

The Walt Disney Family Museum

MULTIPLANE EDUCATOR GUIDE

TECHNOLOGY, INNOVATION, INSPIRATION

THE WALT
DISNEY
FAMILY
MUSEUM

Hello!

Welcome to The Walt Disney Family Museum! This educator guide provides detailed information for educators and parents about the Multiplane Camera, one of The Walt Disney Studios' most important and influential technological developments. You'll find background information and descriptions of animation techniques that will help you facilitate discussion and inquiry during your visit, at home, or in your classroom.

CONTENTS

pg **01**

Hello!

pg **02**

How the
Multiplane Camera
Works

pg **04**

The History &
Innovators of the
Multiplane Camera

pg **08**

Do-it-Yourself
Multiplane Camera

pg **09**

Do-it-Yourself
Animation

pg **10**

Plans & Diagrams

FIND IT ONLINE This guide and related activity sheets are also available for download at waltdisney.org/schoolresources



How the Multiplane Camera Works

Imagine you're traveling by car on a long road trip. The road stretches out ahead of you into a wide-open landscape. In the distance you see a range of tall, hazy mountains. As you drive, you see trees and telephone poles whiz past you. At first, they appear tiny in the distance. Gradually, they get larger as you travel closer to them and pass them. Strangely, the mountains still appear to be very far away and hazy. They don't appear to have gotten larger despite being closer to them the way the trees and the telephone poles did. Why? Because the mountains are so large and far away, the change in their apparent size is negligible.

A similar effect occurs in filmmaking. Imagine a video camera pointed at a painting of a landscape. To create the effect of traveling toward or through the landscape, you might use the zoom feature on the video camera, which provides the illusion of moving forward. Rocks, trees, and bushes will appear to grow larger, but so will mountains, clouds, the sun, and everything else on the two-dimensional painting. The illusion of traveling forward in the landscape could not be accomplished realistically using this method.

A Multiplane Camera solves this problem by splitting a **field of view** into different planes or levels. Separate planes are used for the **foreground**, **middle ground**, and **background**. For a forward-motion **tracking** shot, a more realistic effect is accomplished by moving foreground and middle ground planes toward the camera, while the background plane remains stationary.

field of view

the area that is visible as through a camera

foreground

the part of a view that is nearest to the observer, especially in a picture or photograph

middle ground

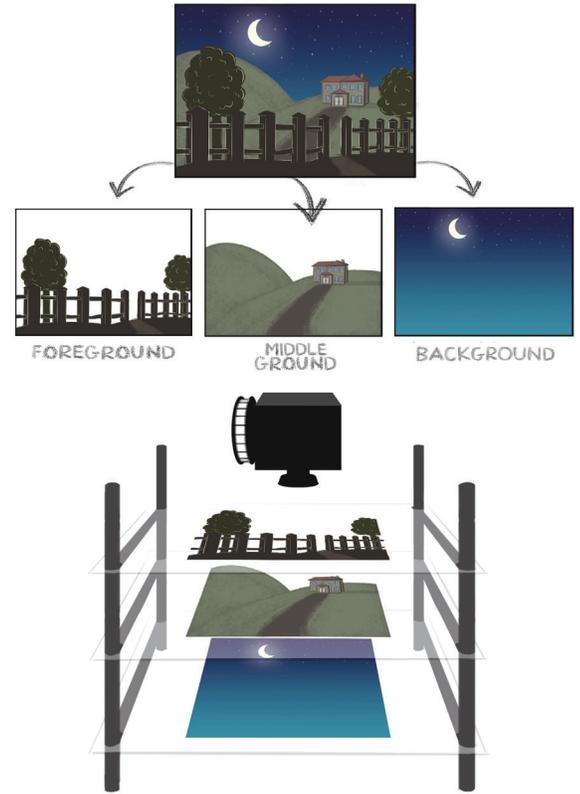
the middle distance of a painting or photograph.

background

the area or scenery behind the main object of contemplation, especially when perceived as a framework for it.

tracking

a shot where the camera seems to move through or alongside the action of a scene



Operating the Multiplane Camera required several technicians to adjust the numerous lights, cel-setups, and plane positions for every single shot. Each shot also required many tests in order to establish the desired perspective, proportion, and timing of the scene.

In the example above, notice the house on the hillside at night. The trees and the fence would be placed on the plane closest to the camera, the house on the hillside would be placed on the middle plane, and the moon would be placed on the plane furthest from the camera. That way, a tracking shot drawing the audience into the scene can be accomplished by moving the foreground and middle ground planes toward the camera while the background plane remains stationary. The moon remains the same size rather than growing unrealistically larger as it would with a simple [zoom](#).

zoom

to simulate movement rapidly away from or toward a subject using a zoom lens



The History & Innovators of the Multiplane Camera

Why was it significant?

Walt Disney Studios' technician Bill Garity developed the Multiplane Camera during a time of great experimentation and growth at The Walt Disney Studios. The camera created the illusion of depth, which helped make animated films look more interesting and realistic.

