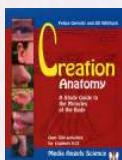




# Creation Anatomy Kids Classes Blood – Heart Respiration Injuries and Healing



Presented by  
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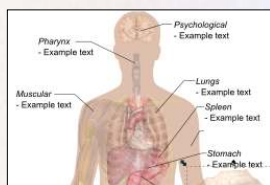
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## Blood ~ Heart ~ Respiration

- Blood
  - White Cells
  - Red Cells
- Heart
- Respiration



- Leviticus 17:4
  - The life of every creature is its blood

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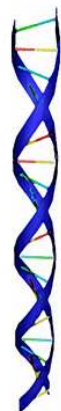
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## How Does YOUR Body Work?

- 75-Trillion Cells
- Cells Need
  - Oxygen
  - Burn Fuel (need a fuel source)
  - Get Hot
  - Need to cool
  - Perform work
  - Give off exhaust “gas”



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## Blood

- Blood
  - Brings oxygen
  - Brings food
  - Veins
    - Small tubes
    - Carries blood cells
- Delivers oxygen
- Removes waste

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## More about the Blood

- Red Blood Cells
  - Carry Oxygen
- White cells
  - Fight infections
- Platelets
  - Help you stop bleeding
- Plasma
  - Yellowish liquid
  - Carries food (nutrients) and more
- Chemical Plant
  - Turns food into
    - Flesh
    - Blood
    - Bones
    - Teeth

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## Body vs. Engine

- Engine
  - Lots of parts
  - Need gas
  - 9000+ gallons of air for each gallon of gas
- Body
  - Circulatory System
  - Needs Food
  - Rest
    - 4 gallons of oxygen per hour
  - Active
    - 75 gallons of oxygen per hour
  - Oxygen travels through the blood stream

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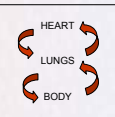

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## Blood



- Precious Blood of Jesus gives us spiritual life
- We are redeemed by the blood of Jesus 1 Peter 1:18-20
- Blood of Jesus purifies US... 1 John 1:7

It's all in the Blood...the Precious Blood of Jesus.

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## Blood Cells



- Body: 5.5 quarts of blood
- Every Second
  - 2.5 million new blood cells
- Every 4 months
  - Almost all red blood cells are replaced
- One Red blood cell travels 3,000 round trips through circulatory system!




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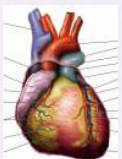
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## Heart Facts!



- Heart weighs approx. 10 oz.
- Always working
- Size of a fist
- Pumps 2.5 oz. of blood with each beat




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## More Heart Facts

- Beats about 70 x each minute
- One minute:
  - Blood goes 40 sec. in body
  - 20 sec. in lungs and back
- Each minute:
  - 12 pints of blood goes through 10's of 1000's of miles of blood vessels

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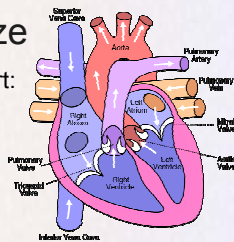
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## Heart Squeeze

- Two sides of the heart:
  - Right Ventricle
  - Left Ventricle



- Left ventricle squeezes blood through the aorta
- Blood begins journey under pressure
- Pressure and speed fall as the arteries become smaller

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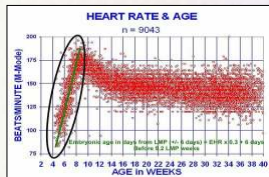
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## How hard does your heart work?

- Squeeze a tennis ball using both hands



- Squeeze the ball 1 x per second for 60 seconds
- Do this your entire life!! 😊

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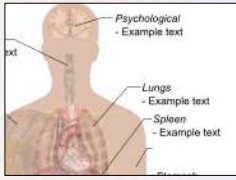
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## Lungs



- Lungs
  - Fill with air
- Diaphragm
  - Tightens and moves up and down
- Rib cage protects lungs
  - Rib muscles tighten so ribs move up and down make room for lungs full of air




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## Breathing



- We can:
  - Hold breath for short time
  - Take deep breaths to take in more oxygen and gets rid of more carbon dioxide
- Stand Straight! Good posture helps breathing
- We can control the way we breathe
  - When we talk
  - Sing
  - Speak loudly
  - Play musical instrument

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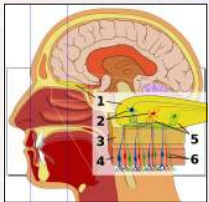
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## Parts of Breathing



- Nostrils
- Mouth
- Throat
- Windpipe
- Lungs
  - Diaphragm




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## Blood Moves Oxygen!

- We use 1/5 of the air we breathe in
- Oxygen is absorbed into the blood stream
- Oxygen is carried to the cells

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## Injuries and Healing

- White Cells
  - Fight disease
  - “Eat” invading germs
  - Flow around the germ
  - Chemicals digest germs
  - Body temperature goes up
- Antibodies

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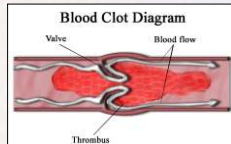
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## Blood Clots

- You Bleed
- Blood begins to form a scab
  - Clot is like a protective bandage
  - Keeps blood in
  - Keeps germs out



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## Blood Clot to the Rescue

- Injury team
  - Platelets
    - Stick together like glue
    - Begin to dry out
    - Scab forms
    - Crusty dark red or brown

White Blood Cells are under new scab:  
Get rid of dead blood and skin cells, Fix the torn skin  
Fix the broken blood vessels

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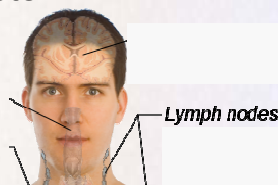
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## Lymph System



- Protects you from infection
- Lymph nodes
  - Swell when there is infection
  - Multiply to fight infection

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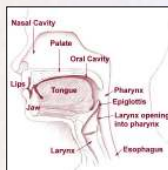
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## Voice and Speech



- Air
  - Moves through the windpipe over vocal cords
  - Vibrates the cords and makes sounds
- Muscles stretch the cords and sound becomes higher
- Changing position of the tongue and mouth turns the sound into words

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