

IMPROVING TEACHER QUALITY (ITQ)
Arts and Science Integration

Theatre and Life Science

GRADE 3

**ITQ ARTS AND SCIENCE INTEGRATION
GRADE 3
THEATRE and LIFE SCIENCE**

**Time Travel Photo Safari – The 5 W's
Investigation 4: Meet the Land Snail, Part 4
LESSON #1**

CONTENT STANDARDS

Theatre Grade Three

- 1.1 Use the vocabulary of theatre, such as character, setting, conflict, audience, motivation, props, stage areas, and blocking, to describe theatrical experiences.
- 1.2 Identify the 5 W's (who, what, where, when, and why) in a theatrical experience.
- 2.1 Participate in cooperative scriptwriting or improvisations that incorporate the 5 W's.
- 5.1 Develop problem-solving and cooperative skills to dramatize a story or current event from another content area, with an emphasis on the 5 W's.
- 5.2 Develop problem-solving and communication skills by participating collaboratively in theatrical experiences.

Science Grade Three

LS3e Students know that some kinds of organisms that once lived on Earth have completely disappeared and that some of those resembled others that are alive today.

ESSENTIAL QUESTIONS (*Questions students might ask about the topic*)

- How can I use the 5 W's to create theatre?
- What is improvisation?
- What animals lived in California in the past?
- How did the 5W's Time Travel Photo Safari help you to understand animals that once lived in California?

OBJECTIVES & STUDENT OUTCOMES (*Students will be able to.....*)

- identify and create setting, motivation, objectives, gestures and postures for a character.
- demonstrate cooperative learning skills.
- create tableaux identifying animals that lived in California in the past.

ASSESSMENT (*Various strategies to evaluate effectiveness of instruction and student learning*)

- **Feedback for Teacher**
 - "Blast from the Past Tableau Slide Show" worksheet (included)
 - Student responses
 - Video
 - Feedback
- **Feedback for Student**
 - Teacher and Peer Feedback
 - Student Tableaux
 - Video

WORDS TO KNOW

Theatre Grade 3

- **character:** the personality or part an actor recreates
- **posture:** a position the body can assume in sitting, standing, kneeling or lying down that gives clues to a frame of mind or attitude toward someone or something.
- **gesture:** an expressive movement of the body or limbs.

Physical Science Grade 3

- **predator:** an animal that hunts and catches other animals for food.
- **extinct:** no longer alive anywhere on Earth.

- **prey:** an organism hunted or caught for food.

MATERIALS

- Ancient California Animals Images (included)
- 5 W's Time Travel Photo Safari Chart (included)
- Science notebooks (1/student)

RESOURCES

- *SDUSD Core Learnings*
- *FOSS Kit 3rd Grade*, "Meet the Land Snail," Investigations 4, Part 4
- The Pleistocene Biosphere: <http://www.atmos.washington.edu/2001Q2/211/groupC/biosphere.html>

PREPARATION

- Copy Ancient California Animals Images
- Review reading from *FOSS Science Resources Book Grade 3* "Life in Los Angeles"

WARM UP (*Engage students, access prior learning, review, hook or activity to focus the student for learning*)

(10 minutes)

- Review with students that actors have three tools/instruments to do their work: voice, body and imagination.
- Each time an actor works they must tune up their instrument.
- Arrange students in a circle, each one having personal space.
- Together lead students through a physical warm up isolating different parts of the body and stretching. (rotate hands at wrist, roll shoulders backwards and forwards, rotate head at neck, gently swing hips from side to side, knee bends, rotate foot at ankle, lunges, stretching on tippy toes, hanging like a rag doll, slowly rolling up, shake each limb vigorously 8 times, then 4 times, then 2 times, then once)
- Lead students through a vocal warm up with yawning, humming up and down the scale, breath exercises expelling air with force from the diaphragm, loud and soft voice, and tongue twisters. ("Solid, Liquid, Gas", "Sally's Silly Solid is Sandy", "Goofy's Gas is Gaseous", "Lucinda Licks Up Liquid", "Adam's Atom", "Molecules Matter", "Triple Tested Test Tube", "Synthesize Hypothesize", "Olive's Observations Are Awesome", "Percy Predicts Possible Problems")
- Say:
 - *To end our actor's warm up we are going to fine-tune our skills of quick thinking. In this next exercise you have to learn four movements that go with four different animals that lived in California along time ago.*
- Divide the class into pairs.
- Explain to the students the four movements that go with the corresponding animal then briefly practice them with the students.
 - **Saber-toothed Cat:** All Actors face one another, put both hands in front of the body in the shape of claws, while growling, like a saber-toothed cat.
 - **Ground Sloth:** All Actors face one another, slouch shoulders forward dangling arms in front with the fingers curled up while making chewing sounds.
 - **Mastodon:** All Actors face one another, one arm is used as a trunk as they make a sound that is similar to an elephant.
 - **Black Bear:** All Actors face one another, standing as tall as they can with their arms out as wide as they can, growling like a bear.
- After practicing the four moves have the students stand back to back with their partner.
- Explain to students you will give the signal "GO!" and everyone should then turn to their partner and do one of the four movements.
- Direct students to go with their first thought when picking which movement they think their partner will do.
- Tell students to stay committed to their choice of movement even if the partner does not choose the same one.
- After students show their movement, call out "Back to back!"

- Allow for five seconds of silence before calling out "Go!" again.
- Remind students the goal is to try and match up movements with their partners.
- Instruct students to return to their seats after they have had a few turns.

MODELING (*Presentation of new material, demonstration of the process, direct instruction*)

(20 minutes)

- Write on the board or chart paper the word Improvisation.
- Say:
 - *Today we are going to perform in a guided improvisation. Does anybody remember what improvisation, or imprv for short, means? [A spontaneous style of theatre in which scenes are made up on the spot.] Although improvisation is spontaneous it is important to know, as you are acting in an improv, it is helpful to make sure your improv answers five important questions. These five questions are Who, What, When, Where and Why. By making sure you answer these five questions in your improvisation it makes it easier for audience to understand your story.*
- Project on the board the 5 W's Time Travel Photo Safari Chart.
- Explain to the students the chart being projected goes over the 5 W's of the improv they are going to be performing.
- Read and discuss with the students the information on the 5 W's chart.
- Say:
 - *Now that we have gone over what our guided improv is going to be about, we are ready to perform. We are going to use the whole classroom as our acting space and every one will be performing in the improv at the same time.*
- Divide the class into two large groups, Group A – Scientific Photographers and Group B – extinct animals.
- Assign each student in Group B an extinct animal from the ones mentioned in the 5 W's Time Travel Photo Safari Chart. There should be three to four students assigned to each animal.
- Assign students who are to play each of the following: Saber toothed cat, Ground Sloth, Mastodon, Tapir and Glyptotherium to a spot around the classroom.
- Direct Group A (Scientific Photographers) to return to their seats.
- Explain to Group A they will begin the improv from their seats.
- Tell students that before Group A travels to the past using their imagination, they will be given one minute to practice being the animal they where assigned while Group A waits at their seats.
- Give the Group B a verbal cue to begin acting like their assigned animal character.
- Explain to students they need to stay in their assigned areas as they act like their extinct animal character.
- Walk around the room and side coach as necessary.
- Call "freeze."
- Explain to the students during the improv you will be calling out the word "picture."
- When they hear the cue students in Group B should hold a pose they think best shows off their assigned animal character and freeze while Group A takes pictures of them.
- Explain to students they are now going to begin.
- Say:
 - *Group B, for right now you need to be very quiet. Group A, I want you to imagine that your desk is a high tech time machine. Imagine your pressing buttons and turning dials setting the time machine to go back in time to about 30,000 years ago in California. Now, reach up and push the go button. Oh my goodness, the time machine is really shaking! We are starting to travel into the past. The shaking has stopped and we are now in the past. We will need to be very careful as we will be looking at some very dangerous animals. We do not want to become their prey. I'd like one of the Photographic Scientists to explain to me what prey means.*
- Give the signal to Group B to begin acting like their animals.
- Explain to students as they act like animals they need to remember that safety is first. These animals they are acting as will not jump on, attack nor eat anybody.
- Instruct Group A to leave their "time machines" (desks) and move around the room looking at the different extinct animals.
- Remind Group A they need to act like they are sneaking up on these animals to get a good look and

a picture.

