Biology

Human blood

An activity to model the human circulatory system

You will need….

- ✓ Large hall
- ✓ Gym mats or chalk,
- ✓ Coloured paper for O_2 and CO_2
- ✓ Stopwatch
- ✓ Whistle
- ✓ A class of active students

Background:

Students often have difficulties understanding the circulation system in the human body. In this activity the students play the part of the blood and simulate the distribution of oxygen and the removal of carbon dioxide.

The activity is best carried out after the subject has been introduced and the students have some familiarity with the circulatory system.

Follow these steps:

Place the mats or mark the floor with chalk to represent the Lungs, the Heart (two parts) and the Body, as shown in the diagram. Mark out the arteries and veins.

Place the O_2 cards on the lungs and the CO_2 cards on the body. The students move in a single line in the veins and in pairs (pulsed) in the arteries. They pick up the coloured paper (O_2) in the Lungs and deposit it in the body. In the Body they pick up CO_2 and transfer it to the Lungs.

At any time the whistle can be blown and some students may be asked 'where they are' and what they are carrying.

So what happened

Oxygen and carbon dioxide are continually exchanged in the circulatory system.

What next?

1. Students can be asked to move faster so that blood is moved around more quickly and the 'pulse' recorded.
2. The names of the blood vessels can be included.
3. Ask the students what else can be done to improve the model (e.g. how to replenish the supply of 'oxygen' and 'carbon dioxide').