Mr. Byrne Sound Lesson

Technology

***Sound LESSON***

**Summary:** After this lesson, which covers the sound, students will be able to explain how a sound wave is produced. Students will be able to discuss the various ways sounds can be reproduced using analog and digital equipment. They will be able to explain the difference between pitch and frequency of sound.

**Grade:** 11-12

**Time Frame:** 1 day

**Subject:** Technology

**Topics:**

Sound Wave

Pitch/Frequency

Decibles

Sound Pressure level

**Notes:**

**Standards and Key Concepts:**

**Interdisciplinary Involvement:**

English: Vocabulary, listening comprehension,

History: Advancement of technology

Science: Sound wave

Speed of sound

**Understandings:**

 **1.**Students will understand what makes up a sound wave

**2.** Students will understand how pitch and frequency affect whqt we hear.

**3.** Students will understand that there are high, mid, low frequencies.

**4.** Students will understand how sound is reproduced using analog/Digital equipment

5. Students will be able to explain the difference between pitch and frequency.

**Essential Questions:**

1. What is sound?
2. Where is sound produced when talking?
3. How is sound produced by your vocal cords?
4. What is the measurement used for sound?
5. Which type of reproduction is a record player

**Knowledge and Skills:**

1. Students will know how to draw a sound wave and label the pitch and frequency
2. Students will know how sound can be reproduced using analog and digital technology.

**Performance Tasks and Assessment:**

Verbal assessment

**Performance Prompt:**

 Who can hear me? Blow on a Dog Whistle and ask who can hear it?

**Assessments and Rubrics**

Verbal discussion

Sound Wave Diagram

**Learning Experiences and Resources:**

**Sequence of activities:**

Have students enter classroom and sit in assigned seats and begin Do Now

Take Attendance

Begin presentation on Sound

 Define what Sound is and draw a visual representation on the board

 Analog-record player/Digital-CD-MP3

 Discuss different ways to reproduce sound.

 Vocal Range( soprano, tenner, alto, bass)

 Explain frequency and pitch and watch a video to provide a visual representation.

 Discuss different ways to reproduce the sound wave (SPL)

 Measure and Cut cardboard frame for project 12”x12”

 Cut and form template for voicecoil. (3/8” cylinder 1 ‘ tall cylinder)

` Wind magnetic around template ¼” tall

**Differentiated Instruction:**

Students build pieces individually

Student will work with a partner

Student will receive pre marked pieces (fold lines)

**HomeWork:**

Count throughout the day how many times you communicate with the use of a speaker.

PA announcements, Cell phone, TV, Music

**Resources:**

Paper plates

 Magnetic wire

 Cardboard

 Hot glue

 Projector and computer