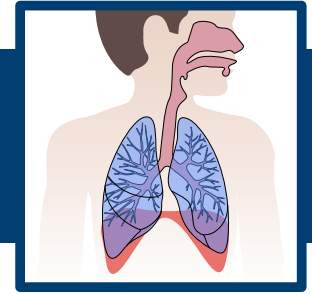


LESSON 1: MAPPING PULMO PARK

Activity 1A-1C: *Teacher Activity Notes*

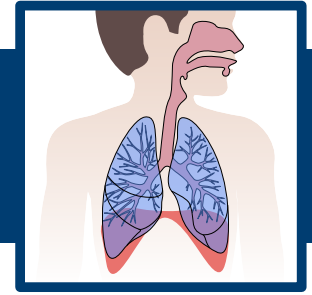


TEXAS BIOMEDICAL
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HEALTH STARTS WITH SCIENCE

1. **Teacher Background:** Provides a comprehensive overview of the pulmonary system, beginning with a foundational information activity (Think About It). This is followed by construction of a respiratory model (Reverse Lung Dissection). The Mapping Pulmo Park lesson culminates with a Poster Presentation to showcase student understanding of structure and function of the respiratory and the impact of environmental issues, genetic factors or life choices on the respiratory system. Each of section is aligned with specific activities and provides additional details to address additional questions students may have while completing the activities. Links to reputable sites are provided. These links provide additional information as well as support materials such as animations and related activities.
2. **Education Standards:** Identifies Texas Essential Knowledge and Skills (TEKS) and Next Generation Science Standards (NGSS). This lesson addresses:
 - a. **TEKS:** High School Biology, Anatomy & Physiology, Pathophysiology, and Health
 - b. **NGSS:** Middle School and High School Life Science
3. **Activities:**
 - a. **Activity 1A: *Think About It:***
 - i. An introductory activity exploring the structures and functions of the respiratory system. Provides students with sufficient background information to address corresponding activity questions. The activity includes a vocabulary list student may reference to complete the activity. The vocabulary list contains phonetic pronunciations and definitions for terms.
 - ii. **Teacher Notes:** This activity can be done as an individual or group activity. As a group activity, assign different Think About It items to different groups. Groups or individual can either write out their responses, draw pictures, create a short presentation, or lead a class discussion. As a virtual activity, students can discuss assigned Think About It questions in breakout rooms. Using a jig-saw model, each breakout room can present their responses to the larger group and answer questions as the class experts for their assigned Think About It. Encourage students to use appropriate terminology in their responses.
 - b. **Activity 1B: *Reverse Lung Dissection***
 - i. In this activity students will build a 10-layer model of the respiratory system. The model consists of vertical “slices” which can be printed, cut out, colored, and assembled. The model can be used as reference for the remainder of the Pulmo Park unit.
 - ii. **Teacher Notes:** The template for the lung model can be printed to color manually to create a 3” x 5” model or saved (e.g., JPEG) to color in virtually. If in a face-to-face setting, the students can work collaboratively with each student responsible for completing a slice. As students assemble the model, they can describe the primary function of their slice and how it

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impacts or works in coordination with other slices and/or body systems. Options for the model include printing each slice on a different sheet of colored paper or transferring template slices onto colored foam for a more durable model. This activity is perfectly suited for review of the respiratory system and the interrelated nature of body systems.

c. **Activity 1C: *Poster Presentation***

- i. Lung-related deaths are in issue world-wide, including those caused by COVID-19. In this activity, students will generate a virtual or trifold poster about a lung related issue. This can be a disease, life choices, or genetic mutations which impact lung health, or environmental issues.
- ii. **Teacher Notes:** The rubric calls for a 3 to 4-minute presentation. Time can be adjusted as needed. This activity lends itself to face-to-face or virtual presentations. Share a list of the approved poster topics prior to the presentation in order for other students to generate questions to ask during the presentation. Providing a mechanism for students to share their poster creates an important connection between the classroom and the community. Virtual posters could be shared on the school or district website or consider a poster presentation session. Presentations could be made to teachers at an after school event or as part of a PTO meeting.