- Explain to students they need to stay in character through out the improv.
- As Group A moves around the room to look at the **extinct** animals, side coach as necessary to insure the students are staying in character and are on task.
- Walk around the room asking Group A questions.
- **Ask:**
 - *When you are looking at the Saber toothed cat, does it remind you of any animals that live in 2012 but did NOT live this far in the past in California?* [Mountain lion]
 - *How about the Glyptotherium? Does that animal look like any animal found on earth in 2012?* [Armadillo]
 - *What present day animal does the Mastodon looks like?* [Elephant]
 - *What present day animal does the Ground Sloth look like?* [Tree Sloth]
 - *Which one of the present day animals that we mentioned lives in California and does NOT live in the zoo?* [Mountain lion]
- Call out "Picture" three or more times so that Group A can take pictures.
- After a few "Pictures" have been taken, instruct Group A to return to their "time machines" (desks) so they can return to the present.
- Group B should continue to act like their now **extinct** animal until you give them the cue to stop.
- **Say:**
 - *Now that we are back in our time machine it is time for us to go back to the present to share our findings. Set the dials and buttons and push the go button.*
- Give Group B the cue to stop and return to their seats.
 - Option: Have students switch roles and repeat the activity above.

GUIDED PRACTICE (*Application of knowledge, problem solving, corrective feedback*)

(15 minutes)

- Explain to the students now that they have returned to the present, they need to now show the pictures they took so they can talk about these animals.
- Tell students they will be creating **tableaux** to create their photos.
- **Ask:**
 - *What does **tableau** means?* [a silent and motionless depiction of a scene created by actors, often from a picture.]
- Dived the class into five groups.
- Assign each group an animal that lived in California's past which where mentioned in the 5 W's Time Travel Photo Safari Chart. Note: As an option, a sign with a picture of the animal they are responsible for portraying can be given to each group.
- Explain to the class that each group will be responsible for creating a tableau that shows how they think this animal looked by using facial expression, **posture** and **gesture**.
- Allow students one or two minutes to decide what their pose will be.
- Call on each group to come up to the front of the class to show their tableau.
- Discuss with the students how these animals no longer exist in California and are **extinct**.
- **Ask:**
 - *What do we call an animal that no longer exists?* [**extinct**]
- Explain how gradually over time these animals started to disappear and in the lesson that follows they will talk about possible reasons why they eventually became extinct.
- Tell students they have come to an end of their improvisation and to give themselves a round of applause.

DEBRIEF & REFLECT (*Identify problems encountered, ask and answer questions, discuss solutions and learning that took place. Did students meet outcomes?*)

(5 minutes)

- **Ask:**
 - *What are the names of some of the animals that once lived California?*
 - *What modern day animals did some of the extinct animals look like?*
 - *Which one of those animals does NOT live in the zoo?*

- *What does **extinct** mean?*
- *How can we use facial expression, body posture and gesture to create a character?*
- *How does using the 5 W's help with creating an improvisation?*
- *Have students respond to the following prompt in their science notebooks:*
 - *How did theatre help you to learn about some of the animals that lived in California's past?*

EXTENSION *(Expectations created by the teacher that encourage students to participate in further research, make connections, and apply understanding and skills previously learned to personal experiences.)*

- Videotape the student's as they act out the improvisation and play it back for the class to watch.

5 W's Time Travel Photo Safari Chart

Who: *(Who are we?)*

Half of the class will be Scientific Photographers. (Group A)

The other half of the class will be different animals that once lived in California but are now **extinct**. (Group B)

- *Saber toothed cat*
- *Ground Sloth*
- *Mastodon*
- *Tapir*
- *Glyptotherium*

What: *(What are we doing?)*

The Scientific Photographers are taking photos of interesting animals that once lived in California.

The animals are living their lives in their natural habitat.

When: *(When are we doing it?)*

Scientific Photographers have traveled over 30,000 years in the past.

Where: *(Where are we doing it?)*

Southern California

Why: *(Why are we going it?)*

The scientific Photographers are gathering photographic evidence of the animals that once lived in California's past to show and teach 3rd grade students about animals that once lived here and are now **extinct**.

