FOUNDATIONS IN VISUAL ARTS

TEACHER GUIDE

CREATING CHARACTERS

UNIT 5

DIGITAL MEDIA ARTS

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UNIT 5

Unit Overview

An essential element of many arts, media, and entertainment (AME) products is the development of believable characters with a distinct visual style. In this unit, students learn about the process of character development. They analyze the visual qualities of characters in movies and TV shows and, for their project, develop their own characters.

In preparation for developing their own characters, students view animated movie clips, research animation styles, and examine the use of figures in sculptures. Students develop a visual look for their characters by sketching turnaround model sheets and character studies and sculpting 3-D maquettes, or scale models. Students go on to create flipbook animations of their characters.

Students present their works, focusing on the character development process. Students are also introduced to the AME Career Research project and to the culminating project for the course: a public exhibition of their work. They begin working on these extended projects in this unit and complete them in Unit 7: Art Show!

Unit Length

32 50-minute sessions

(including 2 sessions to introduce the Unit 7: Art Show! project)

Unit Project Description

Students develop their own animated characters and create several works similar to those animators create as part of the character design process. Students have two choices: develop a character for an existing animated TV show or movie or develop a completely new character, along with a short description of a new TV show or film that this character could star in.

Students write descriptions of their characters and create turnaround model sheets showing several views of their characters. Using their turnaround model sheets, they then create character studies showing action (for example, the character walking or dancing) and expression (the character smiling or looking fierce). Next, students learn 3-D sculpture techniques and create maquettes, or scale models of their characters. Finally, students create flipbook animations of their characters to present to classmates and, ideally, AME professionals.

Assessment

Unit activities can serve as formative assessment tools. Observe students' developing techniques and use of elements of art and principles of design to gather information about student progress and to identify concepts or skills to reinforce within your instructional practice. For example, the following activities are particularly useful for formative assessment:

- Journal Assignments 1–3
- Sketches of the character (Activities 1B.1 and 1B.2)
- Practice sketches of people (Activity 2B.1)
- Practice sketches of facial expressions (Activity 2B.2)
- Sculpture of an existing character (Activity 3B.2)

The project-based nature of the unit allows students to demonstrate their learning through authentic and relevant applications. For this unit, the summative assessment consists of the following items, which will be included in students' working portfolios:

- Written description of character
- Turnaround model sheet for character
- Character studies showing character in action
- Character studies showing character expressing specific emotions
- 3-D maquette
- Flipbook

The unit's Assessment Checklists list requirements that students must meet in order to successfully complete the project. The checklists also suggest a weight for each part of the assessments. You will need to determine which specific art

techniques and skills you will teach in the unit and the criteria you will use to assess students' work.

If you wish to use a rubric, you can develop a tool that is consistent with your school's assessment system. For more on assessment, see the section on assessment in *Additional Resources for Teachers: Assessment*.

Framing Questions

- What makes an animated character compelling?
- How can I define a character through visual elements?
- What are the visual challenges of converting a 2-D character to a 3-D one?

Understandings

- In works of art and media, a character's appearance conveys important information about personality and the character's role in the work.
- Believable characters are a crucial component of many works of art and media.
- Research and observation are an essential part of the character development process.

Art Concepts Addressed

- Introduction to translation of 2-D to 3-D designs
- Use of the elements of art to create a character
- Use of artistic style in a work of art or design

Art Skills Taught and Practiced

- Figure drawing
- Character design
- Sculpting techniques used to create objects and figures
- The Critical Response Process
- Other skills as determined by the teacher

Where the Unit Fits In

In *Unit 3: Community Storytelling* and *Unit 4: Make Me a World*, students learned to develop stories and concept art for media projects. In this unit, students add character development to their set of skills. They continue to develop drawing skills, and they build on the figure-drawing work from Unit 3. Students also have an opportunity to create sculpture, adding 3-D skills to their developing 2-D skills.

Connection to Integrated Academic Units

Two- to three-week units, taught by teachers in the academic disciplines, help students integrate what they are learning in *Creating Characters* with core academic classes.

Transforming Figures (Algebra 1, Geometry). Students learn how mathematics is used in animation by applying geometric transformations to two-dimensional figures. Students create flipbooks in which transformations are applied to students' original designs to create the appearance of motion from one frame to the next. Students use matrix algebra to represent and carry out translations, reflections, rotations, and dilations as they tell a simple story through their flipbooks.

Proportion Matters (Algebra I, Geometry). Students explore the head-to-body and facial feature proportions of humans and animated characters to understand the effect of these proportions on how we perceive a character's personality. Students learn to use proportions to create an animated character with specific characteristics.

Casting a Novel Character (ELA). Students learn to analyze character development in a work of fiction or biography by crafting a first-person monologue detailing a personal "back story" for a key character. Students then write short scenes for episodes of a TV series based on the literary work. Scenes demonstrate progressive stages of development for their character.

Animating Labor History (History). Students form research teams to create authentic characters for an animated film about a significant event or movement in labor history. Teams gather information about individuals and stakeholders from their chosen period as a way of documenting its issues, perspectives, and achievements.

Multi-disciplinary Teams. If you are working with the English teacher, have students use a character from one of the works of fiction or biography they are reading as the basis for their projects. If you are working with the math teacher, coordinate schedules so that the math unit is taught before or near the same time as students create flipbooks for this unit.

Career Connections

Students learn to create characters, draw character studies, and create maquettes, all skills that are essential for careers in animation and in related AME careers.

Ideas for Involvement with Professionals

- Invite a character designer to share a portfolio of his or her work with the class. Have the designer talk about the process of developing characters and the kinds of research that he or she does. As an alternative, have students read or view online interviews and "day in the life of an animator" features at the Web sites for DreamWorks Animation, Pixar, or other animation houses.
- Invite someone who works in computer-generated animation to talk to the class about this type of animation and how it is different from and similar to traditional 2-D animation.
- Invite professionals working in animation-related careers to visit the class and critique students' work in progress.

Key Careers

Through activities in this unit, students will learn about the following careers:

- Character artist or designer
- Character sculptor
- Character modeler

Table of Activities

Part 1: Defining Character (6 sessions)

Students analyze characters in animated movies to begin thinking about the visual components of character development. They develop ideas for and begin work on the characters for their unit projects.

Activity 1A: What Is a Character?

1A.1: Analyzing Characters	Students view two 3–5 minute clips of animated movies and analyze the visual elements that define the characters.
1A.2: Introducing the Unit Project	Students learn about the unit project and develop ideas for creating their own characters.
1A.3: Initial Character Development and Research	Students write descriptions of their character and conduct research relating to their characters.

Activity 1B: Sketching the Character

1B.1: Preliminary Sketching (Studio)	Students learn drawing techniques and create initial character sketches.
1B.2: Feedback Session and Finalizing Sketches	Students work in teams and use peer feedback to revise their character sketches.
1B.3: Creating Turnaround Model Sheets (Studio)	Students create turnaround model sheets showing character sketches from different angles and points of view.
1B.4: Looking at AME Careers	Students learn about AME careers related to the unit and are introduced to the AME Career Research project.

Part 2: More About Animation (7 sessions)

Students learn about animation as they continue developing their characters. They compare and contrast three different forms of animation—cel animation, computer-generated animation, and stop-motion animation—and they research the style of one animator or animation studio.

Activity 2A: Forms of Animation

2A.1: Principles and Forms of Animation	Students learn the principles of animation and compare and contrast three forms of animation: 2-D hand-drawn animation, 3-D computer-generated animation, and stop-motion animation.
2A.2: Thinking About Style	Students research the style of an animator or animation studio.

Activity 2B: Action and Expression Character Studies

2B.1: Creating Action Character Studies (Studio)	Students look at character studies showing action, sketch people in various poses, and create action character studies for their character.
2B.2: Creating Expression Character Studies (Studio)	Students look at character studies showing expression, sketch people's facial expressions, and create expression character studies for their character.
2B.3: Feedback Session	Students display their action and expression character studies and critique each other's work.

Part 3: Characters in Three Dimensions (10 sessions)

Students explore the challenges of translating 2-D images into 3-D figures and further develop their characters' distinctive looks.

Activity 3A: Seeing in 3-D

3A.1: ***Looking at Maquettes***	Students look at examples of maquettes and learn how they are used in the animation process.
3A.2: ***Looking at Figures in Sculpture***	Students work in teams to analyze how sculptors make use of figures in their works. Students also consider the role that materials play in creating the meaning of a work.

Activity 3B: Sculpting Characters

3B.1: ***Playing with Form (Studio)***	Students practice creating 3-D forms using basic sculptural materials and techniques.
3B.2: ***Sculpting from a Model (Studio)***	Students learn sculpting techniques and sculpt the head of an existing figure, using a model as a guide.
3B.3: ***Creating Maquettes***	Students sculpt maquettes of their characters.

Part 4: Characters in Motion (7 sessions)

Students complete their flipbooks, and present their characters to the class and, ideally, AME professionals.

Activity 4A: Animating the Character

4A.1: ***Practicing Animation (Studio)***	Students practice by making flipbooks with simple figures.
4A.2: ***Creating the Flipbook (Studio)***	Students draft thumbnail sketches of their character animations, use peer feedback to make revisions, and create final flipbooks.

Activity 4B: Sharing Characters

4B.1: ***Present the Work***	Students present their works to the class (and possibly, AME professionals), describing the character development process.
4B.2: ***Reflecting on the Unit***	Students complete their portfolios and reflect on the work they have done throughout the unit.

Part 5: Introducing the Art Exhibition (2 sessions)

Students are introduced to the culminating project: a year-end exhibition of their work that they will curate and design themselves.

Activity 5A: The Curation Process

Students learn about the year-end exhibition and are assigned to curation teams. Each team is responsible for one section of the exhibition, and teams draft a lists of tasks to complete before the exhibition.

Activity 5B: Exhibition Responsibilities

Students are assigned to exhibition preparation teams, such as space preparation or promotional materials. Teams draft a list of tasks they will need to complete before the exhibition.

Activity 5C: Looking at the Work

Curation teams review the work the class has completed up to this point and develop themes for their sections of the exhibition.

Advance Preparation

- Look at **Materials Needed** at the end of the unit and order any needed equipment or supplies.
- Read **Career Connections**, determine how you will engage students with AME professionals during this unit, and either invite AME professionals to visit the classroom or arrange for a class visit to a related business.
- Optional: In preparation for Part 4, invite one or more AME professionals working in the field of animation to critique students' work during their presentations. Ideally, the professional(s) will also visit the class at least one other time during the unit to critique students' work in progress.
- Determine which specific art techniques and skills you will teach in the unit and the criteria you will use to assess student work. Use the information in **Assessment Checklist 1: Unit 5 Project** as a guide. See the section on assessment in *Additional Resources for Teachers* for more information about assessment.
- In **Part 5: Introducing the Art Exhibition**, students begin preparations for their own art exhibition. Make arrangements for scheduling the end-of-year exhibition and inviting community members and AME professionals.
- If you are teaming with the English and math teachers, discuss the activities of the year-end exhibition and content and timing for these integrated units. If students will send press releases about the exhibition, the first part of the English unit *Going Public* should be taught enough in advance that students can send their press releases two to four weeks before the exhibition. If they will be working with a budget for promotional pieces, the math unit *Optimizing Media Reach* should also be taught in advance of the exhibition.

Part 1: Defining Character

Creating story-driven works of media and entertainment begins with character development. Characters tell the story, drive the plot, and engage viewers' emotions. In a successful work, characters must be believable—they have to look the part, have motivations that make sense, and take reasonable actions connected to their motivations. This is especially important for animated characters in films or video games, where viewer engagement rests on the credibility of the characters.

Students learn about believable characters by analyzing clips from animated movies. They get ready to create their own animated characters by brainstorming ideas for characters, drawing sketches and revising them based on peer feedback, and creating turnaround model sheets showing their characters from several points of view. Students also learn about real-world careers in which they can use these skills and are introduced to the AME Career Research project.

Length

6 sessions

Advance Preparation

- Choose two animated movies and select a 3–5-minute clip from each film.
- Before Activity 1B.3, print examples of turnaround model sheets to show students. (See *Media & Resources* for suggestions.)

Teacher's Notes: Choosing Animated Movies

Students will compare the characteristics of the characters in the two movies, so you should choose movies that differ in some way from each other. For example, you might choose one film created with traditional animation techniques and one that uses computer-generated animation.

If possible, choose a film with minimal dialogue, such as *WALL-E*, or in a foreign language, such as *The Triplets of Belleville*. Consider playing the movies with sound and subtitles turned off so that students can focus on visual aspects of the characters.

Activity 1A: What Is a Character?

Students analyze how characters are defined in part by their visual characteristics. They look at the visual aspects of existing animated characters and begin work on the unit project.

Sequence

1A.1: ***Analyzing Characters***	Students view two 3–5 minute clips of animated movies and analyze the visual elements that define the characters.
1A.2: ***Introducing the Unit Project***	Students learn about the unit project and develop ideas for creating their own characters.
1A.3: ***Initial Character Development and Research***	Students write descriptions of their characters and conduct research relating to their characters.

Materials Needed

- **Handout 1: Unit 5 Overview**
- Two 3–5-minute clips from animated movies (see Advance Preparation)
- **Handout 2: Character Trait Sheet**
- Chart paper and markers
- **Handout 3: Unit 5 Project Description**
- **Assessment Checklist 1: Unit 5 Project**
- **Handout 4: Your Journal Assignments**
- **Handout 5: Character Description Worksheet**
- Computers with Internet access and (optionally) printers (one for each student)

1A.1: Unit Overview

1. Describe Unit 5.
Distribute **Handout 1: Unit 5 Overview** and give students a few minutes to read it. Tell students that they will focus on the development of characters in animated movies and TV shows. They will learn how to create believable characters, how to develop their own animated character, and how to create several works depicting the character.

Tell students that they will first analyze the visual qualities of characters from two animated movies. Their analysis will help them to see how visual features can convey a character's personality and to develop their own characters.

2. Discuss familiar animated characters.
Use questions like the following to generate discussion about characters:

- Who is your favorite animated character from a movie, TV show, or video game?
- Why do you like this character? What aspects make this character appealing?
- What does this character look like?
- How does the character's look fit with the character's personality? What particular visual elements (e.g., facial expression, style of clothing, the way the character moves) contribute to the unique look of this character?

3. Describe the activity.
Distribute **Handout 2: Character Trait Sheet**. Tell students that they will complete this handout as they watch two movie clips. For each clip, they should choose one character to analyze.

4. Play each movie clip twice and have students analyze characters.
For each clip, have students take notes during the first viewing and then add to or revise them during the second viewing. Allow a few minutes after the second viewing for students to review, clarify, or add to their notes.

5. Share character analyses.
Ask a few students to share their character analyses.

Teacher's Notes: Sample Character Analysis of WALL-E

The following is a sample analysis of the character WALL-E, using a clip that begins five minutes into the film.

Physical appearance: WALL-E is a small robot consisting of a boxy yellow body, two triangular bulldozer-like treads for feet/legs, three jointed metal digits on each "hand" formed into pincers, and binocular-like eyes on a jointed neck. His exterior looks very worn—paint is flaking off, there are rust spots, and he is covered in dirt or dust.

Clothing and adornments: The character doesn't have any clothing or adornments, although his name is painted on the front of his "torso."

Facial expression: WALL-E's "face" consists only of his eyes, but he is very expressive—his eyes have a wide range of motion—and he also uses his whole body to express himself. His facial expressions make him seem both worried and curious—he often moves his eyes closer together and brings an object closer to his body to get a better look. He also seems lonely—the expression on his face when he watches part of the movie *Hello, Dolly!* by himself seems to show longing for another person.

Behavior: In the clip, WALL-E seems to be engaging in a typical workday. He compacts trash into small squares, arranging them into tall structures. He sorts through the trash, looking for items he seems to find interesting, which he then takes "home" and organizes. He also watches part of *Hello, Dolly!*

Movement: Although WALL-E moves relatively smoothly on his treads, his movements seem comically clumsy and uncoordinated. He sometimes has a wobbly motion, which makes him seem almost childlike.

6. Discuss visual elements of animated characters.
Ask students the following questions:

- Based on the traits that you identified, how would you describe the personality of the character you analyzed?

  Possible answer for WALL-E: *WALL-E seems to be curious and cheerful, but also somewhat anxious and lonely.*

- How does the way that the character looks reflect that personality?
- What are the differences between the characters in the two clips you watched? What are the similarities?
- How do a character's gestures and movements influence your perception of the character?

