

Body Builder

What to do: Use the plastic pieces to build your body.

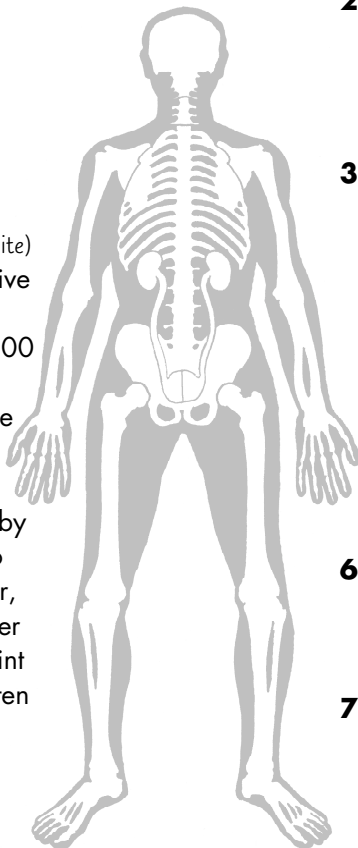
What happens: If you're lucky (or careful) you won't have any pieces left over.

HOW YOU WORK

1. The human body is a bit like a machine made up of organ systems. Each system works with the others to keep us alive.
2. The bottom layer of the puzzle is the **Skeleton**, the second layer in the torso consists of the **Organs**, and the top layer is the **Muscles**. The body is lying face upwards, so you begin with the backbone and kidneys and finish with the muscles of the chest and abdomen.
3. In most parts of the puzzle, it is three layers thick. However, the limbs are only two layers thick (skeleton and muscle) and the head, chest and abdomen are four layers thick and stand up higher than the rest of the puzzle.

4. The skeleton (in white) provides a protective framework of 206 bones, and over 600 muscles etc. (red) use energy to move it.

5. The muscles work by contracting and so pull bones together, unless they pull over the outside of a joint in order to straighten it.

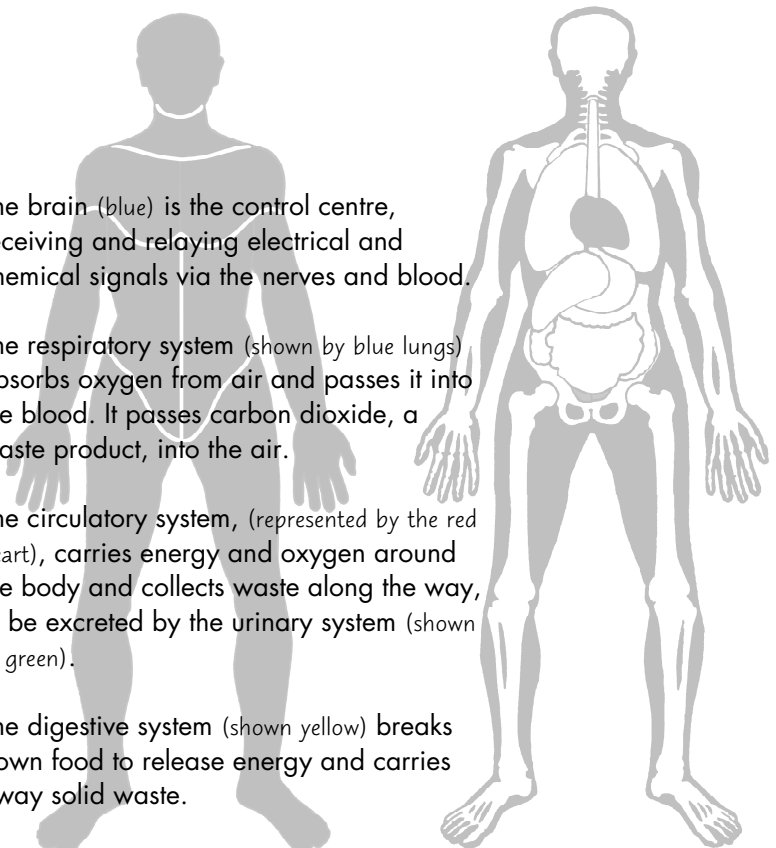


6. The brain (blue) is the control centre, receiving and relaying electrical and chemical signals via the nerves and blood.

