

COOPERATION

Week 7

Cooperation

Working well together.

Objectives

Cooperation Systems of the Body Week 7

General Objectives

- To learn about the respiratory system
- To see cooperation among systems of the human body
- To introduce the human anatomy
- To emphasize God's design in the human body
- To learn how to research about the body

Specific Objectives

- To learn about the respiratory system and lungs
- To explore the different air tunnels
- To make a model of your lungs
- To dissect an animal lung
- To experiment with salt water moving across a membrane
- To learn how and why we breath
- To do many experiments about lung capacity
- To research respiratory diseases
- To continue writing novel on traveling through the body
- To add respiratory system to body roll-out

Weekly Supplies

Cooperation Systems of the Body Week 7

- Magnifying glass 7 (p.49)
- Model lung materials 11 (p.49) optional
- Tape measure 14 (p.50)
- Balloon, tape measure 15 (p.50) and 2 (p.50)
- 2 ft. plastic tube, plastic gallon jug 17 (p.50)
- Stop watch 21 (p.51) & walk/run test
- Animal lung, straw or plastic tubing 13 (p.50)
- Large and small jar, coffee filter, rubber band, salt, and water 23 (p.51)
- Straw 31 (p.52)

Bible Verse

Cooperation Systems of the Body Week 7

*Let everything that has
breath praise the Lord.
Praise the Lord!*

Psalms 150:6

Lagging/Discouraged?

Cooperation Systems of the Body Week 7

- Cooperation is a long unit.
- There are two main projects
 - Body roll-out
 - Adventure novel
- Some are making the roll-out hard, while the adventure novel is hard
- Hang in there, we are close to the end!!

Remember...

Cooperation Systems of the Body Week 7

Do what you
can!!!!

Do NOT whip
yourself!!!!

Using Your Breath

Cooperation Systems of the Body Week 7

To All of you sinking in the Slough of Despond,

You are all stumbling and sinking because of where you set your eyes. You are looking down and around instead of up and above. When Pilgrim took his eyes off of the Celestial City, when he looked down and around, he lost sight of the true mission. Your mission is not to educate your children. It is not to even to be a great mother and wife. "The chief end of man is to glorify God and enjoy Him forever." *Westminster Confession* That is where your eyes should be. That is where your heart should be. That is where your words should be. Glorify God and begin enjoying HIM.

Instead of mulling over what is wrong in your life, thank the Lord for all that is right in your life. Step outside and glorify Him for the sun and the wind and trees and the sky and the hills and the creeks and all that you see that He has given you free of charge. Glorify Him for the neighborhood heathens He has put in your path, for the squabbling children He has given to you to shape, for the less than perfect husband you are yoked to, for the privilege to homeschool, for the fact you are alive and breathing in a free nation.

Using Your Breath (2)

Cooperation Systems of the Body Week 7

And about those problems that are down and around. What do we do with those? "Consider it all joy, my brethren when you encounter various trial, knowing that the testing of your faith produces endurance." *James 1:2-3*. We are to consider all those trial a joy. If you are not to that point, ask the Lord to work in your heart...to change your heart to consider trials a joy. Pray: Do a work in my heart oh Lord.

True, there is immorality, evil, depravity, and sin of every kind down and around us. It was the same in the day of Sodom and Gomorrah. The results of this election could possibly bring persecution to our land, especially to the homeschooler and the Christian. How could we have joy about that? "For I consider that the sufferings of this present time are not worthy to be compared with the glory that is to be revealed to us." *Romans 8:18* We are not to look at the suffering or even possible suffering, because it is not even worthy to compare to our guaranteed glory. How can we stand the fight ahead, the persecution to come, the depravity around us? We dress for it everyday.

Using Your Breath (3)

Cooperation Systems of the Body Week 7

"Put on the full armor of God, that you may be able to stand firm against the schemes of the devil. For our struggle is not against flesh and blood, but against the rulers, against the powers, against the world forces of this darkness, against the spiritual forces of wickedness in the heavenly places. Therefore, take up the full armor of God, that you may be able to resist in the evil day, and having done everything, to stand firm.