The Multiplane Camera was first used as an experiment in the production of the *Silly Symphony* "The Old Mill" in 1937. The film was planned to follow a traditional narrative structure that would begin with a forward tracking shot, drawing the audience into the idyllic setting of mill and its surroundings. The final shot of the film was planned as a reverse tracking shot, moving away from the mill for a sense of closure.

Previously, there was no way of creating a successful tracking shot using traditional animation methods and the act of animating the forward motion was costly and time consuming. The Multiplane Camera answered this problem by creating a realistic sense of three-dimensional depth in a cartoon setting.

The innovative use of the Multiplane Camera was recognized in 1938, when The Walt Disney Studios received a Scientific and Engineering Academy Award® for its development. The same year, "The Old Mill" won the Academy Award® for Best Animated Short Subject.



"The Old Mill" © 1937 Disney

FIND IT ONLINE To better understand how this works, see "What is a Multiplane?" at waltdisney.org/multiplane

With the advent of feature animated films such as *Snow White and the Seven Dwarfs* (1937), *Pinocchio* (1940), and *Bambi* (1942), the Multiplane Camera became a key asset in establishing a more believable space for the increasingly skilled artwork and character design produced by Disney artists. As humans and animals became more naturalistic and the scenery became increasingly detailed, a photographic-style depth of images helped create a more believable world for these objects and characters to inhabit.

The Multiplane Camera also allowed for the use of new types of special effects in animated films. The movement of water and the flickering of stars or lights were made possible by the layering capability of the device.

Ub Iwerks (1901–1971)

Animator and special effects producer Ub Iwerks was Walt's creative partner for many years, beginning in Kansas City and spanning the length of each of their careers. Iwerks co-created Mickey Mouse in 1928 and set an animation industry record for creating 700 drawings in a single day.

Iwerks left The Walt Disney Studios in 1930 to found his own animation studio. During this period, Iwerks created such characters as "Flip the Frog," and he designed his own version of a Multiplane Camera in 1933. Iwerks's design included several layers on which animation cels were positioned and photographed before a horizontal camera. His original design implemented mechanisms from a Chevrolet automobile. Iwerks used the camera for his Willie Whopper series in the mid-1930s.



Top (left to right) : Alfred Werker (seated), Fred Moore, Ub Iwerks, Walt Disney and Ward Kimball © Disney, Bottom: Ub Iwerks © Disney

Iwerks returned to The Walt Disney Studios in 1940, and thereafter primarily developed visual effects, including the optical printer for combining live-action and animation, the Xerography process for photocopying drawings directly onto cels, and the effects on a number of classic Disneyland attractions. Iwerks earned two Academy Awards® for merit and technical achievement and was inducted as a Disney Legend posthumously in 1989.

Bill Garity (1899–1971)

Special effects and sound technician Bill Garity created innovative sound and camera effects for the Studios beginning in 1928 when he developed the sound technology that produced their first synchronized sound cartoon “Steamboat Willie.” In 1940, Garity and his team developed Fantasound, the stereophonic sound system for the Studios’ concert feature, *Fantasia* (1940).

Garity developed a new version of the Multiplane Camera for the Studios for the 1937 *Silly Symphony* “The Old Mill” as discussed in this guide. This design was the largest and most sophisticated model developed, and was the first to feature a vertical orientation of camera and planes instead of a horizontal one. In 1938, “The Old Mill” won the Academy Award® for Best Animated Short Subject, and The Walt Disney Studios were awarded a Scientific and Engineering Academy Award® for the development of the camera itself.

