



Dear Educator,

Welcome to *Dinosaurs: Reel & Robotic!*

This guide includes an exhibition preview, links and suggestions for activities. These activities may be adapted for multiple grade levels.

References to California Content Standards are included where appropriate.

If you have questions related to this guide, please call the Museum Education Department at 619.255.0311 or email saglietti@sdnhm.org.

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Art and Science meet at the movies!

Mesozoic fauna make great movie stars. This exhibition examines the junction between scientific evidence and artistic interpretation and how this confluence has engaged popular imagination.

Students will have the opportunity to:

- Examine eight sensational Mesozoic celebrities represented by scientifically accurate robotic models.
- Analyze artistic interpretations of scientific evidence represented by a stunning collection of movie posters.
- Trace the advances in special effects from silent films to the present with a special emphasis on stop-motion photography.

Pre-visit Activities

1. Species Specialties

Your students will see these life-like robotic dinosaurs:

Parasauralophus
Ankylosaurus
Stegosaurus
Triceratops
Tyrannosaurus rex
Pteranodon

For additional information about these dinosaurs, when and where they lived, visit these webpages:

http://www.sdnhm.org/exhibits/dinosrr/featured_dinos.html
<http://www.enchantedlearning.com/subjects/dinosaurs/index.html>

For a more complete view of prehistory, visit:

<http://www.sdnhm.org/fieldguide/fossils/timeline.html>.

Each of these creatures demonstrates a set of specialized adaptations.



- Spend some time discussing the concept of adaptation with your students. What are the obvious adaptive features of some familiar modern animals? For example, how is a skunk's body adapted to its environment? What about a sea lion? A hummingbird?
- Have your students design an imaginary animal to star in a new adventure movie. Students should write a brief summary of the film's plot. What is the natural habitat for this new animal? How well would it adapt if it were moved to a new one? Older students may be familiar this narrative thread in *King Kong*. Younger students will enjoy reading *How I Captured a Dinosaur* and *Albert Goes to Hollywood* by Henry Schwartz.

California Content Standards:

Grade 3 Life Science 3

Grade 5 Visual Arts—Creative Expression 2.7

Grade 5 English Language Arts—Writing 1.1

2. Getting to Know Hollywood's Big Stars

Your students will see the artwork of several important artists in the fields of movie-making and prehistoric representation. Allow your students to do a web search for:

Charles R. Knight <http://www.charlesrknight.com/>

Willis O'Brien <http://www2.netdoor.com/~campbab/Obie.html>

William Stout <http://www.williamstout.com/>

Prior knowledge of the individuals behind the art work is a powerful engagement tool. Have students write a team biography. Each student on the team is responsible for one paragraph and one visual aid about the artist or his work. The paragraphs and visuals should link together and form a cohesive 3–5 minute oral presentation.

California Content Standards:

Grade 2 Visual and Performing Arts—Historical and Cultural Perspective 3.1

Grade 3 English Language Arts—Listening and Speaking 2.1; Visual and Performing Arts—Historical and Cultural Perspective 3.1; Visual and Performing Arts—Connections, Relationships, Applications 5.4

Grade 4 English Language Arts—Writing 1.2

Grade 5 Visual and Performing Arts—Historical and Cultural Perspective 3.4; Visual and Performing Arts—Connections, Relationships, Applications 5.3



3. Literature challenge

Sir Arthur Conan Doyle's novel, *The Lost World*, can be read online at http://www.online-literature.com/doyle/lost_world/1/. This novel is the basis of the movie *The Lost World*, featured in *Dinosaurs: Reel & Robotic*.

During Your Visit

Learning how to enjoy a museum experience is an important academic skill. A good visit balances purpose and pleasure. Before your visit is the perfect time to prepare your students for any post-visit activities you have planned. This allows them to focus and to thoughtfully gather the information and ideas they will need later. The students should feel free to make independent inquiries and to reflect.

The exhibition has been thoughtfully designed to be engaging and does not require supplemental in-gallery curriculum in order to provide an educational experience. However, if you would like to preview the exhibition in order to prepare museum visit activities in advance you may do so at anytime before your scheduled visit. Contact the registrar for more details at 619.255.0210.

Post-visit Activities

1. Stop-action DinoStars

Ask the students to describe how stop-motion photography works, and then try one of the following activities to experience this labor-intensive medium.

Storyboard

- Draw a simple dino monster. Give it a big tail.
- Cut it out to serve as a template. Cut off the tail so that there are two templates.
- Draw a background scene for the monster. Students will have to draw this scene for each panel so encourage them to keep it simple and iconic.
- Be sure to include something for the monster to knock over with its tail.
- Using the templates, trace a complete dinosaur on the first panel.



- On the second panel reposition the tail template before tracing. The monster is getting ready to swing.
- Redraw the scene on a third or even a fourth panel. Each time, move the monster's tail and alter the background to illustrate the damage of the tail's wake.

Flip Book

- Start with a small pad of inexpensive note paper.
- Reinforce the binding with packing tape.
- Draw a simple monster on the first page.
- Trace the monster on each of the following pages.
- Change only one thing a little bit on each drawing. Move the monster's tail, or open and close its jaws.
- Color in the background for a fun visual result.
- Flip the pages to see a little movie.

2. Be the Critic

Write a review of the exhibition or of a dinosaur movie.

California Content Standards:

Grade 3 Visual Arts—Historical and Cultural Context 3.1

Grade 5 Visual Arts—Historical and Cultural Context 3.4

Grade 6 Visual Arts—Historical and Cultural Context 3.2; English Language Arts—Writing Strategies 1.1

3. Be the Paleontologist

Have your students write a persuasive essay supporting or refuting the scientific authenticity of a famous movie dinosaur. Consider the viability of some of Hollywood's more fantastic artistic liberties. For example, could *T.rex* really have run down a jeep?

With younger students, hold a discussion about the dinosaurs on television and in movies—how “real” are they? Compare and contrast cartoon dinosaurs with scientific renderings. For example, could this dinosaur have survived? What would it eat? How would it defend itself?

California Content Standards:



Kindergarten and Grades 1–3 English Language Arts—Listening and Speaking Strategies

Grade 6 Life Science—Ecology, English Language Arts—Writing Applications 2.5

Grade 7 Earth and Life History 4e, Structure and Function in Living Systems 5

4. Lend an Ear

- Watch a video clip of an action sequence from a dinosaur movie without sound.
- Next listen to the sound without looking at the action on the screen.
- Find a second scene and reverse the steps: listen first and then watch without sound.
- Watch the scenes again with an alternate track like polka music or lullabies.
- Discuss the role sound plays in our responses to movies.

California Content Standards:

Grade 2 Visual and Performing Arts Music—Historical and Cultural Context 3.1

Grade 4 Visual and Performing Arts Music—Aesthetic Value 4.2; Visual and Performing Arts Music—Connections, Relationships, Applications 5.0

Grade 6 Visual and Performing Arts Music—Aesthetic Value 4.0

Grade 7–8 Visual and Performing Arts Music—Connections, Relationships, Applications 5.2