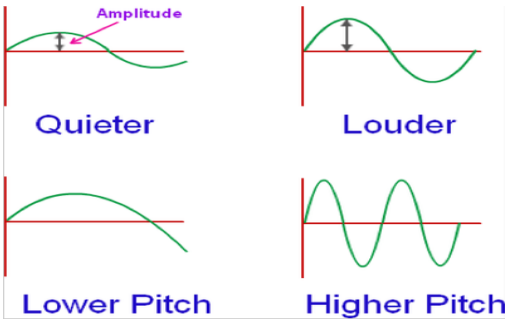
Sounding it out (Level 3)

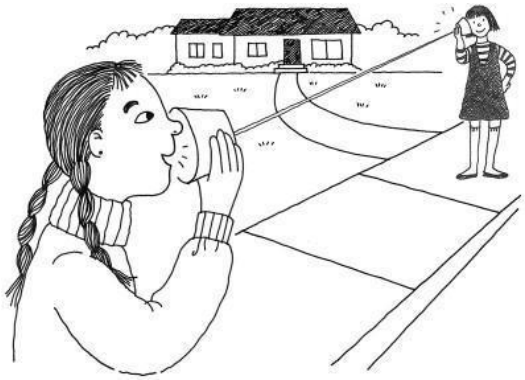
Description	Learners will explore sound and music exploring different types of sound by making their own instruments and writing sound patterns.
Leading Question	Can you make your own music?
Total Time Required	1 hour a day for 5 days (total of 5 hours)
Supplies Required	Rubber bands, Metal Hanger, String, Paper Cup, Plastic Containers, Paper and Pen
Supervision	Medium
Subjects	Science, Mathematics and Literacy
Learning Outcomes	1. Development of the different instruments 2. Observations on vibrations, timbre, loud – soft, quality of sound etc. 3. Development of the walkie-talkie phones 4. Creation of the sound patterns 5. Development of the final music piece 6. Consistency of the mood of the song on the tempo and lyrics 7. Depth and relatability of the lyrics of the song 8. Rhyme and meter of the song
Previous Learning	None

Day 1

Today you will learn about the different qualities of sound and how to make your own music!

Suggested Duration	Activity and Description
5 minutes	• Learners will explore the different qualities of sound and make their own music and song! Learners will explore sound waves and how sound travels • Guardians and/or teachers will explain to learners that sound is a form of energy that is caused when vibrating materials produce waves that move through matter. These waves have different characteristics such as frequency and amplitude, which will determine the properties of sound such as pitch and loudness. The form of the human ear can receive sound

	waves as vibrations and convert them to signals that are processed by the brain.
15 minutes	• Learners will close their eyes and try and draw the song as waves. Learners will draw a line and then draw waves – their waves can be tall/shorter (amplitude of loud/soft) – wider/narrower (represents pitch of high or low) more jagged/smoother (represents timber or quality of the sound) based on a song that they will listen to. • TIP: Learners will begin to understand how each of these aspects of sound waves represent a different sound quality through the course of the week and compare their drawing at the end to the that in the beginning 
30 minutes	• Learners will make their own walkie-talkie string phones to see how sound waves travel. o Learners will take two paper cups and make a tiny hole o Let's develop new ways of staying connected when we are far and design our own string phones o Learners will cut a long piece of string (TIP: They can experiment with different lengths) o Learners will poke a hole in the bottom of two paper cups and pass the thread through this hole and tie it on the other side to prevent it from pulling through the cup. We can also use a paper clip or anything else to hold the string o Learners will move to a position with their family member holding one cup and they hold another. Make sure the distance is large enough that they cannot hear each other naturally and make sure the string is tight and not touching anything else o One person talks into the cup while the other puts the cup to their ear and listens, can you hear each other • Family members can explain that speaking into the cup creates sound waves which are converted into vibrations at the bottom of the cup. The vibrations travel along the string and are converted back into sound waves at the other end so your friend can hear what you said. Sound travels through the air but it travels even better through solids such as

	your cup and string, allowing you to hear sounds that might be too far away when traveling through the air.
10 minutes	• Learners will write out the observations made with this experiment including when the sound travelled best, what length of strong works best, how taught does the strong have to be etc.  • *Tip: Sound waves are created when your voice vibrates the air inside the cup. This is then transferred to the bottom of the cup and then the string to the other cup as a sound wave.*

