

Teacher's Guide

This guide includes:

- Standards
- Related Links
- Discussion Questions
- Activities for Students
- Reproducible Materials

Standards

This guide correlates with the following National Health Education Standards:

Students will:

- Comprehend concepts related to health promotion and disease prevention to enhance health.
- Demonstrate the ability to access valid information and products and services to enhance health.
- Demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Demonstrate the ability to use decision-making skills to enhance health.
- Demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.

National Health Education Standards:
www.cdc.gov/healthyschools/sher/standards/index.htm



Grades 6 to 8 • Human Body Series Bones, Muscles, and Joints

The following activities will help your students learn how the bones, muscles, and joints work together, as well as how to prevent injuries from occurring.

Related KidsHealth Links

Articles for Kids:

Your Bones

KidsHealth.org/en/kids/bones.html

Movie: Bones & Skeletal System

KidsHealth.org/en/kids/ssmovie.html

Your Muscles

KidsHealth.org/en/kids/muscles.html

Movie: Muscular System

KidsHealth.org/en/kids/msmovie.html

The Facts About Broken Bones

KidsHealth.org/en/kids/broken-bones.html

Strains and Sprains Are a Pain

KidsHealth.org/en/kids/strains-sprains.html

Articles for Teens:

Bones, Muscles, and Joints

TeensHealth.org/en/teens/bones-muscles-joints.html

Broken Bones

TeensHealth.org/en/teens/broken-bones.html

Dealing With Broken Bones

TeensHealth.org/en/teens/broken-bones-sheet.html

Strains and Sprains

TeensHealth.org/en/teens/strains-sprains.html

Strength Training

TeensHealth.org/en/teens/strength-training.html

Calcium

TeensHealth.org/en/teens/calcium.html

Vitamin D

TeensHealth.org/en/teens/vitamind.html

Discussion Questions

Note: The following questions are written in language appropriate for sharing with your students.

1. The adult human body has 206 bones, but a baby's body has about 300 bones. Why is there such a difference? What happens to these bones as you grow up?
2. Make a list of ways that your bones protect parts of your body.
3. Bones rely on the muscles and joints to move. How do they all work together?



Activities for Students

Note: The following activities are written in language appropriate for sharing with your students.

Dem Bones

Objective:

Students will:

- Identify the major bones in the body

Materials:

- Computer with Internet access
- Art supplies (markers, pens, or pencils; scissors; paper and tape or glue)
- “Dem Bones” handout

Class Time:

1½ hours

Activity:

Cut out the bones on the “Dem Bones” handout, and reconstruct correctly as a skeleton on a piece of paper using tape or glue. Then label these bones:

fibula
humerus
patella
pelvis
radius
rib
scapula
skull
sternum
tibia
ulna
vertebra

Finally, circle one ball-and-socket joint and one hinge joint.

Extension:

The famous gospel song “Dry Bones” describes how the different bones in the body fit together (“The foot bone connected to the leg bone,” and so on.) It’s your turn to create a song, poem, or verse about the body – this time about the muscles and joints and how they help the bones move. Using catchy rhymes can help you remember the words.



Give Me a Break!

Objectives:

Students will:

- Identify injuries that can occur to bones, muscles, and joints
- Determine how to prevent these injuries
- Discover what to do if an injury occurs

Materials:

- Computer with Internet access
- Pen and lined paper

Class Time:

1½ hours

Activity:

Lots of things kids and teens do can cause bones to break, muscles to strain, and ligaments to sprain. But there are ways to help prevent these injuries. Using the articles at KidsHealth.org, write an informational flyer offering tips to help your friends avoid these injuries. Be sure to include this information:

- The kinds of activities that can result in injured bones, muscles, or joints
- The kinds of injuries that can occur
- Precautions to take to prevent these injuries
- What to do if a bone is broken or a muscle is pulled

Extensions:

1. Create a video for young kids showing them what to expect if they need to get a cast or splint.
2. Your friend just fell off his bike and is clutching his arm. You think it might be broken. How can you help him?

