# SUBJECT: Science

## UNIT: Y7 Movement

SANDHILL VIEW
EST. 1953
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### Key Vocabulary

**Joint**
Where two bones meet
**Cartilage**
Strong, smooth tissue that covers the end of bones at joints
**Ligament**
Tissue that holds bones together
**Antagonistic**
In opposition to. Antagonistic muscles are pairs that work in opposite directions to each other. For example; biceps and triceps in the upper arm
**Tendon**: a tissue that connects a muscle to a bone.
**Skeleton**
All the bones in an organism.

### Body Systems

Cells are the building blocks of living things. We often connect tissues and organs together into body systems.

### Ambitious Vocabulary

Skeleton Tissue Joint Muscle

### The Skeleton

There are 206 bones in an adult human. Bones are mostly made of elements such as calcium, phosphorus, and sodium. The strongest bone in the body is the femur which is located in the thigh. The smallest bone in the body are the ossicles which are found in the ear.
The role of the skeleton is to:

1. Provide support to keep us upright
2. Protect our organs
3. Support with movement
4. Help fight disease
5. Synthesises red and white blood cells

The structure of bone consists of compact bone on the outside which is rigid and inflexible, spongy bone inside this that is more flexible, and in the very centre is a structure known as 'bone marrow'. Bone marrow makes red and white blood cells.

### Joints

Joints are areas where two different bones meet. Examples of places in your body where there are joints are knees, elbows, jaw, shoulders. There are several parts to joints.
There are three types of joints.

1. Hinge joint.
   This joint is for forwards and backwards movement and therefore only has a small range of movement. Examples of hinge joints are knees and elbows.
2. Ball and socket joint.
   This joint is for movement in all directions and therefore they have the largest range of movement. Examples of ball and socket joints are the shoulder and hip joints.
3. Fixed joint.
   Fixed joints do not allow any movement. The main example of this is in the skull. Babies are born with a hole in the bones at the back of their skull, these bones then meet and become fixed as the child grows into an adult.

### Levels of Organisation

Organelles are parts of a cell, for example, the nucleus. Lots of cells that all have the same function are known as a tissue. Lots of tissues together make organs. Some organs working together for the same function is an organ system, Lots of organ systems working together is an organism.

### Parts of a Joint

If bones moved against each other they would rub which would cause pain. Therefore there are other parts of a joint that prevent this.
Joints are made of cartilage, ligaments, and fluid. Cartilage is a strong, smooth tissue that cover the ends of the bones to protect them. Ligaments hold bones together, The fluid keeps the cartilage slippery to reduce friction.

### Muscles

Muscles cannot push they can only pull. A pair of muscles that work together are called antagonistic muscles. When one contracts the other relaxes.

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## While you were away

### Lesson 1: Levels of organisation

1. What is made of lots of cells doing the same function?
2. What do lots of tissues make?
3. What works together to make an organ?

### Lesson 2: The skeleton

1. What are bones made of:
2. What is the role of the skeleton?
3. What is found in the centre of bones?

### Lesson 3: Joints

1. What is a joint?
2. What are the three types of joint?
3. What are joints made from?

### Lesson 4: Muscle strength

1. How do muscles work together?
2. What does antagonistic mean?
3. What is a tendon.