Stand firm therefore, **HAVING GIRDED YOUR LOINS WITH TRUTH, AND HAVING PUT ON THE BREAST-PLATE OF RIGHTEOUSNESS, AND HAVING SHOD YOUR FEET WITH THE PREPARATION OF THE GOSPEL OF PEACE;TAKING UP THE SHIELD OF FAITH WITH WHICH YOU WILL BE ABLE TO EXTINGUISH ALL THE FLAMING MISSELES OF THE EVIL ONE. AND TAKE THE HELMET OF SALVATION AND THE SWORD OF THE SPIRIT WHICH IS THE WORD OF GOD.**" *Ephesians 6:11-17*

Order
for
your
closet

\$15



Using Your Breath (4)

Cooperation Systems of the Body Week 7

We need to be dressed in truth, righteousness, the gospel, faith, salvation, and the Word of God. If we dress properly, we will be able to stand the evil and the persecution. We need not fear as we will be fully equipped, just like Corrie ten Boon was equipped for her ordeal.

Our prayer: God give me joy and gratitude to be used to glorify you daily where you have put me in the circumstance you have given me.

I encourage you to:

Focus on the Lord and His promises.

Have joy for the trials the Lord has placed you in.

Dress as the Lord has commanded.

Give glory and thanks to the Lord your God in all things.

None of this is easy, but it is how the Lord tells us to respond.

Praying for each of you,

Jessica

Mom's Activities

Cooperation Systems of the Body Week 7

Monday-Friday: Lifting Your Spirit

- 36 (p. 52) Look in concordance to references to breathe and breath.
- 37 (p.52) "Sing on Me Breath of God" daily.

Mom's Activities

Cooperation Systems of the Body Week 7

Breathe on me, breath of God.
Fill me with life anew
that I may love what thou dost love
and do what thou wouldest do.

Breath on me, breath of God
Until my heart is pure,
until my will is one with thine
to do and to endure.

Focus Books

Cooperation Systems of the Body Week 7

A *Blood and Guts: A Working Guide to Your Own Insides*
by Linda Allison (A must!)

* *The Human Body* by Bruun and Bruun (excellent!)

More About My Magnificent Machine by William L. Coleman, pp.41-42 (For the whole family!)

O *The Lungs and Breathing* by Brian R. Ward (Good information and graphics)

M *Understanding Your Body* by Rebecca Treays and Christyan Fox

Let's Try It Out: About Your Lungs by Seymour Simon
The Incredible Body Machine by Paula S. Brown

Websites

Cooperation Systems of the Body Week 7

- http://kidshealth.org/parent/general/body_basics/lungs.html (General respiration info)
- <http://kidshealth.org/kid/htbw/lungs.html> (Lung info for children)
- <http://webschoolsolutions.com/patts/systems/lungs.htm> (Great info on lung capacity and oxygen flow)
- <http://www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=22576> (American Lung Association website)
- http://www.lung.ca/children/index_kids.html (Broken up into 1-3 grade, 4-6 grade, 7-12 grade)
- http://www.fitness.com/tools/12min_run/ (Walk/run test - Kenneth Cooper Aerobics)

Music

Cooperation Systems of the Body Week 7

- “Breath on Me, Breath of God”
- “Breath” by Michael W. Smith

Writing Assignment

Cooperation Systems of the Body Week 7

Y-M-O 23 (p.9) Write and illustrate a book about traveling through the body.

- This week continue writing.
- Finish writing one or two adventurers.
- Illustrate what you have written.