Reproducible Materials

Handout: Dem Bones

KidsHealth.org/classroom/6to8/body/part/bones_handout1.pdf

Handout for Teachers: Dem Bones Answer Key

KidsHealth.org/classroom/6to8/body/part/bones_handout2.pdf

Quiz: Bones, Muscles, Joints

KidsHealth.org/classroom/6to8/body/part/bones_quiz.pdf

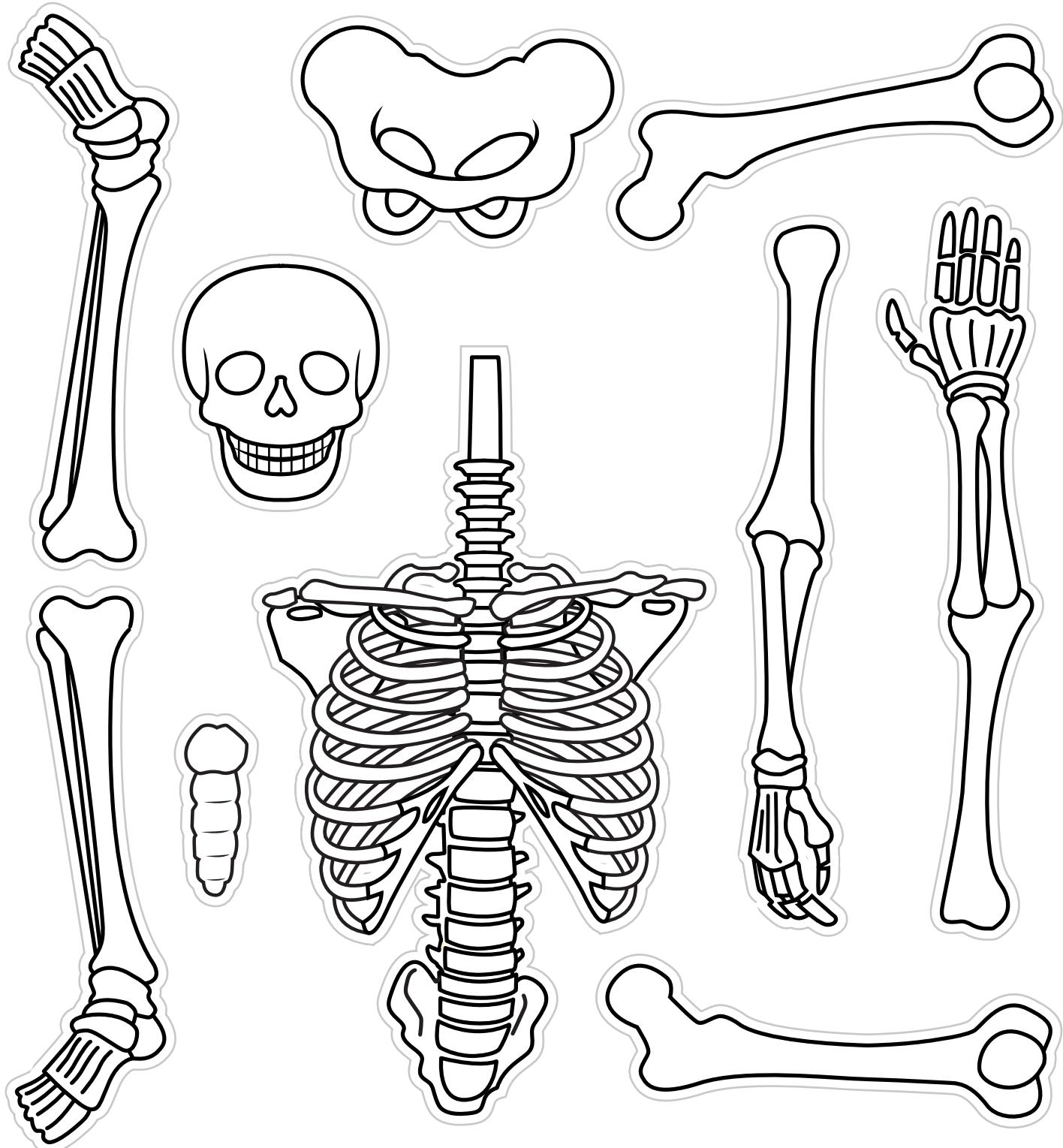
Answer Key: Bones, Muscles, Joints

KidsHealth.org/classroom/6to8/body/part/bones_quiz_answers.pdf



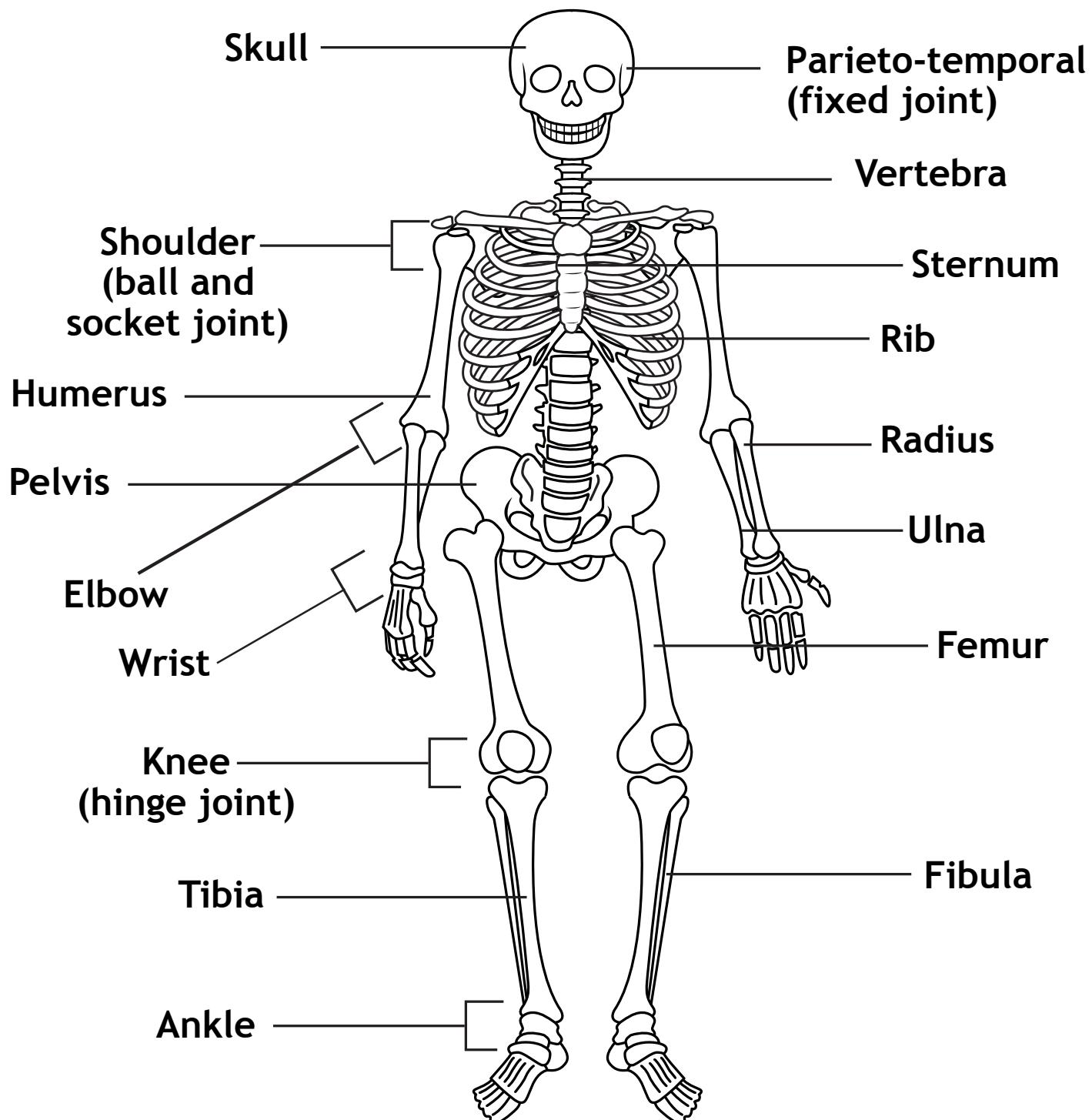
Dem Bones

Instructions: Cut out the bones and use them to create a puzzle of the human skeleton. Label the major bones and briefly describe what they do.





Dem Bones Answer Key



**Name:** _____**Date:** _____

Quiz

Instructions: Answer each question.

1. Adults have this many bones and muscles, respectively:
 - a) 198, more than 400
 - b) 206, more than 600
 - c) 300, more than 1,000
 - d) Trick question! Each person has a different number of bones and muscles.

2. The ribs protect the _____.

3. Underline the two main types of joints:
 - a) Ball and socket joint
 - b) Bend joint
 - c) Hinge joint
 - d) Squeeze joint
 - e) Stretch joint

4. True or false: It's easy to flex your smooth muscles.

5. True or false: Skeletal muscles are attached to bones by tendons.

6. True or false: The gluteus maximus is made up of cardiac muscle.

7. True or false: The worst thing for a broken bone is to move it.

8. _____ hold bones together at joints.

