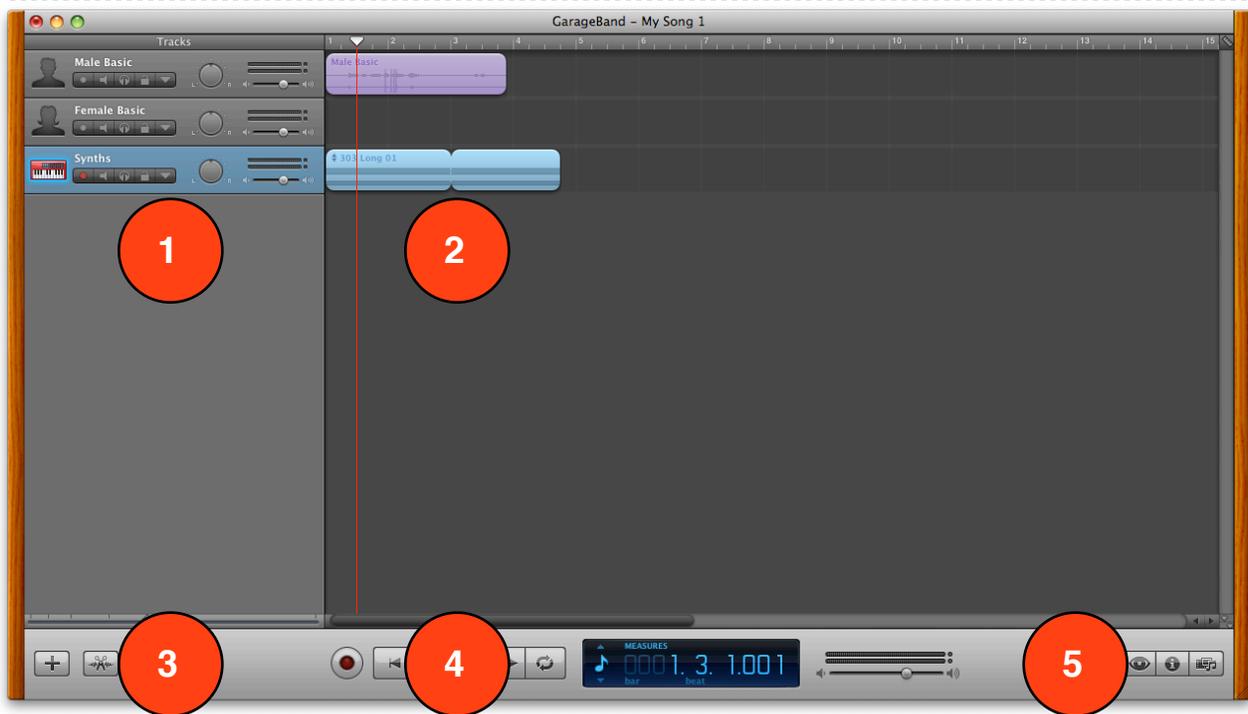


GarageBand '09 is the audio editing application included with iLife '09. With GarageBand, you can record your voice for podcasts and create your own music using a keyboard or any instrument that can be connected to the computer. GarageBand can also be used to create enhanced podcasts that include still images and chapter markers. The still images can be synchronized to the audio to reinforce the information being presented, while the chapter markers provide better usability by making it possible to navigate between segments in longer recordings. GarageBand also includes an extensive library of pre-recorded music loops that can be combined to create your own original compositions. Along with a host of mixing tools that can be used to make your recordings sound their best, GarageBand supports exporting to MP3 and AAC, the two most popular audio formats. A new feature in GarageBand '09 is Basic Lessons, a series of interactive video tutorials that will show you how to play the piano and the guitar using instructional video and animated onscreen instruments.



### The GarageBand Interface

- 1. The Tracks Area:** shows the names of the instruments, loops or voices in your project, along with controls for adjusting the volume, muting the sound of a track, and so on.
- 2. The Timeline:** shows you what you have recorded in each track. The triangle with the red line is the playhead. It shows the point in the project that is currently playing.
- 3. The Track Editor Button:** opens the Track Editor, which provides a more detailed view of the sound recorded in the timeline so you can make more precise edits such as cutting or removing part of a recording.
- 4. Transport Controls:** this area includes the Record and Play buttons as well as buttons for moving the playhead to the beginning of the timeline, rewinding and fast forwarding.
- 5. The Pane Buttons:** these buttons will open the panes where you will change instruments, select loops, and find images to add to your project.

## Hardware Setup

To record your voice using GarageBand, connect a microphone directly into your computer's audio line in port or use a USB microphone. Once you connect the microphone to the audio line in or USB port, you may have to change your audio preferences to make the microphone available to GarageBand:

1. Select Apple > Preferences to open up the System Preferences window.
2. Click on Audio and select the Input tab.
3. Select the microphone from the list at the top of the window.

