

Weather or Not

THE CLEVELAND ORCHESTRA

LEARNING THROUGH MUSIC

MATERIALS & SETUP

- **Music:** [IV. Allegro](#) (“Thunderstorm”) from *Symphony No. 6 (“Pastorale”)* by Ludwig van Beethoven

CONNECTIONS TO OH STANDARDS

FINE ARTS



- **3CE** Listen to and identify music of various styles, composers, periods and cultures.
- **6RE** Discuss similarities and differences among the arts including connections between music and other curricular subjects.

SCIENCE



- Long- and short-term weather changes occur due to changes in energy.
- Weather patterns (long-term) and fronts (short-term) can be documented through consistent measuring of temperature, air pressure, wind speed and direction, and precipitation.

Learning Objective: Students will be able to understand how a storm is made and find aural connections between science and music.

ACTIVITY (15-20 minutes)

1. Play “Thunderstorm,” and have the students guess the title of the work. Introduce the idea that composers use weather for inspiration.
2. Explain how storms are made by first displaying a map of the U.S. and explaining that weather maps help make predictions about the weather. There are several factors which influence the weather:
 - a. **West to east movement:** In the US, weather patterns generally move from west to east. (Demonstrate on the map.)
 - b. **Fronts:** A **cold front** is the region where a cold air mass is replacing a warm air mass and a **warm front** is the region where a warm air mass is replacing a cold air mass. When a cold front and **warm front** collide, **precipitation** occurs. Precipitation is condensation of atmospheric water vapor deposited on the earth’s surface, i.e. rain, snow, sleet, hail. This happens in the form of storms, rain, and clouds.
3. Play “Thunderstorm” again. Discuss the piece with the class:
 - a. What kind of precipitation and weather did Beethoven include? (Cold front meeting warm front to create rain.)
 - b. How did Beethoven use musical techniques (dynamics, pitch, tempo) and instrumentation (strings, winds, percussion) to create his musical storm? (high piccolo = lightning, low trombones and timpani = thunder, violins’ pointed, staccato notes = rain)
4. Explain to the students that they will be creating their own musical storm. Divide the class into three groups and assign the following musical roles:

Group 1: Rub hands together (cold front)
Group 2: Snap fingers (warm front)
Group 3: Pat thighs (rain)
5. Conduct a musical storm. Begin with Group One and slowly add Group 2 and then Group 3. Let the storm build in intensity (crescendo) and eventually quiet down (decrescendo) as the cold fronts and warm fronts collide and then dissipate.

REFLECTION

1. Can the student recognize the “Thunderstorm” from Beethoven’s *Symphony No.6*?
2. Can the student define cold front, warm front, and precipitation?
3. Did the student identify similarities between the composer’s intentions and what occurs during a storm?