



The Opera

Recent video or DVD recordings of *Xerxes* are available in Italian and English. Rent or buy a video or DVD and share the first act with your class. (It is a long opera; therefore, it may not be possible to show the entire production in one class.) *Ombra mai fù* is sung at the beginning of Act I. Discuss the staging of this production. Is it set in 18th century England or ancient Persia? Why did the director make this decision? How do the sets and costumes compare to other operas your class has seen? Learn more about 18th century opera: Handel's *Acis and Galatea* is a shorter opera with a less complicated plot. Written in English, it features shepherds, nymphs and an evil monster and is available on video or DVD.

After Listening



The Science of Sound

Is it really possible for a human voice to shatter glass? This idea is based on the phenomenon of resonance frequency; that is, a singer who can produce sound waves at the same frequency as a glass's natural resonance frequency will cause it to vibrate. A simple experiment in sympathetic vibration will illustrate this principle.

Hang three identical objects equidistantly along a piece of string about 1 meter (3 feet) long. Suspend the string between two chairs as tightly as possible. Each object should be able to swing like a pendulum and should be hung at different heights. When the objects are still, swing the first object from side to side like a pendulum. Observe what happens to the other objects along the string. Then try swinging the other objects at different intervals. Now what happens?

Result: when one of the objects along the string was set into motion, the other objects felt the vibrations (resonance) traveling down the string. The second and then the third objects began to vibrate or swing (sympathetic vibration) because they share the same natural frequency as the first object.

Now hang three different-sized objects and try the same experiment. The second and third objects should not respond to the vibration of the first because each of the three objects has different natural resonance frequencies.

Back to the original question: if a singer can match the resonance frequency of a glass with her voice, she can cause it to vibrate. Making it break is more challenging; she will have to increase the power (volume) of her sound until the glass vibrates so intensely that it shatters. So far, there is no official record of a singer naturally creating such an intense volume to actually shatter glass.



Mapping the World

Distribute copies of the worksheet map from page 35. Working as individuals or in small groups, have students identify each composer's heritage and the locale for each opera. Use one color for each composer and his corresponding opera. You will see that the featured operas on this recording represent a wide area of geographic and cultural influences. For older students, you may wish to mask several of the answers shown in the table before photocopying and distributing the worksheet. This will challenge your students' knowledge of composer biographies, operas and locales.



Characters & Symbols

Distribute copies of the worksheet from page 36. Match the composers, characters and symbols from each of the operas. Match the character with his/her **aria**. <Answers reading across: Wagner / Die Walküre / Siegfried / Sword / Brünnhilde / Wotan's daughter * Bizet / Carmen / Carmen / Rose / Escamillo / Bullfighting cape * Puccini / Madame Butterfly / Butterfly / Her father's dagger * Handel / Xerxes / King Xerxes / Tree * Offenbach / Tales of Hoffman / Olympia / Wind-up doll * Rossini / The Barber of Seville / Figaro / Scissors and scalpels * Mozart / The Magic Flute / Queen of the Night / Moon chariot / Papageno / Bird cage on his back / Papagena / Nest of "little ones" * Verdi / Rigoletto / Gilda / Protected only child / Duke of Mantua / Fickle-minded * Puccini / La Bohème / Mimi / Bonnet * Mozart / The Marriage of Figaro / Figaro / Engaged to be married / Cherubino / Fancy clothing and military gear>



Historic Timeline

Distribute copies of the worksheet from page 37. Compare the lifelines of different composers. Which composers might have met each other in person or heard each other's operas performed? Add grandparents, parents and your lifeline on the chart. Calculate the lifelines as suggested. Research the dates of the important events that follow. Mark these dates on the timeline to show them in relation to each composer's life and your life, too.



Stage a Performance

Upon submission and acceptance of the license agreement on page 48 and payment of the nominal License Fee, your class(es) may perform the **arias** and arrangements included on this CD. Feel free to explore your own creative vision, but here are a few ideas to get you started: select small groups or larger choirs to perform all or selected **arias**; choose soloists to perform all or selected **arias**; designate groups to work as set designers, costumers, choreographers, stage managers/stage hands, lighting directors/operators, sound technicians, marketing and publicity agents, box office attendants, ushers. Of course, you'll also need a **conductor** and, if appropriate, musicians for the orchestra. Singers and musicians may perform to the vocal track or accompany the instrumental track from the CD.



Evaluation & Review

Students can complete a self-evaluation. Copy and distribute the Evaluation Summary included on page 38. Collect each of the self-evaluations and add your own evaluation and performance review.

We hope that you have found this Teacher's Guide to be an important resource. We invite you to share your comments with us via letter, email (moreinfo@childrensgroup.com) or call us toll-free in North America 1-800-757-8372 or (905) 831-1995.