Saber Toothed Cats



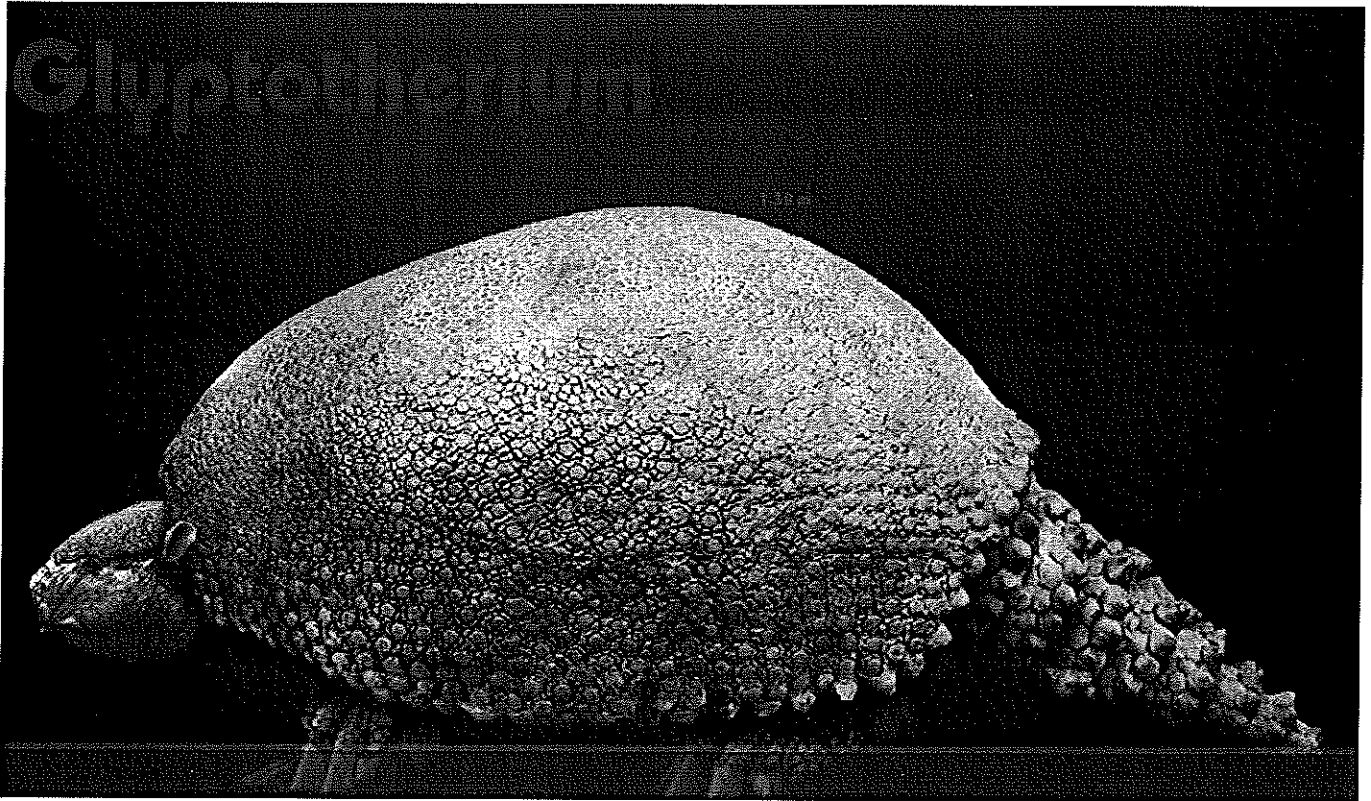
Ground Sloth



Tapir



Glyptotherium



**ITQ ARTS AND SCIENCE INTEGRATION
GRADE 3
THEATRE and LIFE SCIENCE**

**Tar is the Pits!
Investigation 4: Meet the Land Snail, Part 4
LESSON #2**

CONTENT STANDARDS

Theatre Grade Three

- 1.1 Use the vocabulary of theatre, such as character, setting, conflict, audience, motivation, props, stage areas, and blocking, to describe theatrical experiences.
- 1.2 Identify the 5 W's (who, what, where, when, and why) in a theatrical experience.
- 2.1 Participate in cooperative scriptwriting or improvisations that incorporate the 5 W's.
- 5.1 Develop problem-solving and cooperative skills to dramatize a story or current event from another content area, with an emphasis on the 5 W's.
- 5.2 Develop problem-solving and communication skills by participating collaboratively in theatrical experiences.

Science Grade Three

LS3e Students know that some kinds of organisms that once lived on Earth have completely disappeared and that some of those resembled others that are alive today.

ESSENTIAL QUESTIONS (*Questions students might ask about the topic*)

- What is improvisation?
- How can I use pantomime to create theatre?
- What animals lived in California in the past?
- Why do scientists study the bones of ancient animals found at La Brea tar pits?
- How did theatre help you to understand how and why scientists study the fossils of ancient animals?

OBJECTIVES & STUDENT OUTCOMES (*Students will be able to.....*)

- identify and create setting, motivation, objectives, gestures and postures for a character.
- demonstrate cooperative learning skills.
- create pantomimes showing how animals that lived in California's past did not survive?

ASSESSMENT (*Various strategies to evaluate effectiveness of instruction and student learning*)

- **Feedback for Teacher**
 - Student created pantomimes
 - Student expert Archeozoologist presentations
 - Video
 - Feedback
- **Feedback for Student**
 - Teacher and Peer Feedback
 - Student pantomimes
 - Expert Archeozoologist presentations
 - Video

WORDS TO KNOW

Theatre Grade 3

- **character:** the personality or part an actor recreates
- **pantomime:** acting without words through facial expression, gesture and movement.
- **posture:** a position the body can assume in sitting, standing, kneeling or lying down that gives clues to a frame of mind or attitude toward someone or something.

- **gesture:** an expressive movement of the body or limbs.

Physical Science Grade 3

- **climate:** the average weather conditions of a region, such as temperature and precipitation.
- **extinct:** no longer alive anywhere on Earth.
- **fossil:** a part or trace of an organism that lived long ago. Fossils can be bones, shells, or leaves. They can also be tracks or burrows of past life on Earth.
- **predator:** an animal that hunts and catches other animals for food.
- **prey:** an organism hunted or caught for food.
- **survive:** to stay alive.
- **Tar Pits:** a pool of tar.
- **thrive:** to grow fast and stay healthy.

MATERIALS

- Ancient California Animals Images (included)
- La Brea tar pit Image (included)
- Various objects to be used as props, i.e., rulers or pencils to be used as fossils, fake bones made from clay.
- Archeozoologist Extinct Animals Note cards
- Science notebooks (1/student)

RESOURCES

- *SDUSD Core Learnings*
- *FOSS Kit 3rd Grade, "Meet the Land Snail," Investigations 4, Part 4*
- *FOSS Science Resources Book Grade 3 "Life in Los Angeles"*
- The Pleistocene Biosphere: <http://www.atmos.washington.edu/2001Q2/211/groupC/biosphere.html>

PREPARATION

- Copy Archeozoologist Extinct Animals Note cards
- Gather objects to be used for props or make fake bones from clay
- Review reading from *FOSS Science Resources Book Grade 3 "Life in Los Angeles"*

WARM UP (*Engage students, access prior learning, review, hook or activity to focus the student for learning*)

(10 minutes)

- Review with students that actors have three tools/instruments to do their work: voice, body and imagination.
- Each time an actor works they must tune up their instrument.
- Explain to students today's warm up will focus is on warming up their body and imagination as that is what they will be using the most.
- Arrange students in a circle, each one having personal space.
- Together lead students through a physical warm up isolating different parts of the body and stretching. (rotate hands at wrist, roll shoulders backwards and forwards, rotate head at neck, gently swing hips from side to side, knee bends, rotate foot at ankle, lunges, stretching on tippy toes, hanging like a rag doll, slowly rolling up, shake each limb vigorously 8 times, then 4 times, then 2 times, then once)
- Assign each student a number: 1, 2, 3 or 4.
- Have students to sit in a circle.
- Have all the number ones stand up.
- Tell the students all the number ones must enter the circle and move about until you give the cue for them sit down on the other side or the closest empty spot.
- Explain that as they move about in the circle they should act as though they are moving through a particular environment, which you will give them. (i.e. move in the circle as though you are walking through tall underbrush, through a dark and dangerous forest, across a wide open grassland, down a path of sticky tar, across a log over a ravine full of crocodiles, through a snowstorm)
- Then have the 2's and then the 3's cross the circle. Only call out a different environments.
- As students are moving across the circle ask the following the questions.

- *Does it look like they are walking in a different environment?*
- *What can you do with your body to help us, the audience, better understand where you are at?*
- *What can you do with your face to help us understand?*
- After all students have had an opportunity to move in the circle instruct students to return to their seats.

MODELING (*Presentation of new material, demonstration of the process, direct instruction*)

(20 minutes)

