

ART-INFUSED STEAM TOUR

A SELF-GUIDED EXHIBITS TOUR



Activities support Fine Arts TEKS and meets ArtsPartners arts-infused requirements

THE ART OF SCIENCE MEETS THE SCIENCE OF ART.

This art infused tour will engage your students in science by stimulating their imagination and encouraging their creativity as they visit each of our 11 permanent exhibit halls. Students will explore colors, light, lines, movement, shape, space, sound, rhythm and texture via interactive and reflective activities. From creating sounds and movement together, to sketching fossils and gems, to describing the colors, sounds, textures and movement of the Texas dioramas and so much more - they will discover that science and art make beautiful music together.

FINE ARTS TEKS:

K - Art 1ab, 3ac, 4b Music 1ab, 2a, 3b, 4ab Theater 1abcd, 2abcd, 3d

1st - Art 1ab, 2abc, 3ac, 4ab Music 1abc, 2a, 4ab, 5b, 6ab Theater 1abcd, 2ab, 5a

2nd - Art 1ab, 2ac, 3c, 4ab Music 1abc, 2a, 4ab, 5c, 6ab Theater 1ab, 2a, 5a

3rd - Art 1ab, 3c, Music 1abc, 2a, 4ab, 5c Theater 1a, 2a

4th - Art 1ab, 3a Music 1abc, 2a, 3bc, 4ab Theater 1a, 2a

5th - Art 1ab, 2b, 3c Music 1abc, 2a, 4ab Theater 2a, 3d

6th - Art 1b, 2b, 3c Music 1abc, 2a, 4ab Theater 2a, 3d

This tour is designed for students to apply various types of reasoning (deductive, inductive, inference) and to employ their critical thinking skills. For a majority of the questions, the answers will vary based on students' observations and experience. There is no right or wrong answer. Some example answers are provided to help you guide them. In some cases, students will draw/sketch pictures instead of writing an answer. Questions #2, #4, and #20 are group experiential activities for students to apply their creativity, flexibility, innovation and collaboration. No answer is required. Question #17 provides the students an opportunity to make an object to take home.

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A SELF-GUIDED EXHIBITS TOUR

OUTDOOR SCIENCE PARK

1. Find the **Petrified Tree**. Feel the surface. How does the texture feel compared to a non-petrified tree? What colors do you see? What do you think was the original color of the wood before it petrified?

Students should use words to describe texture, such as: smooth, bumpy, rough, rugged, etc.

2. Visit the **Musical Forest**. Break up into groups of musicians and dancers. Experiment with the different instruments, and take turns creating sounds, rhythms, and movements.

group experiential activity

LEVEL 4M: ROSE HALL OF BIRDS

3. Find **The Art of Flying** panel and observe the different wing shapes of birds. Choose one and draw it below. What do you find interesting about the shape? What type of flying does it indicate the bird does?

Students should draw their choice below and explain what made the wings interesting to them (Example) "This wing is narrower indicating this bird is a glider." Etc.

4. Birds are nature's composers. Near the stairs, listen to different bird calls, then find the **Language of Birds** exhibit. Can you copy a song or call from one of the birds by whistling, humming, or making other vocal sounds?

group experiential activity

LEVEL 4: T. BOONE PICKENS LIFE THEN AND NOW HALL

5. Find the skin impression of a Hadrosaur at the **Tracking Families and Herds** exhibit. Feel the texture. How does it compare to modern animals? Does it remind you of a reptile or mammal?

Students should use words relating to color (green, brown, grey, black, etc.) and texture (smooth, soft, wooly, furry, slimy, scaly, etc.).

Take a rubbing of the skin impression here with your pencil:

6. As you walk through the **Unearthing Fossil Diversity** exhibit, look closely at each of the fossils on display. What colors, shapes, and textures do you see? Draw one of your favorites below. What do you like about it?

Students should use words to describe the colors, shapes and textures they see (swirls, curves, smooth, grainy, rough, gray, beige, white etc.)

LEVEL 4: EXPANDING UNIVERSE HALL

7. At the **RGB Colors of Light** exhibit, take turns adjusting the levels of the primary colors of light, Red, Blue, and Green. What colors can you create? What happens when you add equal parts of all three? How are the primary colors of light different from the primary colors of paint?

The three colors can mix to create the full range of light colors, but all together, they make white light/the color white. The primary colors of paint are Red, Blue, Yellow.

8. Find the **Stars, In a Class of Their Own** panel. The colors of light an object in space will give off can tell us about how far away the object is, what it is made of, and what temperature it is. What color is our sun? What other colors of stars can you find? What color stars have the hottest temperatures? What colors have the coolest?

The sun is a yellow star. Other stars can be red, the coolest, and blue, the hottest.

