



Oregon Museum of Science and Industry Animation Exhibit Overview

In *Animation's* stimulating and fun environment, visitors will explore the process of animation from concept to finished product — from storyboarding, character design, and drawing techniques to movement, timing, filming, and sound. Larger-than-life graphics of popular Cartoon Network characters provide a colorful backdrop to the exhibit, which also explores the history of animation and features a screening room and a cartoon museum. *Animation* was developed by the Oregon Museum of Science and Industry in collaboration with Cartoon Network.

1. History

Highlights animation principles, early animation

Visitors learn about early animation and apparent motion. They can try using a praxinoscope, posing a three-dimensional figure and spinning it to see the figures morph into a single animation. At the Penny Arcade, they can “crank” out animations with an old-fashioned mutoscope.

Educational message: When many single images flash in front of the eye in quick succession, the brain registers these single images as a moving image.



2. Animation Studio

Highlights story creation, animation principles

Visitors explore the process of animation, story creation, animator techniques and tools. Visitors can develop a storyboard from a series of picture cards, draw characters, enlarge drawings with a pantograph, and create scenes using layered cels and moving backgrounds. *Educational messages: To make animation look realistic, character movement should appear realistic; creating a storyboard is the first step in the animation process; and more.*

3. Art in Motion

Highlights how art and math are used to create characters, motion, and change

With help from *Foster's Home for Imaginary Friends*, visitors discover why art and math are important allies when creating characters, motion, and change. The illusion of movement will come alive as visitors magically “move” around a room without using their legs. *Educational messages: animated characters are made up of geometric shapes; animation works best when the eyes are viewing approximately 24 frames per second at a minimum; static objects can be given the appearance of movement through stop-motion animation; and more.*





4. Animation Laboratory

Science and technology in animation

In *Dexter's Laboratory*, visitors can delve into the science and technology that make animation possible. They will create the illusion of a bouncing ball with the technique of “squash and stretch” and find out how the action slows down or speeds up with time-lapse videos. They can also see themselves “hover” while exploring visual effects in a full-body interactive

experience. *Educational messages: Animators need to understand principles of physics to create a believable animation; animation is not created solely for entertainment or marketing; animation can create models useful in many science fields; computers are one of the newest and most important animation tools; some movie special effects use animation; and more.*

5. Sound and Stage

Principles of sound and phonetics

Visitors can discover the principles of sound and phonetics with the *Kids Next Door*. They will explore the complexity of matching phrases to different mouth shapes, add their own voice to a silent animation and set the mood of a film by selecting background music from a variety of soundtracks. *Educational*

messages: To create realistic speech, animators study how people's mouths move during speech; synchronizing sounds with animation requires precise timing and planning; technology allows animators to add voice to an animation in correct synchronization; music affects the psychological impact of a film; and more.



6. Cartoon Museum

Popular animation clips, artifacts, and art works

Visitors will take a seat in this intimate theater setting and view clips of popular animations while learning the secrets behind their production. They will examine artifacts such as cels, models, and storyboard drawings from classic animations such as *Scooby-Doo*, *The Powerpuff Girls*, and *The Flintstones*. *Educational messages: Many scientific principles are used in animation; animators have used different techniques throughout the years; Animation has a long history; and more.*

Careers in Animation

Showcases real people working in Animation

Several exhibit areas feature digital slide shows of real animators working in the Cartoon Network studios. Visitors will learn more about the skills and training needed to pursue an animation career.