To enable the microphone in GarageBand:

1. Select GarageBand > Preferences.
2. Click on the Audio/Midi button at the top of the window.
3. Select the microphone using the Audio Input pulldown menu.

Most musical instruments will first connect to an audio interface that will then connect to your computer using either a USB or Firewire cable (if your computer includes a Firewire port). Electric guitars with a 1/4" guitar lead can be directly connected to the audio line in port on your computer using a 1/4" to 1/8" adapter. The steps for setting up a musical instrument using a USB or Firewire audio interface are the same as for setting up a microphone.

Once you have the hardware set up, there are several ways to make music in GarageBand:

- Record sound from a microphone connected to your computer.
- Record sound from an electric guitar connected to your computer.
- Play the software instruments built into GarageBand through a USB or MIDI keyboard connected to your computer.
- Arrange the Apple loops included with GarageBand into a new composition.
- Create a Magic GarageBand project.
- Play along with a Learn to Play lesson.

## Getting Started

To get started with GarageBand:

1. Launch GarageBand by clicking on its icon in the Dock or in your Applications folder. This will open the GarageBand splash screen with the following choices:
  - New Project: displays a series of templates that will set up the GarageBand interface



according to the kind of project you will be creating. There are templates for recording music from an electric guitar, recording podcast episodes with a microphone, working with Apple loops, and more.

- Learn to Play: opens interactive tutorials for learning how to play the piano or guitar. You can purchase additional Learn to Play lessons featuring professional recording artists by selecting Lesson Store on the left side of the GarageBand splash screen.
  - Magic Garageband: allows you to preview songs from a number of different genres using a virtual band. These songs can be customized by changing the instruments in the virtual band, and they can be opened for editing in GarageBand just like any other project.
  - iPhone Ringtone: allows you to create ringtone files that can be sent to iTunes and transferred to an iPhone.
2. Select the icon for desired project type on the right side of the splash screen and click on Choose. For New Project and iPhone Ringtone, the Save As dialog window will open (for Learn to Play and Magic GarageBand, clicking on Choose will open the interactive lesson or the virtual stage, respectively).
  3. Enter a name for your project file in the Save As dialog window.
  4. Choose a save location using the pulldown menu. If you do not see the location you need, click on the down arrow next to the Save As field to display more locations.
  5. Set the tempo, time signature and key.
  6. Click on Create.

To open an existing GarageBand project, click on Open an Existing File at the bottom of the splash screen.

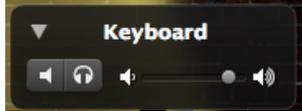
As you work on your GarageBand project, make sure to save frequently by selecting File > Save or using the keyboard shortcut Command + S.

## Magic GarageBand

GarageBand '09 gives you a head start on any project by allowing you to use a virtual band to create a composition with all the instruments you need. To create a new project using Magic GarageBand:

1. Launch GarageBand by clicking on its icon in the Dock.

2. Select Magic GarageBand on the GarageBand splash screen. 
3. Click on a thumbnail to select a genre.
4. To hear a preview, hover over the thumbnail with your cursor and click on Preview, then click on Preview again to stop the music.
5. When you find a genre you like, select its thumbnail and click on Choose to open the Magic GarageBand stage.
6. Choose to preview a Snippet or the Entire song using the rocker button to the left of the Record and Play buttons. You can select which part of the song you want to hear by selecting a section on the timeline below the stage (that section will be highlighted in yellow).
7. Click on the Play button to start the preview. Use the slider to the right of the play button to adjust the volume.
8. To change an instrument in your virtual band, click on the instrument to spotlight it and choose a different instrument from the list that appears below the stage. You can take out an instrument by choosing No Instrument.
9. Clicking on any of the instruments in your virtual band you will display a popup with some controls.



Use the volume slider to control the volume of an individual instrument, or click on the speaker icon to mute that instrument. The headphones icon allows you to solo the instrument by muting the rest of the band.

10. To record your own instrument along with the band, click on the instrument in the foreground (My Instrument) and choose your instrument using the My Instrument pulldown menu. Next, click on the Record button and start playing your instrument. When you're finished, click on the Record button again.
11. To tune a guitar, click on the Tuner button. The tuner will appear below the stage. Play a note on your guitar. When the guitar is in tune the note in the middle of the tuner will turn blue. 
12. To hear the other genres included with GarageBand '09, click on Change Genre. When you find one you like, click on Audition to hear the virtual band play the Magic GarageBand song for that genre.

13. When you're happy with your selections in Magic GarageBand, click on Open with GarageBand to open the project for editing in GarageBand.

