



## San Francisco Opera's

### ***THE FALL OF THE HOUSE OF USHER***

Getty's *Usher House* and Debussy's *La Chute de la Maison Usher*

## Curriculum Connections

California Content Standards  
Kindergarten through Grade 12

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### SCIENCE

*The principals of science used in The Fall of The House of Usher.*

THE FIVE SENSES: Sight, sound, touch, taste, and smell. What senses do you use while watching opera?

How do the eyes "see"? Explore how optical illusions might be created with the reflection of moonlight on water.

Explore the neuroscience of hallucinations and visions. (ex.: The writing of Dr. Oliver Sacks) What's going on when people hallucinate? Learn about the chemistry of the brain and how mental states can change depending on brain chemistry.

Explore the science/neuroscience of madness.

What other kinds of explanations might you have to describe what went on in Usher House – ex. carbon monoxide poisoning

What parts of the body are involved in listening to music? What goes on in a brain listening to music?

#### PARTS OF THE BODY:

Identification of body parts important to performing. Ex. Diaphragm, larynx, throat, mouth, etc.

Examine the science of men and women and psychological and physical differences.

#### LIFE SCIENCES

Research the life cycle of people, plants. Aging.

What is insanity?

What is *Pareidolia* (when you see faces in objects)?

Artists are encouraged to see things creatively. Research the connection between artists and madness. Is this perception more fact or fiction?

What are the key factors for maintaining positive mental health?

How did Edgar Allan Poe die? Based on the forensic evidence, which theory do you subscribe to and why?

## PHYSICAL SCIENCES

Explore times of day of different scenes in opera; how does lighting affect the mood?

How does light work onstage, sets a mood in opera? What are principles of light?

Explore different kinds of light: Cold, light, warm light.

What are materials used in opera? Identify the materials, and identify their sources.

## THE ELEMENTS

Fire, Water, Earth, Metal, Air, Wood.

## PHYSICS

Sound: Voice, Instruments, Acoustics, Amplification, Recording.

## ACTIVITIES

List references to nature in *The Fall of The House of Usher*.

Research Lewis Wharf, the area of Boston, where the story is set. What species of plants and animals can be found there?

Research the architecture of Boston during the time of *The Fall of The House of Usher*.

What kinds of building materials would have been used during this time? How were mansion constructed? Design your own mansion.

Replicate materials used in opera in a 2D manner, as a set designer would do. How do you make paper look like stone, wood?

Metalurgy for making weapons or a shield to use in a battle with a dragon.

Research the scientific discoveries of *The Fall of The House of Usher's* time; what would Madeline have known about the world? Roderick?

What would a scientist be like then? How are they different from scientists today?

What is forensic science? How might a forensics team begin to investigate the cause of Roderick and Madeline's deaths?