Timeline Characters

Cooperation Systems of the Body Week 7

Dr. Kenneth Cooper
(Vol. I Stewardship)

Vocabulary

Cooperation Systems of the Body Week 7

General

Respiration

Inhale

Exhale

Suffocate

Oxygen (O_2)

Carbon dioxide (CO_2)

Lung capacity

Sputum

Antibodies

Antibiotics

Phlegm

Carcinogen

Respiratory Parts

Mucous lining

Mucus

Nose hairs

Diaphragm

Larynx (voice box, Adam's apple)

Pharynx (throat)

Trachea (windpipe)

Lungs

Bronchi

Alveoli

Activities

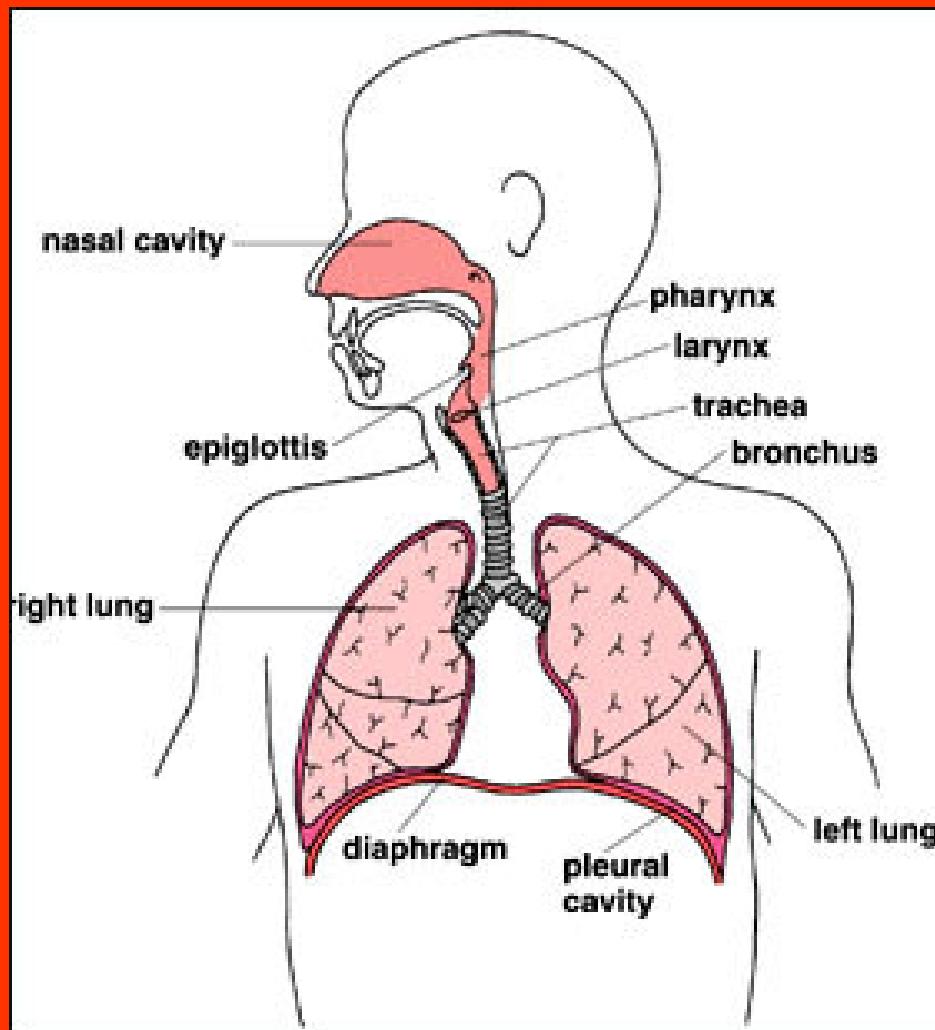
Cooperation Systems of the Body Week 7

Monday: Respiratory/Parts

- 1 (p.48) Define respiratory.
- 2 (p.48) Look at other words that start with the prefix "re".
- 22 (p.51) Explain why we breathe.
- 6 (p.49) Show all your air tunnels.
- 7 (p.49) Look at the inside of your nostrils with a magnifying glass.
- 8 (p.49) Explore why pepper makes you sneeze.
- 5 (p.49) Label the parts of the respiratory system on body roll-out.