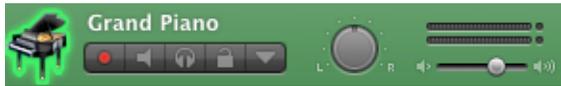
### Project Templates

Choosing New Project from the GarageBand splash screen will show you a number of templates for creating new projects. Each template will include the tracks needed for a given project type and change the layout of the GarageBand interface to match the intended workflow:

- Piano: will add a piano track and open the Loop Browser on the right side of the screen to let you choose other loops for your composition.
- Electric Guitar: will add an electric guitar track and open the Track Info pane on the right side of the screen to let you choose different amp and stompbox effects.
- Vocals: will add two tracks (one optimized for a male voice and one optimized for a female voice) and open the Track Info pane on the right side of the screen to let you choose from a list of presets for different types of vocals.
- Loops: will not add any tracks to the project, but will open the Loop Browser on the right side of the screen and show the loops you can add to the project to create a new composition.
- Keyboard Collections: will add a series of keyboard tracks and open the Track Info pane on the right side of the screen and show you the software instruments available in GarageBand.
- Acoustic Instrument: will add a single basic track (one that has no effects applied to it) and open the Track Info pane on the right side of the screen and show you a list of software instruments available in GarageBand.
- Songwriting: will add a basic set of tracks (voice, acoustic guitar, piano, bass and drums) and open the Track Info pane on the right side of the screen and show you a list of real instruments. The drums track will already include a basic drum beat.
- Podcast: similar to the Vocals template, but will also add a Jingles track for including background music and a Podcast track for adding still photos that can be synchronized to the audio. The interface will open with the Media Browser on the right side of the screen to let you choose the photos that will appear on the podcast episode.

## The Track Controls

The track controls determine how a track behaves. From left to right, these controls are:



- Enable recording: this button must be turned on before you can record to the track.
- Mute: turns off playback on the track.
- Solo: allows you to mute all other tracks and play back the track by itself.
- Lock: disables editing on the track so you don't make unwanted changes once you have all your settings the way you need them.
- View/Hide Automation: displays volume, pan and automation (effects) curves below each track. By adding keyframes to these curves, you can create fade in and fade out effects, or lower the volume over just a section of your recording.
- Pan Wheel: allows you to adjust which stereo channel (left or right) will play the sound.
- Volume Slider: adjusts the volume level of the entire track.

## Working with Tracks

A GarageBand project is created by adding a track for each instrument or voice you want to use in your recording. GarageBand supports three types of instruments:

- *Real Instruments*: voice and other sound that can be recorded with a microphone or any instrument you can connect to your computer, with the exception of a MIDI keyboard. Includes GarageBand loops as well as sound imported from external files in any format supported by GarageBand (such as MP3 or AAC).
- *Software Instruments*: sound created by GarageBand and playable on any USB or MIDI keyboard. An onscreen keyboard can also be used to play these instruments (select Window > Keyboard to display it).
- *Electric Guitar*: sound recorded with an electric guitar and played back with GarageBand 09's built in amps and stompbox effects.

The Track menu allows you to perform the following track-related actions:

### Add a Track:

1. Select Track > New Track.
2. Select the track type you wish to create (Software Instrument, Real Instrument or Electric Guitar) and click on Create.

3. GarageBand will add a track with the default instrument and the Track Info pane will display to the right. To change the instrument, click on the Browse tab, choose an instrument category on the left side of the pane, then select an instrument on the right side of the pane.
4. If you're recording your voice or a real instrument, make sure the correct input source is selected using the Input Source pulldown menu at the bottom of the Track Info pane.
5. If you want to hear your microphone or instrument as you play, choose On or On with Feedback Protection from the Monitor menu.
6. Adjust the recording level using the slider, or check the box next to "Automatic Level Control" to let GarageBand automatically lower the level to avoid clipping or raise the level to avoid excessive noise while recording.
7. Click on the Edit tab of the Track Info pane to add effects and change other instrument options.
8. Click on Save Instrument at the bottom of the Track Info pane if you want to save your settings as a custom instrument you can reuse.

### Duplicate a Track:

To create a new track with the same settings as an existing track, select Track > Duplicate Track or hold down the Command key and press the letter D.

### Create a Basic Track:

Select Track > New Basic Track to create a track that does not have an instrument assigned to it. You can assign an instrument of your choice by clicking on the Track Info button and selecting it from one of the categories in the Browse tab.

### Delete a Track:

Select the track (the icon for the instrument will have a glow around it) and choose Track > Delete Track or hold down the Command key while you press Delete on your keyboard.

## Recording

Once you have created a new track, you're ready to record:

1. Make sure the track is enabled for recording by clicking on the Enable Recording button in the track controls.
2. To view the time in the LCD at the bottom of the GarageBand window, click on the LCD mode button and choose



Time. To view the beats and measures, choose Measures.

3. Click the Record button in the controls area that appears below the timeline or press the letter R on your keyboard. 
4. Speak into the microphone or start playing your instrument.
5. When you're done recording, click the Record button again, or press the letter R on your keyboard.
6. To preview your recording, move the playhead to the beginning by using the button in the controls area or press the letter Z on your keyboard.
7. Press the Space Bar on your keyboard to begin playing your recording. Press the Space Bar to stop the playhead.