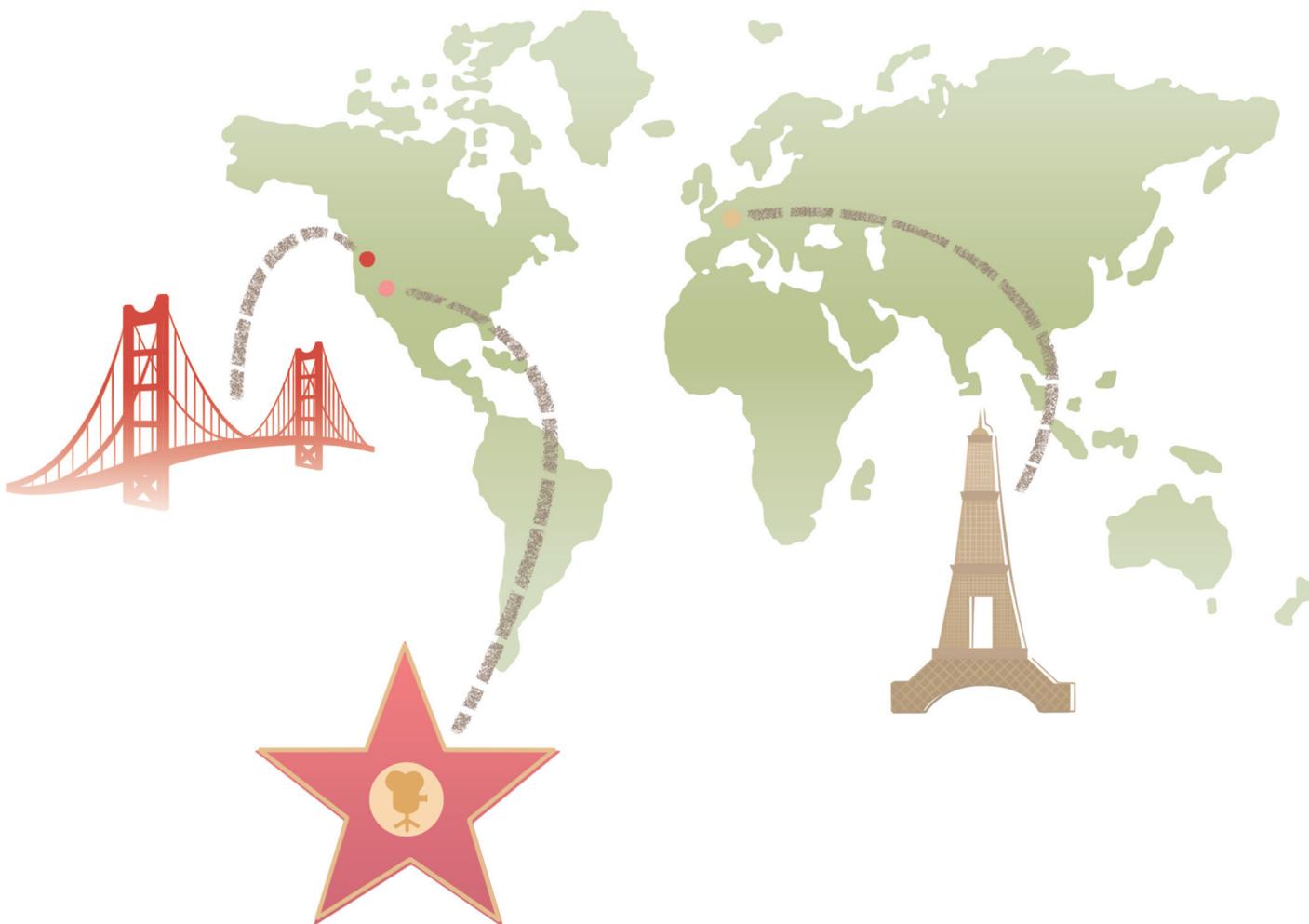
The Walt Disney Company was issued a patent for Garity’s design of the Multiplane Camera in 1940. The same design was used for several decades until digital technology replaced the original Multiplane Camera. The last Disney film on which the camera was used was *The Little Mermaid* (1989).



Top: © Disney, Bottom: Multiplane Camera © Disney

Where can I see one today?

Today, three original Multiplane Cameras from The Walt Disney Studios survive. One resides at The Walt Disney Animation Studios in Burbank, California. One is located in the Art of Disney Animation attraction in Disneyland Paris. The third is on view at The Walt Disney Family Museum in San Francisco, California.





Do-it-Yourself Multiphane Camera

The Multiphane Camera developed at The Walt Disney Studios was large, sophisticated, and required several trained technicians to operate. However, you can construct your own Multiphane using simple materials. Follow the instructions below for the do-it-yourself version (see the diagram map on the last page).

Supplies

- 12 disposable cups (preferably thick, compostable cups)
- Three square or rectangular pieces of plexiglass or plastic toy box covers
- A painted or printed background, or a piece of plain white paper or poster board

Instructions

STEP 1: First, place a painted or printed background onto a flat surface such as a table or desk (a piece of plain white paper or poster board may be used instead of a background). Place a piece of plexiglass or plastic over the background.

STEP 2: Place four cups upside down on top of the plastic, one at each corner. Stack another piece of plastic on top of the four cups to create a second layer above the background.

STEP 3: Create the next layer by placing four cups upside down on top of the plastic, one at each corner. Stack the third piece of plastic over these cups to create a third layer.



Do-it-Yourself Animation

Once you have built your Multiplane, create an animation using the following material:

Supplies

- DIY Multiplane Camera
- Construction paper (assorted colors)
- Scissors
- Computer or tablet
- Animation software, such as iStopMotion
- Webcam and microphone stand, or a down-shooting camera

Instructions

STEP 1: Position the camera and mic stand over the Multiplane so that it shoots downward at the background. Connect the camera to your computer and open iStopMotion.

STEP 2: Cut a simple character or object out of construction paper.

STEP 3: Place your character on the bottom plane of the Multiplane, furthest from the camera. Animate the character by taking a series of pictures of it in various poses. Using iStopMotion, press the number 2 on your keyboard.*

STEP 4: Make a small adjustment to part or all of your character. For example, to make your character wave or move slightly to one side. Take another picture. Move the hand back to its original position. Take another picture.

Instructions continue on following page

Instructions

Continue with the process of making small movements and taking pictures every time a change is made. When you play back your animation, your character will appear to be moving.**

STEP 6: Add elements on levels closer to the camera, such as a cloud passing overhead or a ball flying up into the sky. Experiment with how objects on different levels might interact with one another.

