Learning Guide

Animation

We hope you enjoyed learning all about the history and science of animation in this episode. Extend your learning with this print-ready Learning Guide!

What's in this Learning Guide?

Get Set to Listen:
Check your knowledge before and after listening to the episode by determining if statements are TRUE or FALSE.

Vocabulary

Discussion Questions
CCSS.ELA-Literacy.SL.3-8.1; CCSS.ELA-Literacy.SL.3-8.3

Writing Prompts and Extension Projects
CCSS.ELA-Literacy.W.3-8.1; CCSS.ELA-Literacy.W.3-8.2; CCSS.ELA-Literacy.W.3-8.3; CCSS.ELA-Literacy.W.3-8.7; CCSS.ELA-Literacy.W.3-8.6

Storyboarding
CCSS.ELA-Literacy.W.3-8.3; CCSS.ELA-Literacy.W.3-8.6

Keaton vs. Looney Tunes - Venn diagram and project ideas
CCSS.ELA-Literacy.W.3-8.3; CCSS.ELA-Literacy.W.3-8.8

Additional Resources and Book List

The Children's Hour
kids public radio

https://www.childrenshour.org/animation/

Get set to listen.

1. Before listening!

Read each statement and write TRUE or FALSE based on what you already know.

2. After listening!

Based on what the experts said in the episode, write TRUE or FALSE.

Before Listening	TRUE or FALSE?	After Listening
	1. In *Snow White*, animators had to draw 24 pictures, just to make a single second of the film!	
	2. Due to unfair hiring practices, women were not allowed to be animators at Disney until 1930.	
	3. Walt Disney was a famous animator.	
	4. *Looney Tunes* characters were based on silent film actors like Buster Keaton and Charlie Chaplin.	
	5. *Toy Story* was the first completely computer generated full length film to ever be made.	
	6. **3D animation** involves drawing many slightly different versions of the same picture, and then playing them in rapid succession to give the illusion of movement.	
	7. Animation first began when people started making animated movies.	

What did you learn?

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Get set to listen.

Answer key

1. TRUE
2. FALSE. Due to unfair hiring practices, women were not allowed to be animators until ***1941***! However, *all* the inkers and painters responsible for drawing the characters with thick black lines and vibrant colors on cell sheets for the final animations were women. They were rarely given credit for this important work.
3. FALSE. Walt Disney was *not* an animator himself. His talent was finding people who could animate his ideas.
4. TRUE
5. TRUE
6. FALSE. **3D animation** involves using computers to make 3D pictures that move like real life, by building shapes, adding details, and turning them into animations. **2D animation,** a.k.a. **traditional animation**, involves drawing many slightly different versions of the same picture, and then playing them in rapid succession to give the illusion of movement.
7. FALSE Animation as an idea was around long before movies were made. It has its roots in the magic lantern, a tool that projected pictures on a wall by using light, a curved mirror, and a lens to make pictures from glass slides appear big so everyone could see them.

Vocabulary

traditional animation:	drawing many slightly different versions of the same picture, and then playing them in rapid succession to give the illusion of movement.
the magic lantern:	a tool that projected pictures on a wall by using light, a curved mirror, and a lens to make pictures from glass slides appear big so everyone could see them.
zoetrope:	a spinning toy that shows pictures in a row. When it turns and you look through the slits, the pictures seem to move like a real animation.
cel animation:	clear sheets let characters move without redrawing the background, saving time and making cartoons smoother
storyboard:	where artists draw the most important moments in a story and plan out how the story will progress and look.
frames:	still pictures that are played in rapid succession to create the illusion of movement
inkers and painters:	in traditional animation, people who took drawings made by animators and transferred them to cell sheets, adding thick black lines and colors
3D animation *a.k.a. CGI or computer animation*	using computers to make 3D pictures that move like real life, by building shapes, adding details, and turning them into animations.
armature	like a hidden skeleton inside a 3D computer character that helps it move, kind of like how a puppet has strings to make it move

Discussion Questions

1. What's your favorite cartoon or animated movie, and why do you like it?

2. How do you think animators make characters look like they're moving?

3. Why might artists use computers instead of drawing everything by hand?

4. How do you think music and sound effects change the way we feel about an animation?

5. If you could create your own animated character, what would they look like and what would they do?

6. Why do you think backgrounds are important in animation?

7. How can animation tell a story differently from live-action movies?

8. What's one thing you'd like to learn about how animation is made?

Group Discussion Strategies

Think Pair Share:
1. Individually, student writes down their answer to a question.
2. Students pair up and tell each other their answers.
3. Teacher calls for volunteers to share with the whole class their answer (and/or their partner's answer). Teacher notes key words/phrases on board.