If you're recording from an electric guitar, you will first set your amp and stompbox effect settings as follows:

1. Select the Electric Guitar track and click on the Track Info button. 
2. Choose a guitar preset using the pulldown menu at the top of the Track Info pane.
3. To change the amp model, hover over the amp icon at the top of the Track Info pane and click on one of the arrows on either side of the icon to select a different amp.



4. To adjust the amp settings, click once on the amp icon to display the amp controls below the stage in the Track Info pane, then click and drag up or down on each control to make your adjustments.
5. To set the recording level and adjust the master effects (echo and reverb) for an amp model, double-click on the amp icon. The amp icon on the stage will flip over and the amp settings will appear in the area below the stage. To turn off the amp, uncheck the box to the right of the Amp Model pulldown menu.
6. To adjust the settings for a stompbox, click on the stompbox icon and use the controls below the stage to make your adjustments.

7. To add a stompbox effect, select an existing stompbox and click on Edit at the top of the Track Info pane. This will display icons for the available stompbox effects below the stage in the Track Info pane. Drag the desired stompbox effect into one of the empty stompbox slots on the stage, then click on Done. Adjust the settings for the new stompbox as described in step 5.
8. Once you've set up your amp and stompbox effects, play your guitar to make sure it has the desired sound. To tune the guitar, click on the icon on the left side of the LCD and select Tuner. Play a single note on your guitar. When the note name in the LCD turns blue, the guitar will be in tune.
9. Click on the Recording button and start playing your guitar. Click on the Recording button again to stop recording.

### Working with Regions

Each time you press the Record button, GarageBand creates a new region in the track you have selected. The color of the region will indicate what type of region it is:

- Purple: real instrument you record
- Blue: real instrument created from a loop
- Orange: imported audio file
- Green: software instrument

You can edit these regions in a number of ways:

- *Move*: Click on it and drag it to another location in the timeline (either on the same track or on different track.).
- *Trim*: Place your pointer over the lower half of one of the edges until it turns into a bar with an arrow on it. Drag in to trim the region. On software instrument regions, drag out to add silence at the beginning or end of the region.
- *Loop*: Place your pointer over the upper part of the right edge until it turns into a bar with a curved arrow on it, then drag to the right.
- *Duplicate*: Hold down the Option key as you drag the region and it will be duplicated.
- *Delete*: Select the region and press the Delete key on your keyboard.
- *Split*: Place the playhead where you want to split the region and select Edit > Split.
- *Join*: Select the two regions by holding down the Command key on your keyboard as you click on each region, then select Edit > Join.

GarageBand supports cycle regions to allow you to do multiple takes of a recording. To Create a cycle region:

1. Click on the Cycle button in the controls area. 
2. The cycle region will appear as a yellow area above the timeline. Drag the region and move it to the point where you want to start recording. To resize the cycle region, drag in on the edges of the cycle region.
3. Place your cursor at the beginning of the cycle region and record your first take.
4. Press the record button again to stop recording.
5. Repeat steps 3 and 4 to record additional takes.
6. To preview each take, click on the circle with the number in the upper left corner of the region and select the desired take, then click on the Play button.
7. To keep just one take, click on the circle with the number of takes, choose the take you want to keep (it should have a check mark next to its name), and then choose Delete Unused Takes from the same menu.

Another feature in GarageBand '09 is the ability to arrange regions into sections such as intro, verse, and chorus using the arrange track in the GarageBand timeline:

1. Choose Track > Show Arrange Track.
2. Click on the Add Region button in the Arrange Track to create a new arrangement region. 
3. To rename the arrange region, click on its name, wait a few seconds, then type the name you want to assign to it.
4. To resize the arrange region, select it and drag in on an edge.
5. To move an arrange region, drag it to another location in the arrange track. If you move an arrange region over another one in the arrange track, the two regions are swapped.
6. To copy an arrange region, hold down the option key as you drag it to another location in the arrange track. When you move or copy an arrange region, the music in all of the tracks included in that region are moved or copied.

### The Track Editor

The Track Editor is used to edit the contents of a region. The display on the Track Editor will depend on what type of region you have selected.

For real instrument regions, the Track Editor will display a waveform of the recording.

To remove a section of the waveform in the Track Editor:

1. Select the region you want to edit in the timeline.
2. Click on the Track Editor button. 
3. When the Track Editor opens, position your pointer somewhere in the lower part of the waveform (until it turns into crosshairs) and make a selection by clicking and dragging.
4. Select Edit > Cut or hold down the Command key and press X on your keyboard.