  Possible answers: *A character that moves in an uncoordinated fashion might be seen as childlike or clumsy, while a character that moves forcefully or swiftly might be seen as aggressive, violent, or heroic, depending on the context. Often, the way the character looks and its gestures will reinforce one another—for example, WALL-E, with his big "eyes" and simplified figure, looks childlike or innocent, and moves in a way that reinforces this perception.*

- How does the setting help to make the character believable?

  Possible answer: *The setting provides context that establishes the world that the character inhabits. For example, the trash-filled, dusty landscape that WALL-E inhabits mirrors his dirty and rusty appearance. Conversely, WALL-E looks distinctly out of place later in the movie aboard the antiseptic spaceship.*

- What visual elements are important in making a believable animated character?

  Possible answers: *Facial expressions and body postures that register recognizable emotions, even if the character isn't human; movements and gestures that "make sense," according to how we think people and animals move (and how we think animated objects might move); clothing, a hairstyle, and other adornments that fit with the character's personality; mouth and face movements that match the words being spoken by the voice-over actor*

7. Write and post visual elements of characters.
Write answers to the last question on chart paper and post it so that students can add to or change the list during the unit.

Handout 1:
Unit 5 Overview

In many works of art, media, and entertainment (AME), believable characters play a crucial role. Think about your favorite movie. What would that movie be like with a different main character, even if the plot were the same? The movie would probably seem completely different, right?

The way that characters look and move is an important part of who they are. Think about the clothing or outfit worn by the characters in your favorite movie. Think about the look of a character's hairstyle. These visual cues can very quickly tell viewers a lot about a character. Developing believable characters—characters that look right for the parts they play—is an important skill to learn if you're thinking about a career in AME.

In this unit, you will learn about character development by creating your own animated character. You will analyze existing characters, develop drawing and sculpting skills, and create several works featuring the character that you have created. Your work in this unit will help you answer these questions:

- *What makes an animated character compelling?*
- *How can I define a character through visual elements?*
- *What are the visual challenges of converting a 2-D character to a 3-D one?*

Unit Project

For your unit project, you will create an animated character. You may invent a new character for an existing show or film or you may invent a character for a completely new TV show or film. You'll create a written description and a series of drawings of your character. You will draw *turnaround model sheets* showing your character from various angles and character studies showing different emotions and different actions.

You will also create a small sculpture of your character, called a maquette. Maquettes are often created to help the animator work out how the character looks from all angles. Finally, you'll animate your character by creating a flipbook.

What You Will Do in This Unit

Analyze animated characters. Look at animated characters in movies and TV shows to determine the visual elements that make characters believable.

Develop an idea for a character. Invent an animated character. Write a description of the character and conduct research on the character's physical characteristics.

Develop your character's look. Draw preliminary sketches of your character, revise the sketches based on feedback, and create turnaround model sheets.

Begin work on the AME Career Research project. Choose an AME career that you're interested in and begin your research.

Learn about animation forms and styles. Find out about the characteristics of three forms of animation and research the style of an animator or animation company.

Draw character studies. Create character studies that show action and expression.

Sculpt your character. Practice sculpting from a model and then sculpt a maquette of your character.

Animate your character. Create a flipbook to bring your character to life.

Portfolio Requirements

You will create the following items to keep in your working portfolio:

- A written description of your character
- A turnaround model sheet for your character
- Character studies showing your character in action
- Character studies showing your character expressing specific emotions
- A 3-D maquette of your character

You will also use your working portfolio to keep all your other course work: sketches, journals, class work, assignments, and writing.

Vocabulary Used in This Unit

Character studies: Drawings that show how a character looks when engaging in specific actions, such as walking or dancing, or when expressing specific emotions, such as happiness or sadness.

Maquette: A 3-D model that animators use to help them draw the character consistently.

Style: A set of characteristics related to the art of a culture, period, or school of art; the characteristic expression of an individual artist.

Turnaround model sheet: A sheet of paper with several drawings of a character from different views; for example, front, back, and side views of a character.

Handout 2:
Character Trait Sheet

What visual qualities define an animated character? How does a character's look relate to his or her personality? Use this sheet to analyze two characters in different movies.

Clip 1

Fill out the chart below as you watch a short clip from an animated movie. Be sure to choose only one character to analyze.

Character's Name: _____

Character Trait	Description
Physical appearance (e.g., skin or fur, coloring, fat or skinny, tall or short)	
Clothing and adornments (e.g., jewelry or tattoos)	
Facial expression (e.g., Is the character sad or happy? Is the character very expressive or withdrawn?)	
Behavior (How does the character act? What activities does he or she do?)	
Movement (Does the character move quickly or slowly? Gracefully or clumsily?)	

Clip 2

Fill out the chart below as you watch the second movie clip.

Character's Name: _____

Character Trait	Description
Physical appearance (e.g., skin or fur, coloring, fat or skinny, tall or short)	
Clothing and adornments (e.g., jewelry or tattoos)	
Facial expression (e.g., Is the character sad or happy? Is the character very expressive or withdrawn?)	
Behavior (How does the character act? What activities does he or she do?)	
Movement (Does the character move quickly or slowly? Gracefully or clumsily?)	

1A.2: Introducing the Unit Project

1. Describe the unit project.
Distribute **Handout 3: Unit 5 Project Description** and **Assessment Checklist 1: Unit 5 Project** and answer any questions students may have.

2. Discuss the role of characters in arts and media.
Ask students the following framing question from the unit:

- What makes an animated character compelling?

Discuss the importance of characters. Explain that characters tell the story of a work, advance the plot, and involve viewers by giving them someone to root for (or against)—in short, characters are the driving force in most works of media and entertainment, and in many works of art.

3. Have the class remember and list animated characters they know.
To give students an idea of the range of characters they can develop, have the class list animated characters from TV and film. Point out that fictional characters do not have to be human.

Teacher's Notes: Animated Characters

Students may list the following types of animated characters:

- People based on historic or fictional figures (e.g., Pocahontas; Aladdin)
- Children (e.g., Dora the Explorer; Coraline)
- Adults (e.g., from *The Simpsons*; *Family Guy*)
- Superheroes (e.g., Powerpuff Girls; Spider-Man; The Incredibles)
- Animals (e.g., Mickey Mouse, Donald Duck, Bambi; Nemo; Wallace and Gromit)
- Insects (e.g., from *Antz*; *A Bug's Life*)
- Normally inanimate objects (e.g., from *Toy Story*; *Cars*; *SpongeBob Squarepants*)
- Monsters (e.g., from *Monsters, Inc.*)
- Mythical creatures, such as fairies and dragons (e.g., from *The Last Unicorn*; *Spirited Away*)
- Invented creatures (e.g., from *Star Wars: The Clone Wars*; *Howl's Moving Castle*)

4. Complete Journal 1.
Distribute **Handout 4: Your Journal Assignments** and have students complete Journal 1 in class or as a homework assignment.

Teacher's Notes: Managing Students' Character Choices

Depending on the drawing and sculpture techniques that you plan to teach, you may want to limit students to certain kinds of characters. For example, you may want students to only develop characters that are human or human-like. In addition to TV shows and movies, you may also want to give students the option of developing a character for a video game. Be sure students know the requirements before they begin Journal assignment 1.

Journal 1

Option 1: Characters for an existing TV show or movie
Brainstorm new characters for TV shows or movies that you know. Make a list and name the show they would be part of. Choose two or three of the characters and describe them—what they look like, their personalities, and how they might move.

Then select one character for your unit project. Describe your character's role in a new episode of the show or a sequel to a film.

Option 2: Characters for a new TV show or movie
Brainstorm characters and write one-sentence descriptions of the new shows or movies they would star in. Choose two or three characters and describe them—what they look like, their personalities, and how they move.

Then select the character for your unit project. Describe your character's role in the new TV show or movie.

Note: Journal assignment 1 is a good opportunity for formative assessment.

Handout 3:
Unit 5 Project Description

For your unit project, you will create an animated character for either an existing or new TV show or movie. You will create your character using the same process that animators use when they develop characters.

You will write a character description, draw initial sketches, and create a *turnaround model sheet*—a page of drawings showing your character from different angles. Then you will create two sets of character studies—drawings that show your character in a specific setting or situation. The first set will show your character in action, and the second set will show your character expressing different emotions.

Next, you will learn sculpting techniques and create a maquette—a 3-D model used by animators to draw a character consistently. As a final step, you will create a flipbook with your character and present your character for critique.

Step 1: Choose a Character

Option 1: Create a New Character for an Existing TV Show or Movie
Choose an animated TV show or movie that you are familiar with. Develop a character that belongs in that world. Write a three- or four-sentence description of an episode of the TV show that your character plays a role in or describe the role your character plays in a sequel to the movie you've chosen.

Here's a sample description: "This episode of *The Simpsons* introduces a new character: Bart and Lisa's long-lost cousin, Steve. When Bart and Lisa first meet Steve, he seems polite and reserved. Bart makes fun of Steve for being prim and proper. But Bart and Lisa soon learn that Steve is not as he appears—Steve plays a series of pranks and practical jokes, including shaving the family cat, and places the blame on Bart! Bart and Lisa eventually catch Steve in the act, and Steve is sent home in disgrace."

Option 2: Create a Character for a New TV Show or Movie
Invent a character for a new animated TV show or movie. This option is more challenging, because you'll need to create the character's look completely from scratch. Write a three- or four-sentence description of your character's role in the new TV show or movie.

Here's a sample description: "*The Incredibly Strange Adventures of Sam the Wonder-Dog* is an animated film about Sam, a border collie who performs in the circus with her beloved owner, Lou. Sam's special talent is that she balances on the high wire. Sam is accidentally left behind when the circus leaves town. The film follows Sam's adventures with the animals and people who help her find her way back to Lou and the circus."

Step 2: Create a Written Description and Conduct Research

Once you've chosen your character, write a detailed description. Be sure to include information about the character's personality (for example, his or her likes and dislikes) and backstory (for example, where he or she comes from), as well as physical characteristics, including appearance, movements, and aspects of personality that might affect an animation.

Conduct research to learn details that will make your character believable. Character-related research is an important activity for many animators as they develop characters. Animators for the film *Finding Nemo*, for example, went scuba diving at coral reefs to see what the underwater world looked like. If your character is an animal, you might research online to find videos of that animal so that you can observe how it looks and how it moves. If you are creating a character for an existing TV show or movie, you can research the other characters in that world and the style in which they are drawn.

Step 3: Draw Preliminary Sketches, Get Feedback, and Draw Turnaround Model Sheets

Using your written description and your research as guide, make preliminary sketches of your character, drawing several different versions. Share these sketches with classmates and ask for feedback on specific aspects of your sketches.

Using the feedback, finalize your character's look and create a turnaround model sheet that shows your character from several different angles. Show a front view, a three-quarter profile view, a side view, and a back view of your character.

Step 4: Draw Character Studies

Artists who work on animation projects often use character studies—drawings of characters in a variety of situations and poses—to help them create their animations. Create two sets of character studies, using your written description and turnaround model sheet as a guide. First, create at least four drawings that show your character in motion, for example, walking, dancing, or eating. Next, create another set of at least four drawings that show your character's expressions—for example, how he or she shows happiness, disappointment, anger, or confusion. Include both full-body and close-up facial drawings. Choose actions and emotions that fit with the way you have described your character and the role that he or she plays in the show or movie.

Step 5: Sculpt a Maquette

Animators sometimes use maquettes when creating their animations. These 3-D models can help them maintain a consistent look as they draw, especially if the character they are drawing is a character that the animator did not create (which is usually the case with movies and TV shows). Use your character studies and turnaround model sheets for reference as you sculpt the maquette.

Step 6: Create a Flipbook

Once you have determined what your character looks like both in 2-D and 3-D, you will set the character in motion by creating a short animation.

Develop an idea for an action that your character might do in the TV show or film. Choose a simple action and consider actions that happen in seconds rather than in minutes—animations take a long time to create! Think about how the action fits in with the character's role in your story and with the character's personality. Draft your animation using thumbnail sketches and then finalize it, using techniques that you will learn.

Step 7: Present Your Character for Critique

Describe your character, along with the TV episode or movie that your character appears in. Display all the work you have done related to the character. Focus your presentation on your process in developing the character. For example, you might talk about how you decided about your character's clothes and why your decision was right for your character's personality. Explain why your character is believable—think about the visual elements that are important in developing a believable animated character.

Here are some questions to guide your presentation:

- How did you get the idea for your character?
- What movie or TV show episode does your character star in?
- Describe a point in the process when you had to make a choice about your character's look. How did you decide? What does your decision say about your character?
- What visual features do you think make your character believable?

Step 8: Reflect on Your Work in the Unit

Reflect on your work in this unit by answering the following questions:

- What was your favorite part of developing a character? Why?
- What was most challenging? Why?
- Why do you think believable characters are such a crucial element of media and entertainment?
- What would you do differently if you were to do this project again?
- What else did you learn while doing the project?

Assessment Checklist 1:
Unit 5 Project

Use this assessment checklist to plan and assess your project. Your teacher will use this checklist to help evaluate your work.

Requirements	Percentage of Total Grade	Comments	
Written Description		**Student Comments**	**Teacher Comments**
Description includes background information about the character, such as personality, backstory, and appearance.	**50%**		
Description is a detailed, believable, written portrait of the character.	**50%**		
Total	**100%**		
Turnaround Model Sheet		**Student Comments**	**Teacher Comments**
Turnaround model sheet includes front, three-quarter profile, side, and back views.	**40%**		
Drawings depict a believable character that incorporates the conventions of animation, such as exaggerated features.	**30%**		
Student demonstrates effort and perseverance in learning and practicing drawing techniques.	**30%**		
Total	**100%**		

Requirements	Percentage of Total Grade	Comments	
Action Character Studies		**Student Comments**	**Teacher Comments**
Character studies include drawings of the character in at least four different poses.	**35%**		
Poses make sense, given the character's traits, the specific action, and the drawing style.	**35%**		
Student demonstrates effort and perseverance in learning and practicing drawing techniques.	**30%**		
Total	**100%**		
Expression Character Studies		**Student Comments**	**Teacher Comments**
Character studies include drawings of at least four different expressions, some of which are close-ups and some of which show the full body.	**35%**		
Each expression clearly conveys a particular emotion that fits the character's description and role in the show or film.	**35%**		
Student demonstrates effort and perseverance in learning and practicing drawing techniques.	**30%**		
Total	**100%**		
Maquette		**Student Comments**	**Teacher Comments**
Maquette successfully translates 2-D visualizations of the character into a 3-D form.	**50%**		
Student demonstrates effort and perseverance in learning and practicing sculpting techniques.	**50%**		
Total	**100%**		

Requirements	Percentage of Total Grade	Comments	
Flipbook		**Student Comments**	**Teacher Comments**
The flipbook clearly depicts the character completing an action.	**40%**		
The action, gesture, and expression of the character make sense in the context of the character's personality and story.	**40%**		
The flipbook creates a smooth and believable sense of motion for the viewer.	**20%**		
Total	**100%**		
Presentation		**Student Comments**	**Teacher Comments**
Presenter describes the character, the character's personality traits, and the role the character plays in a TV episode or movie.	**50%**		
Presentation focuses on the character development process and includes a description of at least one decision made during the development process.	**25%**		
Presentation demonstrates that the character includes visual elements that make it believable.	**25%**		
Total	**100%**		

Handout 4:
Your Journal Assignments

Complete the following journal assignments when you are instructed to do so by your teacher.

Journal 1

Option 1: Characters for an existing TV show or movie
Brainstorm new characters for TV shows or movies that you know. Make a list and name the show they would be part of. Choose two or three of the characters and describe them—what they look like, their personalities, and how they might move.

Then select one character for your unit project. Describe your character's role in a new episode of the show or a sequel to a movie.

Option 2: Characters for a new TV show or movie
Brainstorm characters and write one-sentence descriptions of the new shows or movies they would star in. Choose two or three characters and describe them—what they look like, their personalities, and how they move.

Then select the character for your unit project. Describe your character's role in the new TV show or movie.

Journal 2

If your are basing your character on an existing TV show or movie, watch the movie or an episode of the TV show. If you are inventing a character for a new TV show or movie, watch a TV show or movie in a similar genre. Take notes on the way the characters look. Describe their defining visual traits, noting such details as the color scheme and the way they move. Make several sketches of the characters in action poses and close-ups.

