

Storyboarding: Calculating the Beats in Stories

Lesson 1 p 3

Lesson 2 p 4

Lesson 3 p 5

Lesson 4 p 6

UNIT INTRODUCTION

In this unit, students learn about story structure and its use in animated films and television. Students learn to visually depict original stories through the creation of storyboards.

Characters and settings within storyboards will be investigated and measured for use in various mathematical processes (calculating volume, writing ratios, etc.).

SUBJECT AREAS

Media
Arts

Math

Math / Unit 3

Unit Objectives

Students will be able to determine main events in animated stories.

Students will be able to create ratios, write equations, or calculate surface area and volume when considering characters and settings in storyboards.

Students will be able to use intentional compositional structures and visual elements to represent key moments from stories in a storyboard.

Standards

MEDIA ARTS

Anchor Standard #2 Organize and develop artistic ideas and work.

Anchor Standard #3b Refine and complete artistic work.

Anchor Standard #7 Perceive and analyze artistic work.

MATH

CCSS.MATH.CONTENT.6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

CCSS.MATH.CONTENT.7.G.A.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

CCSS.MATH.CONTENT.8.G.C.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

CCSS.MATH.CONTENT.HSG.GMD.A.3 Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.

Vocabulary

Three-Act Structure
The Set-up
The Confrontation
The Resolution
Story Beats
Storyboard

INTRODUCTION

Most comics, cartoons, sitcoms, and movies follow what is called a 3-Act Structure. Following this format, stories begin in Act 1, the set-up. This is where characters, the setting, and conflict are introduced to the audience. Act 2, the confrontation, is the longest section of the story and follows the characters as they encounter setbacks and embark on solving their problems. Finally, Act 3, the resolution, brings the conflict to a head which eventually resolves the characters' problems.

This lesson will ask students to dissect stories into their distinct parts to determine the critical parts of the story which will eventually be represented in a storyboard.

ACTIVATION

Ask students to consider their knowledge of animation and/or past learning in media arts:

- What is the difference between animated and live-action movies/television shows?
- How can you organize images?
- How do images tell stories?

DEMONSTRATION

Teacher introduces an animation clip, pausing periodically to take notes on the board about the action taking place. Teacher creates a list of the clip's main points, or Story Beats, explaining why each represents critical moments in the story.

APPLICATION

Students are shown a different animation clip and instructed to come up with its story beats. After working independently, have students pair up and discuss their beats and come to a consensus on the four they would like to put forward to the class. Ask groups to share their beats, creating a comprehensive list on the board. For each beat, ask a student to share why it was important to include in their list. While there may be different ideas for which four beats to choose, it is important that students understand that their choices impact the way their story is told and received.

INTRODUCTION

Teacher reviews story beats chosen during the last class. Teacher introduces the new concept of a storyboard with students, showing students examples from storyboards from movies or television shows.

Storyboards are the first step in the animation process. Storyboards are hand-drawn images that bring the story to life for the very first time.

Since storyboards communicate the first step in the animation process and because they are so simple, it is important that they are intentional and contain all of the necessary visual information needed to tell each part of the story.

Teacher will select Beat 2 from previous lesson and create a list on the board of all of the objects that will need to be included in that cell of the storyboard. Next, the teacher will brainstorm and compile a list of visual attributes that will best communicate that part of the story. Finally, the teacher will sketch the storyboard cell.

To craft the character, show How to Draw videos from Sherlock Gnomes. While the animator is drawing, have students follow along with the process in sketchbooks. Teacher draws character in the cell of the storyboard.

When drawing is complete, measure and create a list of measurements for all features of the character (body, face, hat, etc.). Using these measurements, lead students through analysis of the dimensions as you create ratios, write equations, or calculate surface area and volume.

APPLICATION

Students will then be assigned Beat 3 and will create a sketch of the scene, including a drawing of one of the characters. After complete, have students measure their characters and create ratios, write equations, or calculate surface area and volume.

DEMONSTRATION

Teacher reminds students of the beats that were drawn during the previous class. Teacher chooses a beat and draws it in 3 different ways: close-up, mid-shot, and wide-shot. Students follow along as teacher is drawing.

For each of these drawings, the teacher will call out the relationships between the character and the rest of the cell. For the close-up, the character should take up the majority of the composition; mid-shots will have the character taking up closer to half of the composition; wide-shots will have the character taking up a small part of the overall composition.

APPLICATION

Choosing one of their drawings from the previous class, students create 3 variations: a close-up, a mid-shot, and a wide-shot. For each, have students measure their characters and the rest of the cell to create ratios, write equations, or calculate surface area and volume.

APPLICATION

Introduce final project and its requirements to students:

Create a storyboard that communicates an original story, including its plot, characters, and setting. Storyboard must:

- Have at least 4 cells
- Follow a 3-Act Structure
- Use at least 2 different compositional layouts

Students will create these storyboards on paper or using an online drawing program like Adobe Spark, Google Drawing, or Sketchpad.

INTEGRATION

Show students 5-step animation process video. Instruct students to answer the following prompts:

- How was learning from other media arts disciplines helpful in the creation of storyboarding?
- How would learning from this unit be helpful in the creation of a live-action film?