### Notation View

When you open up the Track Editor with a software instrument region selected, you can edit the individual notes in that region in notation view:

1. Select the region you want to edit and click on the Track Editor button.
2. Switch to Score view by clicking on the Score tab on the left side of the Track Editor.
3. To move a note, select it and drag it to another spot in the notation area. You can drag the note up and down to change its pitch.
4. To add a note, hold down the Command key and click in the notation area where you want to add the desired note. To change the note value, click on the note to select it and choose a different note value using the Insert menu on the left side of the Track Editor.
5. To copy a note, hold down the Option key as you drag the original note to another location in the notation area.
6. To change a note's duration, click on the round part of the note to display a green duration bar to the right of it.  Click and drag on the edge of this bar to change the note's duration.
7. To change a note's velocity, select the note and use the Velocity slider on the left side of the Track Editor to make your velocity adjustments.
8. To add pedal symbols, select "Ped" from the Insert menu, then Command-click at the point where you want to add the pedal down symbol and drag to the point where you want to add the pedal up symbol.
9. To delete a note, click on it to select it and press Delete on your keyboard.

10. To print the notation for a track, select the track and choose File > Print.

### Adding Loops

GarageBand includes loops of prerecorded music that can be used to add drum beats and other repeating elements to a composition.

To add a loop to a project:

1. Click on the Loop Browser button.
2. The Loop Browser supports three views (column, musical buttons and podcast sounds). Change the view to display musical buttons by clicking on the middle view button at the top of the Loop Browser.



3. Select a category by clicking on one of the buttons in the Loop Browser.
4. The loops in that category will be listed in the area below the musical buttons. Double-click on a loop to preview it.
5. When you find one you like, drag it into the gray area in the timeline. GarageBand will create a new track with a loop region in it.
6. To extend the loop, place your pointer over the upper part of the right edge until it turns into a bar with a curved arrow on it, then drag to the right.

### Importing Music

GarageBand supports the MP3, MIDI, WAV, and AAC file formats. There are two ways to import an audio file: using the Media Browser or from a Finder window.

To import a file using the Media Browser:

1. Click on the Media Browser button.
2. Select the Audio tab at the top of the Media Browser.
3. Click on iTunes and select a file from the list. Click on the Play button to hear a preview.
4. Drag the file into the gray area in the timeline. GarageBand will create a new track when you release the mouse.



To import a file using the Finder:

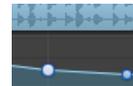
1. Resize the GarageBand window so you can see the file you want to import.
2. Drag the file from the Finder window until the pointer has a plus sign on it.
3. Release the mouse to create a new track with the audio from your file.

### Adjusting Volume and Pan

The volume indicators on the right side of the track controls area will indicate your volume level as two bouncing green bars (only one bar if you're recording in mono). These two bars will hit a red point if your volume is too high.

To adjust the volume level and pan on any track:

4. Use the slider below the volume indicators to adjust the volume level. The pan wheel is used to place instruments in the stereo field. Drag the wheel to either side to have instruments play out of either the left or right channel.
5. To adjust the volume or pan dynamically over time, display the volume or pan curve by clicking on the down arrow in the track controls, then choosing Track Volume or Track Pan using the pulldown menu.
6. Click on the curve to add points (keyframes) you can use to change the shape of the curve. These points can be used to create fades and other effects.



When you're finished editing a track, you can lock it to prevent it from being accidentally changed. To lock a track, select the lock icon  in the track controls area.

Each GarageBand project also includes a Master Track which determines the volume level for the entire project. To adjust the volume of the Master Track, first choose Track > Show Master Track, then make sure Master Volume is selected in the pulldown menu on the left side of the track. You can then drag the volume curve up to raise the overall volume or set points in the volume curve to change the volume over time.

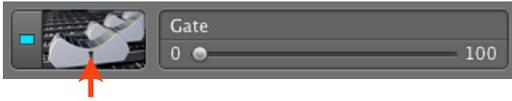
### Effects

GarageBand includes studio-quality effects you can use to enhance your audio. The effects are available in the Edit tab of the Track Info pane.

To add an effect to a track:

1. Select the track and click on the Track Info button.
2. Select the Edit tab at the top of the Track Info pane to show the track's effects settings.
3. To add an effect, click on one of the empty effect slots and select the effect from the popup menu that appears. .

- To adjust the effect's settings, click on the icon on the left side of the effect's slot.



This will open a popup window with sliders and other controls you can use to adjust the effect's settings. To save your changes as a preset, click on the menu at the top of the popup window and choose Make Preset, then enter a name for the preset and click on Save.

- To turn off an effect, click on the LED button to the left of the effect's icon.
- To change the order in which effects are applied, use drag and drop to move effects up or down in the Track Info pane. Changing the order of effects will change the sound.

The Visual EQ effect allows you to modify the different frequencies in a recording. The Visual EQ is not available for guitar tracks, which use the amp and stompbox effects instead. To use the Visual EQ:

- Turn on the effect by clicking on the LED button to the left of the Visual EQ icon.
- To bring up the Visual EQ settings window, click on the Visual EQ icon.
- Check the box next to Analyzer to see a frequency curve (showing which frequencies are louder or softer) as you play your project. Make sure to turn off the Analyzer when you don't need it, as it takes up a lot of CPU resources when it is on.
- To adjust a band (bass, low mid, high mid, and treble) click on the area for that band and drag up or down to make your adjustment. You can drag to the left and right to change the pitch.