Journal 3

Write a short list of objects that your character might use in daily activities, for example, a skateboard, headphones and a music player, a briefcase, or a cell phone. Choose one object and describe how the character uses it. Explain what the object tells about the character's personality. Sketch the object.

React, Practice, Imagine: Weekly Journal Activities

In addition to the journal assignments described above, choose one of the following three activities each week to do in your journal:

React—Respond to a piece of art or media shown in class by writing about it. Then write two questions you'd like to ask the artist about the work. Try to answer the question as you think the artist might.
Practice—Sketch something from observation or from your imagination.
Imagine—Describe an art or design project that you are interested in creating.

1A.3: Initial Character Development and Research

1. Share character ideas.
Ask a few students to share the characters they want to develop, based on their response in Journal 1. Some students may not be familiar with the amount of drawing that animations require. Make sure that their ideas for characters are feasible and use drawing styles within the range of their abilities.

2. Have students write descriptions of their characters.
Distribute **Handout 5: Character Description Worksheet** for students to use as they develop and describe their characters. If students are having difficulty describing their character, suggest that they instead use one of the other ideas they generated for Journal 1.

3. Have students conduct research related to characters.
Once students have completed the handout, have them research details for their characters either online or in the library. Handout 5 includes some suggestions, but you might discuss additional elements that students might research. Emphasize that realistic details help make characters believable.

4. Complete Journal 2.
Have students complete Journal 2 as a homework or in-class assignment.

> **Journal 2**
> If you are basing your character on an existing TV show or movie, watch the movie or an episode of the TV show. If you are inventing a character for a new TV show or movie, watch a TV show or movie in a similar genre. Take notes on the way the characters look. Describe their defining visual traits, noting such details as the color scheme and the way they move. Make several sketches of the characters in action poses and close-ups.

Note: Journal assignment 2 is a good opportunity for formative assessment.

Handout 5:
Character Description Worksheet

Part 1: Personality and Backstory

An important part of developing a believable character is thinking about the character's personality and backstory—where the character comes from, the character's goals and desires, the kind of world that the character inhabits.

1. What role does your character play in the TV series or film?

2. What is the world like that your character inhabits? What people or creatures live there?

3. How old is your character?

4. What is your character's family like?

5. What is your character's personality (e.g., happy-go-lucky, serious, anxious)?

6. What are your character's goals (e.g., to be a rock star, to find the circus, to make people laugh)?

7. What are your character's likes and dislikes?

Part 2: Physical Appearance

Use what you have described about the character's personality and backstory to describe his or her appearance. For example, a happy-go-lucky character who makes people laugh will look different from a mean-spirited character who wants to take over the world.

Physical Trait	Description
Is the character human or humanoid, an animal, a usually inanimate object, or something else?	
Physical appearance (e.g., skin or fur, coloring, fat or skinny, tall or short)	
Clothing and adornments (e.g., jewelry or tattoos)	

Physical Trait	Description
General facial expressions (e.g., Is the character sad or happy? Is the character very expressive or withdrawn?)	
Behavior (What kinds of activities does the character engage in?)	
Movement (Does the character move quickly or slowly? Gracefully or clumsily?)	
What does the environment that the character lives in look like?	

Activity 1B: Sketching the Character

In this activity, students begin developing their characters visually, learning drawing techniques in the process. They also learn about related AME careers and are introduced to the AME Career Research project.

Sequence

1B.1: Preliminary Sketching (Studio)	Students learn drawing techniques and create initial character sketches.
1B.2: Feedback Session and Finalizing Sketches	Students work in teams and use peer feedback to revise their character sketches.
1B.3: Creating Turnaround Model Sheets (Studio)	Students create turnaround model sheets showing character sketches from different angles and points of view.
1B.4: Looking at AME Careers	Students learn about AME careers related to the unit and are introduced to the AME Career Research project.

Materials

- Colored pencils
- Charcoal pencils
- Paper
- Erasers
- Optional: Images of animated characters, people, animals, or objects for students to draw
- Examples of turnaround model sheets (see Advance Preparation)
- **Handout 6: Unit 5 Career Information**
- **Handout 7: AME Career Research Project**
- **Handout 8: Interviewing Techniques**

1B.1: Preliminary Sketching (Studio)

1. Have students sketch their characters.
Give students colored and charcoal pencils, paper, and erasers. Have them use the work they've done so far—journal entries, Handout 4, any research they've conducted—to guide them in creating several preliminary sketches of their character, in different positions and from different angles. At least one of the sketches should be a close-up of the character's face.

2. Teach drawing techniques.
As students work on their sketches, you can teach them techniques that build on the figure-drawing and comic-drawing skills that they learned in *Unit 3: Community Storytelling*. You can also teach them drawing techniques related to animation.

Teacher's Notes: Drawing Techniques

Deconstructing Existing Figures
Find or draw a cartoon figure for students and make copies of it. Have students copy the figure either freehand or by tracing. Help students identify the basic forms (such as spheres and cylinders) that make up the figure and have them outline these shapes on their drawings. Then have them draw the figure again in freehand, this time beginning with the basic forms and building up the character from those forms.

Building Characters Out of Shapes
Have students draw stick figures and develop their characters by adding basic three-dimensional forms, such as spheres and cylinders, to the stick figure. This can help students keep their drawings simple. Point out that basic forms are the building blocks for animated characters.

Exaggerating and Simplifying Features
Have students observe a person or animal and draw it in a realistic way. Then have students experiment with exaggerating the features of the person or animal—for example, making the eyes larger, or emphasizing a figure's height. You can also have students simplify their drawings to make them more streamlined and cartoonlike.

Creating Anthropomorphic Animals or Objects
Have students observe an animal or object and draw it. Then have them create a new sketch that anthropomorphizes the animal or object. For example, students could make a four-legged animal stand upright or give a toaster eyes and a mouth.

Experimenting with Proportion
The proportion of elements such as facial features or body parts are important to a character's look. Have students draw a very simple character and experiment by changing the proportion of different elements, for example, the head relative to the character's height, the arms relative to the torso, or the eyes relative to other facial features.

Note: This activity is a good opportunity to assess students' understanding of drawing techniques.

1B.2: Feedback Session and Finalizing Sketches

1. Have student present work in teams.
Divide the class into teams. Have teammates take turns presenting their character sketches and describing their character ideas, using the Critical Response Process.

Note: For more information about the Critical Response Process, see *Unit 1: Getting to Know You*.

As team members provide feedback, you may offer them the following prompts to further structure their feedback:

- What aspects of the character's look are successful? Why?
- What aspects of the character could use further development? What suggestions do you have for improvement?
- Does this character seem believable? What else could the artist do to make the character believable?
- Do you have any additional ideas that can help the artist flesh out the character more fully?

2. Have students revise sketches.
Have students create revised character sketches based on the feedback. Students should continue sketching until they are satisfied with their characters' appearance.

Note: This activity is a good opportunity to assess students' ability to give and receive peer feedback.

1B.3: Creating Turnaround Model Sheets (Studio)

1. Describe turnaround model sheets.
Show students examples of turnaround model sheets. Explain that the sheets help animators, who are often working on characters they didn't design themselves, to maintain consistency as they work on a project. The sheets also help the character designer develop an understanding of how the character looks from all angles.

Turnaround sheets of the character Po from *Kung Fu Panda*.
Image courtesy of DreamWorks Animation LLC.

2. Have students draw turnaround model sheets for their own characters.
You can also teach students techniques to help them draw their characters from different points of view. For example, you might have them start by drawing a simple object from observation. Then rotate the object a few times and have students draw it from each different point of view.

Teacher's Notes: Alternatives—Using Technology to Create the Turnaround Model Sheets

Instead of having students draw their turnaround model sheets by hand, have them create the sheets by using a software program such as Photoshop or Illustrator.

3. Have students complete Journal 3 inside or outside of class.

Journal 3
Write a short list of objects that your character might use in daily activities, for example, a skateboard, headphones and a music player, a briefcase, or a cell phone. Choose one object and describe how the character uses it. Explain what the object tells about the character's personality. Sketch the object.

Note: Journal assignment 3 is a good opportunity to assess students' drawing skills.

1B.4: Looking at AME Careers

1. Discuss AME careers related to Unit 5.
The key careers for this unit are character artist, character sculptor, and character modeler. Distribute **Handout 6: Unit 5 Career Information** and have students read about these careers. Ask students to think about how the work they have done so far resembles the work that a character artist does in the pre-production stages of an animated movie or show.

Tell students that another part of the animation process is the sculpting of a model or a maquette and that they will also sculpt later in the unit.

> **Note:** When students begin sculpting in Part 3 of this unit, you can return to Handout 6 and ask students to relate their work to that of a character sculptor. You can also describe what a character modeler does and compare modeling in the physical world to modeling using a computer.

2. Introduce the AME Career Research Project.
Give students **Handout 7: AME Career Research Project**, and **Handout 8: Interviewing Techniques**. Explain that students will begin their research now and complete it by Unit 7, when they share their findings with the class. Have students look over the handouts and allow them to ask questions about the project. Tell students they should choose a career to research by the end of Part 4.

Teacher's Notes: Managing the AME Career Research Project

Consider your students' work habits and decide whether to help students break down and schedule the parts of this research project. Plan to check in with students at several points during the semester to monitor their progress and help them with any difficulties. For example, you may want to help them locate people to interview or preview the questions they are planning to ask.

Handout 6:
Unit 5 Career Information

Range of Careers Related to Unit 5

Below are some of the AME careers that make use of the skills you're learning in Unit 5:

Character artist or designer
Character sculptor
Colorist
Concept artist
Puppet fabricator
Character animator
Character modeler
Effects artist
Inbetweener
Modeling supervisor
Shading/texture artist

Key Careers

Three key AME careers that make use of the skills you are learning in Unit 5 are character artist, character sculptor, and character modeler.

Character Artist

Character artists (also called character designers) use character studies, drawings, and paintings to show ideas about characters in animation and games. Character artists work in the pre-production stages of a project. They create sketches and artwork from the concept art, story descriptions, and color palettes created by concept artists and art directors.

Character artists look at the roles and purposes of characters so that they can convey their personalities visually. For example, character artists might need to depict characters that are nervous, characters who provide wisdom to other characters, or who provide comic relief.

Character artists conduct research or build on research done by concept artists. For example, for a character set in China in 1650, the character artist might research clothing, hairstyles, and manners typical at that time in China. For animal characters, the artist might study pictures, video, or real life to learn how the animals look and move or what they eat.

Character artists need excellent drawing skills, especially in life drawing, gesture drawing, and caricature. They must be skilled at using scale, line, and weight in order to set or match a character style. Character artists may produce traditional artwork (painting and drawing), digital artwork, or both.

In the field of animation, some character artists do both the 2-D artwork and character sculpture (see the description of *character sculptor* below). At small companies, they may be responsible for a range of tasks: creating concepts, designing characters, sculpting, and animating.

Pathway: Character artists are generally expected to have a Bachelor of Fine Arts (BFA) degree, though some may attend two-year or certification programs at community colleges or private post-secondary schools. Character artists, especially in the game industry, may also "break in" through work experience if they have polished portfolios. All character artists need portfolios that show a variety of character designs and character studies, as well as fine artwork, such as figure drawings and portraiture.

Character artists are often employed full-time by studios, production houses, or game companies. They often do freelance character design for smaller productions or work as lower-level artists or assistants in studios or production houses, in order to "break in" to their chosen fields.

Though many character artists in the animation industry stay in character design, some become lead artists or art directors after holding other positions in the industry. In the game industry, character artists may become lead artists or character modelers. In fact, some companies require that modelers spend at least two years as character artists first.

Character Sculptor

Character sculptors work from drawings made by character or concept artists to create maquettes or figures for stop-motion animation. Character sculptors must be skilled at working from others' artwork and able to capture personality or express gesture through sculpture. They need an excellent understanding of anatomy, particularly since they often need to envision the anatomy of imaginary creatures. Character sculptors must be flexible, because they work with studios, production houses, and clients who require different styles and types of sculpture.

Character sculptors create a variety of sculpture, depending on need and specialty:

- Three-dimensional clay sketches are often used to rough out forms for animated characters. Clay sketches help to develop the character, so they are sometimes done at the same time as the 2-D character design.

- Armatures are the wire "skeletons" that provide stability to sculptures and the puppets used in some animations. Though sometimes made by specialized artists, armatures are usually made by character sculptors.

- Maquettes are very detailed clay sculptures that, like character studies, serve as visual design aids for the production team. Digital character modelers, animators, and even puppet-makers use maquettes. Maquettes are used for a range of projects, from Claymation (a type of animation that uses characters sculpted out of clay or similar materials) to computer animations and games.

Computer animators typically create digital character models, which are sometimes based on very simple physical sculptures with little detail that are copied digitally and then manipulated with computer animation software. Many companies, particularly in the game industry, prefer to build models digitally and do not need physical sculptures.

Pathway: Character sculptors are generally expected to have a BFA. However, some may break in with industry experience and an excellent fine arts portfolio. Some may have attended two-year or certification programs at community colleges or private post-secondary schools.

To break in, character sculptors often work as freelancers or assistants in studios or on productions. All character sculptors need portfolios that include (1) examples of character sculpture done from character studies, (2) some fine artwork, such as figure drawings, and (3) detailed, realistic sculpture examples.

In the animation field, some character sculptors create the 2-D character studies as well as the 3-D models. Character sculptors often freelance, but they may also work for large studios or production houses, where they are more likely to be responsible for character design as well as character sculpture.

Character sculptors may become lead artists, supervisors, or art directors. In addition to working in pre-production, they may work onsite in the production stage to alter, repair, or make additional figures for stop-motion animation.

Character Modeler

Character modelers create 3-D digital models of characters for animation and games. They need many of the same skills as character sculptors—working from other artists' designs, staying "on model" (within a certain style), and using scale, weight, form, and shading. They must have deep knowledge of human and animal anatomy.

Unlike character sculptors, character modelers work digitally instead of in clay. While they are expected to have experience in fine arts and sculpture, they also need excellent computer skills. They should know the current industry standard software (i.e., the software used most often by major companies in an industry). Character modelers must learn new software as new technologies emerge, so they need to be flexible, adaptable, and interested in learning new ways of modeling and animating.

Pathway: Education requirements for character modelers differ by industry and by company:

- Employers in animation are likely to expect four-year degrees in arts or media, as well as technical skills.
- Employers in the game industry may expect degrees in arts or media plus technical skills. They may also look for degrees in computer science or engineering in addition to strong art skills.
- Employers in animation and gaming *may* consider modelers without college degrees or who have two-year degrees, if their portfolios show both excellent artistic skills and technical abilities in using industry standard software.

Character modelers often break into animation by doing freelance work or by starting in junior or assistant positions. Some may continue to freelance, but many are employed full-time by studios, production houses, or game companies.

Some employers in the game industry expect character modelers to have held other positions—such as character artist—for a certain number of years before becoming character modelers. Character modelers often stay in modeling and may become modeling supervisors or lead artists. After holding other positions in their industry, some may even become art directors or senior technical directors.

Handout 7:
AME Career Research Project

Which AME careers might be right for you? For this project, you will have the opportunity to find out. You will learn the skills required, research where jobs exist, and speak with someone about their experiences working in the field. You will share what you've learned about the career with your classmates.

Step 1: Choose an AME Career to Research

The following are some careers that you might research. Select from these or choose another career that interests you.

- Animator
- Art director
- Background artist
- Cartoonist
- Comic book artist
- Commercial photographer
- Concept artist
- Design manager
- Film director
- Game artist
- Graphic designer
- Illustrator
- Interface designer
- Photo stylist
- Production artist
- Production manager
- Storyboard artist
- Surface/texture artist
- Video game producer

Step 2: Write a Job Description

Research what someone engaged in this career does and create a job description based on what you have learned. Be sure to include:

- Skills required to do the job
- Tasks that someone with the job might do
- Education and training required (you'll look at this in-depth in Step 3)
- Characteristics of the kind of person who might be good at the job (for example, someone who pays attention to detail or looks at a problem creatively)
- Range of starting salaries
- Career path (entry-level position as well as higher-level jobs)

Step 3: Research the Required Education and Training

Find out what education, training, and skills are required for an entry-level position and where you could get this training and education. You can:

- Search online.
- Ask questions during your informational interview (see Step 4).
- Look at job postings.

