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| Session leaders:  Contact number:  Date: | | |
| Session theme: | Sound | |
| Session objectives: | Carry out a pattern seeking enquiry and identify and explain trends. | |
| Careers links: | Sound engineer. | |
| Starter questions: | We have some musicians in the class – let’s brainstorm some buzzwords and discuss what we already know about sound (pitch, volume etc.). What different instruments do we know and what are their similarities and differences? | |
| **Activities** | **Notes** | **Materials** |
| *Context:*  Anna and I are having a party and need a band to play some music for us. We don’t want just any old band though – we’d like a range of instruments which can produce sounds of different volumes and pitches. We are on a tight budget, so can only afford typical household materials.  *Description:*  We will make sounds using homemade instruments. We will investigate how our instruments produce sounds and how they can be changed to produce different volumes and pitches.  Step 1: Make an instrument out of the materials provided. Ideas include (but are not limited to!) elastic band guitars, shakers, twangy rulers and straw oboes.  Step 2: Explore and record: how your instrument produces sound; how to make it louder; and how to make higher pitch sounds. Record any other interesting things about your instrument which you discover through investigation.  Step 3: Repeat with other instruments if you have time and/or compare your results with others.  *Reflective questions:*  What are your conclusions from this investigation? Talk about vibrations, amplitude and volume, and frequency and pitch. What was your favourite instrument and why? What did you do to make your instrument vibrate? What did you do to change its volume/pitch? How can you make your instrument better? | Sounds are caused by vibrations e.g. of strings, drum skin, air in a pipe, or vocal chords.  The volume (loudness) is determined by the amplitude (size) of the vibrations. Bigger vibrations give louder sounds.  The pitch is determined by the frequency (vibrations per second). A higher frequency gives a higher pitch.  Results table may include:   * Instrument * How is the sound produced? * How can you make the sound louder? * How can you make a higher pitch sound? | Session leaders to provide:   * Elastic bands * Plastic tubs with lids * Dried pasta/rice * Straws * Other supplies for crafting * Tables to record results   School to provide:   * Rulers * Scissors * Pens * Sellotape |