

Just Breathe

Lesson Concept The respiratory system enables organisms to breathe, exchanging oxygen for carbon dioxide.

Link In the previous lesson, students learned that organisms demonstrate a structure-function relationship. In this lesson, students begin their study of systems (respiration, circulation, digestion, and excretion) used for transporting materials in animals; they start with their ideas about the respiratory system. In the next lesson, students will investigate the structure and function of the lungs.

Time 45 minutes

Materials

Partners
Set of Respiratory Cards (R1)

Individual
Science notebook
Respiratory puzzle (R2)
2 Pencils (one colored)

Advance Preparation

1. Duplicate and cut card sets (R1) for each set of partners.
2. Cut out puzzle (R2) for each student and paper clip pieces together. Consider laminating the puzzle pieces for future use.

Procedure:

Engage *(5 minutes) The respiratory system is made of parts that help us breathe.*

1. Ask students to breathe in and out. Have them observe their body as they breathe in, and as they breathe out.
2. Ask students to recall the terms structure and function from the previous lesson and to use these terms as they make their observation.
3. In partners, ask students to share their observations.
4. Ask several groups to share what they noticed. Record their ideas in a T chart labeled structure and function (e.g., nose (structure) to bring air into the body (function)).

Teacher Note: Keep the chart to review at the end of the lesson.

Explore (20 minutes) *The respiratory system includes the nose, trachea, bronchi, lungs, alveoli, and diaphragm.*

Teacher Note: The respiratory system also includes the pharynx—back of the mouth and the larynx—voice box; however, these parts are not specified in this lesson. If you wish to include them, do so.

5. Write the word respiratory system on the board. Ask students to review the ideas on the Engage chart and make a sketch in their notebook with their regular pencil of what they think the respiratory system looks like in their body.
6. Ask students to label the parts they drew.
7. Have partners share and compare their drawings.
8. Discuss drawings as a class. Make a composite drawing (combining many students ideas) on the board, labeling the parts.

Teacher Note: At this point in the lesson, it is acceptable if students have not labeled all of the parts, or labeled the parts correctly.

9. Distribute the respiratory cards to each set of partners. Ask them to deal the cards between them.
10. Have each student “play” a card by reading it to his/her partner.
 - Then have students see if that structure is on their drawing and labeled correctly.
 - If not, have them use their colored pencil to sketch the part on their notebook drawing where they think it might be located.
11. Ask partners to continue to deal the cards until they have responded to each one. Check to see how each group is modifying their original drawing.

Explain (15 minutes) *The main part of the respiratory system is located in our chest and is connected by our nose to the outside.*

12. Distribute the respiratory puzzle to each student. Ask them to work independently to assemble and glue the puzzle in their science notebook.
13. Display the completed puzzle and as a class, label the parts.
14. Have students compare and contrast their sketch with the assembled puzzle. Return to the T Chart from the Engage. As a class, correct and add structures and functions to the chart based on what they learned.

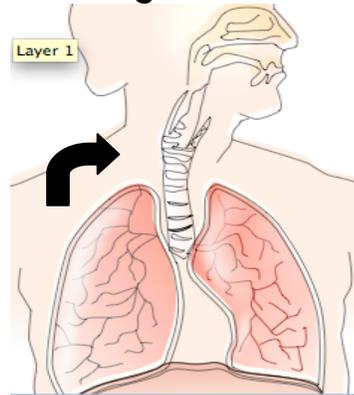
Extend/Evaluate (5 minutes) *The respiratory system has many structures with specific jobs.*

15. Have students record and complete the following sentence frame in their science notebooks: I used to think _____ about the respiratory system, now I think _____.

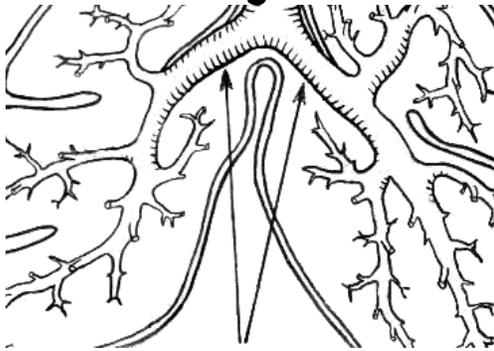
nose-takes in air from the atmosphere



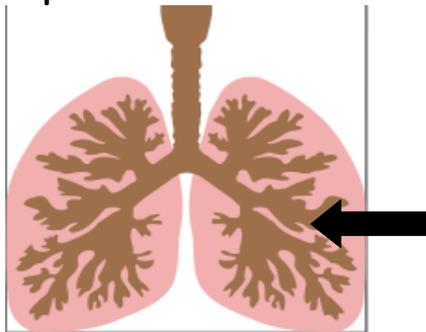
trachea- transports air from the nose and mouth to the lungs



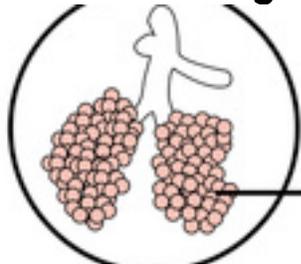
bronchi- conducts air into the lungs



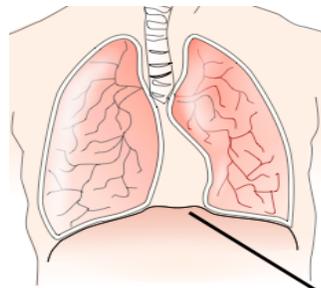
lungs- transports oxygen from the atmosphere into the blood stream and releases carbon dioxide back into the atmosphere



alveoli- exchanges oxygen for carbon dioxide in the lungs



diaphragm- contracts and relaxes to change air pressure in the chest cavity helping to bring air in and let it out



Respiratory Puzzle

