Students will learn:

• To distinguish high and low sounds.
• To identify the wave form of high and low pitches.
• To perform high and low sounds, both vocally and with instruments.
• To differentiate intervals in pitch.

Pitch is how high or low a note sounds. Accompanied by a soprano and a bass singer, Quaver begins an exploration into the highs and lows of pitch. Along the way, Quaver’s wave machine presents a visual representation of pitch, a tiny camera provides an inside look at vocal cords, and a giant piano demonstrates intervals by pitch-stepping and pitch-jumping.

Vocabulary
Pitch
Bass
Soprano
Trio
Interval
Octave
Vocal cords
Range*

* concepts included in the Teacher Guide, but not in the DVD
A soprano and bass singer shatter and shake the shop. Pitch can be defined as how high or low a note sounds. Not only can these differences be heard, they can also be represented visually.

Each person’s voice produces a range of pitches. Melodies are made from intervals, which are a combination of pitch-steps and pitch-jumps. Vocal pitches are created by the vocal folds. Larger instruments are generally lower in pitch and smaller instruments are typically higher in pitch.

The diversity of pitch is presented by this unlikely duo. The key to exploring high and low pitches with vocal folds and instruments is to understand the concept of pitch-steps and pitch-jumps.

Draw two columns on paper, whiteboard, or IWB. Label each column respectively as high sounds and low sounds.

Have students brainstorm real world examples that fit in the two categories. For example, a whistle is a high-pitched sound, and a dog growl might be a low pitched sound. Have students imagine themselves in various environments — a factory, a harbor, the woods. What would they be more likely to hear — high sounds or low sounds?

Ask for volunteers to whistle or sing their highest and lowest sounds.
Discussion Points

• What is a high-pitched singer called?
  a soprano

• What is a low-pitched singer called?
  a bass

• What is the word that describes the range of notes?
  pitch

• What is the word used for pitch-jumps and pitch-steps?
  intervals

Materials Needed
- Tuned bells
- Mallet

High? Low?
Purpose: Examining differentiations in pitch
Use the provided images of a bird and a cow to depict a spectrum of pitch. Hand a pointer to a volunteer and ask him/her to decide if the sounds you play or sing are high like the bird, low like a cow, or somewhere in between. A variation is for all students to show thumbs up or thumbs down depending if the pitch is high or low.

My High and Low Melody
Purpose: Sing pitches to form melodies
Teach the students this funny phrase:

Help me, help me, help me, please - my
Next-door neighbor’s going to sneeze

Sing the phrase using two pitches to make a melody. Group or pair students and have them select tuned bells or notes on the piano of two different pitches (one high and one low, within a five-note range). Have them create a melody and practice singing it accompanied by their selected tuned bells or piano notes.

Pitch Finder
Purpose: Beginning ear training to differentiate pitches
Ask students to sit in a circle and blindfold one student. Give a high pitched tuned bell and a mallet to one student and a low pitched tone bell and mallet to another. Challenge the blindfolded student to creep slowly toward either the high or low sound as the students with the tuned bells alternate playing their notes.

Note: Orff instruments or other instruments with distinguishable pitches can be substituted for tuned bells.
**Melody Maker**
*Purpose: Pitch and movement relationships*
Write the titles of three to four familiar melodies on the board. Silently present the melodic direction of one of the melodies using your hand to indicate pitch. Take a vote to see which song the students think was demonstrated. Have students take turns doing the same; they’ll love a chance to be the teacher. Encourage students to silently sing the melody in their heads as they hear the pitches.

**VIDEO REPLAY**
*Tracks 1 & 2*
**A Duet for Piccolo and Tuba**
*Purpose: Listening and moving to changes in pitch*
View again *A Duet for Piccolo and Tuba (Track 1)*. Tell students to put their hands in the air when the melody is high and their hands on the floor when the melody is low.

Listen to *Rimsky-Korsakov’s The Flight of the Bumblebee (Track 2)*. Have students raise an index finger to portray the bumblebee, and by finger movement, encourage them to show the direction of the violin melody. Be ready! This one is fast and furious!

**WEB ACTIVITIES**

**QSynth**
Explore the science of sound! This website activity allows students to mix sounds and create their own sounds online. In doing so, they see how sound waves vary based on the pitches selected.

**QComposer**
Experiment with pitches and melodies using QComposer. Students have the option of altering or deleting any melody they create. They can also save their melodies and come back to them again.
6 HOMEWORK

My Pitch Family  Worksheet # 1
Purpose: Every person has a different range of pitches in his or her voice
Assign students to ask three friends or family members to sing their lowest and highest
pitches. Have them write the names of their vocal volunteers in pitch order from high-
est to lowest. Students should include themselves.

Graphic Scores  Worksheet # 2
Purpose: Simple notation of a given melody
Instruct students to draw the melody as indicated on the worksheet.

