Lesson/Unit Plan: Sound Teacher: Date: Term 3, 2013

Curriculum: Science Room: Strand: Physical World

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| **Intentions**  *What do I intend they learn?* | **Success Criteria**  *How will they know they are successful?* | **Teaching and Learning Activities**  *What will I do to help them achieve this?* | **Assessment Activities**  *How will I assess the success criteria?* | **Resources** |
| Global Learning Intention  W.A.L.H.T   * Level 2: Explore everyday examples of physical phenomena, such as sound, waves, and heat.   Level 3   * Explore, describe, and represent patterns and trends for everyday examples of physical phenomena, such as sound, waves   Nature of Science  Investigating in science   * Build on prior experiences, working together to share and examine their own and others’ knowledge. * Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations.   Minor Learning Intentions  W.A.L.H.T  *1. Understand that sound can be reflected (Level 2);*  *2. State materials that reflect sound(Level 2);*  *3. Identify substances that transmit sound(Level 2);*  *4. Illustrate that vibrating air makes sound(Level 2);*  *Draw diagrams to explain ideas (linked with Visual Language)*  *5. Correctly identify the relationship between wavelength and pitch (Level 3);*  *6. Describe situations that produce echoes and explain how sounds can be produced and changed (Level 3);*  *7. Test the relationship between volume and wave height (Level 3);*  *8. Investigate and describe how selected items of technology work and affect our lives (Level 3.*  *9. Explain and demonstrate pitch, volume, resonance and vibration (Level 3)*  *Draw diagrams to explain ideas (linked with Visual Language)*  ***Why do I need to learn this?***  ***To understand the properties and effects of sound*** | *Students should be able to make progress in each learning intention, they will also be able to make a musical instrument using environmental materials and carry out a sound based investigation.* | 1. Using ‘ear-trumpets’ (half-bottles) focus on different directions in the playground or classroom. Describe why hearing is more ‘focused’.   Illustrate how the air-trumpets work. Investigation Do ear trumpets work? MBS  Moving Water (MBSPW)   1. Act. 7 ‘Bouncing Sound’, p. 31 MBS. 2. Using ‘ear-trumpets’ (half-bottles) speak & listen with a partner onto water, air and concrete etc. Predict objects that transmit sound then test predictions; 3. Act. 3 ‘Musical Straws’, p. 26 MBS.   Seeing the Vibrations (MBSPW)  String Pitch (MBSPW)  Level 1-3 Investigations: How can you soften loud sounds,   * Make a musical instrument using “found” materials, investigate different sound patterns   -----------------------------------   1. Plan an investigation with bottles & water to test whether air-space, wavelength and pitch are related   Bottle organ (MBSPW)  Sounds under water (MBSPW)  Predict sounds made when blowing across the top of bottles, Investigate how these sounds can be changed. Or pinging sounds made by rubber bands of varying thickness/length. Use findings to understand how pitch is changed in guitar, piano…   1. Do the ‘pin drop’ test with a pin and block in the hall, cloak bay and playing field. Record the result of changes to each of these environments – e.g. when bags are in the cloak bay and when the cloak bay is empty. Conclusions should compare before and after views. 2. Act. 2 ‘ Seeing the Vibrations’, p. 26 MBS 3. Do ear trumpets work? Make a simple ear trumpet and list the effects of hearing aids on the daily lives of deaf people 4. Use tuning forks to explain how sound is made by vibration. Explore how sound can make other things vibrate – i.e. resonance.  * Make a musical instrument using “found” materials, investigate different sound patterns | ***PW4518 Level 2 assessment Sounds and instruments (ARB)***  ***Level 3 – Sound experiences assessment (ARB)***  ***Students will:***   * Discuss, and then settle on a question to investigate. * Observe and make predictions. * Trial through a fair test.   Level 2/3  Play a tune on a self-made instrument;  Describe how sounds travel better through some materials rather than others. | * Building Science concepts- overviews book 18, 19 * Making Better Sense of the Physical World (MBSPW) * ARB Bank * Scientific Eye video – Hearing and Sound * One News Clip- ***Problem with too much sound*** * Variety of sound activities as per folder   **Other Activities:**   * Investigate the working of the Human ear; * Sound activity station cards; * Research animals hearing – e.g. whales, dogs; * Communication by sound – e.g. Morse code, telephones; * Brainstorm sound words and write sound poems; * Sound fact research crossword; * Other investigations as per folder; * Name and research types of instruments and how they work – e.g. wind, string, percussion. |
| **Catering for a Range of Abilities**   * To have buddies * Slowed/self-paced activities with learning centres. * Extend the learning experiences – level 3: i.e, could investigate a change in bottle materials, liquid type etc. | | **Unit Evaluation**  **Children’s Learning:**  **Personal Teaching:** | | |
| **Notes:** | | **Where to Next?** | | |