- Contact the human resources (HR) departments of companies in the field.
- Contact the admissions department or career center of schools, colleges, or training centers that prepare people for the job you are researching.

Keep in mind that education and training can take place in a number of settings: at four-year colleges, community colleges, technical schools, certification programs, workshops, or even high schools. You might also be able to learn some skills while on the job. Try to research the full range of options to present to your classmates.

Step 4: Conduct an Informational Interview

Locate someone who is actually working in the career you are researching. You might find this person at a business in your community or locate him or her online. You can ask your friends and family if they know someone working in the field or ask your teacher for help.

Conduct an informational interview with the person to get an inside perspective on the career. The interview can take place over e-mail, on the phone, or in person. Here are some suggestions of questions to ask (although you should come up with your own as well):

- What is your education and training background?
- What jobs did you have before you got to your present position?
- What do you do on a typical workday?
- What are the best and worst things about your job?
- Where do you see yourself in five years?
- What advice would you give to someone thinking about a career in your field?

Step 5: Research Job Locations

Find out where jobs in the field are located, both in your area and farther away. Try to find names of specific companies that hire people to do the work you are researching. Keep in mind that some AME jobs may be found at companies that do not specialize in entertainment or media. Many other fields also need artists and designers. For example, a local company may hire a production team to produce a TV ad.

Handout 8:
Interviewing Techniques

Interviewing is a great way to meet people and to learn information you couldn't learn in another way. You may conduct your interviews in person, over the telephone, or using e-mail. Whichever method you choose, it's important to prepare in advance. Know what you plan to do during the interview and be prepared for any follow-up.

The following techniques, for use before, during, and after the interview, will help you get the most out of the experience.

Preparing for the Interview

Contact the interviewee. Get in touch with the person you'd like to interview. Describe the purpose and length of your interview. Arrange a time to meet in person or to talk on the phone. If you plan to record your interview, ask for permission to do so in advance. If you plan to conduct the interview by e-mail, let the person know your timeframe for sending questions and receiving a response.

Conduct research. Do your homework! Look for information about the interviewee's company and the kind of work he or she does. Background information helps you focus and ask questions you might not have thought of.

Think about topics. Decide what information you want to get out of the interview. Remember, an interview is a chance to get information that you may not be able to find anywhere else. Make a list of the important points.

List your questions. Write a list of questions to ask, and ask your teacher or someone else to review them. Ask open-ended questions, rather than ones that can be answered with yes or no. For example, instead of "Do you like your job?" ask, "What parts of your job do you like most?"

Order your questions. Ask your questions in a logical sequence, from basic questions (for example, "Can you tell me about your experiences with 2-D animation?") to more specific questions (for example, "What do you think are the benefits of this new animation software?").

During the Interview

Dress appropriately. If you're interviewing someone in person, dress for the situation. Always be clean and neat, and avoid clothes with logos, graphics, or sayings. To interview a business person, wear a nice pair of pants or a skirt and a button-down shirt or blouse. If your interviewee is someone in the community, dress neatly but less formally.

Arrive (or call) on time. Don't keep your interviewee waiting. If you are using e-mail, be sure to send the questions on the day you arranged.

Have the right gear. Be prepared with a notebook and a pen or a pencil. If you are using a tape recorder or video camera, learn how all the controls work before you arrive and give yourself a few extra minutes to set up the equipment.

Warm up. Always begin by thanking the person for his or her time. If your interview is in person or on the phone, spend a few minutes to get acquainted before you ask your questions. (For example, you might ask whether the person has been interviewed about his or her career before or explain briefly this research project.) However, in an e-mail, after thanking the person for his or her time, it's best to get right to the point.

Let the interviewee do the talking. Don't interrupt, and be sure to give the person time to answer each question. Use pauses as a chance to take notes, rather than moving straight to the next question. You should also practice active listening—make eye contact and show your interest by nodding your head and making appropriate comments, such as "Uh-huh" and "I see."

Take notes. If you're not recording the interview, take detailed notes on your interviewee's responses, writing down key information. Be sure to note important or interesting phrases that you may want to quote. The notes are for you to remember the interview later; you do not need to use full sentences or write every word. You may want to practice taking notes before your interview.

Ask follow-up questions. If an answer makes you think of another question, go ahead and ask it. Don't be afraid to ask questions to clarify your interviewee's answers or to get more information, such as "Can you give me an example?" or "Does that mean that ____?" For e-mail interviews, you may send a second message with follow-up questions based on the interviewee's responses.

Wrap up. At the end of the interview, thank the interviewee again. Ask if it would be OK to call or e-mail if you have any further questions. Offer to send a copy of your final report or product—and be sure to follow through!

After the Interview

Thank your interviewee. Send e-mail or a card thanking the person for the information he or she shared.

Review your notes. As soon as possible after the interview, read your notes and add any information you remember from the interview but didn't write down at the time. (The sooner you do this the better, as your memory of the conversation will help you make sense of your notes.) You may want to type them and organize them. Write any additional questions that you have.

If necessary, follow up. If your interviewee has agreed, ask follow-up questions in a phone call or an e-mail. Thank the interviewee for this additional time.

Evaluate the interview. Reflect on the interview process. What went well? What didn't go well? What will you change the next time you conduct an interview? Write down your reflections in your journal.

Part 2: More about Animation

Students learn more about how animation works while continuing to develop their character's distinct look. They learn how still frames are used to create the appearance of motion. They view examples of three animation forms—traditional cel animation, stop-motion animation, and computer-generated animation—and discuss their similarities and differences. Students also research the styles of different animators or animation houses.

The next step in character development is drawing character studies. Students create action character studies—drawings of their characters in motion—and expression character studies—drawings showing how the character expresses different emotions. To prepare, they draw several observational sketches of people in different poses and with different expressions.

Length

7 sessions

Advance Preparation

- Select three movies that use different forms of animation: 2-D hand-drawn animation, 3-D computer-generated animation, and stop-motion animation. Choose a short (approximately five minutes) clip from each to play.

Teacher's Notes: Animated Movie Examples

Animated movies using 2-D hand-drawn animation:
- *Bambi*
- *Spirited Away*
- *Beauty and the Beast*

Animated movies using 3-D computer-generated animation:
- *Monsters, Inc.*
- *Toy Story*
- *Shrek*

Animated movies using stop-motion animation:
- *Wallace & Gromit: Curse of the Were-Rabbit*
- *Corpse Bride*
- *Chicken Run*

- Purchase a flipbook or create a simple one yourself. (See *Media & Resources* for information about making flipbooks.)
- Select several works of art by one artist to display. The artist should have a distinctive style that can be seen across the different examples you choose (for example, you might use the works of Van Gogh or Frida Kahlo).
- Select several animators or animation companies for students to research in Activity 2A.2. Try to choose animators working in a variety of styles. (See *Media & Resources* for a list of animators and links to images of their work.)

Activity 2A: Forms of Animation

Students are introduced to animation and animation styles.

Sequence

2A.1: Principles and Forms of Animation	Students learn the principles of animation and compare and contrast three forms of animation: 2-D hand-drawn animation, 3-D computer-generated animation, and stop-motion animation.
2A.2: Thinking About Style	Students research the style of an animator or animation studio.

Materials

RESOURCES

- Flipbook (see Advance Preparation)
- **Handout 9: Forms of Animation**
- Short clips from three movies, each showing a different form of animation (see Advance Preparation)
- Reproduction of an animation cel (see *Media & Resources*)
- Image showing a 3-D computer-generated character (see *Media & Resources*)
- Production still from a stop-motion animation feature (see *Media & Resources*)
- Reproductions of several works of art by one artist (see Advance Preparation)
- **Handout 10: Researching Animation Styles**
- Computers with access to the Internet and printers (one for each pair or team)

2A.1: Principles and Forms of Animation

RESOURCES

1. Use a flipbook to discuss the principles of animation.
Show students a flipbook and demonstrate how it works. Encourage discussion of flipbooks students may have seen and what students know about the process of animation.

If it does not come up in the discussion, explain that flipbooks and animation use the same basic ideas to create the appearance of movement—a series of still images is shown to the viewer at a rate of at least 12 frames per second, the rate at which our brain "stitches" the images together, creating the illusion of motion. The same principle is used in movies shot on film—the images shown are photographs rather than drawings.

2. Look at clips from animated movies.
Tell students that since the development of commercial animated movies, animations have been created in a few different ways. Tell them that they are going to observe three different forms of animation.

Play students the three clips you selected. Tell students to pay attention to how each animation looks and to note the differences and similarities among them.

3. Discuss the different forms of animation.
Distribute **Handout 9: Forms of Animation** and have students read it. Ask students to relate the information to the animations they have just seen with questions such as:

- Based on what you saw in the clips and what you read in Handout 9, which movie do you think was made using which form of animation? Why do you think so?
- What differences did you notice? Similarities?
- What impact do you think the method of animation has on the way the viewer looks at the movie?
- Why do you think a producer or director chooses one form of animation over another?

4. Describe how the different forms of animation are made.
Describe the detailed process of making each type of animation, using the information on the handout. Help students understand any unfamiliar terminology. As you explain, show students the reproduction of the animation cel, the image of the 3-D computer-generated character, and the production still from a stop-motion animation movie.

Teacher's Notes: Some Visual Differences in Forms of Animation

- Characters in **2-D animation** are usually drawn with relatively simple lines, often in a way that exaggerates or simplifies their features. They look "flat" in relation to computer-generated characters. Characters' clothing, skin, or fur often incorporates large areas of solid color. The background may be more visually complex than the characters and is usually relatively static.
- Characters in **3-D computer-generated animation** are usually "filled out" and look three-dimensional in a way that traditionally animated characters don't. Details such as skin texture and hair tend to be much more realistic-looking (however, some characters are not at all realistic looking), and there may be gradations of color on clothing and skin. Light and shadow may also be realistic-looking, and there is often more detail in backgrounds (for example, each blade of grass in a lawn may be distinct).
- Characters in **stop-motion animation** are clearly three-dimensional, and their texture and the way they look is determined by the materials that they are formed from (for example, *Wallace and Gromit* look smooth because they are made of a kind of plasticine). Their features, especially facial features, tend to be simplified. Backgrounds may be simple or very complex, and the lighting often looks cinematic.

Handout 9:
Forms of Animation

2-D hand-drawn animation, 3-D computer-generated animation, and stop-motion animation are created using different methods and have different visual styles. In all forms of animation, though, some steps are the same. For example, storyboards are drawn and voices are recorded before the animation is made.

2-D Hand-Drawn Animation

In this form of animation (seen, for example, in Disney movies such as *Sleeping Beauty* and *The Princess and the Frog*), each frame of the animation is drawn by hand. Historically, the final drawings were painted on clear sheets of celluloid (a kind of plastic), called "cels", and then photographed. (This form of animation was called "cel animation".) Each cel was painted with a different element of the image such as a background or character. Then the cels were layered over each other to create one animation frame.

This process is no longer used for feature films—instead, artists' drawings are scanned into a computer or artists draw directly onto the computer screen or on digital tablets. The drawings are "painted" digitally and then output to digital media. Computers can also be used to create the frames that are in between the "key" or most important frames of the animation (a process called "tweening")—work that may also be done by animation assistants called inbetweeners.

3-D Computer-Generated Animation

3-D computer-generated animation is now used for most (but not all) animated movies. Artists model the characters in computer programs—either creating 3-D scans of real-world models or modeling directly on the computer. Each character's body is broken down into a series of parts. Animators control how these parts move by changing a set of variables (for example, they might change one or more variables to shift the position of a character's finger).

In a process called *keyframe animation*, artists animate the characters by designing the key frames of a sequence; as an example, there may be four key frames for a character going from sitting in a chair to standing up. Computer software creates the in-between frames.

Next, characters are *shaded*—given color and texture—and lighting is added. All the digital information is then *rendered*, a process through which information about the character's position and shading, the background, and scene lighting is turned into an image to create each frame of the film.

Stop-Motion Animation

Unlike the other forms, stop-motion animation takes place in three dimensions in the real world. Artists create small sculptures or puppets, using materials such as plasticine or foam latex. The characters are carefully placed into position and photographed. Each character is then moved slightly, including changing facial expressions, and photographed again. When the frames are played, just as in other forms of animation, the illusion of motion is created.

Stop-motion animation requires meticulous attention to detail—any accidental motion or stray piece of hair can ruin the shot. Some animators may deliberately leave in visual reminders that stop-motion animation is handmade. For example, Nick Park, the creator of *Wallace and Gromit*, deliberately left fingerprints on his characters in some shots.

2A.2: Thinking About Style

1. Display several works by one artist and discuss the artist's style.
Have students look at the works and then ask the following questions:

- How can you tell that these works were made by the same artist?

  Possible answers: *The way that the paint is applied, the brushstrokes, the ways that the figures or objects are rendered, color schemes or the way that color is used.*

- What do you think it means to describe an artist as having a particular style? What components make up an artist's style?
- What can you say about the style of this artist, based on the works that you have seen?

Have students discuss the meaning of the word *style* in this context and provide additional information about style as necessary.

Teacher's Note: Artistic Style

The choices that an artist makes when creating a work are called the artist's *style*: a set of characteristics related to the art of a culture, a period, or a school of art, as well as the expression of the individual artist. An artist's style can contain both the common characteristics used by artists working in a certain time period and the unique characteristics reflected in the artist's personal choices. Recognizing an artist's style or the artistic style of a period can give a viewer insight into the work and the period during which it was created.

2. Describe the activity.
Tell students that style applies to artistic work in any medium, including animation. Students will research styles of different animators or animation houses and will begin to develop their own personal style.

3. Have students research the styles of animators or animation studios.
Divide the class into pairs or teams and give each student a copy of **Handout 10: Researching Animation Styles**. Assign each team a different animator or animation studio and have them research online to locate images from at least two different works produced by the animator or studio (see *Media & Resources* for links to images).

Have students compare the images and record observations on Handout 10. Ask them to print one image they think best represents that animator's or animation studio's style.

Note: Not all animation studios or animators have a distinctive style that is consistent across productions. If students are having difficulty seeing similarities in the works of a studio or animator, you may want to have them choose a different studio or animator.

4. Share style research results.

Ask several teams to post their printed images, along with the analysis on their handouts, around the classroom. Have students do a gallery walk and describe the style of the animator or animation company they researched. Discuss animation styles by asking:

- What are the differences in the styles of the animators or animation companies? Are there similarities between styles? If so, what are they?

- What effect does the form of animation used (such as hand-drawn or computer-generated) have on an animator's style?

  Possible answers: *The form of animation used may make certain styles more practical or feasible. For example, using an extremely detailed, precisely rendered style would be challenging in hand-drawn animation, while that style is well-suited to computer-generated animation.*

- Looking at all the animators' works, is there a style that you are particularly drawn to? How might you incorporate elements of this style into the design for your character?

Handout 10:
Researching Animation Styles

Find two or more images from different works created by the animator or animation company that you have been assigned. Use them to answer the following questions.

Titles of Works	Description
What common visual elements do you notice across the works (for example, line weight, use of color, or placement of facial features)?	
What differences do you notice across the works?	
What adjectives would you use to describe the style of the animator or animation company? (For example, playful, simple, realistic, futuristic)	
What visual characteristics of the works lead you to describe the animator's style in this way?	
How is this animator or animation company's style similar to or different from the work of other animators that you've seen?	

Activity 2B:
Action and Expression Character Studies

Students continue to develop drawing skills by creating observational sketches of people's actions and expressions. They apply their skills to create character studies.

Sequence

2B.1: Creating Action Character Studies (Studio)	Students look at character studies showing action, sketch people in various poses, and create action character studies for their character.
2B.2: Creating Expression Character Studies (Studio)	Students look at character studies showing expression, sketch people's facial expressions, and create expression character studies for their character.
2B.3: Feedback Session	Students display their action and expression character studies and critique each other's work.

Materials

RESOURCES

- Sample character studies showing action (see *Media & Resources* for suggestions)
- Colored pencils
- Charcoal pencils
- Paper
- Erasers
- Optional: Motion-study photographs of humans and/or animals (such as the work of Eadweard Muybridge)
- Sample character studies showing expression (see *Media & Resources*)
- Optional: Photographs of people with different facial expressions
- Optional: Mirrors

Teacher's Note: Technology Alternative

You might have students use drawing software such as Illustrator or PhotoShop for their character studies.