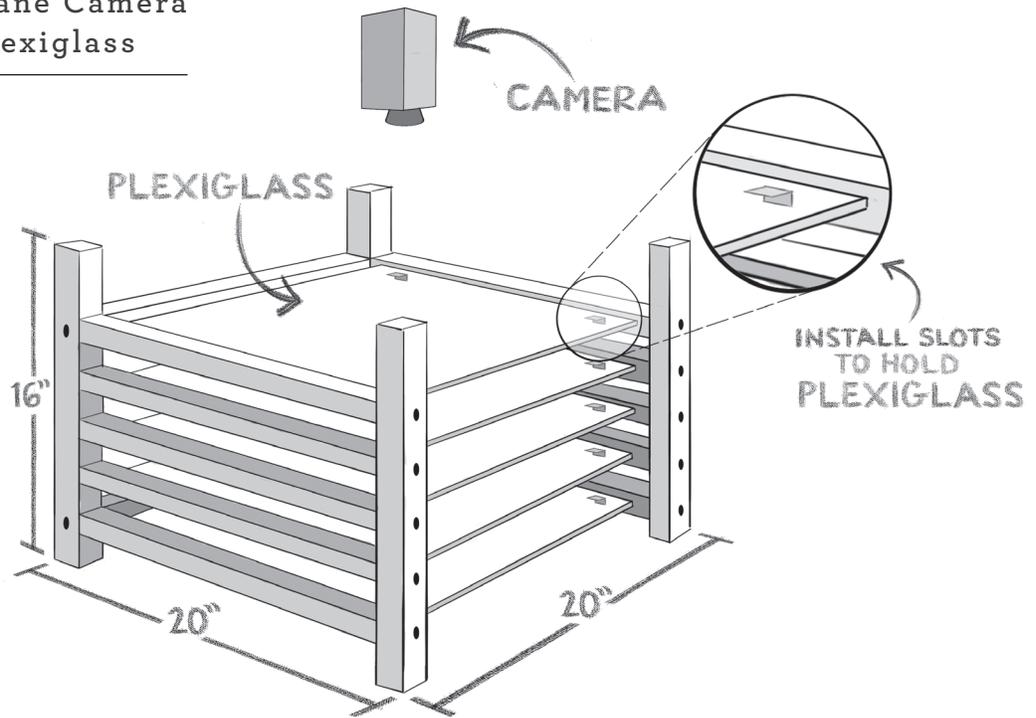
STEP 7: Once you feel comfortable with the process of animation using simple paper shapes, try branching out into other craft materials. Experiment with felt, pipe cleaners, images from magazines, drawings, ribbon, clay—whatever strikes your imagination.

Notes

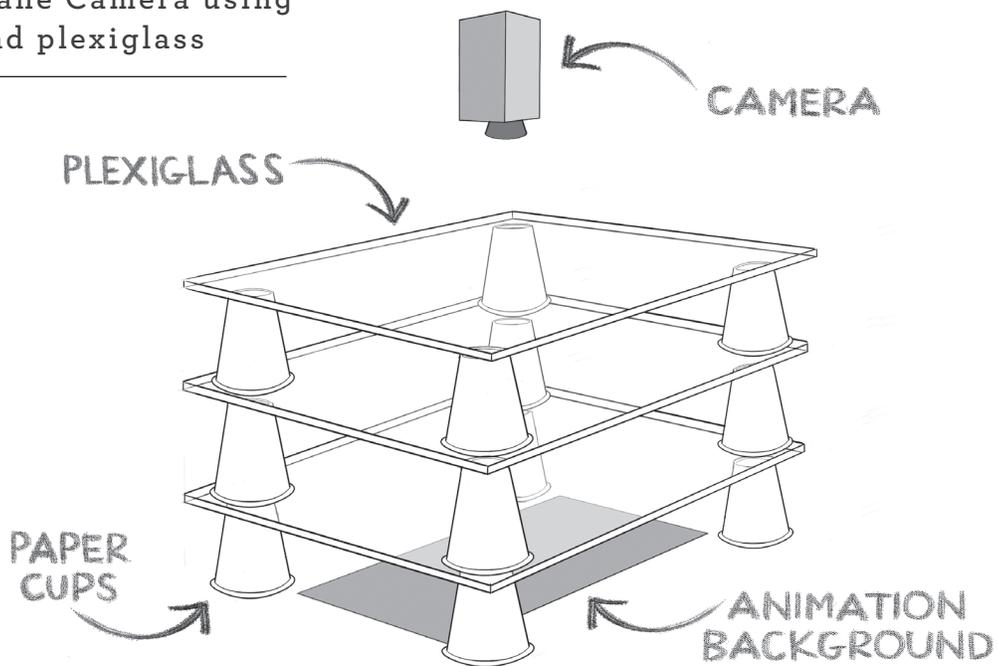
*If using iStopMotion, pressing the number 2 captures two pictures rather than one, and will make the animation process move along a little bit faster. In the industry, this is what is referred to as “shooting on twos.” Your character’s movements will be relatively fluid, while still maintaining a “cartoony” feel.

**Small changes in between each frame will result in slower movements, while larger changes will result in faster movements.