Respiratory System

Cooperation Systems of the Body Week 7



Respiration Path

Cooperation Systems of the Body Week 7

- Inhale through **mouth/nose**
- Air moves through **pharynx and trachea**
- **Diaphragm** stretch downward to expand the lungs
- Into **lungs** through **bronchi** (left and right lung)
- **Bronchioles**
- **Alveoli**
- Oxygen to **blood** (circulatory system)
- Carbon dioxide back into **lungs**
- **Diaphragm** contracts to push air out of lungs
- **Exhale** air out

20,000 breaths per day

Right lung has 3 lobes

Left lung has two lobes

Activities (cont'd 2)

Cooperation Systems of the Body Week 7

Tuesday: Lungs

- 9 (p.49) Find your lungs using the percussion experiment in Blood and Guts, p. 60.
- 10 (p.49) Show how large your lungs are using your hands.
- 14 (p.50) Measure the diameter of your rib cage before and after taking a breath.
- 13 (p.50) Observe or dissect an animal lung.
- 11 (p.49) Make a model lung.(optional)

Activities (cont'd 3)

Cooperation Systems of the Body Week 7

Wednesday: Lung Capacity

12 (p.50) Younger children blow up a balloon and float it.

15 (p.50) Older children calculate how much air is in your lungs.

17 (p.50) Experiment to see how much air your lungs can exhale.

34 (p.52) Discuss how respiratory and circulatory systems cooperate.

Do a 12 minute walk/run at a jogging track, (with Dad)?

Activities (cont'd 4)

Cooperation Systems of the Body Week 7

Thursday:

- 23 (p.51) Experiment with salt water moving through a filter.
- 21 (p.51) Test how long you can hold your breath.
- 28 (p.52) Guess how many breaths you take during an activity and test it.
- 26 (p.51) Calculate how many breaths you have taken in your lifetime.
- 27 (p.51) Calculate how many breaths an average person has taken.
- 25 (p.51) Discuss what happens when other gases fill lungs.
- 29 (p.52) Blow on cold glass.
- 31 (p. 52) Blow bubbles.
- 19 (p.51) Research hiccup remedies.

Activities (cont'd 5)

Cooperation Systems of the Body Week 7

Friday: Respiratory

Learn how your larynx works.

35 (p.52) Research various diseases of the respiratory system.

33 (p.52) Discuss how smoking causes lung disease (Dad?)

23 Gen. (p.10) Continue writing novel about traveling through the body.

Work cooperatively!

Asthma

Cooperation Systems of the Body Week 7

Asthma - airway inflammation; makes airways overly sensitive

Symptoms: coughing, shortness of breath, wheezing, chest tightness,; may worsen w/ activity, stress, at night

Causes:

- Infection or allergens
- Tobacco smoke or other environmental pollutants
- Exercise
- Weather changes or cold air

Treatment:

- No cure; can only control symptoms and attacks
- Medication - open airways; reduce inflammation
 - Pill or inhaler
 - Steamy shower

Bronchitis

Cooperation Systems of the Body Week 7

Bronchitis – inner walls that line main air passageways of lungs become infected and inflamed; often follows respiratory infection such as cold; most cases disappear within a few days, although coughs may linger for weeks.