With GarageBand some effects can be applied dynamically over time using an automation curve similar to the volume and pan curves. To use automation:

- Click on the down arrow in the track controls.
- Choose Add Automation from the pulldown menu below the track controls.
- Click on the triangle next to Bass Reduction, Visual EQ or Echo and Reverb to see the effects in each category, then check the box next to the effects you want to add and click on OK.

- To modify an effect, choose it using the pulldown menu below the track controls, then click on the automation curve that is displayed below the track's regions to set points you can use to change the shape of the automation curve.

### Learn to Play

Learn to Play is a new feature introduced with GarageBand '09 to help beginners learn how to play music using interactive video-based lessons. GarageBand '09 ships with two basic lessons (piano and guitar), but you can download more lessons by selecting Lesson Store on the GarageBand splash screen. Artist lessons, taught by popular artists such as Sting and Norah Jones, can be purchased for \$4.99.

To use Learn to Play:

- Select Learn to Play on the left side of the GarageBand splash screen and choose a lesson type (piano or guitar). The lesson will start in full screen mode. To exit the lesson, click on the X in the upper left corner of the screen or press the Escape key on your keyboard.
- As you hover over the video at the top of the screen, you will see chapters displayed. These chapters allow you to choose whether you want to just see the instructor play through the lesson or start learning along with him or her.
- To play/pause the movie, click on the Play button at the bottom of the screen. If you want to loop one of the segments, click on the Cycle region button. The region that will loop will be highlighted in yellow.
- To change the speed at which a lesson will play back, use the slider to the left of the Record and Play buttons. To adjust the volume level, use the slider to the right of these buttons.
- To record yourself as you play along with the instructor, first make sure you are on the Learn chapter of the lesson, then click on the Record button at the bottom of the screen. Click on the Metronome button to the left of the Record button to hear a metronome as you play along.
- To adjust the volume levels of the teacher's voice and the other instruments included in the lesson (as well as your own), click on the Mixer button on the upper right corner of the screen and use the sliders to make your

adjustments. This is also where you can solo a track (by clicking on the headphones icon) or mute a track (by clicking on the speaker icon).

7. To change the appearance of the lesson, click on Settings at the top of the Learn to Play screen. Here you can determine the screen layout as well as how the notation is displayed. An option to turn on captions is also available.
8. When you're done with your recording, click on Open with GarageBand to edit the project with all of the tools available in GarageBand.

### Recording a Podcast Episode

To record a new podcast episode:

1. Select New Project > Podcast from the GarageBand splash screen.
2. Enter a file name for your podcast episode and choose a save location.
3. Click on Create.

GarageBand will open up with a few tracks already created for you:

- Podcast Track: This is the track where you add the chapter markers and images for your enhanced podcast.
- Male Voice: This track is optimized for male voices.
- Female Voice: This track is optimized for female voices.
- Jingles: Use this track to add background music.

If you need to add additional voice tracks, duplicate one of the voice tracks created by GarageBand or create a new real instrument track and assign a voice to it. To duplicate a voice track:

1. Click on the Male Voice or Female Voice track created by GarageBand to select it.
2. Choose Track > Duplicate Track.
3. To delete a track you don't need, click on it once to select it and press Command + Delete or select Track > Delete Track.

To create a new real instrument track and assign a voice to it :

1. Select Track > New Track.
2. Choose Real Instrument in the popup window. The Track Info pane will open on the right side of the GarageBand window.
3. Select Podcasting from the list on the left side of the Track Info pane.

4. Select one of the presets on the right side of the pane that matches your voice type (male or female), environment (noisy for added noise reduction) or microphone type (iSight if you are using your iSight camera).

You can enhance the sound quality of your podcast recordings by using the Speech Enhancer feature of GarageBand. To use the Speech Enhancer:

1. Select the track you want to modify and click on the Track Info button. The Track Info pane will open on the right side of the GarageBand window.
2. Next, click on Edit tab at the top of the Track Info pane.
3. Click on one of the effects slots and choose Speech Enhancer from the popup menu.
4. To adjust the settings for the effect, click on the icon to the left of the Speech Enhancer effect slot. The Speech Enhancer window will open.
5. Use the Reduce Noise slider to change the amount of noise reduction applied to your recording.
6. Check the box next to Microphone Type and select the microphone type that matches your hardware using the pulldown menu. Do the same for Voice type.
7. To save your settings, select Make Preset from the pulldown menu at the top of the window, then provide a name for the new preset.

Another good effect for podcasts is the Vocal Transformer, which allows you to use a slider to alter the pitch of the voice. This effect can be used to create new voices for stories.