Round Robin:
1. Teacher poses one question (written on top of a large page) to students, who are assembled into small groups of 3 or 4.
2. Students take turns brainstorming the answers. The recorder of the group writes down all answers.
3. The leader reads the group's ideas to the entire class. Teacher moderates.

Writing Prompts

Process Prompts:

Imagine you are an animator in the 1930s. Describe a day at work creating a cartoon using only hand-drawn cels.

Extension: *Research and include at least three real tools or techniques used in 1930s animation.*

Explain how your favorite animated movie was made, from idea to finished film.

Extension: *Compare the process to how another movie (animated or live-action) was made.*

Creative Writing Prompts:

Write a story about a character you created who suddenly comes to life outside the screen.

Extension: *Make a storyboard (see "Storyboard" activity in this Learning Guide).*

Invent a new animated series. Explain the plot, characters, and art style.

Extension: *Design a poster or create a short script for the first episode.*

Persuasion Prompts:

Imagine you're pitching a new animated movie to a studio. Write the pitch.

Extension: *Students present their pitches to the class and vote on an idea to develop further.*

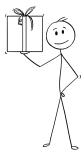
Write about how music changes the way an animation feels and give examples.

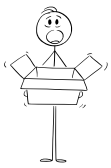
Extension: *Choose a short clip from an animation and imagine a different soundtrack—describe how it changes the mood.*

