access the Candidate Menu page.
4. In the Candidate Menu page, click **Take Test**.
5. Enter the appropriate code in the Private Tests box and click **Submit**. The codes are case sensitive and only valid for one use. The code for the iLife '08 Trainer exam is **ACTiLife08**; the code for the iWork '08 Trainer exam is **ACTiWork08**.
6. Click **Continue** to skip the voucher then enter your credit card to pay the \$150 USD fee.
7. Click **Begin Test** at the bottom of the page.
8. When you finish all the questions, click **End Test**.



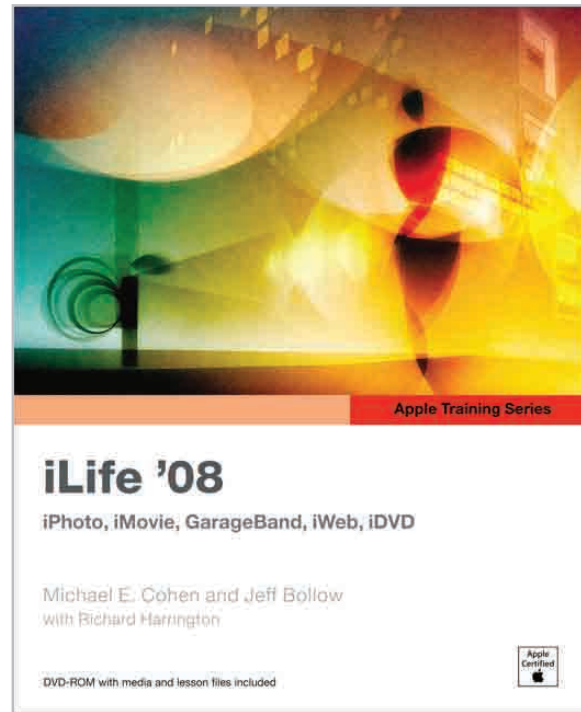
Designed to be used with *Apple Training Series: A Teacher's Guide to Digital Media in the Classroom*, this discounted bundle includes the following two books:



Apple Training Series: iWork '08

In the only Apple-certified book on iWork '08, your students will use Keynote, Pages, and Numbers to produce sophisticated results. Author Richard Harrington starts out with the basics of the software interface and quickly has your students designing, editing, and publishing.

This Value Pack is available from www.peachpit.com or your favorite retailer.



Apple Training Series: iLife '08

In the only Apple-certified guide to iLife '08, Michael Cohen, Jeff Bellow, and Richard Harrington will have your students working miracles with iLife within the first few pages. Focused lessons take students step by step through all aspects of iLife '08—everything from organizing and sharing photo libraries to creating polished video and soundtracks.

Other great training resources for the classroom from Peachpit include:

The Macintosh iLife '08 in the Classroom,

Jim Heid with Ted Lai
ISBN: 0-321-54926-0