- On the board write the word **Pantomime**.
- Ask:
 - *What does **pantomime** mean?* [Acting without words through facial expression, gesture and movement.]
- Write the definition for **pantomime**.
- Explain to students that today they will be creating a **pantomime** showing what they learned from their reading of "Life in Los Angeles" in their FOSS Science Resources Book.
- Review with students what they learned from the reading.
- Say:
 - *The other day you read "Life in Los Angeles" in your science books. The reading talked about how 30,000 years ago people did not live in California but that animals did. The reading mentioned that some of the animals found back then can still be found today.*
 - *Talk to your elbow partner about the animals you remember from the reading.* [Coyote, mountain lion and black bears.]
 - *According to the reading, scientist also learned that there were animals that lived over 30,000 years ago that don't live today.*
 - *From the reading, How do scientist know that these animals lived in California over 30,000 years ago?* [Animals were trapped in the La Brea tar pits, died, and scientists study their fossil remains.]
 - *In the reading it said that when animals were stuck in the tar pits they slowly sank into the tar pit. That is important to remember when we create our pantomimes.*
 - *When scientist started digging up the tar pits they found fossils. What is a fossil?* [A part or trace of an organism that lived long ago. Fossils can be bones, shells, or leaves. They can also be tracks or burrows of past life on Earth.]
- Explain to students that scientists began to find **fossils** and put them together they began to discover the different kinds of animals that once lived in California's past and are now **extinct**.
- Ask:
 - *What were the names of some of the animals that lived in the past that became **extinct** or are no longer alive anywhere on Earth?* [Ground sloth, Saber toothed cat and the Mastodon.]
- Say:
 - *The animals you just mentioned will be the **characters** you the actors will play in the **pantomime** stories that you will create. So you will need to think about how you might show your animal character through **posture, gesture** and movement.*
 - *What is even more interesting about these now extinct animals is that some of them looked a lot like animals of today.*
- Ask:
 - *Does anybody remember from the reading which animals of today looked like a Saber toothed cat? Mastodon? Ground Sloth?* [Mountain lion, Asian or African elephant, and tree sloth]
- Explain to the students now that they have reviewed what they learned from the reading, they are now going to work in small groups to create a **pantomime** showing one or more of these animals getting stuck in the **tar pit** and what happens to them.
- Brainstorm with the students why each of the above mentioned animals would end up getting stuck in the **tar pit**. (i.e. The **tar pit** could have been covered by water and when an animal went in to drink it got stuck or a saber toothed cat could have been trying to attack another animal that was already stuck in the **tar pit** and got itself stuck.)
- Divide the class into groups of five and assign each group an area in the classroom where they can work.

- Tell students they need to decide which animal **character** they want to be or assign them an animal.
- Instruct students to make sure as they are creating their **pantomime**, about ancient animals getting trapped in the **tar pit**, is answering the 5 W's: Who, What, When, Where and Why.
- Tell students they will be given two minutes to plan their **pantomime** and then three or four minutes to practice.
- Instruct students to begin their work.
- Walk around to check-in with each group and side coach where needed.
- Remind students they are creating a **pantomime** and although during rehearsal or practice they can speak when they perform their **pantomime** it must be done with out speaking.
- Tell students they need to use their facial expression, **posture**, **gestures** and movements to communicate to the audience their **tar pit** story.
- After allowing a few minutes for students to rehearse, have students return to their seats.
- Call on groups to come to the front of the classroom and share their **pantomime tar pit** stories.

GUIDED PRACTICE *(Application of knowledge, problem solving, corrective feedback)*

(15 minutes)

- Say:
 - *So now that we created a pantomime performance showing how some of these animals may have found themselves stuck in a tar pit, let's ask ourselves some questions.*
- Ask:
 - *What did scientists learn from **fossils** found in the La Brea tar pit?* [That California had certain animals that later disappeared or became extinct and that some animals long ago still exist today.]
 - *Do you think that the animals getting stuck in the La Brea tar pits was the reason they became extinct?* [No.]
 - *Why do these animals no longer live in California?* [Possibly the **climate** got warmer and when the environment changed some animals survived, some looked for other places to live and some died.]
- Explain to students now they are going to use another theatre skill to show what they learned from the reading about how scientist use these fossils to learn about **extinct** animals in California.
- Divide the class into groups of five or work in table groups of five.
- Explain to the students they are going to do a group **improvisation**.
- Briefly remind students what the definition for **improvisation** is.
- Tell students that for this **improvisation** their **character** is an Archeozoologist.
- Explain to the students they are a group of scientists or Archeozoologists who have found several **fossils** of the same **extinct** animal and their job is to share to their fellow scientist.
- Define for students that an Archeozoologist is some one who analyzes and interprets animal remains, or **fossils**, found at archaeological sites like the La Brea **tar pits**.
- Explain to students you are going to place various objects at their tables and they should imagine that these objects are **fossils** remains.
- Tell students you will also place a picture of the **extinct** animal they will be talking about along with information about the animal.
- Say:
 - *You can use the photo and information to help as you **improvise** your scene. However, don't just read the information. Use your voice, **posture** and **gestures** to make it look and sound like you are an Archeozoologist or expert in what you are talking about. Everyone in your group must have a chance to act in the **improvisation**. As an Archeozoologist, if you have a question for another scientist, ask it. The other scientist should respond in **character**.*
- Cue the students to begin their improvisation.
- Walk around side coaching as needed.
- After most or all the students have had a chance to participate in the group improvisation cue the students to stop.

DEBRIEF & REFLECT *(Identify problems encountered, ask and answer questions, discuss solutions and learning that took place. Did students meet outcomes?)*

(5 minutes)

- Instruct students to come up to the rug.
- Ask:
 - *How do scientist know there where some animals that once lived in California and now do not?*
 - *Why don't we find those animals anymore?*
 - *Why do scientist study bones of ancient animals?*
 - *What is a **fossil**?*
 - *How can we use facial expression, body **posture** and **gesture** to create a **pantomime**?*
- Have students respond to the following prompt in their science notebooks:
 - *How did theatre help you to understand how and why scientists study the fossils of ancient animals?*

EXTENSION (*Expectations created by the teacher that encourage students to participate in further research, make connections, and apply understanding and skills previously learned to personal experiences.*)

- Videotape the student's as they act out their pantomime and improvisation and play it back for the class to watch.
- Have a group of students perform their Archeozoologist improvisation for the class.
- Pantomime a math word problem to help solve the problem.

Saber Toothed Cats



Interesting Facts

Physical Characteristics:

- Short powerful legs and strong shoulders
- Long flat canines up to 7 inches (18cm) in length and were able to open their jaw extremely wide.
- **Short tails**

Behavior:

- No one is really sure how the Saber toothed cat used it's long teeth.
- Saber-tooth cats were known to attack mastodons.
- The cats may have fought over food as lions do today.
- Based on the bones that have been found, it is believed that saber toothed cats could roar.