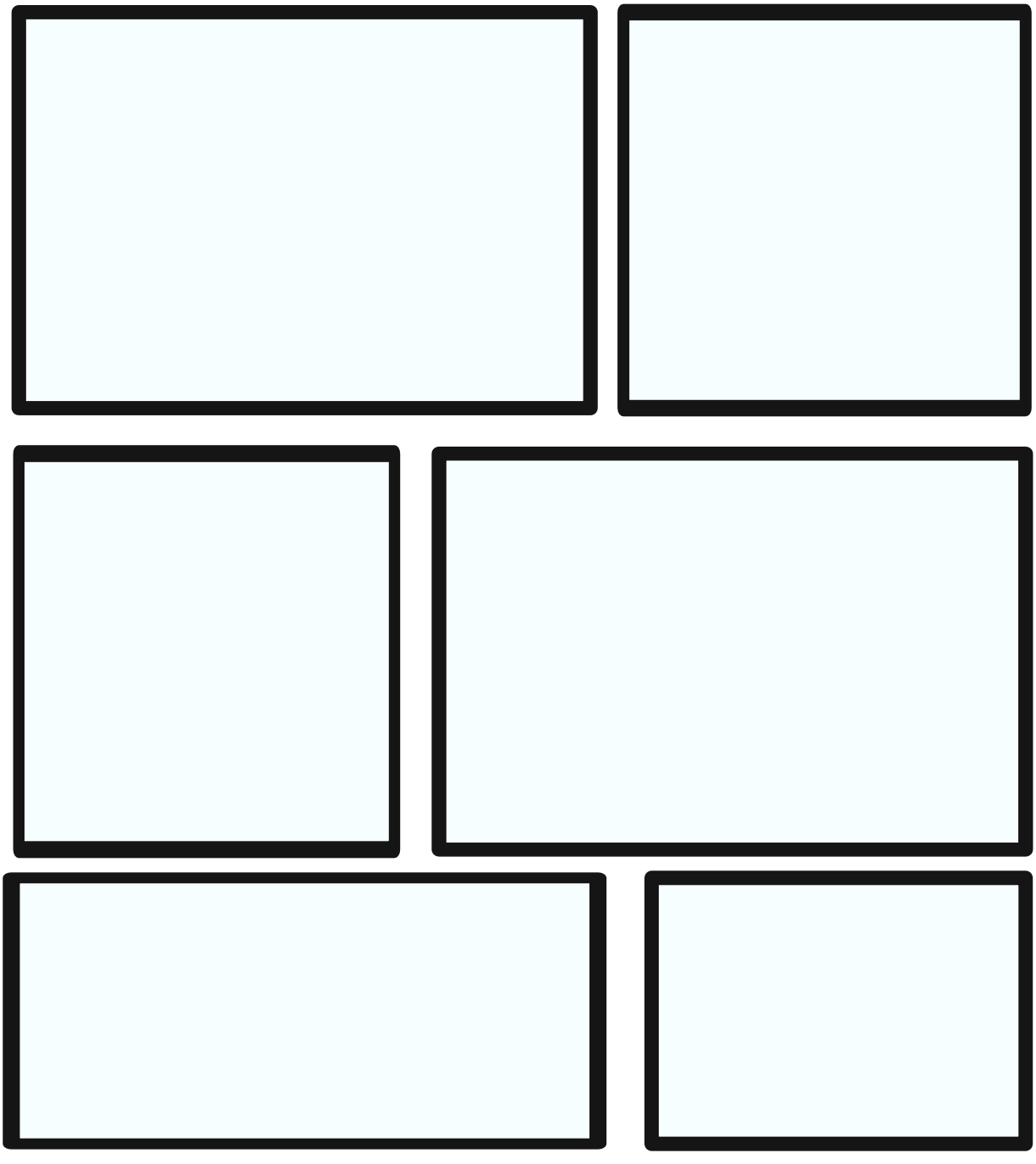
Storyboarding

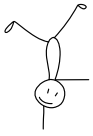
Animators use storyboards to quickly lay out the most important moments in a story and plan out how the story will progress and look. You can use storyboards to map out the important parts of your real or imagined story.

Extension: *Use the storyboard to* ***create your own flipbook*** *using traditional animation techniques.*