2B.1: Creating Action Character Studies (Studio)

1. Display sample character studies showing action.
Explain to students that they will draw action characters studies for their characters. Ask:

- If you were an animator, how might you make use of action character studies?

  Possible answers: *Character studies help animators visualize how an animated character will move or gesture. Action character studies can also expose potential problems. For example, a designer creating a character with spikes on its elbows might discover that as the character moves, it stabs itself with the spikes.*

Character design from *Monsters vs. Aliens*.
Image courtesy of DreamWorks, LLC.

2. Have students practice sketching people.
Give students colored and charcoal pencils, paper, and erasers. Tell them that they will first create observational sketches of people in different poses. Choose from the following drawing exercises:

- Ask volunteers to act out motions—such as walking, running, eating, dancing, or bending down—while the rest of the class sketches them.
- As students sketch, have them focus on specific elements, such as gesture, range of motion, physical limitations, and sequence of actions (for example, walk cycles).
- Show motion-study photographs and explain that they were taken while people (or animals) were in motion. Have students choose different poses from the photographs to sketch, focusing on such elements as how a person's weight shifts as he or she moves and the muscle groups used in an action.
- Have students complete a series of drawings, such as a sequence of timed gesture drawings or a number of poses.

Once students have completed several drawings of people, have them take one drawing and transform the person's figure into a character.

> **Note:** Students' practice sketches of people are good opportunities for formative assessment of their drawing skills and of their development of a believable character.

3. Have students draw action character studies for their own characters.
This exercise helps students think about how their characters move and what they might look like in certain situations. Have students use their sketches and turnaround model sheets as guides for their action character studies. Have them draw at least four actions that their character might perform in the film or TV episode.

2B.2: Creating Expression Character Studies (Studio)

1. Discuss character studies showing expression.
Show students the expression character studies. Explain that capturing an expression can be difficult. Artists need to think about more than just the face—emotions are also shown through body posture and gesture.

Ask students how they would describe or act out a person who feels unsure.

> ***Possible answers:*** *The person's body might be stiff, the person's back might be rounded, his or her eyes might be moving back and forth.*

Bob from *Monsters vs. Aliens*.
Courtesy of DreamWorks, LLC.

2. Have students practice drawing facial expressions and expressive postures.
Show students techniques that will help them capture their characters' expressions. Choose from the following drawing exercises:

- Have students create observational sketches from photographs that show people's emotions.
- Ask volunteers to take turns acting out emotions—such as happiness, sadness, anger, confusion, surprise, horror, fear—while the rest of the class sketches them.
- Have students look in a mirror, pretend to be their own characters acting out a scene, and create sketches of what they see. (Character animators often have mirrors next to their workstations so they can watch their own facial movements.)

> **Note:** Students' practice sketches of expressions are good opportunities for formative assessment.

3. Have students create expression character studies for their own characters.
Students should create at least four drawings that show emotions that their characters might experience during the film or TV episode. Tell students to include both full-body sketches and close-ups.

2B.3: Feedback Session

Note: Decide whether students should work as a whole class or in teams to provide feedback.

Have students post their action and expression character studies and allow time to look at one another's work. Have them use the Critical Response Process to solicit and offer feedback (see Unit 1 for details about the Critical Response Process).

Suggest that students ask the following questions for additional feedback:

- Does this character study create a believable character? Why or why not?
- What aspects of this character study are successful?
- What aspects could use further development?

Teacher's Note: Optional Extension—Revising Character Studies

Have students use the feedback they receive to revise their action and expression character studies or to create new studies.

Part 3: Characters in Three Dimensions

Students think about how two-dimensional characters can be translated into three dimensions and learn how 3-D sculptures are used in the animation process. Students look at maquettes and discuss how they might help professional animators understand how a character looks and moves.

In teams, students analyze and discuss fine art sculptures, considering how the figures make use of the principles of design apply to 3-D figures. They learn and practice sculpting techniques while sculpting the head of a figurine or action figure. Then, using their drawings and sketches, students create either bust or full figure maquettes of their characters.

Length

10 sessions

Advance Preparation

- Select several examples of character maquettes to display (see *Media & Resources*).
- Choose one maquette to focus on. Print a 2-D drawing of the character and choose a movie clip starring the character. You will have three representations for the character: maquette, 2-D drawing, and animation.
- Select reproductions of human (or human-like) sculptures, one for each student team. Provide the sculpture's title, artist's name and, if possible, background information that you can share if teams have difficulty interpreting the sculptures (see *Media & Resources*).
- For Activity 3B.2, select a figurine, action figure, or stuffed doll for students to reproduce as you teach them sculpting techniques. For this introductory project, choose a character with simple features and not much detail.
- Decide whether students will create bust or full-figure maquettes.

Activity 3A: Seeing in 3-D

Students learn about depicting characters in three dimensions by looking at examples of sculpture from both animation and the fine arts.

Sequence

3A.1: ***Looking at Maquettes***	Students look at examples of maquettes and learn how they are used in the animation process.
3A.2: ***Looking at Figures in Sculpture***	Students work in teams to analyze how sculptors make use of figures in their works. Students also consider the role that materials play in creating the meaning of a work.

Materials

RESOURCES

- Examples of character maquettes from animated movies (see Advance Preparation)
- 2-D drawing of the character you've chosen (see Advance Preparation)
- Movie clip starring the character (see Advance Preparation)
- Reproductions of human or humanlike sculptures, one for each team (see Advance Preparation)
- **Handout 11: Analyzing Sculpture**

3A.1: Looking at Maquettes

RESOURCES

1. Discuss the use of maquettes in the animation process.
Show students several examples of maquettes from animated films. Ask students how they think animators might use maquettes as part of the animation process.

> ***Possible answers:*** *Maquettes are used to maintain consistency throughout the animation process—artists use them to see what the character looks like from all sides or in certain positions. Maquettes may also be used as models that are scanned into computers and used as the basis for computer-generated characters.*

Caption: 3D Digital Model from *Kung Fu Panda*.
Courtesy of DreamWorks, LLC.

2. Discuss the differences between rendering characters in 2-D and 3-D.
Display the maquette, 2-D drawing, and film clip of the character you have chosen and use questions like these to begin a discussion of the possible challenges in creating 3-D figures from drawings:

- How are the three versions of the character similar? What are the differences?

- How does rendering a character in three dimensions make the character look different than it does in two dimensions?

  Possible answers: *3-D characters look real or "filled out," while 2-D characters look flat and cartoonlike. 3-D works depict forms, while 2-D works can only depict the illusion of form. 3-D figures also create an interplay between volume (the space within a form) and void (the empty space surrounding or surrounded by forms). In 3-D sculpture, certain details, such as the shape of the character's head or how deeply its eyes are set into its face, are more defined, while others, such as the texture of its hair or fur, may be simplified.*

- What additional challenges do you think artists face when rendering 2-D characters into 3-D? What kinds of decisions might they have to make?

  Possible answers: *Artists have to determine the volume of the different parts of the character's body. They must determine more precisely how the character's shape will change as it turns. They also have to figure out how to render details, such as hair and the texture of clothing, that may be more difficult to achieve in three dimensions. Artists must decide what material the 3-D character will be made of and the level of complexity in details, such as hair.*

Tell students that they will work through these challenges firsthand as they create a maquette of their character.

3A.2: Looking at Figures in Sculpture

1. Have teams analyze sculptures.
Divide the class into teams to analyze fine art sculptures, including how the material used by the sculptor influences the work.

Give each team a different reproduction of a sculpture. Distribute **Handout 11: Analyzing Sculpture**. You can also provide students with background information about their sculpture to help them understand the context in which the sculpture was made. Have students complete Handout 11 as they analyze the sculptures.

2. Share sculpture analyses.
Once teams have analyzed their sculptures, have them share their analyses with the class.

3. Discuss the use of materials in the sculptures.
Once students have shared their analyses, discuss the following questions:

- What materials were used in the sculptures that teams analyzed?

  Possible answers: *Clay, marble, bronze, stone, metal, resin, wood*

- How do you think the material affects the meaning of the sculpture and the way viewers see it?

  Possible answers: *Materials can:*

  - *influence the emotional tone of a piece; for example, a polished metal may seem cold or uninviting, while wood may appear warmer*
  - *convey part of the artist's meaning; for example, a sculpture made with plastic toys may be saying something about childhood or about the disposable nature of consumer goods*
  - *affect the form and the detail of the work; for example, clay can depict a level of detail that may be difficult in metal, but metal may be more suitable for a large sculptures*

Teacher's Notes:
Sample Analysis of the Nina Levy Sculpture *Big Baby*, 2003

What material does the sculpture appear to be made from? The sculpture is smooth and shiny, and looks as if it may be made from a plastic-like material or from painted metal. (In fact, the figure is made of cast polyester resin and fiber that has been painted with automotive paint.)

Describe any figure that is incorporated into the sculpture. What does each figure look like? The figure is of an extremely large, pinkish-white baby (larger than an adult). The baby is wearing nothing except for a white diaper. The baby is holding its hands up and out to the side, and has an expression that seems to be one of surprise or anger, with its mouth open.

How do the materials and the sculpting techniques used affect how each figure looks? The modeling and painting techniques that the sculptor has used create a baby that is depicted in a very realistic style. For example, the sculptor has depicted the creases on the baby's knuckles and the ridge of its spine and has painted a natural-looking variation in skin tones on the body (such as making the cheeks pinker than the rest of the face). At the same time, the baby is made of a material that is hard, smooth, and somewhat glossy or shiny, which, combined with the scale of the piece, creates an unnatural feeling to the work that makes it eerie or disquieting.

How does this sculpture make use of one of the elements of art or principles of design? The sculpture makes effective use of the design principle of emphasis. The sculpture emphasizes the baby's face as the focal point of the sculpture. This emphasis is created through the use of the lines of the legs and arms, which draw the viewer's eyes to the face, through the increased concentration of details in the face, and through the contrast between the baby's blue eyes and red mouth with the paler colors of the rest of the sculpture.

Describe the personality of each figure, and explain why you think each figure has these characteristics. The baby seems to be anxious, angry, or demanding (or perhaps a combination of all three). These characteristics come through in the expression that the baby has, the intensity of that expression, and in the positioning of the baby's body (arms held up and out to the side, as if it wants to be picked up or is about to start crying).

What is your interpretation of the sculpture? What do you think the sculptor was trying to get the audience to feel or think? Point to evidence from the work. One interpretation of the sculpture is that it depicts babies as demanding, overwhelming beings whose needs may dwarf those of the adults who care for them. This depiction stands in contrast to society's usual depiction of babies as cute and harmless. The artist may have been trying to evoke a feeling of anxiety or discomfort in the viewer. Evidence from the work includes the large scale of the work, which would loom over a viewer looking at it and which stands in contrast to the actual size of babies; the expression on the baby's face, which is distressed rather than smiling or calm (as babies are usually depicted); the body position of the baby, which indicates some kind of need; and the uncanny, not-quite-real quality created by the materials used for the sculpture.

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Handout 11:
Analyzing Sculpture

Analyze the sculpture in your packet by answering the questions below.

Description	
What is the title of this sculpture? Who made it?	
What material does the sculpture appear to be made from?	
Describe any figure that is incorporated into the sculpture. What does each figure look like?	
Analysis	
How do the materials and sculpting techniques used (e.g., roughly shaped or smoothly polished, finely detailed or expressionistic) affect how each figure looks?	
How does this sculpture make use of the elements of art or principles of design? Choose at least one element or principle.	

Interpretation	
Describe the personality of each figure and explain why you think it has these characteristics. For example, what about the figure's expression tells you how it is feeling? What do its gestures or posture tell you?	
What is your interpretation of the sculpture? What do you think the sculptor wants the audience to feel or think? Point to evidence from the work.	
Judgment	
Do you think the sculpture is a successful work of art? Why or why not?	

Activity 3B: Sculpting Characters

Students learn basic sculpting techniques, practice sculpting, and create a maquette of their character.

Sequence

3B.1: ***Playing with Form (Studio)***	Students practice creating 3-D forms using basic sculptural materials and techniques.
3B.2: ***Sculpting from a Model (Studio)***	Students learn sculpting techniques and sculpt the head of an existing animated character, using a model as a guide.
3B.3: ***Creating Maquettes (Studio)***	Students create bust or full-figure maquettes of their characters.

Materials

Sculpting materials appropriate to the techniques you are teaching, such as:

- Wire
- Natural clay
- Paper
- Foam
- Materials to create texture in clay (such as sand, beads, or feathers)
- Wire cutters (if students are using wire)
- Figurine, action figure, or stuffed toy to reproduce (see Advance Preparation)
- Drawing tools and paper
- Non-drying modeling clay
- Modeling tools
- Sculpting boards
- Plastic bags
- Spray bottles and slip containers (if working with natural clay)
- Optional: Materials for creating armatures, such as wire, masking tape, balsa wood bases, and glue
- Students' character descriptions, character sketches, turnaround model sheets, and journals

3B.1: Playing with Form (Studio)

Have students complete introductory activities that help them to begin to understand how to work in 3D. Some ideas for activities include:

- "Drawing" with wire—using wire to create simple forms, contour "drawings" of objects, forms that express an emotion, or figures
- Creating simple forms in clay
- Practicing additive techniques by building forms in clay and joining them together
- Practicing subtractive techniques by sculpting forms or figures out of foam
- Sculpting the same form in different media
- Experimenting with mixing different materials together

3B.2: Sculpting from a Model (Studio)

Teacher's Notes: Adapting for Students' Level of Experience with Sculpting

Students with little experience in sculpting may not be ready to sculpt a figure out of clay. You might have them first sculpt a simple object, perhaps a prop that their character might use in the animation, from a model you (or they) bring in.

Students who are familiar with sculpture may be ready to begin their character sculptures right away, rather than sculpting from a model.

1. Have students sketch the model's face and find the basic shapes.
Display the figurine, action figure, or stuffed doll, and have students create gesture drawings of the character's face. This will help students to understand the shapes that make up the face. Their drawings can help them see how 2-D shapes can be translated into 3-D shapes.

2. Teach sculpting techniques as students sculpt the head of the model.
Explain that students will get ready to create their own character sculptures by practicing with the head of the model. Provide sculpting materials and review how materials and sculptures-in-progress should be stored.

> **Note:** Point out that this sculpture will not go in portfolios, because postsecondary institutions and employers generally do not want copies or reproductions of others' work in application portfolios.
>
> This activity should not take too much time to complete—its purpose is to give students basic techniques and assess students' readiness to begin their maquettes.

The following is a list of techniques you might show students:

- Kneading clay
- Material safety (if using tools)
- Solid modeling
- Hollow modeling
- Additive techniques, such as score and slip
- Subtractive techniques
- Choosing when to use additive or subtractive techniques and when to combine them
- Using modeling tools and choosing the right tool for a task
- Creating basic forms, such as spheres and cylinders

- Creating and using coils
- Joining pieces together
- Creating texture
- Sculpting facial features
- Creating details, such as hair
- Storing clay

Teacher's Notes: Teaching Sculpting Techniques

You should plan on emphasizing only a few techniques, rather than teaching them all. For example, you might create a face with a coil technique and use the score and slip technique to add facial features. You might also continue to teach techniques while students are working on their own characters in Activity 3B.3.

3B.3: Creating Maquettes (Studio)

1. Have students create their maquettes.
Have students set out as resources all the work they have done on their unit projects—written character descriptions, sketches, turnaround model sheets, character studies, and journals.

Have students use these resources as they create bust or full-figure maquettes of their characters.

> **Teacher's Notes: Creating a Bust vs. a Full-Figure Maquette**
>
> If you give students the option of creating the full-figure maquette, you will need to teach them additional techniques, such as creating and using wire armatures. You may need to set aside additional time for this option.

2. Discuss material choice.
This activity offers a good opportunity to point out the connection between material choice and functionality. Just as students make choices about sculpture materials based on the sculpture's function (for example, using non-drying modeling clay because it can easily be moved over time), fine-art sculptors make choices about their materials based on how and where the sculpture will be viewed and used (for example, using durable metals for an outdoor sculpture).

Part 4: Characters in Motion

Students animate their character by drawing a flipbook. Students present their characters to the class and, ideally, to AME professionals, focusing on the character development process. Students reflect on what they have learned during the unit.

Length

7 sessions

Activity 4A: Animating the Character

Students learn how to create flipbooks and draw a flipbook that animates their characters.