Ground Sloth



Interesting Facts

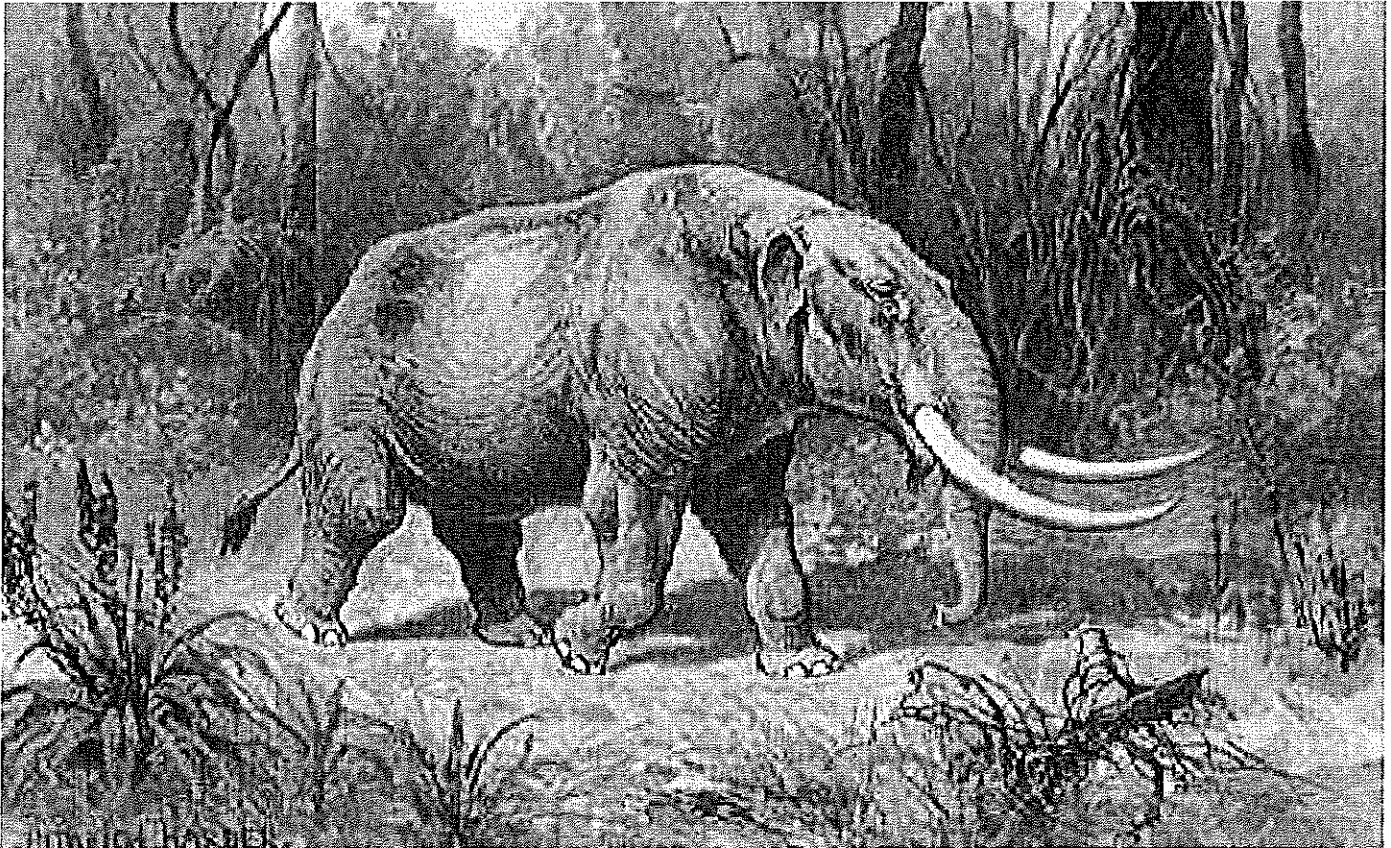
Physical Characteristics:

- They were a distant relative of today's 2-3 foot tree sloths that lives in South America.
- Ground sloths could grow as tall as 10 feet tall.
- They had long claws and a long and strong tail.

Behavior:

- No one is sure if the ground sloth moved as slow as the tree sloth.
- They were herbivores, which means they only ate plants.
- From the hip bones found it is believed that ground sloths could stand up on their back legs.

Mastodon



Interesting Facts

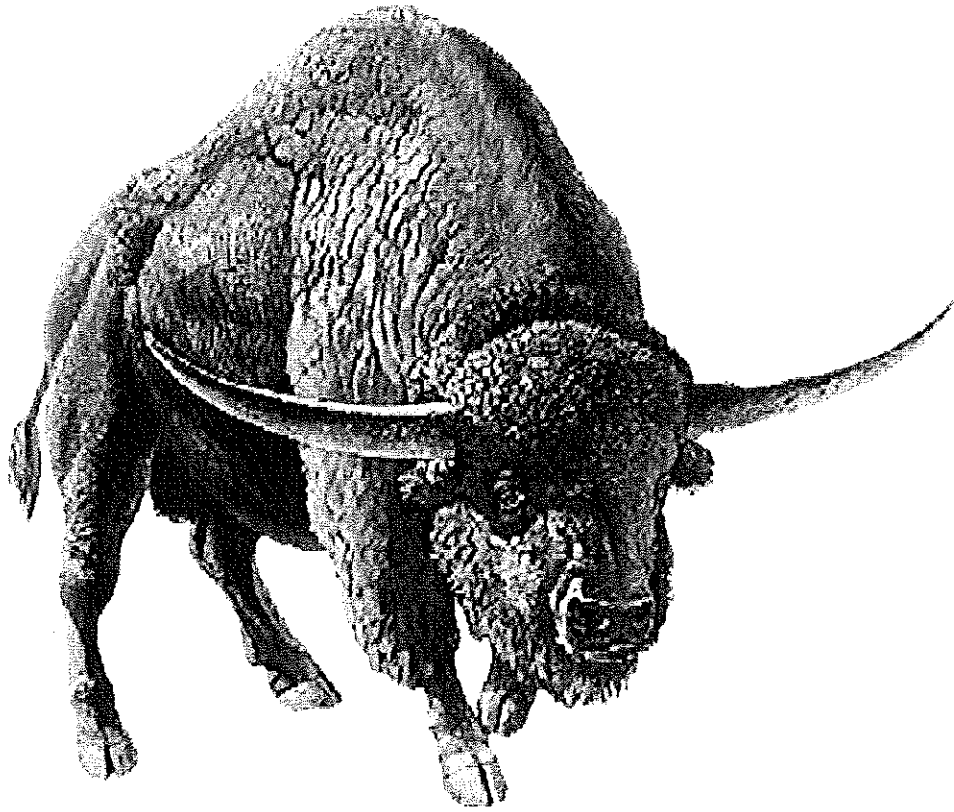
Physical Characteristics:

- Mastodons were one of the largest animals living here during and after the Ice Age.
- Mastodons had a heavy fur coat which made them feel very warm after the Ice Age ended.
- Mastodons had small ears and a short tail.
- A mastodon tusk has rings, like a tree. Scientists can count the rings to tell how old the mastodon was.

Behavior:

- Mastodons ate herbs, shrubs and trees like the pine trees found here over 10,000 years ago.
- The mastodon walked on its toes and had a large fatty pad on the bottom of its feet.

Longhorn Bison



Interesting Facts

Physical Characteristics:

- They were twice as big as the bison that live in South Dakota today.
- The males horns measured nearly 7 ft from tip to tip.
- Not built for extended running and quick movement.

Behavior:

- The Longhorn Bison was and herbivore, which means they ate only plants.
- They used their horns for protection.

La Brea Tar Pit



**ITQ ARTS AND SCIENCE INTEGRATION
GRADE 3
THEATRE and LIFE SCIENCE**

**California Animal Safari and Museum
Investigation 4: Meet the Land Snail, Part 4
LESSON #3**

CONTENT STANDARDS

Theatre Grade Three

- 1.1 Use the vocabulary of theatre, such as character, setting, conflict, audience, motivation, props, stage areas, and blocking, to describe theatrical experiences.
- 1.2 Identify the 5 W's (who, what, where, when, and why) in a theatrical experience.
- 2.1 Participate in cooperative scriptwriting or improvisations that incorporate the 5 W's.
- 5.1 Develop problem-solving and cooperative skills to dramatize a story or current event from another content area, with an emphasis on the 5 W's.
- 5.2 Develop problem-solving and communication skills by participating collaboratively in theatrical experiences.

Science Grade Three

- LS3c Students know living things cause changes in the environment in which they live: some of these changes are detrimental to the organism or other organism, and some are beneficial.
- LS3e Students know that some kinds of organisms that once lived on Earth have completely disappeared and that some of those resembled others that are alive today.

ESSENTIAL QUESTIONS (*Questions students might ask about the topic*)

- How can I use the 5 W's to create theatre?
- What is improvisation?
- How do animals change their environment?
- How do animals NOT change their environment?
- What animals of today looked like but are not related to animals of the past in California?
- How did theatre help you to understand how animals can change their environment?