LEVEL 3: TOM HUNT ENERGY HALL

9. Find the **Argon Plasma** tube. Observe how the movement of the magnet affects the Argon Plasma inside. Draw some of those movements here:

Students will draw out the movements they see using lines (zig-zag, wavy, curvy, scribbly, jagged, etc.).

10. Imaging the earth is critical to finding resources. What are some of the types of imaging we can use? Below, draw how you think your city might look from above:

Students can use the maps throughout the hall to help with this activity. Other types of imaging include Satellite, Stereo, Radar, Seismic, Magnetic, and Gravity surveys. Students can also discuss 3D modeling and Topography.

LEVEL 3: LYDA HILL GEMS AND MINERALS HALL

11. As you walk through the **Lyda Hill Gems and Minerals Hall**, select two minerals to describe and draw below: *Answers will vary based on students' choice.*

Mineral Name: Color - Shape - Texture

Mineral Name: Color - Shape - Texture

12. Can you find any minerals affected by light? List them and explain how and why they are affected.

Key questions to guide their answers are “Does the look of mineral change with light?” “Does it glow, change color, glisten, sparkle, reflect light, etc.?” (Example): Pyrite - reflects light. Some of the Fluorites will fluoresce under blacklights.

LEVEL 3: THE REES-JONES FOUNDATION DYNAMIC EARTH HALL

13. Learn about the different types of clouds at the **Cloudy With a Chance of Rain** exhibit, then walk over to the windows by the staircase. Do you see any clouds? Draw them in the space below:

Students drawings will vary depending on the clouds available the day/time of their visit. If the sky is clear, Students should select one of the examples at the Cloudy with a Chance of Rain exhibit and draw their version. They should provide a reason they chose that type.

If the sky is clear, draw your favorite type of cloud and explain why you chose it.

14. Examine the rocks displayed on the **Land** wall located next to the **Earthquake Simulator**. Using the information on the panel at the base of the wall called **Earth Recycles**, find an example of each type of rock listed below and describe it. What colors do you see? What shapes and textures?

Answers will vary based on students' choice per each category.

Igneous:

Sedimentary:

Metamorphic:

LEVEL 2: DISCOVERING LIFE HALL

15. An animal's appearance is important to its survival. Look at the various animals in the glass cases. How might the colors and patterns of their skin, fur, or feathers help them in their natural habitats? List three below.

Answers will vary based on students' observations.

16. Visit each of the dioramas representing a Texas ecoregion. Observe the differences between the plants and animals from region to region. Draw and label a plant or animal from each ecoregion.

Drawings will vary based on students' selections. There should be a total of three drawings.

Piney Woods:

Chihuahan Desert:

Blackland Prairie:

LEVEL 2: BEING HUMAN HALL

17. Make a mask of your face using the wire pieces provided. Observe how different cultures emphasize human facial features in different ways in the masks displayed. What features do you want to emphasize?

Students may take their creations home.

18. Visit the **Interactive Voice Visualization** area. Using the microphones and various tones, sounds, volumes, and pitches, create different colorful patterns with your voice. How do the shapes change when you change your volume? How do the colors change when you change your pitch? How do the patterns change when your change your tones and words?

Students can use the microphones to create a range of patterns. The colors indicate pitch, with reds being lower registers, and purples for the highest. Size of the shapes indicates volume with louder sounds being larger. The software recognizes vocal Phonemes, or distinct units of vocal sound, so claps may not register.

LEVEL 2: TEXAS INSTRUMENTS ENGINEERING AND INNOVATION HALL

19. Find the **Trusses** and **Structures** table. Using different shapes, create bridges and buildings that can withstand stress and pressure. What shapes are stronger? What shapes are weaker?

Shapes such as triangles provide a better support base, however students may use the building pieces provided to create a variety of structures to test.

20. Discover how science and art can make beautiful music together by visiting the **MIDI Sound Studio Level**. Work together as a group to create music and sound effects using digital electronics.

group experiential activity

LOWER LEVEL: LAMAR HUNT FAMILY SPORTS HALL

21. Stop by the **Motion Lab**. Perform a pirouette or other dance move. Call up your video on one of the computers. Compare your movement with the ballerina or one of your classmates. If you could represent your movement with a simple line, what would it look like? Draw it in the space below:

Students will draw out their movements using lines (zig-zag, wavy, curvy, scribbly, jagged, etc.)

22. Visit the **Reflexes** activity. How fast are your reflexes? Hand-eye coordination and spatial awareness are important skills for performers.

Students can work individually or as a group to test reflexes and coordination.

FINAL THOUGHTS

23. What is one thing, new or surprising, you learned and experienced today?

24. Which hall or activity did you enjoy the most?