Sequence

4A.1: Practicing Animation (Studio)	Students practice making flipbooks with simple figures.
4A.2: Creating the Character Animation (Studio)	Students draft thumbnail sketches of their character animations, use peer feedback to make revisions, and create final flipbooks.

Materials

- Sample flipbook from Part 2
- Notepads with thin paper
- Pencils
- Colored pencils
- Pens
- Stiff paper (optional)

4A.1: Practicing Animation (Studio)

RESOURCES

1. Use a flipbook to remind students how animations work.
Remind students of the flipbook they saw in Part 2 and review how animations work by presenting many static images, each with the object moved slightly, at a speed such that our brains "stitch" the images together, creating the illusion of motion.

Explain that students will make practice flipbooks before creating ones starring their characters. Show the sample flipbook, provide additional information that students may need in order to begin, and distribute materials.

2. Have students prepare to make simple flipbooks for practice.
Practice flipbooks allow students to work out the best number of frames, the amount to move the object in each frame, and other practical details on a simple object before drawing their more detailed characters.

Provide ideas for simple practice animations, for example, a bouncing ball, a walking stick figure, or a simple face that smiles and frowns.

> **Note:** Creating successful animation involves many nuances, including principles of posing and timing. If time is available. you may want to discuss these with students. For more about animation, see *Digital / Media / Arts: Foundations in Media and Digital Design: Animation and Gaming, Unit 1*.

Have students create thumbnail sketches of each "frame" of the simple animation. Suggest that they create the beginning and ending sketches for the animation and then have them create the rest of the frames.

3. Have students create their practice animations.
Have students create their flipbooks. Allow time for students to share them with one another and for you to review them to make sure that students understand the principles of the animation process.

> **Note:** Once students have made their flipbooks, you might have them transfer the drawings to stiffer paper that is easier to flip. They can transfer the drawings by redrawing, photocopying, or cutting and pasting.

4. Have students share what they have learned about flipbooks.
Discuss the practical issues, such as the number of frames needed for a smooth motion, the amount of change in position from one frame to another, optimal paper size for flipping, and so on.

Ask students to share any techniques they may have developed to save time or help keep the images consistent from frame to frame. Allow time for discussion or brainstorming.

4A.2: Creating the Flipbook (Studio)

1. Have students develop and share their flipbook ideas.
Point out that the action should be one that fits the characters' personalities and roles in the TV show or film. Have students share their ideas with the class.

> **Note:** It's best to do this activity as a class, so that you can hear students' plans and, if necessary, guide them to choose actions that are short and not too complex. Students should plan on creating only a few seconds of movement. By completing the practice animation in Activity 4A.1, students should have realized that creating even a very short animation takes a large number of frames.

2. Have students create thumbnail sketches of their animations.
Have students sketch the frames that show important points in their character's movement (known as key frames). Circulate around the classroom and help students who may be having difficulty.

3. Conduct a feedback session.
Divide the class into pairs. Have students share sketches of their flipbook key frames and ask their partners for feedback. The following prompts can help structure students' feedback:

- Does the motion in the frames look like it will translate into a smooth-looking animation? If not, how could the animator improve it?
- How well does the action or motion of the character fit with the character's personality?
- Are there any changes or additions that you would suggest the animator make? Explain why you think so.

4. Have students create their flipbook.
Students should incorporate the feedback that they received from their partner.

Activity 4B: Sharing Characters

Students share their characters with an audience and reflect on their work in the unit.

Sequence

4B.1: ***Present the Work***	Students present their characters to the class (and possibly, AME professionals), describing the character development process.
4B.2: ***Reflecting on the Unit***	Students complete their portfolios and reflect on the work they have done throughout the unit.

Materials

- Turnaround model sheets from Part 1
- Character studies from Part 2
- Maquettes from Part 3
- Flipbooks from Part 4
- Students' copies of **Assessment Checklist 1: Unit 5 Project** from Part 1

4B.1: Present the Work

Have each student present his or her character, displaying the turnaround model sheet, the character studies, and the maquette. Student should answer the following questions from **Handout 3: Unit 5 Project Description**:

- How did you get the idea for your character?
- What movie or TV show episode does your character star in?
- Describe a point in the process when you had to make a choice about your character look. How did you decide? What does your decision say about your character?
- What visual features do you think make your character believable?

Give the audience time to ask questions or offer comments.

4B.2: Reflecting on the Unit

1. Have students write reflections.
For their project portfolios, have students write a reflection on the unit project. Students should answer the following questions from **Handout 3: Unit 5 Project Description**:

- What was your favorite part of developing a character? Why?
- What was most challenging? Why?
- Why do you think believable characters are such a crucial element of media and entertainment?
- What would you do differently if you were to do this project again?
- What else did you learn while doing the project?

2. Discuss reflections.
As a closing exercise, conduct a group reflection on the unit using the above questions.

3. Complete Assessment Checklist 1.
Have students complete the Student Comments portion of **Assessment Checklist 1: Unit 5 Project**. Collect the assessments.

Part 5: Introducing the Art Exhibition

Students are introduced to and begin planning for the culminating project for the course—an end-of-year exhibition of their work that they will curate in teams and display for schoolmates, friends, family, or the community.

Length

2 sessions

Advance Preparation

- Review **Handout 12: Art Show! Project Description** and determine the size and scope for the student art exhibition. If you plan to hold the exhibition at school, consider where and when to hold it and make appropriate arrangements for reserving the space.
- Decide whether you want to include the optional Money Management team, which is responsible for finding funds and managing such expenses as food for the reception, printing of promotional materials, or exhibition-related supplies.
- Determine how students will display their work in Activity 5C. You can have students bring the actual work, or, if students have already taken work home, you can provide the use of a digital camera so they can photograph the work.
- Look at **Handout 18: Exhibition Timeline**. This handout contains a sample list of tasks to include on a master timeline that you will use with students to coordinate work related to the exhibition. Modify the list to match your needs and setup and print copies for students.

Activity 5: Describing the Project

Students are introduced to their culminating project for the course.

Sequence

5A: ***The Curation Process***	Students are assigned to curation teams. Teams draft a list of tasks they will need to complete before the exhibition.
5B: ***Exhibition Responsibilities***	Students are assigned to exhibition preparation teams. Teams draft a list of tasks they will need to complete before the exhibition.
5C: ***Looking at the Work***	Curation teams develop themes for their sections of the exhibition by reviewing the work the class has completed up to this point in the year.

Materials

- **Handout 12: Art Show! Project Description**
- **Handout 13: Exhibition Task List** (two copies for each student)
- **Handout 14: Space Preparation**
- **Handout 15: Promotional Materials Team**
- **Handout 16: Public Relations Team**
- Optional: **Handout 17: Money Management**
- **Handout 18: Exhibition Timeline Team**
- Students' completed works from throughout the course (the actual works or digital representations—see Advance Preparation)

5A: The Curation Process

1. Describe the year-end exhibition.
Tell students that as the culminating project, they are going to develop and stage an exhibition of the work they have made throughout the year. The exhibition will be a opportunity for students to share their stories, interests, and talents with schoolmates, faculty, or the community.

Students will work in two teams: a curation team responsible for selecting a theme and works for one section of the exhibition and an exhibition preparation team responsible for specific tasks related to the exhibition.

2. Divide the class into curation teams and discuss the curation process.
Give students copies of **Handout 12: Art Show! Project Description** and **Handout 13: Exhibition Task List**. Have curation team members read over Handout 12. Answer questions students have about the curation process or other aspects of the exhibition. Allow curation teams time to discuss themes they might use in their section of the exhibition. Have teams draft a list of tasks on Handout 13.

Teacher's Notes: Handout 12

Handout 12 refers several times to themes related to an issue. You may want to tell students that they will develop works related to an issue later in the semester, during Unit 6.

Handout 12:
Art Show! Project Description

Works of art and media are meant to be shared, and one way to share is through an art show. The final project of this course is to design and install an art show, or exhibition. Think of it as an opportunity to share your interests, your talents, and the stories you want to tell. The exhibition will have an opening reception that you design.

Although the art exhibition takes place at the end of the school year, there's much to do before then. You will work as a member of two different teams:

- A curation team responsible for curating one section of the exhibition
- An exhibition preparation team responsible for one aspect of the exhibition: space acquisition and preparation, public relations, promotional materials design, or money management

You will have time over the course of the semester to work on these tasks. You will complete your preparations and put on the exhibition at the end of the school year. As an alternative to a physical exhibition, you may consider creating an online exhibition for the school website or a school-affiliated website.

Curating the Exhibition

You and your team members will act as *curators* for one section of the art exhibition. Curators work in museums and other places, selecting work for exhibition. They often choose works that represent some aspect of a theme.

Your team will decide on a theme and select artwork that fits the theme. You will design the exhibition space and decide how to present the works. Finally, you will install the works and open your exhibition.

Curating the art exhibition, from start to finish, involves the following steps.

Step 1: Look at Everyone's Artwork

To begin selecting a theme, look at the work that you and your classmates have created. (You can look at either the actual work or images of the work—your teacher will let you know.)

As you look at artwork, think about these questions:

- What story do you want to tell about your experiences during the year? For example, you might have become involved with a person or group of people when you told their story during Unit 5, or maybe several of you discovered that you were interested in careers in animation.
- What ideas do you want to share with members of the audience? Looking at the works themselves, what ideas or themes do you see running through them?
- Is there an issue you want to involve the audience with? For example, perhaps you worked on art related to a local environmental issue and you'd like to bring that issue to the attention of others and motivate them to act.
- What works are you most interested in including in your section of the exhibition?

Step 2: Choose a Theme

There are different approaches to choosing a theme—you might base the theme around a subject (for example, imaginary landscapes or people), an idea or concept (such as "community stories" or "personal symbols"), or a career, such as gaming or animation.

As a team, come up with several different ideas for a theme. Think about your theme as a way to share your experience during the course with a wider audience. Ask yourselves: What did we learn this year? What work are we most proud of? How can we create a unified theme using these experiences and ideas?

Choose one theme that most interests the team and will be most engaging for the audience.

Step 3: Select Work Based on Your Theme

Once you have chosen a theme, make preliminary selections of work. Keep in mind:

- The entire exhibition needs to include at least one work from each class member.
- Your selection may include work by everyone on the team, but you do not need to.
- You can include work made by classmates on other teams.
- You can negotiate if another team want to use the same works in their sections of the exhibition.

Teams will have time to share ideas and plans for their sections of the exhibition during the semester. You will be able compare ideas and make sure the sections fit together to make an interesting show.

Step 4: Revise and Finalize Your Selections

During the rest of the semester, your team will meet to talk about which new works to include and whether any works you had planned to include are no longer a good fit. You may even decide on a completely new theme, based on the new works that your classmates are making, what you are learning, and what your interests are. You will finalize your choices toward the end of the semester.

Step 5: Design an Opening Reception

Your opening reception is a chance to grab your audience and build excitement about your work. Think about how you want your audience to experience your work. Then develop ideas for an opening reception. Consider having an interactive event.

Ideas for Interactive Events

- Give the audience an opportunity to respond directly to the work by setting aside space near each section for written comments or creating an "I'd like to say…" box for people to leave messages for the student-artists.
- Have the audience take part in a group art project based on an exhibition theme. If your theme is people, for example, you could provide a large sheet of butcher paper on which audience members draw their own characters.
- If you are including works that tell community members' stories, invite those members and ask them to talk with the audience.
- If your theme addresses an issue, such as a local environmental issue, invite teachers, students, or community experts to talk about the issue.
- Hold the opening reception as a fundraiser or a benefit for an issue that teams addressed. Consider an auction of the works.
- Invite someone to play live music during the reception.
- If your school or community has dance or drama groups, invite them to give a brief performance that is related to work in the exhibition. For example, if you include work that tells the story of a cultural community, have musicians or dancers perform traditional dances and music from that community.
- If another class has worked on poetry, have students read their poetry. As an option, you could have an open mic or a poetry slam competition.

Once you have a plan for the reception, assign responsibility for different tasks. For example, some people might invite performers and make sure they have everything they need while others take responsibility for gathering art supplies, such as butcher paper and colored pencils.

Step 6: Design Your Exhibition

Finalize the works to include before you design your section of the exhibition. Decide how you will showcase the works on display. You might display 2-D works salon style (mixed together on a wall) or as a museum or gallery would (lined up horizontally and spaced evenly on the wall). If your works are 3-D, you might place each work on its own pedestal or arrange the works together on a flat surface.

Your class will look at ways works are displayed in museums, galleries, and online. You will also look at the exhibition space and decide how to arrange the themed sections.

Here are questions to keep in mind as you design the exhibition:

- Are the works 2-D, 3-D, or a mix? Do any need to be displayed on a computer?
- What works look good together? What works need space apart from others?
- How do you order the works so they tell a story or engage people in an issue?
- How much space do you have available for your display?
- What materials do you need? For example, do you need tables for 3-D work, hanging equipment for 2-D work, or monitors and/or a projector for digital work? Talk to your teacher—your design may be limited by the available materials.
- How will you light your works? (You may be limited by materials and space.)

You may want to create a scale diagram of the space (or your team's area) on graph paper to be sure that your design will fit.

Step 7: Install the Work

Install the work in the exhibition space. You may have some preparation to do first, such as painting or bringing in pedestals and tables. If your works are 2-D, hang them on the wall; if they're 3-D, set them on pedestals or tables.

Step back and take a look. Does this arrangement showcase the work? If not, change the design. Work with other teams to be sure that the exhibition looks good as a whole.

Place labels with the artist's name and the work's title next to each piece. Put your curatorial and artists' statements either on the wall or in a binder that visitors can look at.

Step 8: Open Your Exhibition

You will have set an opening date for the exhibition. If community members are invited, the Public Relations team will have sent media announcements and invitations ahead of time.

At the reception, each team should present its section of the exhibition. Be creative—you might give a performance, present your theme or issue and have audience members share their experiences with that issue, create an activity in which the audience makes an artwork, have the audience ask questions, or even ask the audience to respond to questions! It's up to you—but keep your presentation engaging and related to your theme.

Vocabulary

Curator: Someone who selects work for exhibitions in a museum, gallery, or other setting.

Handout 13:
Exhibition Task List

You are a member of two teams: a curation and an exhibition preparation team. You should have two completed lists, one for each team. Give your teacher a copy so you can make extra copies if needed. Meet with your teammates regularly to review the list, make changes as necessary, and be sure you are on track to meet your deadlines.

_____ **Team Task List**

Task Number	Description of Task	Team Member(s) Responsible	Due Date
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

5B: Exhibition Responsibilities

1. Describe the role of exhibition preparation teams.
Distribute **Handouts 14–16** (Handouts 14–17 if you are including the Money Management team) with the responsibilities of each team:

- Space Preparation
- Promotional Materials
- Public Relations
- Money Management (optional)

2. Have curation teams assign members to exhibition preparation teams.
Explain to curation teams that each team member will work on a different exhibition preparation team. In this way, members of each curation team will be aware of all details of the exhibition. Ask curation teams to determine for themselves which members will join each exhibition preparation team.

3. Have exhibition preparation teams meet.
Teams should go over their responsibilities as described on their handouts and begin to draft a list of tasks on their second copy of Handout 13.

Teacher's Notes: Helping Teams with Logistics

As exhibition preparation teams meet, you should circulate and talk to each team about logistics, sharing any information they will need. For example, tell the Space Preparation team if you have a space in mind already for the exhibition.

Students from the School of Digital Media and Design meet to plan their exhibition.

4. Create a master timeline for the exhibition.
Give students the version of **Handout 18 Exhibition Timeline** that you have prepared. As a class, work backward from the exhibition date and use teams' task lists to assign teams and completion dates to each task, filling out the timeline as you go.

If students come up with additional tasks for the timeline, they can add them to the handout or you can print a copy of the timeline for each team with the new tasks added.

Teams should update their lists on Handout 13 if assignments or deadlines change.

> **Note:** Keep a copy of the timeline and check in with students at several points during Units 6 and 7 to be sure that the work is progressing smoothly and will be completed on time. Note that teams may also have tasks on their individual task lists (Handout 13) in addition to the tasks listed on the timeline.