OBJECTIVES & STUDENT OUTCOMES (*Students will be able to.....*)

- identify and create setting, motivation, objectives, gestures and postures for a character.
- demonstrate cooperative learning skills.
- create a dramatization of a story demonstrating their understanding of how animals can change their environment.
- create tableaux comparing present day animals with those that lived in California in the past.

ASSESSMENT (*Various strategies to evaluate effectiveness of instruction and student learning*)

- **Feedback for Teacher**
 - Student Dramatization
 - Student created Tableaux
 - Student responses
 - Video
 - Feedback
- **Feedback for Student**
 - Teacher and Peer Feedback
 - Student Dramatization
 - Student Tableaux
 - Video

WORDS TO KNOW

Theatre Grade 3

- **character:** the personality or part an actor recreates
- **creative drama:** an improvisational, process-centered form of theatre in which participants are guided by a leader to imagine, enact, and reflect on human experiences.
- **gesture:** an expressive movement of the body or limbs.
- **pantomime:** acting without words through facial expression, gesture and movement.
- **posture:** a position the body can assume in sitting, standing, kneeling or lying down that gives clues to a frame of mind or attitude toward someone or something.
- **properties (prop):** items carried on stage by an actor; small items on the set used by the actors.

Physical Science Grade 3

- **biologist:** a scientist who studies living organisms.
- **extinct:** no longer alive anywhere on Earth.
- **endangered:** at risk of becoming extinct.
- **lodge:** a dome-shaped structure built by beavers for shelter.
- **predator:** an animal that hunts and catches other animals for food.
- **prey:** an organism hunted or caught for food.
- **riparian:** along a river or stream.

MATERIALS

- California Animals Past and Present Images (included)
- 5 W's California Animal Safari Chart (included)
- Clipboard or any hard surface students can carry
- Science notebooks (1/student)

RESOURCES

- *SDUSD Core Learnings*
- *FOSS Kit 3rd Grade, "Meet the Land Snail," Investigations 4, Part 4*
- *Unscripted Learning, Using Improv Activities Across the K-8 Curriculum*, Carrie Lobman and Matthew Lundquist
- Wikipidia, North American Beaver: http://en.wikipedia.org/wiki/North_American_Beaver
- River Partners: <http://riverpartners.org/riparian-ecology/veg-wildlife-habitat/wildlife-habitat/design-for-rabbit.html>
- True Wild Life: <http://true-wildlife.blogspot.com/2011/02/coyote.html>
- California Outdoors Q and A: <http://californiaoutdoors.wordpress.com/2010/11/25/can-scent-attractants-be-considered-bait/>
- California NatureMapping Program: http://naturemappingfoundation.org/natmap/ca/facts/birds/barn_owl.html

PREPARATION

- Review reading from *FOSS Science Resources Book Grade 3 "A Change in the Environment"*
- Review with students what they learned during Lesson #1 "Time Travel Photo Safari"

WARM UP *(Engage students, access prior learning, review, hook or activity to focus the student for learning)*

(10 minutes)

- Review with students that actors have three tools/instruments to do their work: voice, body and imagination.
- Each time an actor works they must tune up their instrument.
- Arrange students in a circle, each one having personal space.
- Together lead students through a physical warm up isolating different parts of the body and stretching. (rotate hands at wrist, roll shoulders backwards and forwards, rotate head at neck, gently swing hips from side to side, knee bends, rotate foot at ankle, lunges, stretching on tippy toes, hanging like a rag doll, slowly rolling up, shake each limb vigorously 8 times, then 4 times, then 2 times, then once)
- Lead students through a vocal warm up with yawning, humming up and down the scale, breath

exercises expelling air with force from the diaphragm, loud and soft voice, and tongue twisters. ("Solid, Liquid, Gas", "Sally's Silly Solid is Sandy", "Goofy's Gas is Gaseous", "Lucinda Licks Up Liquid", "Adam's Atom", "Molecules Matter", "Triple Tested Test Tube", "Synthesize Hypothesize", "Olive's Observations Are Awesome", "Percy Predicts Possible Problems")

- Instruct students to find a spot in the classroom where they have plenty of personal space.
- Explain to students they are going to participate in an activity called "Yes, lets!" to help improve their improvisational skills.
- Tell students when being part of an improvisation it is very important as an actor to always build on the ideas offered by another actor and this activity will give them an opportunity to practice that skill.
- Explain to students you will be calling out instructions to the class for example, "Let's all go swimming in the pool," and everyone must respond, "Yes, let's!" and then everyone moves to make it look like they are swimming (or doing whatever instruction given.)
- As the students are doing the activity, if it gets too chaotic, call out a something calmer like, "Let's take a deep breath. "
- Begin the activity.
- Say:
 - *Let's all walk through the forest.*
 - *Let's be a bear.*
 - *Let's be a beaver gnawing at small trees.*
 - *Let's build a dam across a small stream.*
 - *Let's swim like beavers.*
 - *Let's be a snail.*
 - *Let's be a mountain lion.*
- Once students become familiar with "Yes, let's!" ask for students to call something out for the rest the class to do.
- After students have called out a few instructions for the class bring the activity to an end.
- Say:
 - *Let's all lie down and fall asleep.*
- Instruct students to return to their seats.

MODELING (*Presentation of new material, demonstration of the process, direct instruction*)

(20 minutes)

- Write on the board or chart paper the word **creative drama**.
- Say:
 - *Today we are going to using **creative drama**. To help us with our performance we are going to take a look at a 5 W's chart much like the one we used when we did our guided improvisation the other day.*
- Project on the board the 5 W's California Animal Safari Chart.
- Explain to the students the chart being projected goes over the 5 W's of the **creative drama** performance you will be leading them through.
- Read and discuss with the students the information on the 5 W's chart.
- Say:
 - *Now that we have gone over what our **creative drama** performance is going to be about, we are ready to perform. We are going to use the whole classroom as our acting space and every one will be performing at the same time. I will be guiding you through this performance so you will need to be listening very carefully.*
- Divide the class into two large groups, Group A – Wildlife **Biologists** and Group B – animals of today found in California.
- Assign each student in Group B an animal from the ones mentioned in the 5 W's California Animal Safari Chart. There should be three to four students assigned to each animal.
- Assign students who are playing animals to a spot around the classroom.
- Direct Group A (Wildlife **Biologists**) to return to their seats.
- Explain to Group A you will be taking them on an outdoor safari, only they will be inside the classroom and need to really use their imagination (which is one of the actors tools).
- Tell students that before Group A goes on their safari using their imagination, Group B will be given