Q Tips
Do you have budding musicians among your
students? Why not plan a lesson where they
can sing or play their instruments to further
your students’ understanding of pitch?

7 ASSESSMENT

Pitch Assessment  Tracks 3, 4, 5 & 6  Worksheet # 3
Ask students to listen to these 4 duets and label whether each in-
strument is playing the higher or lower part.

Track 3 Violin & Piano
Track 4 Flute & Tuba
Track 5 Trumpet & Double Bass
Track 6 Through the Starlight - Cello & Piano
CROSS-CURRICULUM ACTIVITIES

Science
Check out QSynth at QuaverMusic.com, this creative is much like an oscilloscope that is used by scientists. The A note above Middle C vibrates at 440 waves per second. Higher notes vibrate faster and lower notes vibrate slower. Using a slinky, invite two students to stand at each end and make waves. The number of waves per second is called the frequency because of how frequently the waves occur during a given time period. Higher notes have more waves per second causing them to have a higher frequency. This can be demonstrated by shaking the slinky faster.

Media
Watch a clip of Tom and Jerry or another cartoon. Instruct students to listen particularly to how music is used in the show. Turn down the volume; what impact does it have? Discuss why parts of the action use high and low sounds. What is the pitch for fast, furious scenes? Slower scenes? Does the pitch match the action of the scenes? For example, does the pitch of the music go up as a character climbs a tree? Why?

Materials Needed
- Slinky
- Cartoon DVD
### Intervals

**Purpose:** Basics of jumps or intervals between pitches

Have students memorize the intervals presented in the episode. It is a great way to train the ear and prepare students for sight-singing.

<table>
<thead>
<tr>
<th>Interval</th>
<th>Interval name</th>
<th>Famous tune</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-D</td>
<td>2nd</td>
<td>Happy Birthday</td>
</tr>
<tr>
<td>C-E</td>
<td>3rd</td>
<td>Michael, Row the Boat</td>
</tr>
<tr>
<td>C-F</td>
<td>4th</td>
<td>Here Comes the Bride</td>
</tr>
<tr>
<td>C-G</td>
<td>5th</td>
<td>Theme from “Star Wars”</td>
</tr>
<tr>
<td>C-A</td>
<td>6th</td>
<td>My Bonnie Lies Over the Ocean</td>
</tr>
<tr>
<td>C-B</td>
<td>7th</td>
<td>Bali Ha’i from “South Pacific”</td>
</tr>
<tr>
<td>C-C</td>
<td>octave</td>
<td>Somewhere Over the Rainbow</td>
</tr>
</tbody>
</table>

### Instrument Pitches

**Purpose:** Different instruments have various pitches

Play excerpts of these instrument tracks and direct students to match the instrument pictures with the sounds of the instruments. Remember Quaver’s phrase: “small-high, big-low.”

- **Track 7** Oom Pah - tuba
- **Track 8** Piccolo Flight - piccolo
- **Track 9** Bassooning - bassoon
- **Track 10** Violin Reel - violin
- **Track 11** Mozart’s The Magic Flute, Queen of the Night Aria - soprano
- **Track 12** Verdi’s Il Trovatore, Soldiers Chorus - bass voices
- **Track 13** Street Musician - alto saxophone
- **Track 14** Recorder Jingle - recorder

*Note: Some instrument pitches are neither high nor low, but are midrange.*
TEACHER NOTES

Featured Instruments

- Voice
- Piano
- Tuba
- Piccolo
- Tuned Bells
My PITCH Family!

Ask three friends or family members to sing their lowest and highest pitches. Write their names down below in pitch order from HIGHEST to LOWEST.

DON’T FORGET TO INCLUDE YOURSELF!

HIGHEST! ___________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

LOWEST! ___________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

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Graphic Scores

Melodies have pitches that move up and down. Look at the example, then make your own graphic score for the songs below.

Twinkle, Twinkle Little Star (example)

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Twinkle  Twinkle  Little  Star  How I  wonder  what you  are...

Song 1: National Anthem

Song 2: Jingle Bells
Pitch Assessment

Listen to these four tracks - each is a duet (for two instruments). Write down which instrument plays the higher part, and which plays the lower part.

**Duet 1**
- Higher: □
- Lower: □

**Duet 2**
- Higher: □
- Lower: □

**Duet 3**
- Higher: □
- Lower: □

**Duet 4**
- Higher: □
- Lower: □

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Instrument Pitches

Look at the instruments below and imagine which would be a
low pitch and which would be a high pitch. Write HIGH, LOW, or
MIDRANGE on the spaces provided.

T __ A

V __ L __

B __ S O N

H I G H ?

O R

L O W ?

_X O _ O N E

_ I C C _ _ O

R __ O R __ E R

_ A S _

S __ R A __