

STEM Activity Centers

Activity Three: Get Animated

Objective: Participants will understand the concept of the persistence of vision and will explore the relationship between frames and time.

Activity: Make short animated projects using freeware.

Challenge: As a table (groups of five or fewer), create short animations that explore the persistence of vision effect.

Materials & Equipment: Flipbooks (samples)
Sam Animation freeware
Laptop computer
Webcam
Basic recycled materials: bottle caps, paper cups, yogurt containers, and foil

Steps:

1. Explore the concept of persistence of vision by flipping through the flipbooks provided at your table and answer the following questions:
 - What do you notice?
 - How would you explain the persistence of vision phenomenon?
2. After you have answered the questions above, ask the presenter for the persistence of vision definition. Was your explanation correct?
3. Using the material provided and the freeware – Sam Animation – create several short animations with your group. For your animations, follow these storylines:
 - Two unlikely recycled objects meet, interact, and leave
 - An object “walks in” turns or transforms in a simple way and leaves
 - An object moves across the table and falls off the side of the table
4. Everyone should take turns moving the objects and using the software to capture frames.
5. Experiment with the frame rate to determine how the rate affects the animated effect.
6. Share your animations!

Debrief:

- How well did your group work together?
- What happened when there were disagreements?
- Was there a planning process? What steps were taken in the planning process?
- How did the group work with the directions?
- How did the group do with participation? Did everyone participate? Did different people take different roles and participate in different ways?
- What were the discoveries? Did everyone have the same experience?
- Did anyone not see the persistence of vision effect?
- What conclusions were drawn? What happens at different speeds?

Persistence of Vision. Persistence of vision is an aspect of human perception. The brain retains an image cast on the retina for a length of time after the actual image is removed. This allows the second image to be projected while the first image is still being 'seen'. The persistence of vision only kicks in when the rate of projection is fast enough.