9. RICE, the acronym that reminds you how to help an injury, stands for:
 - a) Relax, Injury, Cold, Eat
 - b) Rejuvenate, Inhibit, Cast, Emergency
 - c) Rest, Ice, Compression, Elevation
 - d) Rice, Ice, Concise, Entice

10. Name a vitamin and a mineral that help keep bones (and teeth) strong:
 - a) _____
 - b) _____



Quiz Answer Key

1. Adults have this many bones and muscles, respectively:
 - a) 198, more than 400
 - b) 206, more than 600
 - c) 300, more than 1,000
 - d) Trick question! Each person has a different number of bones and muscles.
2. The ribs protect the (any one of the following: heart, lungs, liver).
3. Underline the two main types of joints:
 - a) Ball and socket joint
 - b) Bend joint
 - c) Hinge joint
 - d) Squeeze joint
 - e) Stretch joint
4. True or false: It's easy to flex your smooth muscles.
5. True or false: Skeletal muscles are attached to bones by tendons.
6. True or false: The gluteus maximus is made up of cardiac muscle.
7. True or false: The worst thing for a broken bone is to move it.
8. Ligaments hold bones together at joints.
9. RICE, the acronym that reminds you how to help an injury, stands for:
 - a) Relax, Injury, Cold, Eat
 - b) Rejuvenate, Inhibit, Cast, Emergency
 - c) Rest, Ice, Compression, Elevation
 - d) Rice, Ice, Concise, Entice
10. Name a vitamin and a mineral that help keep bones (and teeth) strong:
 - a) vitamin D
 - b) calcium