Handout 14:
Space Preparation Team

Exhibition preparation teams are responsible for the same tasks as professional artists who put on an art show. Here are tasks the Space Preparation team may need to complete:

- **Discuss space with your teacher.** Talk to your teacher first, as he or she may have a space in mind already. If not, brainstorm a list of places where you might be able to have an art exhibition. The space could be at school or somewhere in the community, for example, a local business or community center.
- **Investigate locations.** If you are looking off-campus, start by calling people to see whether they have space available. If the exhibition will be at school, think of likely places—cafeteria, classrooms, hallways, or the library. Go look at the places if possible and take pictures if you can.
- **Pick a space.** If you have options to choose from, pick the space that works the best. Consider factors such as size of the space (floor space and wall space), lighting, how long the space is available, ease of hanging 2-D works, availability of tables for 3-D works, location, and accessibility for people with disabilities.
- **Measure.** Figure out how much wall and floor space you have available. Use a tape measure to measure every wall in the room, making note of these measurements as you go.
- **Make a model.** Use your measurements to make a scale-drawing of the room on a piece of grid paper. Draw a birds-eye view of the room (as seen from above). Make copies and give the diagram to your classmates, who can use it to help them lay out their exhibitions.
- **Allocate space.** Figure out approximately how much space each team will get. Note: Some teams may need more space than others, depending on the number of works, whether they are 2-D or 3-D works, and their size. Keep each team's needs in mind when you allocate space.
- **Talk to teams about display materials.** Talk to each team about whether it needs pedestals or tables for displaying works. Make a list and work with your teacher to figure out what equipment is available. Let teams know if certain equipment isn't available, so that they can make other plans.
- **Figure out any additional space or equipment needs for the reception.** For example, if you are having speakers, you may want to use a microphone. If you are inviting performers, think about what space they need and whether there are outlets and extension cords available for their equipment. Talk with each curation team about any space requirements or equipment needs.
- **Figure out whether any preparation needs to be done to the space.** You may need to move or help move furniture, and you should be prepared to clean before and after the reception. The whole class will work on any necessary preparation.
- **Consider lighting.** Look at the lighting in the room to see whether the works can be easily viewed. Check with your teacher about rearranging or getting additional lighting if necessary. (Warning: Only an adult should get on a ladder and move the lights!)
- **Plan for clean-up.** Be prepared for cleaning the space after the exhibition is taken down and putting everything back as it was before the show. The whole class should take part in the clean-up.

Handout 15:
Promotional Materials Team

Exhibition preparation teams are responsible for the same tasks as professional artists who put on an art show. The Promotional Materials team is responsible for creating invitations and any posters or flyers. Here are some tasks you may need to complete:

- **Conduct research and decide what type of material you'll create.** Research what art exhibition posters, advertisements, or invitations look like. If possible, visit places that have advertisements for various events (coffee shops, community centers, etc.). Note how the materials combine text and images. Decide the type of promotional materials you will create—posters, flyers, invitations, or something else!
- **Find out dates for completing the materials.** Talk to the Public Relations team to find out when they need to have the materials, whether printed or in digital form for e-mailing. (Invitations should be mailed 2–3 weeks before the event.)
- **Find out about money.** If there is a budget for the exhibition, ask the Money Management team whether there is money available to have the materials printed professionally. If so, compare prices at local copy shops and online.
- **Decide on the text.** Be sure you include the "what, when, where," and mention any speakers, performers, or special plans for the opening reception. With the entire class, decide on a title. A title can be descriptive—Washington Academy Art and Media Exhibition—or refer to the kind of work in the exhibition—Telling Our Stories.
- **Select images.** Images should excite people about coming to the exhibition and give them an idea about what they will see. You may want to ask each curation team to contribute an image for consideration.
- **Create the materials.** Use graphic design software to pull your text and images together into appealing invitations, posters, or flyers. The text must be clearly legible, which may affect the font you choose and the placement of the text. If you plan to make postcards, you can also create a design that has the image on the front and the text on the back. Be sure you have versions appropriate for e-mailing, posting, and/or printing, depending on your team's plans.
- **Print and distribute your materials.** Give the Public Relations team the digital file of the invitation for e-mailing. If you are having printed materials, determine how many you need. If they are being printed professionally, send the file to the printer and follow up with *proofs* (copies of the final product for any corrections) before you have the materials printed.

Handout 16:
Public Relations Team

Exhibition preparation teams are responsible for the same tasks as professional artists who put on an art show. The Public Relations team is responsible for making sure that the school, family and community members, and local media know about the show. This team works very closely with the Promotional Materials Team. Here are tasks you may need to complete:

- **List the media organizations that you want to send a press release to.** Press releases are a formal way to announce events to the media. Plan to send your release to the school newspaper or website. Your list may also include local or community newspapers, radio and community cable stations, and websites with calendars of events. Find out who handles event announcements, any submission policies, and the address.
- **Create an address list for invitations.** This list might include faculty members, family members, friends, and other people or groups within your community. With the Promotional Materials team, decide whether you will send invitations by e-mail, physical mail, or both.
- **Decide where to distribute posters and flyers.** Think about places in the school where everyone will see your posters. You can also make a list of places in the community, such as coffee shops and community centers, where you can leave or post materials.
- **Designate a point person for performers.** If the class has decided to have speakers, musicians, or another interactive event at the reception, assign a point person for each performer or speaker—one person from the team who keeps in contact with the performers and provides information such as when the performances will take place and how long they should last. Coordinate with the Space Preparation team about equipment or supplies.
- **Talk with curation teams.** Talk with the different teams during class about the work they plan to use in the exhibition and what their themes are. You will need this information for your press release.
- **Get digital images from teams.** If you plan to send image files with your press release (check first to see whether each organization accepts image submissions), get one or more digital images from each team. Images should show the work the team is including in the exhibition.
- **Write and send out your press release.** You may be working in another class to write a press release—if you're not sure, talk to your teacher about it. Check with the media organizations about deadlines. Include all the important details in the press release: exhibition title, location dates, and times and the date and time of the reception. Provide information about the artists and the types of work, and if there will be performances or interactive events, mention them as well.
- **Send out invitations.** Once you have the image files from the Promotional Materials team (ideally, two to three weeks before the event), e-mail and/or mail your invitations. (If you are sending e-mails to a large list, be sure to bcc the recipients so that they don't see everyone else's e-mail addresses.)
- **Distribute printed materials.** Address and send any printed invitations. Have classmates help you place posters and flyers at locations you listed.

Handout 17:
Money Management Team

Exhibition preparation teams are responsible for the same tasks as professional artists who put on an art show. The Money Management team is responsible for identifying all the expenses related to the art exhibition and figuring out how to pay for them. Here are tasks you may need to complete:

- **Talk with your teacher about money.** Ask your teacher whether any money for the exhibition is available. If not, you might hold a fundraiser or try to find donations in order to pay for any expenses.
- **Make a budget for the exhibition.** List all the items you'll need to pay for and what you estimate they will cost. If possible, make your list in a spreadsheet that you can use to keep track of costs and expenditures during the project. Some expenses you might plan for include:
  - Printing costs if you want to have promotional materials printed and distributed (Check with the Promotional Materials team and work together to compare prices between local and online businesses.)
  - Stamps for mailing postcards
  - Any extra materials that the Space Preparation team determines you need, such as light bulbs or supplies for hanging artwork
  - Materials for the interactive parts of the reception, such as paper or art supplies
- **Subtract your estimated costs from the available money.** If you have enough money, great! If not, you will need to find a way to cover your costs.
- **Ask for donations.** You may decide to ask local businesses for donations of materials for the exhibition. For example, you might ask a local copy shop to make copies of your invitations or flyers for free or at a reduced rate.
- **Raise money.** You may decide to have a fundraiser—for example, a car wash, a bake sale, or even a sale of some artwork. Work with the other exhibition preparation teams to figure out when you need to have raised the money for each expense.
- **Communicate with the Promotional Materials team.** You will need to communicate about the money or donations that are available for getting promotional materials printed.

Handout 18:
Exhibition Timeline

Task	Description of Task	Team(s) Responsible	Due Date
1.	Determine the dates of the exhibition and the date and time of the opening reception.		
2.	Locate and secure an exhibition space.		
3.	Create initial ideas about themes for each section of the exhibition (curatorial teams).		
4.	Decide on an initial selection of work for the exhibition.		
5.	Create a title for the exhibition.		
6.	Determine whether money is available for the exhibition.		
7.	Create a budget.		
8.	Design an interactive opening reception.		
9.	Invite people to perform at the opening.		
10.	Take digital photographs of work for invitations and press releases.		
11.	Create a list of media organizations to send press releases to.		
12.	Write a press release.		
13.	Mail the press release.		
14.	Have a fundraiser and/or solicit donations.		
15.	Determine whether invitations will be digital, photocopied, or professionally printed.		
16.	Create lists of addresses for the invitations.		
17.	Create text and images for the invitation.		
18.	Design the invitation.		
19.	Make copies of the invitation or send the invitation file to the printer.		

Task	Description of Task	Team(s) Responsible	Due Date
20.	Make final decisions about themes and works selected for the exhibition.		
21.	Record measurements of the space and make a model.		
22.	Allocate space for each team.		
23.	Create flyers or posters.		
24.	Create an exhibition design (curation teams).		
25.	Determine display and equipment needs.		
26.	Mail and distribute invitations and any other promotional material.		
27.	Clean and prepare the space.		
28.	Gather display needs and other equipment needed for installation.		
29.	Create labels for the work.		
30.	Create artist statements for the work.		
31.	Install works in the space.		
32.	Arrange lighting in the space.		
33.	Design artist or curator presentations for the opening.		
34.	Schedule presentations and performances for the opening.		
35.	Coordinate with performers about logistics for the opening reception.		
36.	Gather equipment and supplies needed for opening.		
37.	Prepare the exhibition for the opening (set out binders with artist statements, make sure performance equipment is set up, etc.).		
38.	Have the opening reception.		
39.	De-install work.		
40.	Clean the space.		

5C: Looking at the Work

1. Look at the work.
Have students lay out the work created up to this point in the course. Have curation teams walk around together and look at the work. Then discuss the following questions from Step 1 of Handout 12:

- What story do you want to tell about your experiences during the year? For example, you might have become involved with a person or group of people when you told their story during Unit 5, or maybe several of you discovered that you were interested in careers in animation.
- What ideas do you want to share with members of the audience? Looking at the works themselves, what ideas or themes do you see running through them?
- Is there an issue you want to involve the audience with? For example, perhaps you worked on art related to a local environmental issue and you'd like to bring that issue to the attention of others and motivate them to act.
- What works are you most interested in including in your section of the exhibition?

2. Have curation teams brainstorm and select a theme.
Give curation teams time to brainstorm themes they are interested in developing and have each team share its ideas with the class for feedback and suggestions of works teams might want to include in their sections.

Have teams choose a tentative theme for their sections of the exhibition and begin a list of the works they would like to include. Tell students that throughout the semester they will continue to think about their theme and the works to include in the exhibition.

Materials Needed

Throughout the Unit

- DVD player and monitor

Part 1: Defining Character

Art Supplies and Other Equipment

- Chart paper and markers
- Computers with Internet access and (optionally) printers (one computer for each student, if possible)
- Colored pencils
- Charcoal pencils
- Paper
- Erasers

Examples of Arts, Media, and Entertainment

- Two 3–5-minute clips from animated movies (see *Media & Resources*)
- Optional: Images of animated characters, people, animals, or objects for students to draw
- Examples of turnaround model sheets (see *Media & Resources*)

Handouts

- **Handout 1: Unit 5 Overview**
- **Handout 2: Character Trait Sheet**
- **Handout 3: Unit 5 Project Description**
- **Assessment Checklist 1: Unit 5 Project**
- **Handout 4: Your Journal Assignments**
- **Handout 5: Character Description Worksheet**
- **Handout 6: Unit 5 Career Information**
- **Handout 7: AME Career Research Project**
- **Handout 8: Interviewing Techniques**

Advance Preparation

- Choose two animated movies and select a 3–5-minute clip from each film.
- Before Activity 1B.3, print examples of turnaround model sheets to show students. (See *Media & Resources* for suggestions.)

Part 2: All About Animation

Aet Supplies and Other Equipment

- Colored pencils
- Charcoal pencils
- Paper
- Erasers
- Optional: Mirrors

Examples of Arts, Media, and Entertainment

- Flipbook (see Advance Preparation)
- Short clips from three movies, each showing a different form of animation (see Advance Preparation)
- Reproduction of an animation cel (see *Media & Resources*)
- Image showing a computer-generated character (see *Media & Resources*)
- Production still from a stop-motion animation feature (see *Media & Resources*)
- Reproductions of several works of art by one artist (see Advance Preparation)
- Sample character studies showing action (see *Media & Resources* for suggestions)
- Optional: Motion-study photographs of humans and/or animals (such as the work of Eadweard Muybridge) (see *Media & Resources*)
- Sample character studies showing expression (see *Media & Resources*)
- Optional: Photographs of people with different facial expressions
- Optional: Mirrors

Handouts

- **Handout 9: Forms of Animation**
- **Handout 10: Researching Animation Styles**

Advance Prepartation

- Select three movies that use different forms of animation: traditional hand-drawn animation, computer-generated animation, and stop-motion animation. Choose a short (but at least five minutes) clip from each to play.

Teacher's Notes: Animated Movie Examples

Animated movies with traditional animation:

- *Bambi*
- *Spirited Away*
- *Beauty and the Beast*

Animated movies with computer-generated animation:

- *Monsters,Inc.*
- *Toy Story*
- *Shrek*

Animated movies with stop-motion animation:

- *Wallace & Gromit: Curse of the Were-Rabbit*
- *Corpse Bride*
- *Chicken Run*

- Purchase a flipbook or create a simple one yourself (See *Media & Resources* for information about making flipbooks.)
- Select several works of art by one artist to display. The artist should have a distinctive style that can be seen across the different examples you choose (for example, you might use the works of Van Gogh or Frida Kahlo).
- Select several animators or animation companies for students to research in Activity 2A.2. Try to choose animators working in a variety of styles. (See *Media & Resources* for a list of animators and links to images of their work.)

Part 3: Characters in Three Dimensions

Art Supplies and Other Equipment

- Wire
- Natural Clay
- Paper
- Foam
- Materials to create texture in clay (such as sand, beads, or feathers)
- Wire cutters (if students are using wire)
- Figurine, action figure, or stuffed toy to reproduce (see Advance Preparation)
- Drawing tools and paper
- Non-drying modeling clay
- Modeling tools
- Sculpting boards
- Plastic bags
- Spray bottle and sip containers (if working with natural clay)
- Optional: Materials for creating armatures, such as wire, masking tape, balsa wood bases, and glue
- Students' character descriptions, character sketches, turnaround model sheets, and journals

Examples of Art, Media, and Entertainment

- Examples of character maquettes from animated movies (see Advance Preparation)
- 2-D drawing of the character you've chosen (see Advance Preparation)
- Movie clip starring the character (see Advance Preparation)
- Reproductions of human or humanlike sculptures, one for each team (see Advance Preparation)

Handouts

- **Handout 11: Analyzing Sculpture**

Items Students Need to Bring

- Students' turnaround model sheets from Part 1; character studies from Part 2; maquettes from Part 3; and animations from Part 4
- Students' copies of **Assessment Checklist 1: Unit 5 Project** from Part 1

Advance Preparation

- Select several examples of character maquettes to display (see *Media & Resources*).
- Choose one maquette to focus on. Print a 2-D drawing of the character and choose a movie clip starring the character. You will have three representations for the character: maquette, 2-D drawing, and animation.
- Select reproductions of human (or human-like) sculptures, one for each student team. Provide the sculpture's title, artist's name, if possible, background information that you can share if teams have difficulty interpreting the sculptures (see *Media & Resources*).
- For Activity 3B.2, select a figurine, action figure, or stuffed doll for students to reproduce as you teach them sculpting techniques. For this introductory project, choose a character with simple features and not much detail.
- Decide whether students will create bust or full figure maquettes.