Advanced Multiplane Camera
using wood and plexiglass



Basic Multiplane Camera using
paper cups and plexiglass



Walt's Biography

Early Life

Walter Elias Disney was born in Chicago on December 5, 1901 to Flora and Elias Disney. Walt had three older brothers and one younger sister. Due to growing crime in the area, the family moved to a farm Marceline, Missouri in 1906 where Walt enjoyed an idyllic childhood. When the farm proved unproductive, the family moved to Kansas City where Elias bought distributorships for two Kansas City newspapers. City life introduced Walt to Vaudeville and early motion pictures. Walt drew constantly, even earning free haircuts for cartoons that the local barber would post in his shop.

Introduction to Animation

In 1920, Walt was introduced to stop-motion animation while working for the Kansas City Film Ad Company. He was inspired by the magic of animation and began studying and experimenting on his own. Walt started his own animation studio, Laugh-O-gram, in 1922. Unfortunately, Laugh-O-gram's distribution company went bankrupt and failed to make scheduled payments. As a result, Laugh-O-gram closed shop, and Walt turned his sights towards Hollywood.

Hollywood and Mickey Mouse

Upon arriving in Hollywood in 1923, Walt developed a series called the Alice Comedies featuring the adventures of a young actress in an entirely animated world. Then in 1927, Walt created Oswald the Lucky Rabbit to star in an all-animated series. After disputes over the content and production of the cartoons, Oswald's distributor, Charles Mintz, hired away Walt's animation staff and drastically changed the terms of Walt's contract. Refusing to sign the new contract, Walt lost all rights to the character Oswald the Lucky Rabbit.

Mickey Mouse was born after the fateful meeting with Mintz in 1928. The first Mickey cartoon to be seen in wide release was "Steamboat Willie," which featured a new and exciting innovation, synchronized sound. Walt himself provided Mickey's voice, and music and sound effects accompanied the animated action. Audiences were impressed by the novelty and loved the character of Mickey. For the first time, Walt had produced a major hit.

Silly Symphonies

Following the success of Mickey Mouse, Walt's Silly Symphonies series became a testing ground for advancements in the art of animation. Between 1929 and 1939, The Walt Disney Studios experimented with color, depth, personality animation, music, and story development, resulting in the most popular and acclaimed cartoons of the day. The series earned several Academy Awards® and produced such classics as "Flowers and Trees," "Ferdinand the Bull," and "Three Little Pigs."

Features

The production of the Silly Symphonies provided Walt and his studio with the necessary tools for producing animated features. The first, the 1937 classic *Snow White and the Seven Dwarfs*, was a huge success with critics and audiences alike. Walt earned a special Academy Award® for its production, and was finally able to build a state-of-the-art studio in Burbank. More features were produced, and in 1950, Walt realized the longtime dream of producing fully live-action films. The first was the adventure film *Treasure Island*, followed by dramas, fantasies, comedies, musicals, and westerns.

To: Creative Staff of Everyday Imagineering
From: Retlaw Yensid
Date: 12/5/34
RE: Challenge – We Need More Depth!

I am very proud of the work we have done together in producing innovative and imaginative cartoons – in recent years, the characters have become more appealing and well-rounded, the colors more vibrant, and the full scope of music and sound certainly draws audiences into the cleverly crafted storylines.

Now, I have a new challenge for you. I really want to add a greater sense of realism to the pictures, the sense that the audience is right there in the action. I want to draw people into the films, as if the cartoon is taking place all around them in a space that feels like it has dimension and depth.

I am not sure how we are going to accomplish this, but I want to put my very best people on it – the first people that came to mind were of course you folks from Everyday Imagineering. Your team members have the most creative minds and the sharpest innovative spirits in the business. I have no doubt that your team of Imagineers will be able to come up with a way of making animated settings look more realistic and engaging.

I want you to focus on a project we have coming up, one of the Silly Symphonies called "The Old Mill." I want the opening shot to move forward, approaching the scene of the Old Mill and the plants and animals that inhabit the space around the structure of the windmill. The effect should be a tracking shot forward, like those that are used on live-action films. What do you think: are you up for the challenge?

Yours sincerely,
Retlaw Yensid
Chief Executive Officer, ETAVONNI Animation Studios

P.S.: If we can come up with something for "The Old Mill," I want to use the same technique on a new project we've got coming up. I don't want to say what it is, but it is going to be big! That is to say, the project will be big, even though a half dozen or so of the characters will in fact be quite small.

CONTENTS

what you will find in this lesson plan

pg **01**

Advance Preparation

pg **02**

Task Descriptions

pg **04**

Common Core State
Standards-based
Questions: Grade 4

pg **05**

CCSS-based
Questions: Grade 5

pg **06**

CCSS-based
Questions: Grade 6

pg **07**

CCSS-based
Questions: Grade 7

pg **08**

CCSS-based
Questions: Grade 8

WELCOME!

This lesson will introduce students to important concepts to prepare them for their visit to The Walt Disney Family Museum, while also reinforcing basic literacy skills. The lesson is designed to meet the Common Core State Standards (CCSS) for English and Language Arts, specifically Reading Informational Text (grades 4–8) and Literacy in Science and Technical Subjects (Grades 6–8). This lesson will take approximately 50 minutes to complete.