Symptoms: include cough that brings up yellowish-gray or green mucus (sputum), soreness and feeling of constriction or burning in chest, sore throat, chest congestion, breathlessness, wheezing, and slight fever and chills

Causes:

- Smoking
- Viruses and sinus infections draining to lungs
- Certain dusts or fumes

Treatment:

- Antibiotics
- Sleep, liquids, cough medicine

Pneumonia

Cooperation Systems of the Body Week 7

Pneumonia - inflammation of the lungs caused by infection; ranging in seriousness from mild to life-threatening

Causes:

- **Bacteria** - occurs in only one lobe of the lung
- **Viruses** - $\frac{1}{2}$ of all cases of pneumonia; may develop into bacterial pneumonia
- "Walking Pneumonia"
 - ❖ Mild flu-like symptoms...you won't know you have
 - ❖ May not be sick enough to stay in bed

Symptoms: include shaking chills, a high fever, sweating, shortness of breath, chest pain, coughing thick, greenish or yellow phlegm

Spreads: coughing

Treatment: antibiotics

Tuberculosis

Cooperation Systems of the Body Week 7

Tuberculosis - life-threatening bacterial lung infection; spread through airborne droplets when a person with the infection coughs, talks or sneezes; need prolonged exposure to an infected person before becoming infected yourself

Symptoms: include cough lasting three or more weeks that produces bloody sputum, unintended weight loss, fatigue, fever, pain with breathing or coughing; pleurisy

Treatment:

- **Medication for minimum of 6 months**
- **Bed rest**

Lung Cancer

Cooperation Systems of the Body Week 7

Lung Cancer - also called carcinoma; begins in lining of lungs, bronchi, trachea; cells develop into tumors

Symptoms include constant chest pain, reoccurring lung infections, shortness of breath, swelling of neck or face, bloody sputum.

Causes:

- Smoking (including second-hand smoke)
- Reoccurring lung infections (tuberculosis, pneumonia)
- Family history

Treatment:

- Chemotherapy - drugs to kill cancer cells
- Radiation therapy - high-energy rays to kill cancer cells
- Surgery - remove lung or part of lung with tumor

Cystic Fibrosis

Cooperation Systems of the Body Week 7

Cystic Fibrosis - an inherited disease that causes severe lung damage and affects cells that produce mucus, sweat, saliva and digestive juices; defective gene causes secretions to become thick and sticky and plug up tubes, ducts and passageways, especially in pancreas and lungs.

Symptoms: include delayed growth, salty tasting skin, blocked bowels, thick sputum, frequent sinus infections, recurring pneumonia or bronchitis, and clubbing of fingertips and toes.

Treatment:

- Medication - drugs to prevent infection, thin mucus, open bronchial tubes
- Lung transplant
- Nutrition therapy

Tracheotomy

Cooperation Systems of the Body Week 7

Tracheotomy - surgical procedure in which a cut or opening is made in windpipe (trachea); surgeon inserts tube into opening to bypass an obstruction, allow air to get to lungs, or remove secretions

Reason for tracheotomy:

- Not enough air getting to lungs
- Cannot breathe without help
- Mucus and other secretions getting into windpipe

Permission Slip

Permission Coupon

Free pass to skip one activity
or other assignment

(Feel free to copy as often as needed)

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Free pass to skip one activity
or other assignment

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Field Trips

Cooperation Systems of the Body Week 7

Go to local track (with Dad) and do the 12 minute walk/run.

Visit respiratory therapy department of hospital.

Visit local EMS at the fire station to learn why oxygen is given to patients.

Suggestions for Dad

Cooperation Systems of the Body Week 7

- Go to a jogging track and do the aerobic MET test with the children.
http://www.fitness.com/tools/12min_run/
- Discuss smoking and lung cancer with your children.
- Be sure to do a family devotional each day this week if at all possible.

Focus of the Week

Cooperation Systems of the Body Week 7

- Learning about the respiratory systems
- Recognizing cooperation among systems of the human body
- Recognizing God's design in the human body
- Learning how to research about the body
- Learning about the parts of the respiratory system
- Exploring air tunnels
- Making a model of lungs
- Dissect an animal lungs
- Conduct many experiments about lung capacity
- Learning how and why we breath
- Experimenting with diffusion of salt water
- Researching respiratory diseases
- Continuing writing novel on traveling through the body
- Adding respiratory system to body roll-out

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Thanks,
Wade and Jessica Hulcy