



How Long Can You Hold Your Breath?

Developed by Linda Roberts Grades 4-8

OBJECTIVES

Students will...

- Develop an understanding of “trial and error” methods used in scientific research.
- Understand the basic working of the respiratory system and how it relates to the rest of the body.

MATERIALS

- Stopwatch (Cat. No. TB14784) or a Clock with a Second Hand
- Tape Measure (Cat. No. TB15105)
- Graph Paper, pad of 50 sheets (Cat. No. 9706099)
- Pencil (Cat. No. 9728094 or 9727070)
- Notebook (Cat. No. SB46968)

ACTIVITY

- Have students work with a partner. Students measure each partner's height without shoes and record the heights in their notebook.
- Next, one partner uses the timer while the other partner holds their breath. Students should time this 3 times and record the results in their notebook. Have them find the average time, then switch roles to record data for the other partner.
- When the partners have each had 3 trials, they should collect data from the other groups.
- Using the data they collected, have students make a graph to show the relationships of height to length of time breath was held.



DISCUSSION

Q: Is there a relationship between height and the length of time breath was held?

A: Students will most likely find that taller students can hold their breath for a longer period of time because they have greater lung capacity.

Q: What are some methods you can use to get more air into your lungs?

A: Breathe deeply several times before holding your breath.

Q: What are some factors that would reduce the amount of time breath can be held?

A: Asthma; already out of breath from exercise, coughing, etc.

EXTENDED ACTIVITY

Additional measurements of lung volume can be made using lung volume bags. To learn more or to purchase a Lung Volume Bag Kit (**Cat. No. SB06915**), visit NascoEducation.com.



Lung Volume Bag Kit

Measure lung capacity with this durable, silk-screened plastic bag, calibrated to six liters, with accompanying mouthpiece and holder. Shows the relationship of body size to lung volume. Contains four lung bags, four mouth pieces, four mouth piece holders, and four rubber bands. Instructions included.

SB06915

Disposable Lung Mouth Tubes.

Pkg. of 100.

SB15812

Lung Volume Bags. Pkg. of 4.

SB51112

Mouthpiece Holders. Pkg. of 4.

SB51113

Mouthpieces. Pkg. of 8.

SB51114



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