

Topic 3: Instrument Focus – Strings and Percussion

By the end of this session, students should be able to answer the following questions in their workbook:

1. What is a string instrument?
2. Which instruments can be found in the string section?
3. What is a percussion instrument?
4. Which instruments can be found in the percussion section?

Pupil resources: Topic 3 in pupil workbook

SMSC Links	BV Links	LNIT Links
<ul style="list-style-type: none">• Social – the cohesion of ensemble music making and collective feedback• Cultural – learning about the symphony orchestra and Western Classical Music conventions• Spiritual – how instruments and the voice can create a musical effect	<ul style="list-style-type: none">• Tolerance and Mutual Respect – class feedback to questions, listening to contrasting views as a part of a debate	<ul style="list-style-type: none">• Literacy – writing down responses to learning objectives, making arguments as a reasoned debate• IT – a chance to research how to make instruments at home if IT is available

Information to promote learning:

1. What is a string instrument?

- Instruments that have different strings of different thickness
- Usually have 4 strings – the thicker strings make a lower pitch

Class activities to promote learning:

Class Activity: how does the thickness of the string impact the sound?

This video [click here](#) ▶ might be useful if you want to have a practical way of demonstrating how different thickness of strings (i.e., rubber bands) make different pitches.

2. Which instruments can be found in the string section?

Violin – divided into Violin I and Violin II

Cello (full name Violoncello)

Viola

Double Bass

Click here ► for videos of many of these instruments, discussing how they work and what they sound like.



Teacher Resources

String Family:

The strings are the busiest members of the orchestra. They are also the quietest, so you will find more string players in an orchestra than in any other section.

There are **four** types of string instruments:

- Violins
- Violas
- Cellos (or Celli)
- Double Basses

There are two groups of violins (firsts and seconds) and one group each of the other instruments. The violinist closest to the conductor is the leader. He or she is in overall charge of the strings (though each section, first violins, violas, etc. also have their own section leader too). The leader shows exactly when to play by leading very obviously and clearly – other players keep him/her in their peripheral vision so that they play exactly together.

Each string instrument has four strings, each tuned to a different pitch. The larger the instrument, the lower it can play.

Most often the string instruments are played with a bow (called *arco*), but they can also be played *pizzicato*, (meaning plucked) and very occasionally a composer asks for them to be held in ‘banjo position’ when they are played like a guitar.

Double Bass

Cello

Viola

Violin



Instruments © public domain/3CC BY 3.0

String Listening:

If you're keen to hear more about what string instruments can do, listen to Playful Pizzicato and Frolicsome Finale from Benjamin Britten's 'Simple Symphony' which the composer wrote using ideas he had first written when he was 10 years old!

- Playful Pizzicato is entirely plucked
Listen here ► (from 03:20)
- Frolicsome Finale is exceptionally fast!
Listen here ►

3. What is a percussion instrument?

- Range of instruments that are played by being hit – either with beaters, sticks or other types of mallet
- Some are unpitched – like cymbals, triangles and tambourines (they cannot play specific notes)
- Some are pitched – like xylophone, glockenspiel and timpani drums (they can play specific notes)
- The harp can be seen as a string instrument (as it has strings) and a percussion instrument (as you pluck the strings to make sound)



Teacher Resources

Percussion includes instruments you hit, shake or scrape:

- Pitched instruments, which can play a tune, such as xylophone, harp or piano
- Unpitched instruments such as bass drum, cymbals and maracas

One of the percussionists plays a set of pitched drums called the timpani. Keep a careful eye on the player – if you see them bend down towards the drum and listen to it, they will be re-tuning it to a different pitch, which they do with a foot pedal and then check by playing very quietly.

Percussion Listening:

For a spectacular piece of timpani music, listen to Philip Glass's Concerto for Timpani

[Listen here](#) ►



4. Which instruments can be found in the percussion section?

Pitched Percussion	Unpitched Percussion
Harp	Triangle
Xylophone	Tambourine
Glockenspiel	Cymbals
Timpani	Bass Drum
Tubular Bells	Gong

Pupil Task 3.1: is the voice an orchestral instrument?

Use the Increased Challenge box below to consider the debate – is the voice an instrument? – considering arguments for and against.

Things to help each side:

- The voice is not a usual part of the symphony orchestra, but so much music has been written for orchestra and choir. As an example, listen to Carl Orff's 'O Fortuna' from 'Carmina Burana'. Pupils might recognise this piece of music from a popular TV show... [Listen here](#) ►

- However, some composers have used voices to give a special effect to music – not so much to tell a story through text, but instead to use the voice singing vowel sounds to suggest an ethereal quality.

Check out the piece below which uses choirs almost like instruments:

- Debussy 'Sirenes' from 'Trois Nocturnes' [Listen here](#) ►

Differentiation: support and challenge

These activities are excellent for all learners, but could possibly be differentiated in the following ways:

Increased support	Increased challenge
<ul style="list-style-type: none">• Limit to the 4 principal string instruments (Violin, Viola, Cello, Double Bass) and 1 pitched percussion (Timpani) and 1 unpitched percussion (Triangle)• Use mnemonics or anagrams to help learning• Complete the 4 learning objectives, asking pupils to match the description to the question	<ul style="list-style-type: none">• Introduce other techniques for the strings, especially playing on the fingerboard, or turning the bow around (col legno)• Ask pupils to research some of the instruments independently, coming up with fun facts about the instrument (remember they can access the Philharmonia resources online)• Complete the extension tasks below

Increased challenge

If your pupils have understood these concepts, ask them to consider if they think the following instruments can be considered as 'orchestral' instruments. They may wish to listen to the following pieces to help extend their thinking:

- **The human voice:** listen to Holst's *Neptune from The Planets* to see how the composer uses the voice as an orchestral instrument (in this case, a choir), giving a wonderful ethereal feeling to the music, representing the 'mystical' nature of the planet

Introduction to the piece: [Listen here ►](#)
Performance of the piece: [Listen here ►](#)
- **The organ:** how does the organ enhance the final moments of Strauss' piece

below? Pupils can consider how the instrument often evokes a liturgical setting owing to organs mostly being installed in churches, and what effect this has on the music

Performance of the piece: [Listen here ►](#)

- **The Piano:** Both the harp and piano contain strings, though that might be surprising in the case of the piano, as the strings are rarely seen! In the piano there is a mechanism in which small hammers hit the strings to create the sound. There's a lovely google doodle showing how the mechanism works to celebrate the 360th birthday of the man who invented the mechanism! [Listen here ►](#)

- **The Harp:** Harpists pluck the strings to create their sound, but they also have a set of seven pedals which they use to change pitches as and when needed. So, you might spot their feet moving almost as quickly as their hands! Generally, the harp is thought of as only playing beautiful music; have a listen to *Spiders* by Paul Patterson, to hear a different side of the instruments' character

[Listen here ►](#)

These are non-vegetable instruments based on the BBC article here

[Click here ►](#)

With the guides to making the instruments found here

[Click here ►](#)

Class activities to promote learning:

Class activities to promote learning and/or an individual pupil task 3.2

If you have a class that are keen on recycling or are keen builders, consider the task below!

Using items you might be ready to throw in the bin/recycling, or even vegetables, consider making an instrument or two that could be similar to an orchestral instrument. The videos below might be helpful to get pupils thinking:

Making instruments out of vegetables – what do they sound like?

[Click here ►](#)

How are vegetable instruments made

[Click here ►](#)

Please note that some are made with power tools which will not be suitable for pupils of this age but there are examples in the pupil workbook (task C3.2 and linked below) that they may wish to try below.