Advance Preparation

- The lesson requires the use of still images from animation as well as brief video clips. Determine how you will share these multimedia images with the class.
- Make sufficient copies of all student resources. All readings can be found in the Multiplane Educator Guide.
- There are CCSS-based questions for all grade levels based on the readings and video. The questions are at the end of this document. Decide if you will use the questions as a written assignment or for small group work or class discussion. You may also wish to supplement the questions with your own queries that reinforce grammar, vocabulary, or other concepts you are working on in class.

The Walt Disney Family Museum

Multiplane School Experience: Pre-visit Lesson Plan

Grades 4–8

Task Descriptions

Task 01 / Memo From Walt

Distribute copies of “Memo from Walt” to students. Ask students to imagine they are working for a movie studio making animated films in the early 20th century. They come into the office one morning to find this memo waiting on their desks. You may wish to explain that memo is short for “memorandum” and that memos were a common form of written communication in offices before email.

Divide the class into groups. Ask them to read over the memo and discuss the following:

- *What does their boss want them to do?*
- *Do they have any idea who their boss might be or what studio they might be working for?*

Give students a few minutes to discuss, then open it up for class discussion. Students should be able to recognize that their boss wants them to add more realism to animated films, specifically by adding a sense of depth. Students may or may not be able to guess who they are working for. Reassure them they will find out later in the lesson.

Task 02 / Cartoons Old and New

Use the Timeline feature on the museum website to share still images of classic and post-Multiplane animation:

Early Animation

Laugh-O-grams waltdisney.org/timeline#25

Alice’s Wonderland waltdisney.org/timeline#26

Plane Crazy waltdisney.org/timeline#43

Post-Multiplane Animation

The Old Mill 1 waltdisney.org/timeline#69

The Old Mill 2 waltdisney.org/timeline#74

If you prefer, you can substitute video clips of early animation (1920s–early 1930s) and post-Multiplane animation (1937 or later).

The Walt Disney Family Museum

Multiplane School Experience: Pre-visit Lesson Plan

Grades 4–8

Task 02 / Cartoons Old and New (con't.)

Lead a class discussion about the differences between the two, or have students complete a Venn diagram or other compare and contrast tool. At a minimum, students should be able to recognize the use of color and the increased depth in the animation post-Multiplane.

Explain that the memo they received was, in fact, a real-life challenge posed to animators by Walt Disney, and the result was an important piece of equipment called the Multiplane Camera. If students unscramble the name on the memo, they will see that it is “Walter Disney.”

Task 03 / The Multiplane Camera and Walt Disney

Show students the brief video of Walt Disney explaining the Multiplane Camera on The Walt Disney Family Museum website:

waltdisney.org/content/multiplane-camera

Then have students read “The Multiplane Camera: How It Works” and “About Walt Disney.” Use the grade-level standards-based questions to assess student comprehension of the material.

If time is limited, students should view the video clip and read about the Multiplane Camera, as those materials will most directly impact their visit to the museum.

Task 04 / Preparing for the Museum Visit

Review any specific instructions you have for your students prior to their visit to the museum.

The Walt Disney Family Museum

Multiplane School Experience: Pre-visit Lesson Plan

Grade 4

Common Core State Standards-Based Questions

Grade 4: Common Core State Standards-Based Questions

- 1 Does the author think the invention of the Multiplane Camera was a good thing? What specific parts of the text help you infer that?
- 2 Write a brief summary of what you learned about the Multiplane Camera.
- 3 Choose three words or phrases that you do not recognize or that you think are being used in a new way in this text. Try to define them from the context of the reading, then look them up online or in a dictionary. When you have determined the meaning in this context, try writing a sentence using each of the words in this way.
- 4 How is this text organized? How does the structure of the text help you learn more about Walt Disney and/or the Multiplane Camera?
- 5 What is the author's opinion of Walt Disney? How do you know? What specific parts of the text help you infer that?

Standards:

CCSS.ELA-Literacy.RI.4.1, 4.2, 4.4, 4.5

The Walt Disney Family Museum

Multiplane School Experience: Pre-visit Lesson Plan

Grade 5

Grade 5: Common Core State Standards-Based Questions

- 1 Does the author think the invention of the Multiplane Camera was a good thing? Write down at least two quotations from the text to support your answer.
- 2 Write a brief summary of what you learned about the Multiplane Camera.
- 3 Choose three words or phrases that you do not recognize or that you think are being used in a new way in this text. Try to define them from the context of the reading, then look them up online or in a dictionary. When you have determined the meaning in this context, try writing a sentence using each of the words in this way.
- 4 How are these two texts organized? Why do you think the authors chose to organize their texts in this way? How do the different structures help you to understand more about the Walt Disney and/or the Multiplane Camera?
- 5 What information is included in the Multiplane Camera video that is not included in the text? Who do you think is the intended audience for the video? What information is included in the text that is not in the video? Who do you think is the intended audience for the text? What is the difference between having Walt Disney explain it to an audience and having a factual explanation on paper?