- one minute to practice being their assigned animal.
- Give Group B a verbal cue to begin acting like their assigned animal character.
 - Explain to Group B they need to stay in the general area of their assigned spots as they act like their animal character. Students should listen to you, as you will give them cues on what they should do as they're acting like their animal.
 - Call "freeze" to cue Group B to stop.
 - Tell Group A, the Wildlife **Biologist**, they need walk in a single file line as they travel through the wild.
 - Remind Group A they need to act like how they think a wildlife biologist would act using their **posture, gestures** and facial expression.
 - Explain to Group A as **biologists** they need to make careful observations of the animals and take careful notes of their observations.
 - Tell Group A as part of their **biologist** character you will expect them to actually take notes and pretend to take pictures of the **organisms** they are observing.
 - Explain to the students as actors they need to make their character as believable as possible.
 - Hand out to the students their Wildlife **biologist** field journal (or science notebook), which they will use as their **prop**.
 - *Ask:*
 - *Can somebody remind me what a **prop** is?* [Items carried on stage by an actor; small items on the set used by the actors.]
 - Distribute to students pencils and clipboard or any hard surface students can carry to write.
 - Explain to students they are now going to begin their wildlife safari.
 - Instruct the animals to act like their animal characters.
 - *Say:*
 - *Wildlife **biologists**, we are now ready to go on our hike in the California wilds to take a closer look at today's animals.*
 - *Let's all form a single file line so we can be safe as we observe these **organisms** in the wild.*
 - Remind students from Group B as they act like animals they need to remember that safety is first. The animals they are acting out will not jump on, attack nor eat anybody.
 - Remind group B to listen to what you are saying as they should act out what you are describing to Group A.
 - *Say:*
 - *For example, if I say, look at how that animal is digging, then you should act out that you are digging.*
 - Guide the students around the room to the different areas you assigned students from Group B.
 - *Say:*
 - *Look **biologists!** Over there is coyote that can be found in California. Quick! Take a picture of the coyote as it looks for food. Coyotes will eat or try to eat just about anything. They usually eat small **prey** which is an organism hunted or caught for food. Coyotes also have to be careful too because bears and mountain lions also **prey** on them. Coyotes change their environment when they make their home or dens, They dig burrows which means holes or tunnels in the ground to make their dens. Of course, This kind of change in the environment is very small. Let's move on.*
 - Guide students to a different group of animals being acted out.
 - *Say:*
 - *Look at this. How lucky are we! Over there are some owls in their nests. They look like they are sleeping. Why do you think they are sleeping and not hunting **biologists?** [The are nocturnal hunters or they hunt usually at night and it is now day light.] *Don't forget to take a picture and take notes about what you see.**
 - *OK, let's move on and see if we can find any other interesting animals.*
 - Guide students to a different group of animals being acted out.
 - *There is one! Uh-oh, be careful it is a black bear. Let's move very quietly as we observe this animal. Did you know during the winter the black bear uses hollow trees or rock cavities to make their dens where they can protect themselves from the cold winters. Look right now how it looks for it's food right now. These bears eat both plants and meat, so let's leave them alone and look for another animal. Before we go though make sure you take notes and a snap shot of these bears.*
 - Guide students to a different group of animals being acted out.

- Say:
 - *Here is an interesting creature! It is a beaver. Look as it gnaws at the trees. Do any of you wildlife biologists have any idea why they cut trees down? [They use them to make dams in small streams.]*
 - *Beavers are one of the few animals that can make large changes to its environment. Look at how hard working these beavers are as they drag the trees they cut down to the stream and use mud to make the dam.*
 - *Did you write notes? Good, take a quick picture then let's move on.*
- Guide students to a different group of animals being acted out.
- Say:
 - *Look! A rabbit. This is no ordinary rabbit. This is a riparian brush rabbit. Riparian means "along a river or stream." That is exactly where our little friend lives. But look! It has no where to hide because all the bushes, vines, and branches are dried up. There is hardly any water going down the stream. Anybody have any idea why? [The dam the beaver made keeps the water from going down stream and the plants can not survive.] Because the beaver made it's dam, this little fellow has no where to hide when it looks for food and can be caught by coyotes, raccoons and hawks.*
 - *The riparian brush rabbit is an endangered animal, which means it is in danger of dying out. We should definitely take a picture of this animal.*
- Guide students to a different group of animals being acted out.
- Say:
 - *Well, let's head back to the city. Wait! Look over there! Look at that mudslide! Could an animal have caused this? [No, animals, like beavers, can NOT cause mudslides.]*
 - *Even though beavers can make dams and flood areas, mudslides are NOT caused by beavers. Let's take a picture of the mudslide and head back.*
- Call out "freeze."
- Direct students back to their seats.
- Say:
 - *Give yourselves a big round of applause. You had to stay in character as we all participated in our creative drama performance. Well done.*

GUIDED PRACTICE *(Application of knowledge, problem solving, corrective feedback)*

(15 minutes)

- Explain to the students now that they have returned from their Wild Life Safari they are now going to show the pictures they took and share the notes they made on the organisms they observed.
- Tell students they will be creating **tableaux** to create their photos.
- Ask:
 - *Tell your partner what **tableau** means? [a silent and motionless depiction of a scene created by actors, often from a picture.]*
- Dived the class into six groups.
- Assign each group an animal that lives in California which where mentioned in the 5 W's California Animal Safari Chart. Note: As an option, a sign with a picture of the animal they are responsible for portraying can be given to each group. Also, the image of the animal can be projected behind the group when they show their **tableau**.
- One group will be responsible for creating a **tableau** of what they think a mudslide would look like.
- Explain to the class that each group will be responsible for creating a **tableau** that shows how they think this animal looks like by using facial expression, **posture** and **gesture** and one group will show a mudslide also using facial expression, **posture** and **gesture**.
- Allow students one or two minutes to decide what their pose will be.
- Call on each group to come up to the front of the class to show their **tableau**.
- As each tableau is presented, have students share the notes they took.
- Use the interesting facts under each image to help with discussion.
- Draw attention to how some animals can make small changes to their environment.
- Say:
 - *The Coyote digs in to the ground to make its den or home.*
 - *Bears use rock cavities or hollow trees for their dens or homes.*

- *The beaver on the other hand can make large changes to the environment.*
- **Ask:**
 - *Recall your observations. What did the beaver do to make changes to its environment? [They cut trees down and make dams across streams.]*
 - *How can beavers making dams affect other organisms like plants and animals? [Plants down stream will not get enough water to grow. Animals like riparian bush rabbits lose places to hide because there are now fewer bushes, vines and branches.]*
- Instruct the mudslide **tableau** group to come up and create their **tableau**.
- **Say:**
 - *We took this photo of the mudslide and asked you if you thought there was an animal you think may have made this mudslide happen. Remember what we learned on the safari. [Animals, like beavers, can NOT cause mudslides.]*
 - *Even though beavers can make dams and flood areas, mudslides are NOT caused by beavers.*
- Instruct students to give themselves a round of applause for their **tableaux** they made.

DEBRIEF & REFLECT (*Identify problems encountered, ask and answer questions, discuss solutions and learning that took place. Did students meet outcomes?*)

(5 minutes)

- **Ask:**
 - *What are the names of some of the animals that live in California?*
 - *How do some animals change their environment?*
 - *How do beaver change their environment?*
 - *What way can beavers NOT change the environment?*
 - *How can we use facial expression, body **posture** and **gesture** to create a **character**?*
 - *How does using the 5 W's help with performing **creative drama**?*
- *Have students respond to the following prompt in their science notebooks:*
 - *How did theatre help you to understand how animals can change their environment?*

EXTENSION (*Expectations created by the teacher that encourage students to participate in further research, make connections, and apply understanding and skills previously learned to personal experiences.*)

- Videotape the student's as they participate in the creative drama performance and play it back for the class to watch.
- Use creative drama to act out a story they are reading in class.

5 W's California Animal Safari Chart

Who: *(Who are we?)*

Half of the class will be Wildlife Biologists. (Group A)

The other half of the class will be different animals that live in California.
(Group B)

- *Coyote*
- *Owl*
- *Black Bear*
- *Beaver*
- *Riparian Brush Rabbit (The word riparian means "along the river or stream")*

What: *(What are we doing?)*

Group A: The Wildlife Biologists are studying animals found in California and taking notes and making sketches of what they see.

Group B: The animals are living their lives in their natural habitat.