Part 4: Presenting the Character

Art Supplies and Other Equipment

- Pencils
- Colored pencils
- Pens
- Notepads with thin paper
- Blank index cards or other somewhat stiff paper (optional)

Examples of Art, Media, and Entertainment

- Sample flipbook from Part 2

Part 5: Introducing the Art Exhibition

Handouts

- **Handout 12: Art Show! Project Description**
- **Handout 13: Exhibition Task List (two copies for each student)**
- **Handout 14: Space Preparation**
- **Handout 15: Promotional Materials Team**
- **Handout 16: Public Relations Team**
- **Handout 17: Money Management Team**
- **Handout 18: Exhibition Timeline Team**

Items Students Need to Bring

- Students' completed works from throughout the course (the actual works or digital representations—see Advance Preparation)

Advance Preparation

- Review **Handout 12: Art Show! Project Description** and determine the size and scope for the student art exhibition-- a small-scale exhibition for other students and faculty or a more formal exhibition for community members and the public. If you plan to hold the exhibition at school, consider where and when to hold it and make appropriate arrangements for reserving the space.
- Decide whether you want to include the optional Money Management team, which is responsible for finding funds and managing such expenses as food for the reception, printing of promotional materials, or exhibition-related supplies,
- Determine how students will display their work in Activity 5C. You can have students bring the actual work, or, if students have already taken work home, you can provide the use of a digital camera so they can photograph the work.
- Look at **Handout 18: Exhibition Timeline**. This handout contains a sample list of tasks to include on a master timeline that you will use with students to coordinate work related to the exhibition. Modify the list to match your needs and setup and print copies for students.

Media & Resources

These recommended Web sites have been checked for availability and for advertising and other inappropriate content. However, because Web site policies and content change frequently, we suggest that you preview the sites shortly before using them.

Media & Resources are also available at http://dma.edc.org and at http://dmamediaandresources.pbworks.com, a Wiki that allows users to add and edit content.

Part 1: Defining Character

Activity 1B: Sketching the Character

Sample Turnaround Model Sheets

How to Draw Elfquest: Character Charts
www.elfquest.com/fun/CharModels2.html

Klasky Csupo Animation Lessons: Turnarounds
www.cooltoons2.com/various/artlessons/turnarounds.html

Teen Titans Art and Design: Original Turnarounds and Model Sheets
www.titanstower.com/source/animated/artmodelsheets.html

Part 2: All About Animation

Activity 2A: Forms of Animation

Reproductions of Animation Cels

Animation Art Gallery
www.animationartgallery.com

Disney production cels at the Cartoon Factory
www.cartoon-factory.com/data/Disney/Original_Production_Cels/

Images of Computer-Generated Characters

Beck, J. (2008). *The Art and Making of Madagascar: Escape 2 Africa*. San Rafael, CA: Insight Editions.

Hauser, T., & Stanton, A. (2008). *The Art of* WALL-E. San Francisco: Chronicle Books.

Miller-Zarneke, T. (2008). *The Art of* Kung Fu Panda. San Rafael, CA: Insight Editions.

Stop-Motion Animation Production Stills

Wallace and Gromit: The Curse of the Were-Rabbit, Gallery
www.wallaceandgromit.com/films/wererabbit/gallery.html

Shaun the Sheep: Meet the Flock
www.shaunthesheep.com/flock/

The *Corpse Bride* Official Website
www.corpsebridemovie.warnerbros.com

Animation Studios

Aardman Animations
www.aardman.com/

Anima Estudios (in Spanish)
www.animaestudios.com/

Blue Sky Studios
www.blueskystudios.com/content/index.php

DreamWorks Animation SKG, Inc.
www.dreamworksanimation.com/

Klasky Csupo, Inc.
www.klaskycsupo.com/

Sony Pictures Animation
http://sonypicturesanimation.com/

Studio Ghibli, Inc.
www.onlineghibli.com/

Nausicaä (a site devoted to Studio Ghibli animator Hayao Miyazaki)
www.nausicaa.net/wiki/Main_Page

Pixar Animation Studios
www.pixar.com/

Walt Disney Animation Studios
www.disneyanimation.com/

Warner Bros. Animation
www.warnerbros.com/

Independent Studios and Animators

Note: Individual sites may change or may not be renewed by the artists. You may wish to find additional independent animators. A good resource is Aniboom, a Web site that showcases independent short films from animators around the world: www.aniboom.com/.

Alex Budovsky
www.figlimigliproductions.com

Alphanim
www.alphanim.com/

Asterisk
www.asteriskpix.com/

Erik Westlund
www.ewestlund.com/

Fine Arts Films
www.fineartsfilms.com/

Green Dude (Joe Gorsky)
www.greendude.com/home.html

Karen Aqua
http://aquak.home.att.net/

Pixel Nitrate (Joaquin Baldwin)
www.pixelnitrate.com/

Priestley Motion Pictures (Joanna Priestley)
www.primopix.com/

Sally Cruikshank
www.youtube.com/user/laughingsal

Activity 2B: Action and Expression Character Studies

Character Studies

Character Design Blogspot: From Concept to Final. Round 5 (*The Jungle Book*)
Character studies for the characters of Shere Khan, The Monkey, and The Girl.
http://characterdesign.blogspot.com/search?q=Jungle+Book

Baby Pegasus, from Concert Feature F-128 by Albert Hurter
www.animationarchive.org/pics/concept07-big.jpg

Jiminey Cricket Undersea—Seq.10, from Pinocchio F-3 by Albert Hurter
(These character studies were lent from the Van Eaton Galleries to the ASIFA Hollywood Animation Archive, www.animationarchive.org/2006/09/media-two-disney-concept-artists.html.)
www.animationarchive.org/pics/concept03-big.jpg

Donald Duck, from Production 2043 by Bill Roberts
www.animationarchive.org/pics/miceduck07-big.jpg

Unititled (Minnie and Mickey Mouse)
www.animationarchive.org/pics/miceduck01-big.jpg

Donald's Date (Daisy and Donald Duck)
(These character studies were lent from the Van Eaton Galleries to the ASIFA-Hollywood Animation Archive, www.animationarchive.org/labels/model%20sheet.html.)
www.animationarchive.org/pics/miceduck11-big.jpg

Knight Clean-Up Model Sheet, from The Reluctant Dragon 2005, 1940
www.animationarchive.org/pics/model103-big.jpg

Revised Fox Model, Pinocchio F-3, 1939
www.animationarchive.org/pics/model109-big.jpg

Model Sheet Pinocchio F-3
(These character studies were lent from the Van Eaton Galleries to the ASIFA-Hollywood Animation Archive, www.animationarchive.org/2006/08/media-reluctant-dragon-and-pinocchio.html.)
www.animationarchive.org/pics/model106-big.jpg

The Art of Miyazaki's Spirited Away (book) by Hayao Miyazaki
You can find sample pages of the book, including character studies of Chihiro Ogino, at this page: http://animeaffairs.wordpress.com/2008/08/10/the-art-of-miyazakis-spirited-away/.

Character study of Pebbles Flintstone by Dick Bickenbach (from Hanna-Barbera Studios, The Flintstones)
www.animationartgallery.com/HBD/HBDVR3.html

Donald Duck Model Sheet, ©Disada Productions Ltd.
www.disada.com/text/disney/dissh250.htm

Human and Animal Motion Studies

Masters of Photography, Eadweard Muybridge
www.masters-of-photography.com/M/muybridge/muybridge.html

Motion Study at the Smithsonian Photography Initiative
www.photography.si.edu/SearchImage.aspx?k=motion study&id=374

Part 3: Characters in Three Dimension

Activity 3A: Seeing in 3-D

Maquettes

Hester Studios
Hester Studios portfolio examples of clay sketches, design maquettes, and CGI models used in major films and animation; these examples allow the viewer to see the differences between these types of sculpture and how they are used (see in particular "Design Maquettes," "Clay Sculpture," and "Digitizing Models").
www.hesterstudios.com/home.htm

How Artists Use Maquettes: Small Scale Models Can Be Used to Preview Large Creative Ideas, c. Jo Murphy (from Visual Arts Education, Suite 101)
A very good, simple explanation of why maquettes are used professionally, and how they can be used in art education.
http://visual-arts-education.suite101.com/article.cfm/how_artists_use_maquettes

Damon Bard Interview (from the Character Design Blogspot)
Damon Bard describes the maquette process, materials that go into maquette making, and how maquettes are used. At the end of the interview, there is a very large gallery of Damon Bard's maquettes, from films such as *Ratatouille*, *Surf's Up*, *The League of Extraordinary Gentlemen*, *Madagascar*, *Star Wars*

Episode III, *The Bee Movie*, and *Coraline*. The images can be opened in a larger window.

http://damon-bard-interview.blogspot.com/

More examples of Damon Bard's maquettes can be found in his Web portfolio:

www.bardsculpturestudio.com/portfolio/Sculpture.

Digital Media FX Maquettes: Several individual examples of animated characters

www.digitalmediafx.com/maquettes.html

Building Character: From Concept Studies to Maquettes and Animation

From Concept Art to Finished Puppets: An Interview with Graham G. Maiden, Puppet Fabrication Supervisor on Tim Burton's *Corpse Bride*
This page includes concept art by Tim Burton and character studies by Carlos Grangel, as well as sculptures and puppets.

www.animationartconservation.com/corpse_bride.html

Making His Mark in Clay: An Interview with Nick Park, Creator of Wallace and Gromit and Co-Director of DreamWorks and Aardman's *Wallace & Gromit: The Curse of the Were-Rabbit*
This page includes concept art, character studies, film stills, and photos showing how the film was made.

www.animationartconservation.com/wallace_gromit.html

The Art of Making Pixar's Ratatouille
This page includes digital art, concept art, character studies, screen shots, and an interview with Brad Bird.

www.animationartconservation.com/making_ratatouille.html

Sculpture that Incorporates Human or Humanoid Figures

California Artist, 1982, by Robert Arneson

http://collections.sfmoma.org/Obj5$6377

The Presidents, Mount Rushmore, 1927–1941 by George Borglum and Son
Photo by Ed Menard Ranger, 2007

www.nps.gov/mwr/customcf/apps/pgallery/photo.cfm?pid=3829&aid=265&gid=265

Construction of Mount Rushmore:

http://en.wikipedia.org/wiki/Construction_of_Mount_Rushmore

The Prince Impérial with His Dog Néro, 1912 by Jean-Baptiste Carpeaux

www.metmuseum.org/toah/hd/carp/ho_1972.79.htm

The Funeral, 1995 by Marisol

www.museum.oas.org/exhibitions/museum_exhibitions/marisol/sculptures_03.html

580 California Street Sculpture by Muriel Castanis

http://sanfrancisco.about.com/od/sanfranciscophoto1/ig/Financial-District/Muriel-Castanis-Sculptures.htm

Death Cart, 1986 by Luis Tapia
http://delcorazon.si.edu/galeria_10.cfm

La Pelona, 1980 by Ester Hernández
http://mati.eas.asu.edu:8421/ChicanArte/unit2/ester/hernandez.html

The Little Fourteen-Year-Old Dancer, cast in 1922 from a mixed-media sculpture modeled ca. 1879–80 by Hilaire-Germain-Edgar Degas
www.metmuseum.org/toah/hd/dgsb/ho_29.100.370.htm

Big Baby, 2003 by Nina Levy
www.ninalevy.com/aldrichbigbaby.htm

Maquettes in Fine Arts

Model for California Artist, 1982, glazed ceramic, 12 1/4 x 4 3/4 x 3 3/4 inches by Robert Arneson
www.unl.edu/scarlet/archive/2004/02/12/story7.html
from Scarlett, 2/12/2004: 2 events usher in exhibition

Compare to:

California Artist, 1982, stoneware with glazes, 68 1/4 x 27 1/2 x 20 1/4 inches by Robert Arneson
http://collections.sfmoma.org/Obj5$6377

Maquette for Fallen Warrior, 1956 by Henry Moore
www.tate.org.uk/servlet/ViewWork?workid=20885

Compare to:

The Falling Warrior, 1956–1959
www.liverpoolmuseums.org.uk/picture-of-month/displaypicture.asp?venue=2&id=34

Falling Warrior, 1956–1957
www.henry-moore-fdn.co.uk/matrix_engine/content.php?page_id=3755

Inner Eye (Maquette III), 1952 by Lynne Chadwick
www.tate.org.uk/servlet/ViewWork?workid=2141

Additional Resources for Teachers

Activity 2A: Forms of Animation

How to Make Flipbooks

Short Courses: Flipbooks—Handheld Animations
www.shortcourses.com/display/display3-8.html

abcteach: Flipbooks
www.abcteach.com/free/f/flipbook_m.pdf

Related Curriculum and Writing

PBS, How Art made the World: Picturing People
www.pbs.org/howartmadetheworld/resources/lesson1/
Art:21, Online Lesson Library: Characters and Caricatures
www.pbs.org/art21/education/individuals/lesson1.html

Resources from *The Visual Experience*, Third Edition

Crown (ade), early 20th century, Yoruba, Nigeria, Africa

Daphne, 1986 by Muriel Castanis

Face Mask (Pwo), early 20th century, Chokwe Peoples, Democratic Republic of the Congo

Guardian Figure, c.1200, Kamakura Period, Japan

Jamb figures from Royal Portal, Chartres Cathedral, begun 1194, France

Roman Gentleman, c.120, Roman

Shiva as the Lord of the Dance, c.950–1000, Tamil Nadu, India

The Discobolos (Discus Thrower), 5th century BCE, Myron of Athens

The Presidents, 1927–1941, George Borglum and Sons

The Thinker (Le Penseur), model 1880 and cast 1901, Auguste Rodin

Standards

VPA Visual Arts Content Standards and CTE AME Industry Sector Media, and Design Arts Pathway Content Standards

- Research and analyze the work of an artist and write about the artist's distinctive style and its contribution to the meaning of the work. [VPA 1.3, AME A1.0(1.3)]
- Analyze the material used by a given artist and describe how its use influences the meaning of the work. [VPA 1.5, AME A1.1 (1.5)]
- Compare and contrast similar styles of works of art done in electronic media with those done with materials traditionally used in the visual arts. [VPA 1.6, AME 1.1 (1.6)]
- Solve a visual arts problem that involves the effective use of the elements of art and the principles of design. [VPA 2.1, AME 1.2 (2.1)]
- Identify and describe the role and influence of new technologies on contemporary works of art. [VPA 3.2, AME A1.3(3.2]

CTE AME Industry Sector Foundation Standards

4.0 Technology

Students know how to use contemporary and emerging technological resources in diverse and changing personal, community, and workplace environments:

4.1 Understand past, present, and future technological advances as they relate to a chosen pathway.

5.0 Problem Solving and Critical Thinking

Students understand how to create alternative solutions by using critical- and creative thinking skills, such as logical reasoning, analytical thinking, and problem-solving techniques:

5.3 Use critical-thinking skills to make informed decisions and solve problems.
5.4 Use the elements of the particular art form to observe, perceive, and respond.
5.5 Understand the application of research and analysis skills to the creation of content.

7.0 Responsibility and Flexibility

Students know the behaviors associated with the demonstration of responsibility and flexibility in personal, workplace, and community settings:

7.7 Develop a personal commitment to and apply high-quality craftsmanship to a product or presentation and continually refine and perfect it.

10.0 Technical Knowledge and Skills

Students understand the essential knowledge and skills common to all pathways in the Arts, Media, and Entertainment sector:

10.6 Know the appropriate skills and vocabulary of the art form.
10.7 Understand and analyze the elements of the art form.
10.8 Know key influences on the origin and evolution of art, technology, media, and performance (e.g., the influence of historical styles on contemporary idioms).
10.12 Use a variety of strategies (e.g., personal experience, discussion, research) to comprehend, interpret, evaluate, and appreciate source and technical documents and materials.

11.0 Demonstration and Application

Students demonstrate and apply the concepts contained in the foundation and pathway standards.

Bibliography

Debruge, P. (2008). *Panda* designer breaks it down: How Nicolas Marlet mastered art of *Kung Fu*. *Variety.com*. Retrieved November 13, 2008, from www.variety.com/article/VR1117986536.html?categoryid=1043&cs=1.

Interview with Gini. (2005, 2008). *Pixar Artist's Corner*. Retrieved November 13, 2008, from www.pixar.com/artistscorner/gini/interview.html.

Milnes, K., & Lee, K. (2006). *Multimedia occupations: The convergence of art and technology in the age of new media*. Los Angeles: Entertainment Economy Institute.

Skillset. (2007–2008). *Skillset careers: Job profiles*. Retrieved November 13, 2008, from www.skillset.org/careers/jobs/job_profiles/.

Sly, R. (2008). Damon Bard interview. *The Character Design Blogspot*. Retrieved November 11, 2008, from http://damon-bard-interview.blogspot.com/.

Taylor, T. A., & Parish, J. R. (2007). *Career opportunities in the Internet, video games, and multimedia*. New York: Checkmark Books.