



zeum In-Depth Teacher Guide Clay Animation

In this field trip, your class will create a stop-motion clay animation that they produce themselves from start to finish. We provide the tools for students to become designers, creators, and inventors, but it requires creativity, communication, and collaboration throughout the entire process to make their stories come to life. Classes who prepare their stories, characters, and specific backdrops before visiting Zeum produce the best and most imaginative films. A two-hour field trip goes by very quickly. Your time at Zeum is best spent as professional animators would spend their studio time: fine-tuning or enhancing your story and then launching straight into production. This guide serves as a concise introduction that prepares your class for a productive field trip.

Checklist

- Read introduction to students
- Split students into groups (4-5 per group)
- Have students complete "Your Character" worksheet
- Have students complete "Your Storyboard" worksheet
- Create backdrops, props, and text cards as needed

Let's Communicate!
Make the most of your visit by speaking with a Zeum Educator to customize your experience. Have special curricular or technological needs? Want to come back more than once? Let's talk.
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Learning Goals

All Zeum field trips are designed to accomplish the following goals:

- Develop 21st Century Literacies: Creativity, Communication, and Collaboration
- Support students' ability to integrate relevant content knowledge into a clear, concise, and engaging media project.
- Develop students' awareness and mastery of a concept-to-creation process of storytelling.
- Build students' repertoire of art, technology, and media skills.
- Practice reflecting on and speaking about their media through informal critiques.

Clay Animation also has additional goals, specific to the media, technology and outcomes developed during the field trip:

- Develop the building blocks of visual storytelling through digital media.
- Build skills to communicate symbolically using inanimate objects.
- Learn techniques for distilling a story to its basic elements.

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Step 1. Introduce the Clay Animation Field Trip Workshop

In the Clay Animation Field Trip Workshop, you will learn the basics of building a **clay character** and learn about **stop-motion** filmmaking and the **animation** process. Your group will then collaborate to create your own five- to fifteen-second stop motion film, with clay characters and props, title card and credits.

Animation demands creativity, time, and patience. With live-action movies, starring people instead of clay, the film camera takes 24 pictures every second as actors move in front of it. When the film is played back on the big screen, that series of literally thousands of individual pictures will produce the illusion of movement.

Definition: The frame rate is the number of frames (still images) in a second of film. Since the frame rate of our films is 6 frames per second, you will need 60 pictures to make a 10 second movie! (6 frames/second x 10 seconds = 60 pictures). This can be a long process, and it requires effective communication among group members.

Animation is giving life and vitality to non-moving things. At Zeum, you will use your clay character and take a series of still pictures, moving the character just a small amount in between shots. Then you play them back quickly one after another to see the movements come to life, much like a digital flip-book. It takes many pictures to produce a short five-second (30 frames) to fifteen-second (90 frames) film.

Tip: You are probably more familiar with stop-motion animation than you know. A few popular movies and television shows use the stop-motion technique to create their films, including *Gumby*, *Wallace & Gromit*, *Chicken Run*, and *The Nightmare Before Christmas*.

Making your clay animation at Zeum will be a three-step process:

1. Create your character from wire armature and non-hardening clay, using the **Your Character** worksheet (page 6 of this Teacher Guide).
2. Next, you will choose where to stage your movie. Zeum offers four sets, with a variety of backdrops to choose from. You can learn more about the choices and how to make your own in the reference sheet *Sets & Backgrounds*.
3. Your last task is to make your movie. You should have a good idea about what happens in your movie after filling out the **Your Storyboard** worksheet in class. The Zeum educators will explain how the technology works when you arrive.

Step 2. Design Your Characters and Story

See **worksheet** below: **Your Character**

All stories – novels, plays, and movies – have characters that carry out the action of story. The author brings each character to life with specific physical and emotional qualities that express the character's personality. These qualities influence the dialogue and plot of the story. You will be creating these stars

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yourself – out of clay! What will make your character unique? Is it a punk rocker with moving rainbow hair? Or a trashcan with a purse? Anything is possible, so be creative!

Tip: Fleshing out your character will help you when you start to construct it out of clay. Use the **Your Character** worksheet for more details to guide your character development.

Tip: Connect the field trip to your classroom curriculum – here are some past examples:

Language Arts: a 10-second version of a chapter from a novel or a scene from a play; autobiographical incidents, telling stories from other languages

Science: Characteristics and movement of solar system; relationships among organisms in food chains and food webs; water cycles; animals and their habitats; model of the atom; simple machines; biological processes...