Standards:

CCSS.ELA-Literacy.RI.5.1, 5.2, 5.4, 5.5, 5.6

The Walt Disney Family Museum

Multiplane School Experience: Pre-visit Lesson Plan

Grade 6

Grade 6: Common Core State Standards-Based Questions

- 1 Does the author think the invention of the Multiplane Camera was a good thing? Use specific evidence from the text to support your answer.
- 2 How does this text use graphics, headings, or captions? What effect does that have on you as a reader? How would this text read differently without graphics, headings, or captions?
- 3 Choose three words or phrases that you do not recognize or that you think are being used in a new way in this text. Try to define them from the context of the reading, then look them up online or in a dictionary. When you have determined the meaning in this context, try writing a sentence using each of the words in this way.
- 4 Summarize what you learned about Walt Disney from the text. Make sure your summary is based on the text and not your personal opinions or judgments.
- 5 Using information from both the video and the text, write your own explanation of how a Multiplane Camera works.

Standards:

CCSS.ELA-Literacy.RI.6.1, 6.2, 6.4, 6.7;
CCSS.ELA-Literacy.RST.6-8.9

The Walt Disney Family Museum

Multiplane School Experience: Pre-visit Lesson Plan

Grade 7

Grade 7: Common Core State Standards-Based Questions

- 1 Does the author think the invention of the Multiplane Camera was a good thing? Use several pieces of specific evidence from the text to support your answer.
- 2 Choose three words or phrases that you do not recognize or that you think are being used in a new way in this text. Try to define them from the context of the reading, then look them up online or in a dictionary. When you have determined the meaning in this context, try writing a sentence using each of the words in this way.
- 3 How is the text organized? How does each section contribute to the overall text?
- 4 How does this text use graphics, headings, or captions? What effect does that have on you as a reader? How would this text read differently without graphics, headings, or captions?
- 5 Compare and contrast the video and the text about the Multiplane Camera. Which is more effective at explaining how a Multiplane works? Why? Which is more effective at explaining why a Multiplane is important? Why?

Standards:

CCSS.ELA-Literacy.RI.7.1, 7.4, 7.5, 7.7;

CCSS.ELA-Literacy.RST.6-8.9

The Walt Disney Family Museum

Multiplane School Experience: Pre-visit Lesson Plan

Grade 8

Grade 8: Common Core State Standards-Based Questions

- 1 Does the author think the invention of the Multiplane Camera was a good thing? Find the textual evidence that most strongly supports your inference.
- 2 What is the central idea of the text? How is that idea developed over the course of the text?
- 3 Choose three words or phrases that you do not recognize or that you think are being used in a new way in this text. Try to define them from the context of the reading, then look them up online or in a dictionary. When you have determined the meaning in this context, try writing a sentence using each of the words in this way.
- 4 Compare and contrast the video and the text about the Multiplane Camera. What are the advantages and disadvantages of explaining about the Multiplane Camera via video or text? Which do you think is more effective and why?

Standards:

CCSS.ELA-Literacy.RI.8.1, 8.4, 8.7;

CCSS.ELA-Literacy.RST.6-8.9

CONTENTS

what you will find in this lesson plan

pg **01**

Advance Preparation

pg **02**

Task Descriptions

pg **04**

Writing Assignment
Guide:
Informative Text

pg **05**

Writing Assignment
Guide:
Narrative Text

pg **06**

Grade 4–6 Post-visit
Assignments &
Extensions

pg **07**

Grade 7–8 Post-visit
Assignments &
Extensions

WELCOME!

This lesson allows students to build on what they learned during their visit to The Walt Disney Family Museum while developing their writing skills. The lesson is designed to meet the Common Core State Standards for English and Language Arts, specifically Writing: Text Types and Purposes and Writing: Production and Distribution of Writing. The lesson can also be adapted to encompass standards for Writing: Research to Build and Present Knowledge.

The timing of this lesson is flexible, depending on teacher preference and the complexity of the assignment.

Advance Preparation

- Review the Multiplane Writing Assignment Guide at the end of this document. A variety of assignment suggestions and classroom use scenarios are provided.
- Determine the scope and length of the assignment that best suits student needs. Develop an assignment sheet, rubric, or other materials in accordance with usual classroom procedures.
- Prepare sheets of chart paper and sticky notes as described in Task 1.

The Walt Disney Family Museum

Multiplane School Experience: Post-visit Lesson Plan

Grades 4–8

Task Descriptions

Task 01 / Museum visit re-cap

Before class, post several sheets of chart paper around the classroom, each with one of the following prompts:

- My favorite part of the museum trip was...
- One thing I learned about animation/film-making is...
- One question I still have is...
- One thing I know about the Multiplane Camera is...

If you have a large class, you may wish to provide multiple sheets of chart paper for each prompt to reduce crowding.

When class begins, give each student a stack of four or five sticky notes. Ask students to complete each prompt on a sticky note and then post the note on the appropriate sheet of chart paper.

Allow a few minutes for students to respond and post their notes. Then you can review each sheet of chart paper with the class. This provides a way to obtain a quick “snapshot” of student’s thoughts and questions after the visit. Do not review the chart paper about the Multiplane Camera yet, as it will be more useful after students understand their assignment.