The Jingles track is used to add sound effects and background musics to a podcast. To add a sound effect or jingle:

1. Click on the Loop Browser button. 
2. Click on the Podcast Sounds view button. 
3. Select one of the categories on the left side of the Loop Browser:
  - Jingles: complete background music tracks that can be used behind narration or dialogue. Jingles are usually available in short, medium and long versions.
  - Stingers: short sound effects often used in radio broadcasts to signal a transition to a new segment.

- Sound Effects: sounds of animals, people and specific situations such as sporting events and work environments.
4. Click a loop to preview it.
  5. Once you find a jingle or sound effect you like, drag it into the Jingles track to add it to your project.

GarageBand includes a ducking effect that will automatically lower the volume on backing tracks (such as the Jingles track) so you can hear the narration or dialogue in the voice tracks.

To use the ducking feature, set up each track as either a leading or backing track by clicking on one of the ducking controls (select Control > Ducking if these controls are not visible). The top control (blue) sets a track as a leading track, while the lower control (yellow) sets up a track as a backing track.



To adjust the settings for the ducking effect:

1. Click on the Track Info button to open the Track Info pane.
2. Select the Master Track tab and click on Edit.
3. Click on the pulldown menu for the Ducker effect and choose one of the presets.
4. To turn off ducking, click on the LED button to the left of the Ducker effect icon.

### Adding Chapter Markers and Artwork

By adding chapter markers, you can make your podcast more interactive. Chapter markers can be used to navigate through the segments in a podcast while it plays in iTunes or on an iPod. Each chapter marker can include an image, a title, and a URL that can be used to open a website when the podcast is played on a computer.

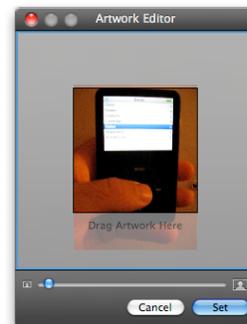
To add a new chapter:

1. Click on the Podcast Track to select it.
2. Place the playhead where you want to insert a chapter marker.
3. Choose Edit > Add Marker.
4. Move the playhead to another location in the timeline and repeat to add more markers as needed.
5. To change the length of a chapter, drag the edge of the chapter marker region in or out. Move the chapter region as needed by dragging it to another location on the Podcast track.

6. To delete a marker, select the chapter marker region and press the Delete key on your keyboard.

To add an image (which automatically adds a chapter):

1. Click on the Media Browser button, then select the Photos tab to display the photos in your iPhoto Library as well as photos taken with Photo Booth.
2. Drag the desired images from the Media Browser and drop them on the Podcast Track at the point where you want them to be displayed when the podcast plays back.
3. Click on the Track Editor button with the Podcast Track selected to view a list of the chapter markers in your podcast.
4. Double-click a thumbnail to edit the image using the Artwork Editor. The grayed out portion of the image will not be displayed when the podcast is played in iTunes or on an iPod.



5. Use the slider to change the zoom amount, or drag inside the window to change the area of the image that will display.
6. When you're finished editing, click on the Set button.

To change the title or URL of a chapter, click in the appropriate field in the Track Editor, then type in the desired text for the title or the URL of the website you want to open.

To add episode artwork that will display whenever there is a gap in the Podcast Track, open the Media Browser, select the Photos tab, and then drag an image into the Episode Artwork area in the Track Editor.

The Podcast Track can also be used to add a movie. However, you can't combine still images and video in a podcast in GarageBand. When you add a movie to the Podcast Track it will be converted into a Movie Track with a separate

Movie Sound track for the movie's sound. You can edit the sound in the Movie Sound track in the same way you edit other tracks in GarageBand.

To add a chapter to a Movie Track:

1. Select the Movie Track and move the playhead to the location where you want to add the chapter.
2. Open the Track Editor by clicking on the Track Editor button.
3. Click on Add Marker on the left side of the Track Editor.

To preview a podcast, select the Podcast Track or Movie Track and click on the Preview button to the right of the track's name. This will open the podcast preview window. Click on the Play button to see a preview of your podcast in this window.

Each podcast episode can also include metadata. This is additional information that is embedded with the audio file, such as the episode's title and the name of the person who recorded it. To edit an episode's metadata:

1. Select the Podcast or Movie Track for your podcast project.
2. Click on the Track Info button to open the Track Info pane.
3. Click on the Podcast Track or Movie Track tab and enter the metadata in the text fields displayed in the Track Info pane.
4. Select Clean from the Parental Advisory menu to indicate that your podcast episode does not include any explicit content.
5. Enter a brief description of the episode in the Description text area. This is a good place to include show notes outlining the name of each segment and the topics covered in the podcast episode.

