

Lesson: *Changes in Science and Music*

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Overarching Standards-based Concepts Guiding the Lesson Design	Evidence Demonstrating Students' Knowledge	Pre-Assessment of Students' Knowledge & Skills	Assessment	Process
<p>Enduring Understanding = THE BIG IDEA: What is the physical world made of and how do we know? The big changes in scientific ideas accompanied changes in musical styles</p> <p><b>Standard(s) Addressed:</b> <b>Concept 1: History of Science as a Human Endeavor</b></p> <p>Identify individual, cultural, and technological contributions to scientific knowledge.</p> <p><b>High School</b> PO 1. Describe how human curiosity and needs have influenced science, impacting the quality of life worldwide. PO 2. Describe how diverse people and/or cultures, past and present, have made important contributions to scientific innovations. PO 3. Analyze how specific changes in science have affected society. PO 4. Analyze how specific cultural and/or societal issues promote or hinder scientific advancements.</p> <p><b>Knowledge and Skills Students Will Need/Demonstrate:</b></p> <p>Students will know major changes in atomic theory and be able to relate changes in scientific thought to changes in music styles.</p>	<p>In what way(s) will students demonstrate what they have learned? (e.g., the product or the performance)</p> <p>Students will participate in class discussion on history of atomic theory and music history</p> <p>In groups of 4, students will take on the research of a period of (medieval through present day) and act out a discussion of the make up of the physical world – (basically atomic theory of the day) while playing a period piece in the background. Students will then explain the use of that music and how it relates to the understanding of the world at the time.</p>	<p>What will you do to find out what students already know?</p> <p>In groups of 3-4, students group discuss between themselves and write answers on white boards to the following prompts: 1) What do you think the educated people of 1300AD thought about what the material world was made of (rocks, plants, water etc). How was this reflected in the music from the era? (At that time play music from the period). How does this kind of music reflect the world view? 2) change years to 1500, 1650, 1800, 1900, 2000</p> <p><b>Teachers Needs</b></p> <p>I need music from the different periods and a greater understanding of period styles and philosophy: Medieval, renaissance, baroque, classical, romantic, 20<sup>th</sup> century</p>	<p><i>What will be your final assessment of students, in which they demonstrate what they have learned? (consider formative and summative assessment)</i></p> <p>The presentations from the students will be assessed using a rubric, which they will have beforehand. It stresses their ability to correctly portray the atomic theory of the day, the major scientific advances, and to correctly play music from the period.</p>	<p><i>How will students move toward achievement of the concept and standards?</i></p> <p><b>Learning Sequence:</b> Pre-discussion with white boards Lecture/demonstration using power point presentation, a brief cruise through the history of atomic thought and music Student group research time to prepare project Presentations from groups</p> <p><b>Vocabulary:</b> Medieval, renaissance, baroque, classical, romantic, 20<sup>th</sup> century</p> <p>Atoms, orbitals, quantum theory, quarks, string theory,</p> <p><b>Equipment, Materials, Resources:</b> WHEW!!! Internet sources for researching music periods, CDs from KS and other sources (itunes worked). Library for research</p>