DAY 2

Today you will explore timber, pitch and vibrations by making two instruments

Suggested Duration	Activity and Description

30 minutes	• Learners will explore pitch that describes how low or high a note sounds.
	• Input from guardians/teachers: Sound is made up of vibrations or waves. These waves have a speed or frequency that they vibrate at. The pitch of the note changes depending on the frequency of these vibrations. The higher the frequency of the wave, the higher the pitch of the note will sound. Just as the strings inside an instrument create different sounds so do the plucked rubber band instruments.
	• Learners will make “instrument 1” rubber band instruments to investigate vibration and pitch
	  o Learners will gather some rubber bands of different sizes and thickness and some empty plastic containers, empty cardboard boxes etc.
	  o Learners will stretch different rubber bands around each container so that they across the opening and start plucking and playing

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o Learners will pluck in order from thinnest to thickest noticing that the sound gradually changes from high-pitch and vibrating fast to low-pitch and vibrating slowly
o Learners will then try from short lengths to longer lengths and notice it goes from high-pitch and vibrating fast to low-pitch and vibrating slowly
o Learners will experiment with the pitch and fill out the below table to confirm the speed of vibration and the pitch sounds depending on the length and thickness of the rubber bands.


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<tr><td>Thickness of Rubber band</td><td>Speed of Vibration</td><td>Low or High Pitch Sounds</td></tr>
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Learners will confirm that shorter rubber bands will vibrate faster Learners will chose their favourite “string” instrument of the ones that they made as their “instrument 1”

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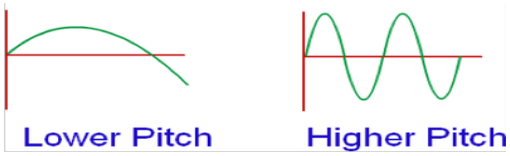
Learners will illustrate the pitch of different rubber bands based on faster or slower vibrations as sound waves as shown below.



Learners will explore the concept of how sound travels through solids, liquids and air. Also, how sound echoes and bounce back.
Tip: This is how bats and other animals that are blind determine where sound is coming from

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15 minutes	● Learners will try an experiment of testing the how sound travels through solids, liquids and air. o First: Learners will place a ticking clock on a table and put their ear against the table to hear how the sound travels o Second: Learners will try the same by placing a clock in a sealed ziplock bag in water and try and hear the sound o Third: Finally, just hear the clock's sound as it travels through air
20 **minutes**	● Learners will observe that sound travels through solid, water and air observe how it sounds different and draw the diagram and the type of sound o Learners will design their own echolocation experiment to see how sound bounces back o Learners will place two small tubes like empty toilet paper rolls in an angle facing a metal plate (aluminum plate, pot over etc.) o  o Learners will whisper into one of the tubes close to the metal plate and ask their parent to hear with the other tube to see how the sound bounces back and they can hear the echo o The learner and parent will change places for the parent to whisper something into the tube and the learner to hear the sound that is made
5 minutes	● Learners will now try and find other places in their home where their voice echoes. Hint: any long corridor, big bathroom etc.

DAY 3

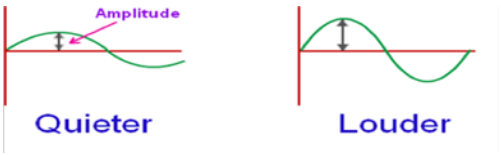
Today you will write your own song!