Task 02 / Museum Writing Assignment

Explain that students are going to complete a writing assignment based on what they learned from their visit to the museum and specifically, what they learned about the Multiplane Camera.

Review the assignment sheet or other materials with students and answer any questions. Then take time to go over the chart paper on the Multiplane Camera. Suggest that students take notes on specific details they may want to use.

Allow time for students to begin working on their assignment. Discuss deadlines and milestones as appropriate for longer assignments.

The Walt Disney Family Museum

Multiplane School Experience: Post-visit Lesson Plan

Grades 4–8

Task 03 / Celebrating Student Work

When students have completed their writing assignments, make sure to celebrate their accomplishment. This can include:

- Sharing work with peers in class
- Sharing work with parents/guardians through a public reading or presentation event
- Posting student work on a bulletin board
- Publishing student work electronically
- Publishing student work in a school newspaper

If you have excellent student work related to the Multiplane Camera, Walt Disney, or the museum, please share it with the museum education staff. Outstanding student work may be published on the museum website, waltdisney.org.

The Walt Disney Family Museum

Multiplane School Experience: Post-visit Lesson Plan

Grades 4–8

Multiplane Writing Assignment Guide

The visit to the museum provides an excellent opportunity for students to practice their informative or narrative writing skills.

These writing assignments can range from a brief “quick write” designed as a formative assessment or benchmark assessment to a lengthy assignment that incorporates research skills. The assignment could be revised and/or published digitally, which would encompass additional CCSS ELA requirements.

Informative Text

Students can write an informative text that incorporates and/or builds off of what they learned at the museum. Topics may include:

- The Multiplane Camera: how it works, how it was invented, why it matters in animation history
- Walt Disney: his life, his role in the history of film-making and/or California history
- Animation: the history of animation, key figures and important animators, hand-drawn vs. computer-generated animation

Some of these topics may require students to do additional research. If published electronically, digital texts could be illustrated with clips from students’ Multiplane films, which they created during their School Experience.

Standards:

CCSS.ELA.Literacy.W.4.2, 4.4;
CCSS.ELA.Literacy.W.5.2, 5.4;
CCSS.ELA.Literacy.W.6.2, 6.4;
CCSS.ELA.Literacy.W.7.2, 7.4;
CCSS.ELA.Literacy.W.8.2, 8.4

The Walt Disney Family Museum

Multiplane School Experience: Post-visit Lesson Plan

Grades 4–8

Narrative Text

Students could write a narrative text in the form of historical or biographical fiction. Topics may include:

- The invention of the Multiplane Camera
- A key moment in the history of The Walt Disney Studios—for example, the release of *Snow White and the Seven Dwarfs*
- An important moment in the life of Walt Disney

Some of these topics may require students to do additional research.

Standards:

CCSS.ELA.Literacy.W.4.3, 4.4;

CCSS.ELA.Literacy.W.5.3, 5.4;

CCSS.ELA.Literacy.W.6.3, 6.4;

CCSS.ELA.Literacy.W.7.3, 7.4;

CCSS.ELA.Literacy.W.8.3, 8.4

The Walt Disney Family Museum

Multiplane School Experience: Post-visit Lesson Plan

Grades 4–8

Post-visit Assignments

Grade 4

Students write a brief report entitled “All About the Multiplane Camera.” Students complete the assignment in class, using their notes from the museum visit and materials from the Multiplane Educator Guide.

Extensions

Students adapt their reports into multimedia presentations, using their Multiplane footage as part of the presentation.

Grade 5

Students adapt their reports into multimedia presentations, Students write a narrative in which they imagine themselves to be a camera-person working on the original Multiplane camera for the first time. Students complete the assignment in class, using their notes from the museum visit and materials from the Multiplane Educator Guide. The teacher uses the narratives as a benchmark assessment to provide information on student familiarity with basic narrative concepts.

Students do additional research and revise their narratives to include more specific details about life in the 1930s (when the Multiplane was invented).

Grade 6

Students write an informative document which explains either how the Multiplane camera worked or why it was an important development in animation and in the history of The Walt Disney Studios.

Students work together to create brochures using their writing. They illustrate the brochures and publish them, submitting the best brochures to the museum education staff.

The Walt Disney Family Museum

Multiplane School Experience: Post-visit Lesson Plan

Grades 4–8

Grade 7

Students write a narrative in which they imagine themselves to be a Walt Disney Studios employee working on *Snow White and the Seven Dwarfs*. Students use their notes from the museum and materials from the Multiplane Educator Guide; they may also do limited additional research. Students turn in a first draft, get peer feedback, and then turn in a polished draft.

Extensions

Students create illustrations and publish their narratives as short ebooks or entries on a class blog.

Grade 8

Students identify specific topics they would like to research that are related to their museum visit. The teacher uses this opportunity to teach appropriate research skills, including citation, quoting sources, etc. Students use their museum experience, the Multiplane Educator Guide, and their own research to write a well-researched article that could appear in a magazine.

Students could submit their articles to the museum education staff. Outstanding articles might be featured on the museum website, waltdisney.org.