

Lesson Plan Title

Organism Symphony

Grade Level

6th Grade

Subject Area

Science

MSCCRS

L.6.1.6 Develop and use models to show relationships among the increasing complexity of multicellular organisms (cells, tissues, organs, organ systems, organisms) and how they serve the needs of the organism.

Art Form

Music

MSCCR Creative Arts Standards

MU: Cn11.0.6 Relate artistic ideas and works with societal, cultural, and historical context to deepen understanding.

Relate musical ideas and works with varied contexts to deepen understanding.

a. Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.

MU: Re7.1.6 Perceive and analyze artistic work.

Choose music appropriate for a specific purpose or context.

a. Select or choose music to listen to and explain the connections to specific interests or experiences for a specific purpose.

Duration

1 hour

Materials

Projector/Promethean board to show this video and visit this site:

<https://www.youtube.com/channel/UCWia-ILhx80ALp0u2-slwsA>

https://www.classicsforkids.com/music/instruments_orchestra.php

Individual student computers with internet access to visit this site: <https://www.mydso.com/dso-kids/learn-and-listen/instruments>

Objectives

Students will understand the relationship of cells, tissues, organs, organ systems, and organisms by making connections to symphonic instruments and instrument sections. Students will play virtual instruments to eventually build into an “organism symphony” that connects to all levels of the organization of life.

Vocabulary

Cell
Tissue
Organ
Organ system
Organism

Music Vocabulary

Names of individual instruments (whichever you choose to assign)
Woodwinds
Brass
Strings
Percussion
Conductor

Lesson Description

1. Begin by showing the class the video of the Mississippi Symphony Orchestra (<https://www.youtube.com/channel/UCWia-ILhx80ALp0u2-slwsA>). Ask students to watch for various types of instruments. What kind of instruments do they see that they recognize? Are the players seated in any particular arrangement? Have students make as many pertinent observations as they can.
2. After showing the video, explain that the organization of living things is very similar to the makeup of a symphonic orchestra.
3. Use this site (https://www.classicsforkids.com/music/instruments_orchestra.php) to make connections between the organization of life to an orchestra.
Ex: Each individual flute is like a cell. All of the flutes together are like a tissue (because tissues are made of the same type of cell). All of the woodwinds are like an organ (because organs are made of tissues working together in the same way). The woodwinds, brass, strings, and percussion together are like an organ system (because it can take many organs to complete a function like digestion). The orchestra with the conductor and the audience, all together, is like an organism (because it is like a performance where all parts come together). Depending on students' current level of knowledge, you may want to give specific examples of types of tissues, organs, and organ systems and how the instrument sections relate to them.
4. Each student should use their own computer to log on to this site: <https://www.mydso.com/dso-kids/learn-and-listen/instruments>. Assign each student an instrument (a few should have the same instrument). Once they click on their instrument,

there are short sound files that they can click on to show what the instrument sounds like.

Ask one student to play his/her instrument alone. "This is like a cell." Go into more explanation as needed at each step.

Ask other students who share the same instrument to play their instruments all together. "This is like a tissue."

Ask all of the woodwinds, then the brass, then the strings, then the percussion to play their instruments at separate times. (This will not be perfectly timed because not every sound file is at the same tempo; however, they should be able to hear similarities in their instruments.) "This is like an organ."

Ask all sections to play their instruments together. "This is like an organ system." "When all instruments, the conductor, and the audience are all together, that is like an organism -- a performance of all parts of the symphony coming together."

5. To wrap up the lesson, ask each student to discuss (either out loud or on an exit ticket) how each level of the organization of life can be represented by an orchestra.

Recommended Resources

More information about music education: <https://www.classicsforkids.com/teachers.html>

For a longer introduction video that spotlights each instrument section:

<https://www.youtube.com/watch?v=4vbyhU22uAM>

Extended Learning Activities

1. This same conceptual lesson can also be applied to the organization of ecosystems (species, population, communities, ecosystems, and biomes).
2. If your school has a band program with access to many instruments, instead of doing the virtual instruments, invite student musicians to play their instruments instead!

Sources

N/A

Tips

1. If the teacher is not already familiar with names of instruments, instrument sections (woodwinds, brass, strings, percussion), brush up on this terminology before teaching the lesson.
2. If possible, arrange your classroom like an orchestra seating (semi-circular) with woodwinds and strings towards the front, brass in the middle, and percussion in the back. This will give students more of a realistic feel for the lesson. Seat students with the same instruments together.
3. Allowing one student to serve as the conductor (using a baton or a pointer to conduct) would be a fun addition. This would be a great student-led activity for a student who is already musically inclined/trained to teach the rest of the class about tempo, crescendos,

and following the conductor. Connections can be drawn about the brain “conducting” all of the organ systems of the body.

4. As stated in the lesson, the sound clips on the student website are not necessarily at the same tempo for each instrument, so the entire class playing the music from the site may sound strange. This is where your school’s band director may be able to help! See ‘Extended Learning Activities’ for more information.

Author

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