Mathematics: Time and how it is measured; characters representing whole number models; problems involving units of measurement; geometric constructions; pattern creation;

History: Transformation of societies; Trade patterns between states and countries; Prominent and significant individuals; Major scientific, medical, and technological advances; Global influences on the environment; Gender roles across the globe; The emergence of new art, music, and literature (Jazz, Surrealism, Expressionism...); Events that precipitated revolutions and efforts to achieve peace...

Step 3. Create Storyboards

See **worksheet** below: **Your Storyboard**

All animations begin on paper with storyboards and characters sketches. Storyboards are a visual outline that helps filmmakers plan the beginning, middle, and end of an animation. Storyboards resemble comics in their imagery and text. A storyboard is a series of sketches and notes that visually describe what each scene of a film will capture. It is an outline or plan for a scene and explains what a film will look like when it is finished.

A storyboard:

- Establishes setting immediately
- Shows movement (using arrows or movement lines)
- Focuses on just one scene, creating a beginning, middle, and end
- Includes text to clarify each image

Whatever topic you choose, you should focus on one scene. Most animations are short – only about 10 to 15 seconds!

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Step 4. Create or Collect Backdrops/Sets, Props, and Text Cards

Zeum offers four sets, with a variety of backdrops to choose from. You can learn more about the choices and how to make your own in the reference sheet *Sets & Backgrounds*. If our choices don't fit your story, you can make your own backdrop or set to fit your specific film by keeping the following guidelines in mind.

- *Paper size*. Use a large square of poster board, about **48 inches wide by 30 inches high**. Think about perspective and proportion of the character to the backdrop
- *Scale*. Draw with large-tipped markers or paint large, boldly colored areas. Magazine cut-outs work well, too.
- *Contrast*. Use colors that will allow the characters to stand out – pastel or neutral tones for the backdrop will contrast well the plasticine colors that will be used for the clay characters.

Tip: Do not use crayons or colored pencils when creating your backdrops – they are too light to show up in your movie.

Your animation will be a silent film, so you must use other techniques to express sound. A very effective way to do this is by creating text cards for your opening titles, closing credits, and conversation bubbles as needed. Write words in large, high-contrast, dark letters on a blank sheet of paper to describe sounds (*Bang!* or *Crash!*) or actions (“But then, Maya had an idea”). You can also write out your dialogue to hold in front of the camera during filming. Alternatively, you can add sound after-the-fact when you return to the classroom using movie-editing software (such as Apple iMovie) – or live accompaniment!

Some Helpful Links

www.animateclay.com – comprehensive resource

www.stopmotionanimation.com/handbook – comprehensive online handbook

www.aardman.com/shortsandtv.asp – animated shorts by creators of *Wallace & Gromit*

www.animationtoolworks.com/examples/examples.html – additional animated shorts

www.actingforanimators.com – connecting animation with principles of acting

www.boinx.com/istopmotion/edu – educational resource from creators of Zeum's animation software

en.wikipedia.org/wiki/Stop_motion – stop motion animation information on wikipedia

en.wikipedia.org/wiki/Clay_animation – clay animation information on wikipedia

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Clay Animation: Storyboard for _____ page _____

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Your Character (Clay Animation)

All stories come to life through the people or creatures who act them out. You'll be inventing your own movie stars on paper and then build them out of clay! Look deep into your imagination because absolutely anything is possible. Think not only about the outer qualities of your character, but also about their inner qualities and how best to express them through physical detail. Collaborate with your group to brainstorm your characters, take notes, and make sketches.

This list is meant as brainstorming guide - what will *you* create?

- type of character** (animal, human, alien, etc)
- skin** (green, purple, blue, scales, fur, etc)
- profession** (fireman, magician, interior designer, spy, waiter, jester, etc)
- hair** (super curly, mohawk, braids, antennae, etc)
- face** (huge eyes, pink nose, orange mustache, etc)
- body** (muscular, four arms, tail, super skinny, etc)
- age** (baby, teenager, grandpa, ageless, etc)
- clothes** (bellbottoms, pointy shoes, suit & tie, swimsuit, uniform, etc)
- accessories** (top hat, nose ring, glasses, purse, etc)
- mood** (frustrated, jolly, jealous, miserable, etc)

TIP: Make your character stand out by using bright colors. Our clay supply includes all the rainbow colors plus brown, black, and white.

Use the space below to sketch your vision. Use the back, too!

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