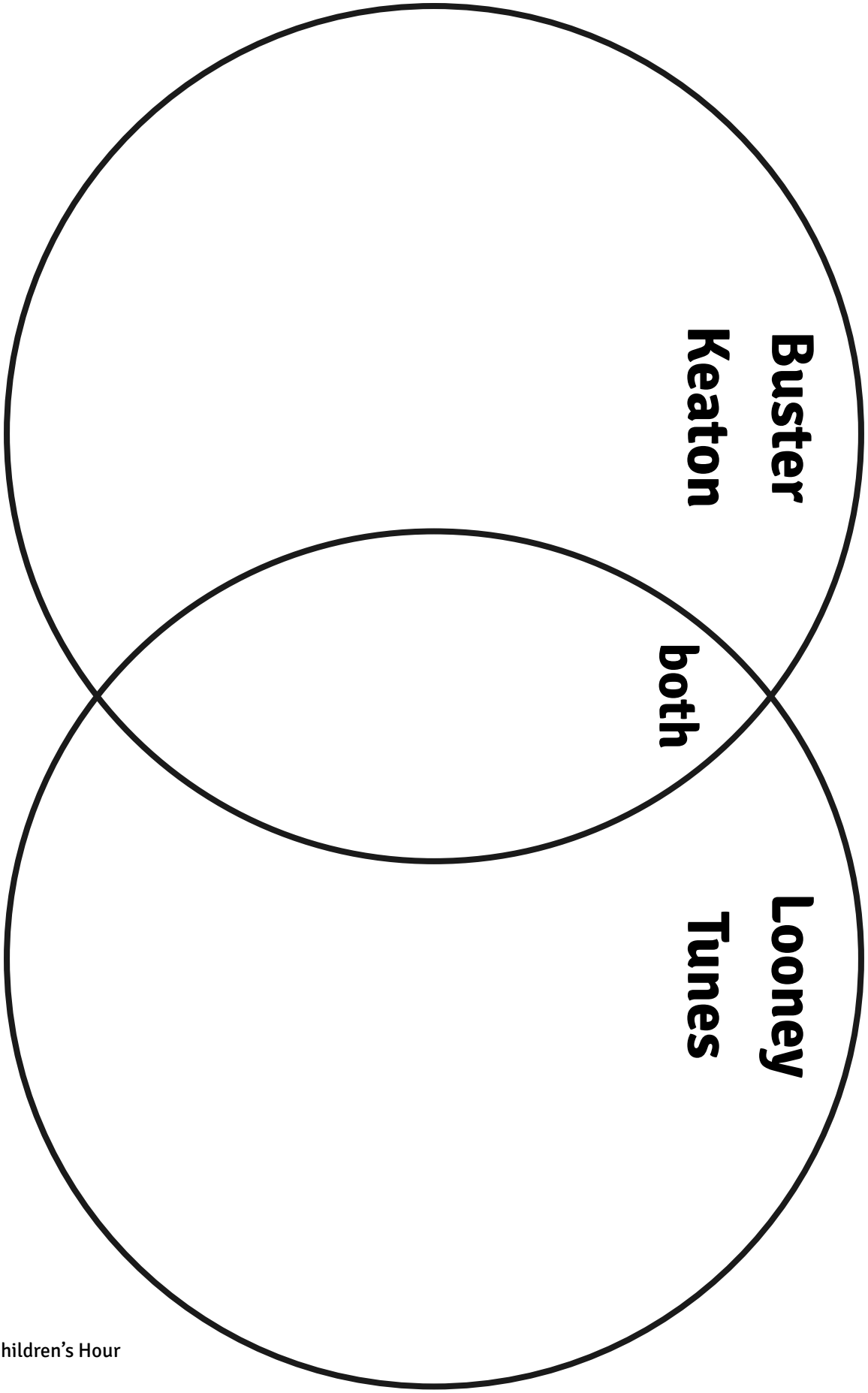




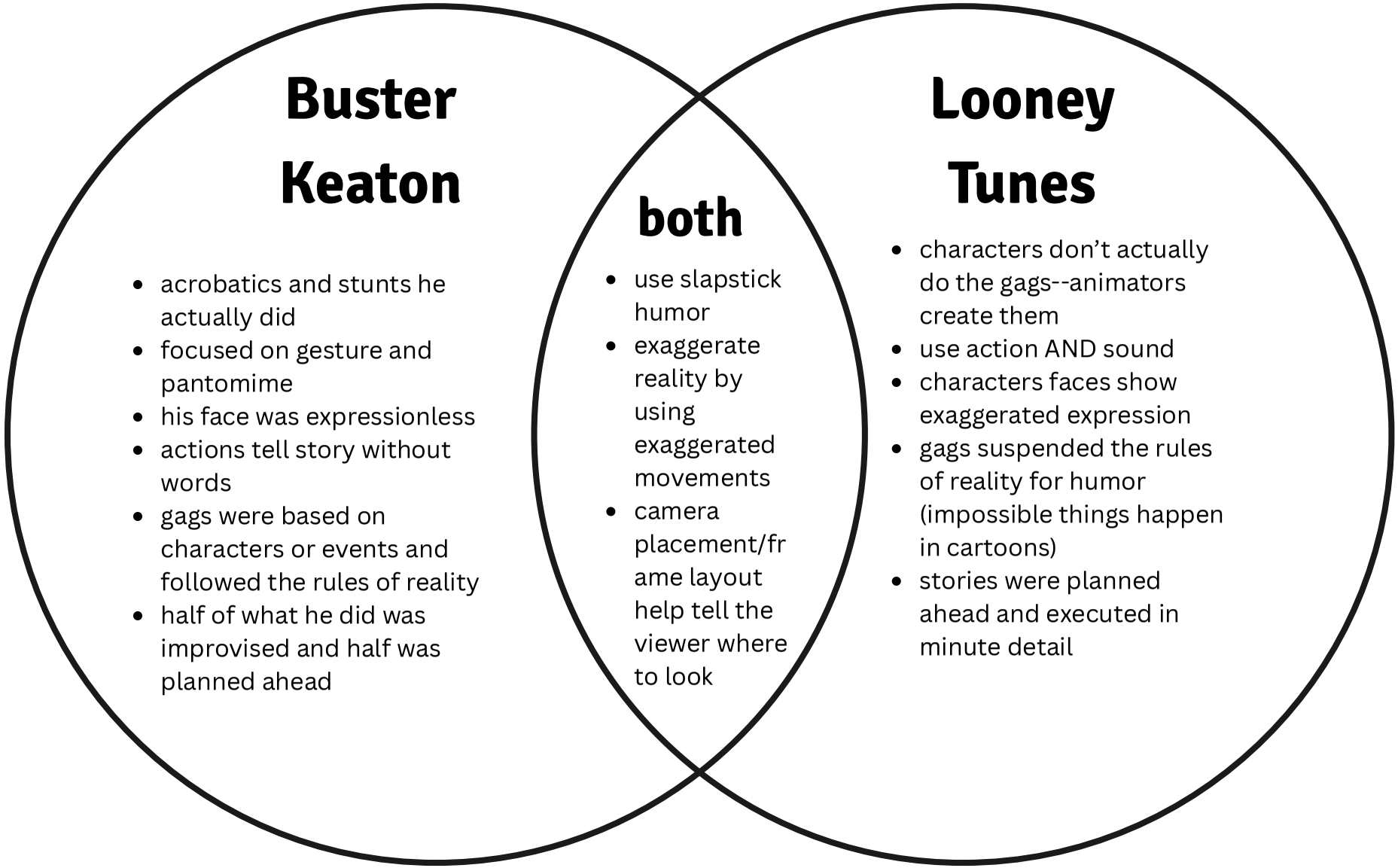


Keaton vs. Looney Tunes

Name_____



Keaton vs. Looney Tunes - Teacher's Guide



Watch the videos **Buster Keaton: The Art of the Gag** and Looney Tunes' **Classic Bugs Bunny and Daffy Duck Compilation**.
Use this Venn diagram to compare and contrast how the different creators told humorous stories.