Suggested Duration	**Activity and Description**

5 minutes	● Learners will listen to their favorite album / songs and get inspired - they will identify the genre or type of music and decide what "type of music they want to make"
5 minutes	● Learners will listen to different songs and determine the "mood" of song e.g. happy, sad, inspirational, love song etc. and determine the mood of their song.
5 minutes	● Learners will now think of the message or the story they want to tell in the song: i) Being at home, ii) Why I love my mother, iii) Today is a beautiful day, iv) How to be happy etc.
30 minutes	● Learners will write the lyrics of their song as a poem. The poem can rhyme in many different schemes such as: i) Line 1 and 2 rhyme and then Line 3 – 4 rhyme (AA-BB) or ii) Line 1 – 2 – 3 – 4 all rhyme (A-A-A-A) or iii) Line 1 and Line 3 rhyme and Line 2 and 4 rhyme (A – B – A – B) or any such and write the sequence down - For example: The morning has come and the sun will **shine** Let's have some fun for the weather is **fine** Raise your hands up and repeat Clap them together to the beat Clap your hands together to the beat Raise them up high and repeat Jump up high and stamp your feet Run to the chair and take a seat ● TIP: Learners can add some humming or notes (La-La-La) to continue their rhymes.
5 minutes	● Learners will think of the title of the song.
15 minutes	● Learners will set their poem to the sound-pattern beat they created before or develop a new sound pattern or meter to tap on each word that they write.

Day 4

Today you will explore beats and rhythm by making and playing their own sound patterns

Suggested Duration	Activity and Description
5 minutes	• Learners will listen to their favourite song and tap out the meter or beat on that song • For example: taping out to each word or syllable – use relevant.
20 minutes	• Learners will make their "instrument 3" own sound shakers to explore volume and timbre • Learners will make sound shakers with clean plastic containers with lids and a variety of indoor and outdoor items like paper clips, pennies, buttons, marbles, cotton balls, rice, shells, leaves, seeds, pebbles or sand. Place the items in different containers and shake! They can use objects in their own home to tap against these for example a spatula to tap against a shaker. • Learners will now try and the sound pattern they previously made using different types of shakers • Depending on how loud or soft the pattern is they will illustrate it based on a sound wave that is taller for loud sounds and shorter for quieter sounds 
20 minutes	• Learners can now create their own dance to the song and practice their steps – they can choose to have dance steps or act out the steps.
5 minutes	• Learners will think of title of the song.
10 minutes	• Learners can plan costumes and how the song will play out.

Day 5

Today you will finish your song and perform it!

Suggested Duration	Activity and Description

15 minutes	• Learners can now add in the instrument 1-2-3 that they developed to the song and sound pattern
20 minutes	• The family will listen to their final song and tune. The family will think about whether the beat or sound pattern is catchy, the lyrics are meaningful, and rhyme and the instruments are nice accompaniments
15 minutes	• Learners will reflect on what they learned. Learners can close their eyes when listening to a song and reflect on whether the lyrics rhyme, they can tap out the sound pattern or beat, identify the pitch of the story and also draw out what they feel the song is communicating and what they mood is.
10 minutes	• Numeracy Extension: Learners will prepare a survey across the criteria that makes songs "popular" (e.g. "how catchy is the beat, how memorable are the lyrics, can you dance on this song? Does this song reflect any of your moods? etc.) Learners will compile all the data in a bar graph • TIP: *Learners can record the song, if possible, to play it back for themselves and hear how it sounds.*

Additional Enrichment Activities	• Learners can make multiple songs based on different CVC words, moods or situations • Create your own instruments at home and add to the choir • Develop a marketing plan for the music and dissemination plan.
Modifications for Simplification	• Learners can identify sounds patterns of existing songs and adapt an existing song • Learners can make their own song using CVC words of their choice and tap out sound patterns and beats • Learners can work on a percussion instrument and create sound patterns. • Learners can identify sound patterns in a few existing songs and develop their own. • Learners can also develop a song based on a folk song that they might be familiar with.

ASSESSMENT CRITERIA

A majority of my learners were able to:

- ☐ Develop different instruments
- ☐ Observe vibrations, timbre, loud – soft, quality of sound etc.
- ☐ Develop walkie-talkie phones
- ☐ Create sound patterns
- ☐ Develop a music piece
- ☐ Ensure consistency of the mood of the song on the tempo and lyrics
- ☐ Ensure depth and relatability of the lyrics of the song
- ☐ Develop rhyme and meter of the song.