Making a musical instrument can provide learners with a number of opportunities to explore a variety of curricular areas. Making a drum based on a traditional African Djembe could allow learners to explore how sound is made and travels. As the drum has two parts of differing sizes it allows learners to compare the pitch of the sounds made by each part.

**Beat it! Make a drum based**

To make the drum

**You will need:**
- 2 clean plastic yoghurt or flower pots of differing sizes
- PVA glue and water
- Parcel tape
- Newspaper
- Plastic e.g. a piece of plastic bag
- Paint brush
- Tissue
- Paper in a variety of colours
- Scissors

**What to do:**
- Place the two pots (flower pots or yoghurt pots) together so that the bases touch (Figure 1). The pots may be of the same type (Figures 1 and 4) or different types (Figures 2 and 3).
- Use parcel tape to secure them together firmly (Figure 2).
- Take the plastic bag and draw a circle that will overlap the edge of the pot by approximately 6 cm all around (Figure 3). Cut this out carefully, it will form the drum “skin”. Repeat for the other side.
- Now stretch the plastic over the top of the pot and stick with single layer of parcel tape. The tape should start by being fixed to the pot at one side and stretch right across the plastic to the other side of the pot. Stretch each additional piece of tape in the same direction each time, keeping the tape and plastic very taut (Figure 4). Do the same on the other side. This will give you a large and small drum.
- Mix the water and PVA glue together (3 parts glue to 1 part water). Use a paintbrush to coat a section of outside of the drum with the mixture. Do not put any glue on the drum “skins” (Figure 5).
- Tear up the newspaper into pieces roughly 6 cm x 6 cm - you will...
on a traditional African Djembe

need enough pieces to cover the outside of the drum.
• Place each piece of paper onto a glued area of the drum and paint a layer of glue and water mixture over it (Figure 6). Repeat this process until the whole of the body of the drum is covered in a layer of glue soaked newspaper. Remember to leave the drum skins at the top and bottom clear of glue and paper (Figure 7).
• Leave to dry. Once dry this layer will strengthen the drum and provide a good surface for painting.

You could decorate your finished Djembe by painting it or with glued-on tissue paper shapes (Figure 8). Research into traditional instruments and music could provide ideas for a design.

Experiences and outcomes

Sciences
• Forces, electricity and waves
• Vibrations and waves
• By collaborating in experiments on different ways of producing sound from vibrations, I can demonstrate how to change the pitch of the sound - SCN 1-11a.

Technologies
• Having evaluated my work, I can adapt and improve, where appropriate, through trial and error or by using feedback - TCH 1-14b/2-14b.
• By applying my knowledge and skills of science and mathematics, I can engineer 3D objects which demonstrate strengthening, energy transfer and movement - TCH 2-12a.

Expressive arts
• I can use my voice, musical instruments and music technology to discover and enjoy playing with sound, rhythm, pitch and dynamics - Music EXA 1-17a.
• I can use my voice, musical instruments and music technology to experiment with sounds, pitch, melody, rhythm, timbre and dynamics - EXA 2-17a.