

Physical  
Life  
Earth and Space

## LESSON 50

### Identifying the joints and their functions

#### Lesson Preparation

##### Program Materials

- Science Word Wall card (see inset)
- Lesson Review 50

Science  
Word Wall

joints

##### Tool Kit Materials

- X-rays of the human body (see *The Night Before*)
- Resource book *Your Insides* (see *The Night Before*)

##### Teacher Collected Materials

- Self-stick tag (see *The Night Before*)
- Optional: Model skeleton of the human body (see *The Night Before*)

##### The Night Before

- The x-rays needed for the lesson are the chest, left and right hands, left foot, skull, and knee. Keep each backing paper behind its x-ray.
- Put a self-stick tag on the first page of “Joints Let You Bend” in the resource book *Your Insides*.
- Optional: Borrow a model skeleton from a science resource teacher/coordinator or a high school biology teacher.

### The Lesson

- Seat children in an area where all children can easily see the x-rays and the illustrations on the pages titled “Joints Let You Bend” in the book *Your Insides*.

**“In our last science lesson, we learned the names of some of our bones.”**

**“What do you call all the bones together that form your body?”**  
**skeleton**

- **Optional:** Show children the model of a skeleton.

**“Does anyone remember how many bones are in a human being’s skeleton?”** **206**

**“Where is the largest bone located?”** **upper leg**

**“What is it called?”** *femur*

- Ask a child to point to the femur of the skeleton or of his or her own body.

**“The bones in your head make up your skull.”**

**“What do we call the bones in your skull that protect your brain?”**  
*cranium*

- Ask a child to point to the cranium of the skeleton or of his or her own body.

**“Which bone in your skull moves when you eat and talk?”** *mandible*

- Ask a child to point to the mandible of the skeleton or of his or her own body.

**“Where is the smallest bone in your body?”** *inside your ear*

**“What is it called?”** *stapes (stā'pēz)*

- Show children the x-ray of a chest.

**“This is an x-ray of a part of a human body.”**

**“An x-ray is a photograph that allows you to see the bones in your body.”**

**“What bones do you think this x-ray shows?”** *ribs, spine (vertebrae)*

- Repeat with the x-ray of the right hand, left foot, and skull.

**“Has anyone had an x-ray taken?”**

**“Why did you need to have an x-ray?”**

**“Where did you go to have the x-ray taken?”**

- Allow time for the children to share experiences with x-rays.

**“Today you will learn about joints.”**

**“The place where two or more bones meet is called a joint.”**

**“Joints allow your body to bend, turn, and twist.”**

- **Teacher Note:** The body of an adult human contains more than 100 joints. Knuckles, wrists, and shoulders are examples of freely moveable joints. The joints between the eight bones that make up the cranium are fixed joints. Fixed joints are immovable. The vertebrae are examples of slightly moveable joints.

- Show children the word card joints.

**“Let’s read this word together.”**

**“Bend your arm at your elbow.”**

**“The joint at your elbow allows you to bend your arm.”**

**“Move your fingers and wrists.”**

**“The joints between the many bones in your fingers and wrists allow you to bend, turn, and twist them.”**

**“Make a large circle with your arms.”**

**“The joint between the bones in your arm and your shoulder allows you to turn your arm like this.”**

**“Bend over and touch your toes.”**

**“The joints between the 33 vertebrae in your spine allow you to bend your back.”**

**“What other parts of your body have joints that allow you to bend, twist, or turn?”** *knees, feet, toes, hips*

- Ask children to identify other areas of their bodies where there is a joint.

**“Let’s look at another x-ray.”**

- Show children the x-ray of a knee.

**“The space between the bones is the joint.”**

- Point to the joint in the x-ray.

**“The joint allows you to bend your leg.”**

**“Let’s look at another x-ray.”**

- Show children the x-ray showing the left hand.
- **Teacher Note:** The bones shown in this x-ray are the eight carpals in the wrist, the five metacarpals in the hand, and the 14 phalanges in the fingers.

**“What part of the body do you think this x-ray shows?”** *the hand*

- Point to the joints in the x-ray.

**“The spaces between the bones are the joints.”**

**“The joints allow you to bend your wrist and fingers.”**

**“Who would like to point to a joint in this x-ray?”**

- Ask several children to point to joints in the x-rays.
- **Teacher Note:** Ligaments are connective tissues that hold bones together at joints. Pads of cartilage cushion the ends of the bones of a joint. This allows a joint to withstand great pressure and stress.

**“I have a book that will help us learn more about our bodies.”**

- Show children the cover of the book *Your Insides*.

**“The title of this book is *Your Insides*.”**

**“Let’s read what this book has to say about joints.”**

**“The title of these two pages is ‘Joints Let You Bend.’”**

- Read each section of the two pages on joints. Pause after each passage to show children the illustrations.

**“Who would like to share something you learned in science today?”**

- Allow time for the children to share.

**“In our next science lesson, we will learn about muscles.”**

- Have children return to their seats.
- Post the word card joints on the Science Word Wall.

## *Lesson Review*

- **Note:** Lesson reviews may be completed on the same day a lesson is taught or on the following day.
- Distribute Lesson Review 50.
- Read the directions and questions one at a time to the children, allowing time for the children to answer each question before continuing.
- Circulate and assist children as they work.
- Collect the children’s papers. Record on the Lesson Review Recording Form the completion of the lesson review. Return the papers to the children to take home or store in a science folder.

Name \_\_\_\_\_ *Answer Key* \_\_\_\_\_

Lesson Review 50  
Science 1 Lesson 50

Your Joints

Fill in the circle next to the correct answer.

1. Why are the joints in your body important?

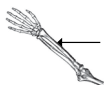
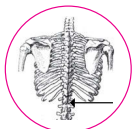
- A Joints help you bend, turn, and twist.
- B Joints protect your brain.
- C Joints keep your body stiff.

2. Which joint helps you throw a ball?

- A femur
- B mandible
- C elbow

Look Back

3. Circle the picture showing a person's spine.



4. Circle the word that names something inside your body.

twigs

blood

roots

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