

Painting with Sound: Visualizing Sound Energy

“The sound of colors is so definite that it would be hard to find anyone who would express bright yellow with base notes, or dark lake with the treble.” – Wassily Kandinsky



On the surface, it may seem that music and visual art are not related, but the artist Wassily Kandinsky viewed music as the best way to visualize art; that musicians could evoke images in the mind of a listener merely with sounds.

His goal was to produce object-free, spiritually rich paintings that made the viewer think of sounds and emotions and unify all sensory input.



Composition VII (1913)



Composition VIII (1923)

The operatic and tumultuous movement of forms around the canvas illustrates Kandinsky's belief that visual paintings could make the viewer think of sounds the way music called to mind certain colors and forms. Even the title, *Composition VII*, aligned with his interest in the intertwining of the musical with the visual and emphasized Kandinsky's non-representational focus in this work.

Materials needed for this lesson:

- Cardstock (index cards work well)
- Wireless speaker that is flat on top
- Music source to connect via Bluetooth to wireless speaker, such as a mobile phone ([Need help?](#))
- Craft paint



- Tap water
- Small cups to distribute paint
- Hot glue gun (light weight material to make moveable objects – done in advance by teacher) If you need help visualizing, there is a link to a short video clip in the Resources section below.

Science TEKS for this lesson:

- K.6.A Use the senses to explore different forms of energy, such as light, thermal, and sound.
- K.6.D Observe and describe the ways that objects can move such as, in a straight line, zigzag, up and down, back and forth, round and round, fast and slow.
- 1.6.C Demonstrate and record the ways that objects can move such as in a straight line, zig zag, up and down, back and forth, round and round, and fast and slow.
- 2.6.A Investigate the effects on objects by increasing or decreasing amounts of light, heat, and sound energy such as how the color of an object appears differently in dimmer light or how heat melts butter.
- 2.6.C Trace and compare patterns of movement of objects such as sliding, rolling, and spinning over time.
- 3.6.A Explore different forms of energy including mechanical, light, sound, and thermal in everyday life.
- 5.6.A Explore the uses of energy including mechanical, light, thermal, electrical, and sound energy.
- 6.8.A Compare and contrast potential and kinetic energy.
- 6.8.D Measure and graph changes in motion.
- IPC.5.A Recognize and demonstrate that objects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins.
- IPC.5.G Explore the characteristics and behaviors of energy transferred by waves including acoustic, seismic, light and waves on water as they reflect, refract, diffract, interfere with one another, and are absorbed by materials.
- Chem.11.A Describe energy and its forms including kinetic, potential, chemical and thermal energies.
- Phys.6.B Investigate examples of kinetic and potential energy and their transformations.
- Phys.7.A Examine and describe oscillatory motion and wave propagation in various types of media.

Resources

- Video of project in motion (my teenage daughter's choice of music):
<https://drive.google.com/open?id=19CgDTWYN6zq4B0ar32gJxgS2yt9Dk8mz>
- <https://www.wassilykandinsky.net>
- <http://www.wassily-kandinsky.org>
- <http://www.theartstory.org/artist-kandinsky-wassily.htm>

Painting with Sound: Visualizing Sound Energy

When you listen to music, do you ever visualize images of real objects in your head? Do different songs make you think of different things? In this activity, you will see that sounds from music are representations of energy. Sound energy can make things move.

When objects vibrate, sound waves are created. For music, it is a person's voice or a musical instrument that vibrates. These vibrations make the air around them move, because sound is a type of energy. So sound energy can move through the air. This is easy to hear, but it is very hard to see. The artist Wassily Kandinsky made paintings to show how sound looked to him when he listened to music. What do you think he was hearing when he painted this? Does this painting make you think of music?



Composition VII (1913)

Materials needed for this lesson:

- Cardstock
- Wireless speaker that is flat on top
- Music source to connect to wireless speaker via Bluetooth (mobile phone works well)
- Craft paint
- Tap water to dilute paint
- Small cups to distribute paint
- Small pieces of crumpled tape



Procedure:

1. Dilute craft paint in a small cup by mixing it with water. One-part paint to one-part water is a good ratio.
2. Use two or three colors of paint.
3. Place a dry index card on top of the speaker.
4. Dip a crumpled piece of tape into one color of paint and place it on your index card canvas.



5. Dip another crumpled piece of tape into another color of paint and place it on your index card canvas. Repeat with a third color if desired.
6. Make sure the wireless speaker is on and connected to a device with music (like a mobile phone) via Bluetooth.
7. Choose a song to play.

Data: Your data will be your completed painting!

Here is a finished example:



Analysis:

1. Explain what happens to the small pieces of tape when the music begins to play? Why do they behave this way?
2. Look at the painting done by a classmate. Other than choosing different colors, are your painting different? Why or Why not?
3. Why did you use small pieces of tape? What other materials could you have used?