When: *(When are we doing it?)*

The Wildlife Safari takes place in the present time.

Where: *(Where are we doing it?)*

Out in the wilds of California

Why: *(Why are we going it?)*

The Wildlife Biologists are studying animals found in California and observing ways that animals can change their environment.

Coyote



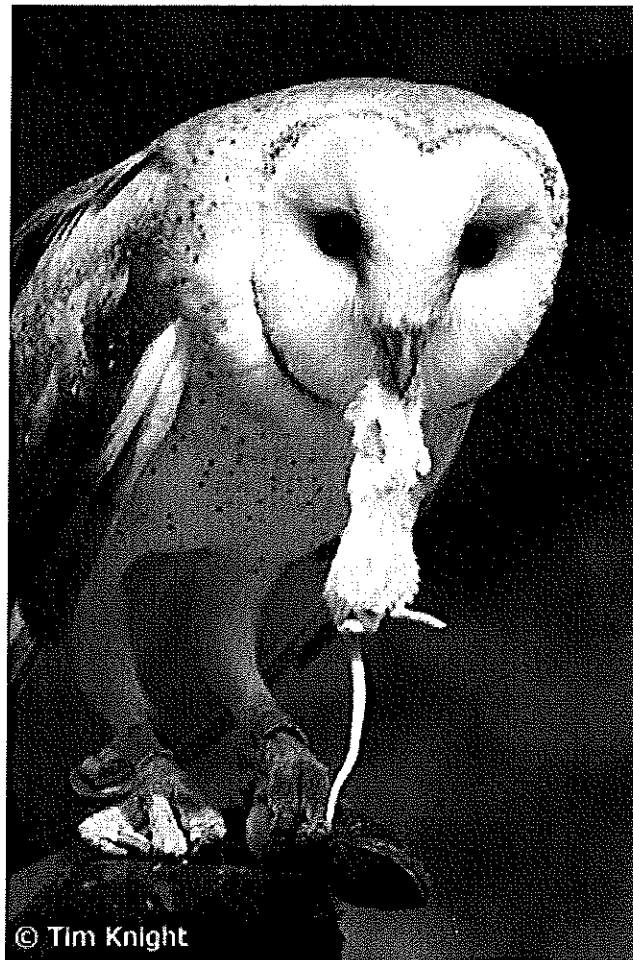
Physical Characteristics:

- They have a long, bushy black-tipped tail, pointed ears and a narrow pointed face.
- Coyotes live between 10-14 years.

Behavioral:

- Coyotes adjust their hunting style to what foods are available.
- Coyotes are known for how well they adapt to different habitats.
- Coyotes are omnivores, which means they will eat or try to eat just about anything.
- The most common enemy that coyotes face is disease. Bears, wolves and mountain lions will also prey upon coyotes.
- Coyotes "sing" as a way to communicate with other coyote families and as a way to keep track of their own family members.

Owl



Physical Characteristics:

- Barn Owls have remarkably long legs, toes and talons enabling them to catch prey at the base of deep vegetation.
- The feathers on the edge of the Barn Owls' face create a disc, which works to trap and focus sound, rather like our outer ears.

Behavioral:

- Barn Owls hunt at night, and although they have very good eyesight, they rely mostly on their sense of hearing.
- Barn Owls eat mainly small mammals like voles, shrews and mice. Prey is often swallowed whole and indigestible parts are then regurgitated in the form of a pellet.
- Barn Owls do not hoot - they screech.
- On average a wild Barn Owl eats about 4 small mammals per night, that's 1,460 per year.

Black Bear



Physical Characteristics:

- Despite their name their fur has vast color variation ranging from blond, cinnamon, light brown, dark chocolate brown or to jet black.
- The sound made by a bear is referred to as a growl, woof, snort, bellow and roar.

Behavioral:

- A male is called a boar or he-bear.
- A female is called a sow or she-bear.
- Babies are referred to as cubs.
- Their territory is marked by clawing, biting and rubbing trees.
- The average lifespan in the wild is 18 years.
- They rarely attack when confronted by humans.

Beaver



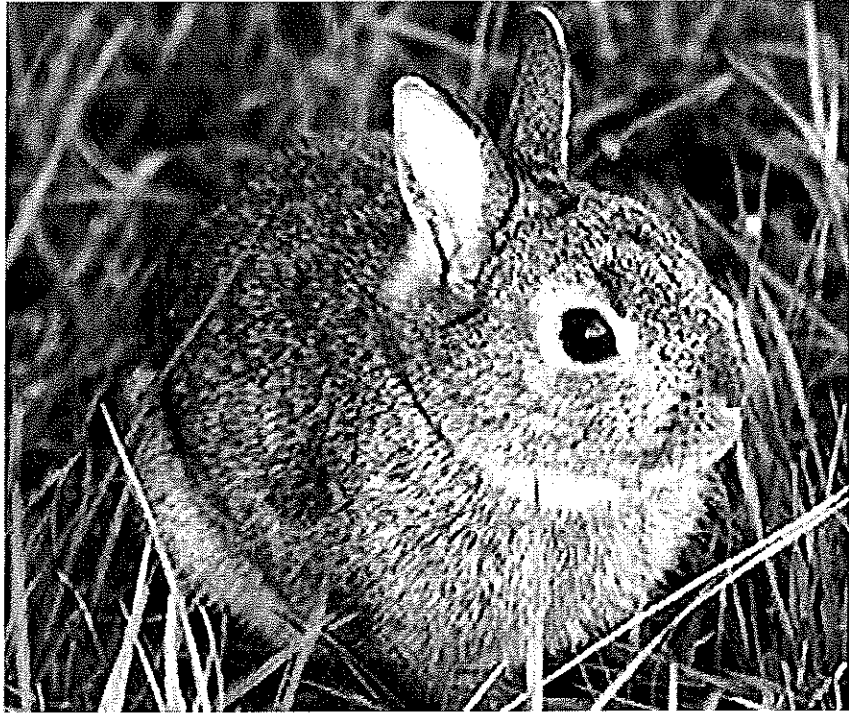
Physical Characteristics:

- Beavers grow three to four feet long and weigh between forty and sixty pounds.
- The lifespan of a beaver is approximately sixteen years.
- They have two orange, prominent upper teeth, and two lower.

Behavioral:

- The beaver will slap his tail hard on the water surface to warn his family of danger; a beaver's slap can be heard for up to 1/2 mile.
- A beaver takes only one mate, which it keeps for life.
- Beavers flood roads, cut down trees, plug road culverts, and can even cause dangerous flash flooding when one of their dams break.
- Beavers are herbivores and prefer to eat leaves, bark, twigs, roots, and aquatic plants.
- A beaver can remain submerged in the water for up to 15 minutes.

Riparian Bush Rabbit



Physical Characteristics:

- The riparian brush rabbit is a medium to small cottontail. Its back is dark brown to gray. Its belly is white.

Behavioral:

- They eat grass, clover, other plants, shoots and leaves. Green clover is their favorite food.
- Riparian brush rabbits live by rivers. They live in thickets of willows, wild rose bushes, blackberry, coyote bushes and wild grape vines.
- Hawks, owls, dogs, foxes, coyotes, house cats, bobcats, weasels, raccoons and snakes all hunt the riparian bush rabbit. No wonder bunnies stay in the bushes as much as they can.
- About 90% of the places riparian brush rabbits live have been destroyed. Some of the things that did this are the growth of cities and farms, flood control and dams.

Mudslide



The main cause for mudslides is heavy rain fall.