|  |
| --- |
| **MATERIALS:**  You will need the following equipment to complete these tasks   * 1 drinking glass (glass) * 1 pencil * A jug of water * 1 empty glass bottle (small diameter of c. 2cm maximum e.g. coke bottle) * A selection of jars and containers, 2 minimum (ideally 1 glass, 1 plastic) * A selection of fillings for jars, 2 minimum (e.g. rice, beans, pulses, pasta, screws, shells etc) * 2-3 pieces of standard A4 paper |

**ACTIVITY & REFLECTION TASK 1**

**Experiment 1: Water Xylophone**

(This activity should take about 10min to complete. Please note that timings for activities also include resourcing/prep time)

The aim of this activity is to discover then relationship between volume and musical pitch (when struck).

For this experiment, you will need:

* Water
* 1 drinking glass (glass)
* 1 pencil (for use as a beater)

**Step 1: Fill the glass until it’s roughly ¼ full. Using the pencil, strike the side of the glass.**

*Reflect: Listen carefully to the pitch of the glass – is it high or low?*

**Step 2: Fill the glass until it’s roughly ½ full. Using the pencil, strike the side of the glass.**

*Reflect: Listen carefully to the pitch of the glass – is it high or low? How did this pitch compare to Step 1?*

**Step 3: Fill the glass until it’s roughly ¾ full. Using the pencil, strike the side of the glass.**

*Reflect: Listen carefully to the pitch of the glass – is it high or low? How did this pitch compare to Step 1 & 2?*

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| --- |
| **\*\*What happened to the pitch when we added water (volume) to the glass?**  Adding more water to the glass made the pitch go:  Higher, when struck /  Lower, when struck  Therefore, the GREATER the volume of water in the glass, the  HIGHER /  LOWER the pitch when struck |

**ACTIVITY & REFLECTION TASK 2**

**Experiment 2: Water Flute**

(This activity should take about 10min to complete. Please note that timings for activities also include resourcing/prep time)

For this experiment, you will need:

* Water
* 1 glass bottle (small diameter of c. 2cm maximum)

**Step 1: Take in a medium breath. With a mini-smile shape, blow across the lip of the bottle to produce a sound.**

(It may take a few tries to make a sound, if you get dizzy, take a break).

*Reflect: Listen carefully to the pitch of the glass – is it high or low?*

**Step 2: Now, add some water to the bottle, filling it about 1/3 full. Blow across the top of the bottle as before.**

*Reflect: Listen carefully to the pitch of the glass – is it high or low? How did this pitch compare to Step 1?*

**Step 3: Again, add some water to the bottle, filling it about 2/3 full. Blow across the top of the bottle as before.**

*Reflect: Listen carefully to the pitch of the glass – is it high or low? How did this pitch compare to Step 1 and 2?*

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| --- | --- |
| **\*What happened to the pitch when we added water (volume) to the glass bottle – did the pitch go higher or lower when blown?**  Higher, when blown /  Lower, when blown  Therefore, the GREATER the volume of water in the glass bottle, the  HIGHER /  LOWER the pitch when blown  **\*Taking into account the following statement, how did an increase in water volume compare between the water xylophone and the water flute?**  Statement:  The higher the pitch, the faster the vibrations or FREQUENCY of sound waves  The lower the pitch, the slower the vibrations or FREQUENCY of sound waves | |
| In the water xylophone an INCREASE of water volume created:  an INCREASED FREQUENCY of sound waves (higher pitch)  a DECREASED FREQUENCY of sound waves (lower pitch) | In the water flute an INCREASE of water volume created:  an INCREASED FREQUENCY of sound waves (higher pitch)  a DECREASED FREQUENCY of sound waves (lower pitch) |

**ACTIVITY & REFLECTION TASK 3**

**Experiment 3: Shakers**

(This activity should take about 15min to complete. Please note that timings for activities also include resourcing/prep time)