7. The respiratory system (shown by blue lungs) absorbs oxygen from air and passes it into the blood. It passes carbon dioxide, a waste product, into the air.

8. The circulatory system, (represented by the red heart), carries energy and oxygen around the body and collects waste along the way, to be excreted by the urinary system (shown in green).

9. The digestive system (shown yellow) breaks down food to release energy and carries away solid waste.



DID YOU KNOW?

- About 50% of the human body is muscle and you use over 200 muscles to walk!
- Your body contains about 5 litres of blood, and each millilitre contains about 5 thousand million red blood cells!
- The part of your brain which controls your thumb is as big as an entire rat's brain!
- In the West, an average person eats 30,000kg of food in a lifetime - that's the equivalent of 750 supermarket trolleys full.

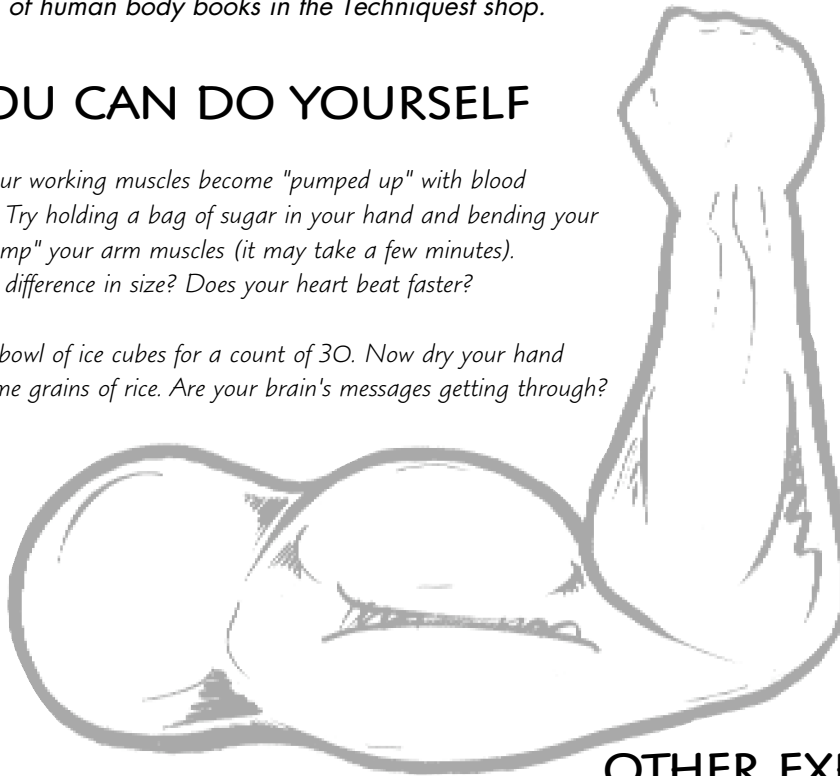


WANT TO KNOW MORE?

- There is a selection of human body books in the Techniquest shop.

THINGS YOU CAN DO YOURSELF

- When you exercise your working muscles become "pumped up" with blood bringing extra energy. Try holding a bag of sugar in your hand and bending your arm repeatedly to "pump" your arm muscles (it may take a few minutes). Can you measure the difference in size? Does your heart beat faster?
- Hold your hand in a bowl of ice cubes for a count of 30. Now dry your hand and try to pick up some grains of rice. Are your brain's messages getting through?



OTHER EXHIBITS TO SEE

In **Pull Yourself Together**, find out how the individual organs fit together. In **How Many Like Me?**, you can find out how unique your body is.