Extensions:

- Imagine Buster Keaton suddenly finds himself inside a Looney Tunes cartoon. What would happen? Write a short story describing his adventures.
- Students work in pairs or groups to act out a short silent skit (no talking, just gestures and physical humor) in the style of Buster Keaton. Then try a skit in the wild, exaggerated style of Looney Tunes.
- If Buster Keaton were alive today, would he be making YouTube videos, TikToks, or still full movies? Write about how he might use modern technology for comedy.

Additional Resources

A Timeline: The Evolution of Animation
Read about the roots and development of animation over time.

The Museum of American Magic-Lantern Shows
Make your own magic lantern and slides that really work!

Make Your Own Zoetrope
Watch this video from the Chula Vista Public Library to learn how.

Learning by Inquiry: Easy and Creative Stop Motion Animation Project
A fun and creative way to do storytelling! This project was designed for upper elementary students, but could be modified for other grade levels.

Disney's 12 Principles of Animation: Bringing Characters to Life:
This article by the New York Film Academy details the 12 principles of animation developed by Disney.

Disney's 12 Principles of Animation:
This 24-minute video describes the 12 principles of animation identified by Disney animators.

How to Make a Flipbook:
This 8-minute tutorial gives the basics and demonstrates how to make 3 simple flipbook animations using notecards, a light table, and a binder clip.

The Science Behind Pixar
Learn about how animators use algorithms to animate, what an animator does, create a short animation using transition curves and frame number, read interviews with Pixar animators, and much more!

Videos: Early Animation

Gertie the Dinosaur (1914)
Arguably, the first animated cartoon with a fully developed character

Felix the Cat in Germ Mania (1927)
The first famous animated character

Oswald the Lucky Rabbit (1928)
Walt Disney's first famous animated character

Steamboat Willie (1928)
The first animated video that had sound that matched the animation.

Looney Tunes: **Classic Bugs Bunny and Daffy Duck Compilation (1940s, 50s, 60s)**

Buster Keaton: The Art of the Gag (1917-28)
See how the classic silent film actor Buster Keaton inspired many principles of animation.

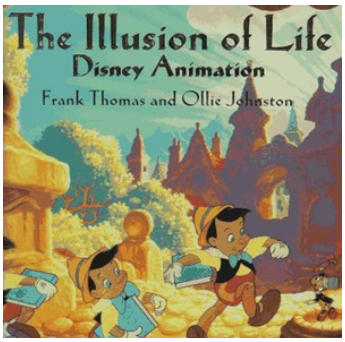
Book List

Animation Lab For Kids: Fun Projects for Visual Storytelling and Making Art Move!
by Sara Green

Suitable for students in grades 3-12, these projects can be adapted for many different skill levels. Adult guidance is suggested.

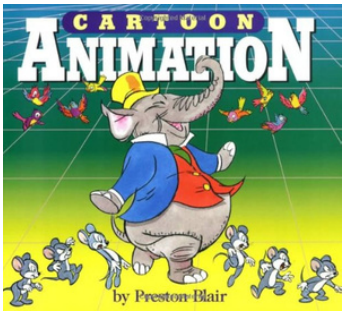
Animation
by Sara Green

Available on Epic, this book looks at how animated films are made, highlights well-known works, and profiles pioneers like Walt Disney and Hayao Miyazaki.



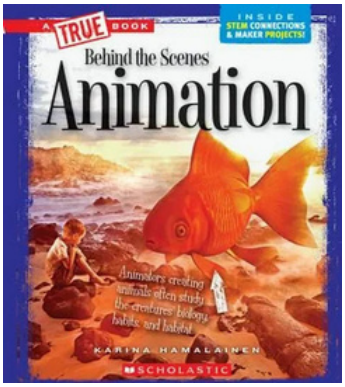
The Illusion of Life: Disney Animation
by Frank Thomas and Ollie Johnson

Two longtime Disney animators share the inside story of the development of the 12 principles of animation, which form the foundation of modern animation practices.



Cartoon Animation
by Preston Blair

An explanation and demonstration of a range of techniques for creating animated movement, showing how to bring characters—whether people, animals, or objects—to life.



Animation (A True Book: Behind the Scenes)
by Karina Hamalainen

From Steamboat Willie to Finding Dory, animation has evolved greatly, but animators' dedication to storytelling remains. For grades 3–5, this book explores the history, technology, and process behind creating animated films.