## Exporting

To share your audio, you have to export it into a format that can be played outside GarageBand. To export a recording and save it as a file on your computer:

1. Select Share > Export Song to Disk or Export Podcast to Disk.
2. Make sure the check box next to Compress is checked as this will reduce the file size. Podcast recordings are automatically compressed, so you will not see this option if you are exporting a podcast recording.
3. Choose a file format (MP3 or AAC) using the Compress Using menu. If your podcast

recording includes images you should export it as an AAC file, as the MP3 format does not supporting embedded images.

4. Select a quality setting using the Audio Settings menu or choose Custom to open a separate window where you can set the bit rate (reducing the bit rate will reduce the file size but it will also lower the sound quality).
5. Click on Export.
6. Enter a name for the song file and choose a save location.
7. Click on Save.

To send a recording directly to iTunes from GarageBand:

1. Choose Share > Send Song to iTunes or Send Podcast to iTunes.
2. Enter the desired iTunes metadata (such as the artist name, playlist name, etc.).
3. Check the box next to Compress if you are working on a song file (podcasts are automatically compressed when they are sent to iTunes. so this option will not be available if you're working on a podcast episode).
4. Choose an encoder from the Compress Using menu (AAC or MP3) and set your audio quality settings using the Audio Settings menu.
5. Click on Share. iTunes will open in the background and the song or podcast will play back automatically when the export is finished.

If you do not check the box next to Compress when you send a song to iTunes or export it to disk, it will be exported as an AIFF file. This is an uncompressed file that will be bigger than an AAC or MP3 file. However, you can use iTunes to convert an AIFF file into a compressed format as follows:

1. To select the format used to convert the song file in iTunes 8, choose iTunes > Preferences.
2. In the General tab, click on Import Settings.
3. Choose MP3 Encoder or AAC Encoder from the Import Using pulldown menu.
4. Choose a quality setting using the Setting menu or choose Custom to adjust the bit rate (lowering the bit rate will reduce the file size but it will also lower the sound quality).
5. Click on OK to close the Import Settings window, then click on OK again to close the iTunes preferences window.

6. Right-click or Control-click on your song file in the iTunes Library and select Convert Selection to AAC (or MP3).

To burn a song to a CD, choose Share > Burn Song to CD, insert a blank disc into your computer's CD drive, and click on Burn.

To add a podcast episode to an iWeb Blog or Podcast page, choose Share > Send Podcast to iWeb. When iWeb opens, choose the type of page you want to add the podcast episode to (Blog or Podcast) and click on OK.

### Podcasting Issues

Two key issues to consider before starting a podcast project with your students are:

- Privacy: make sure to get permission from parents if you are going to have your students record the podcasts. Even then, you should have a discussion with your students about this issues and establish some guidelines (for example, students should use only first names when addressing each other in the podcasts and so on).
- Copyright: GarageBand includes many loops and sound effects you can use in your podcasts. If you plan to use audio files downloaded from the Internet, make sure you have permission to use them, or use copyright-free music.

There are many sites where you can search for music and sound effects for your podcasts, including:

- ccMixer.org (<http://ccmixter.org/>)  
ccMixer is a community music site featuring remixes licensed under a Creative Commons license. This is a type of license where the person who created the recording has already given permission to reuse their work. Usually the only condition is that you give credit to the person who created the recording.
- OLPC Samples (via TinyURL: <http://tinyurl.com/6p4b4p>)  
This is a collection of more than 10 GB of loops, sound effects and other sounds intended for use with the One Laptop Per Child XO laptop. These sound effects have been made available for educators under a Creative Commons license.

### Podcasting Project Ideas

- Class podcast: Podcasts are well suited for any kind of content that is regularly updated. Creating a podcast of what your students are doing throughout the year is a great way to keep parents involved. The podcast can include reports of the places your class has visited on field trips, summaries of what students have done for each unit, and other class news.
- Reader's theater: A great way to bring a book to life for students is to have them record scenes from it as podcasts. Students can use the sound effects included with GarageBand to recreate the setting of the story and the Vocal Transformer can be used to create new voices (pirates, etc.).
- Oral histories: Students interview members of the community and document significant events in the life of their school and their community.
- Public service announcements: Students research an issue in their community that is relevant to them and create a brief service announcement that can be played during morning announcements.
- Character studies: Students report on an issue or event from the point of view of a historical figure. For example, a student may report on the Civil War from the point of view of Abraham Lincoln, or from the point of view of a soldier whose life they have researched.

### Creating iPhone Ringtones

To create a new iPhone ringtone:

1. Choose iPhone Ringtone from the GarageBand splash screen.
2. Select Loops (for a music ringtone) or Voice and click on Choose.
3. Add loops, your own recordings or imported audio files to your project. When you're finished editing your project, resize the cycle region above the timeline so that it covers the part of the song you want to use as your ringtone (ringtones can be up to 40 seconds long).
4. Choose Share > Send Ringtone to iTunes.

The ringtone will appear in the Ringtones area of your Library. To transfer it to your iPhone, plug in your iPhone and wait for it to sync.