For this experiment you will need:

* A selection of jars and containers, 2 minimum – 4 maximum (ideally 1 glass, 1 plastic) – go for a diverse variety
* A selection of fillings for jars, 2 minimum – 4 maximum (e.g. rice, beans, pulses, pasta, screws, shells etc) – go for a diverse variety

**Step 1: Experiment filling the different jars/containers with ONE of your fillings. Shake the jar/container to produce a sound.** Try to keep the same capacity/ratio for each jar/container i.e. ½ full

*Reflect: How would you describe what sound was produced? How does the material and size of the jar/container affect the sound?*

**\*\*Use descriptive language to describe the different sound/tone quality or timbre that each shaker made, focusing on comparisons and points of difference.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Jar Name** | **Jar Type**  **(Glass, Plastic)** | **Jar size**  **(small, medium, large)** | **Filling type** | **Sound qualities** |
| Jar A |  |  | Filling 1: |  |
| Jar B |  |  | Filling 1: |  |

**Step 2: Repeat the process. This time, experiment by filling the different jars/containers with alternative fillings. Shake the jar/container to produce a sound.** (NB experiment with at least 2-6 new and contrasting combinations of jar and fillings). Try to keep the same capacity/ratio for each jar/container i.e. ½ full

*Reflect: How would you describe what sound was produced? How does the material and size of the jar/container affect the sound?*

**\*\*Use descriptive language to describe the different sound/tone quality or timbre that each shaker made, focusing on comparisons and points of difference.** (NB you do not need to fill in the complete the full table – just experiment with at least 2-6 new and contrasting combinations of jar and fillings)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Jar Name** | **Jar Type**  **(Glass, Plastic)** | **Jar size**  **(small, medium, large)** | **Filling type** | **Sound qualities** |
| Jar A |  |  | Filling 2: |  |
| Jar B |  |  | Filling 2: |  |
| Jar C |  |  | Filling 2: |  |
| Jar D |  |  | Filling 2: |  |
| Jar A |  |  | Filling 3: |  |
| Jar B |  |  | Filling 3: |  |
| Jar C |  |  | Filling 3: |  |
| Jar D |  |  | Filling 3: |  |
| Jar A |  |  | Filling 4: |  |
| Jar B |  |  | Filling 4: |  |
| Jar C |  |  | Filling 4: |  |
| Jar D |  |  | Filling 4: |  |

**ACTIVITY & REFLECTION TASK 4:**

**Paper Challenge:**

(This activity should take about 15min to complete, using between 50-100. Please note that timings for activities also include resourcing/prep time.)

The aim of the exercise is to develop creative and innovative design solutions and to view simple everyday objects as a potential and varied resource for music making.

**Activity: You have 5 minutes to explore producing sounds using a piece of A4 standard paper. The aim of the exercise is to explore the maximum amount of possibilities.**

**\*\*Write down your 5 favourite techniques for creating an inventive sound using paper including the:**

**a) playing technique (e.g. striking, blowing, shaking)**

**b) the design/construction/usage of the paper (e.g. folding into fan shape).**

**Use drawings if they help you describe what you have done.**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Playing technique** | **Design/Construction/Usage** | **Drawing (optional)** |
| *Example* | *Striking with hand like a drum* | *Flat, unaltered sheet of paper* |  |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |

**\*\*What benefit do you think activities like this have for children’s learning and development?** (1-2 sentences)

**ACTIVITY & REFLECTION TASK 5:**

**Curriculum links:**

(This activity should take about 10min to complete, using between 50-150 words)

This activity is designed to enable you to think about the many links music and sound has with the rest of the primary school curriculum, and come up with an innovative idea of using music to introduce or extend content in other curriculum areas.

**\*How were the activities related to general subject and content areas of the primary school curriculum?** (1-3 sentences)

**\*Describe one idea for how you might incorporate one of these activities as part of a larger lesson plan** (4-6 sentences maximum)