ARTISTIC + SCIENTIFIC PROCESSES

Catalyst Conversations

TIME: Four - 50 min classes

GRADES: 9 - 12

OBJECTIVE:
Create a personal pinhole theater to look at the world through the lens of art and science

MATERIALS NEEDED:
Large cardboard box, 4 sheets computer paper, transparent + masking tape, marker, duct tape, scissors, utility knife, ruler, foil, pin, large piece of dark fabric

VOCABULARY:
Pinhole Camera - a simple camera without a lens but with a tiny aperture
Aperture - An opening or a variable space through which light enters into a camera lens
Light Ray - straight line path of narrow beams of light, along which light energy travels

ESSENTIAL QUESTION:
- How can you keep the mystery as the artist and create something that answers questions like a scientist?

**see extended learning for additional scientific + artistic question prompts*

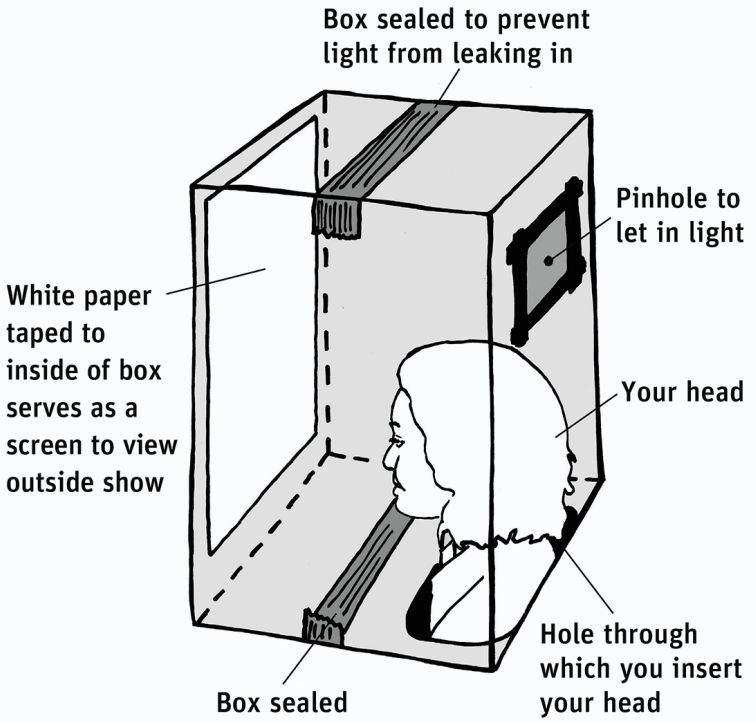
OVERVIEW:
Build a personal pinhole theater to observe the world from a different perspective. During construction ask students to put on the hat of a scientist and an artist.

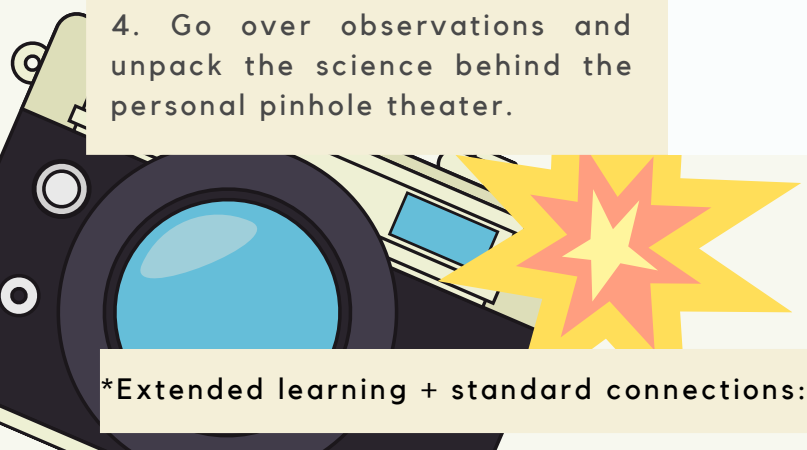
LESSON OUTLINE:

1 - 2. Have students construct the pinhole theater. Refer to the video and diagram to the right. Working in pairs or teams suggested.

3. On a sunny day take students outside to use the Personal Pinhole Theater. Experiment with aperture sizes (making pinhole bigger) Write down observations.

4. Go over observations and unpack the science behind the personal pinhole theater.





*Extended learning + standard connections: catalystconversations.org/catalyst-ed