

# Whole Class Assembly/Presentation

## Topic

The circulatory system

## For class size

20 to 40. In smaller classes some children will need to take more than one of the speaking parts.

## Summary

The assembly begins with an aerobics instructor putting a group through its paces, followed by a short presentation on the mechanics of the heart and circulatory system. 'Scientists' then demonstrate the journey of blood cells carrying oxygen to, and carbon dioxide away from body parts, in a 'living model' made up of children playing these blood cells. Following a lesson in keeping your heart healthy, the connection is made between the heart and love in a short comedy/drama based on the ancient myth of Narcissus and Echo. An optional prayer and then a song, 'Go With The Flow', close the assembly.

## Duration

20 – 25 minutes

## Props/costumes to make or collect

The aerobics class and instructor could wear headbands, vests and shorts or leotards. Add leg warmers for a comedic 80s effect!

Scientists could wear white coats and carry clipboards.

Card headbands, coloured either blue or red, should be worn by children playing blood cells.

You will need A1 or A2 card cut outs of a heart, lungs and an arm and a leg.

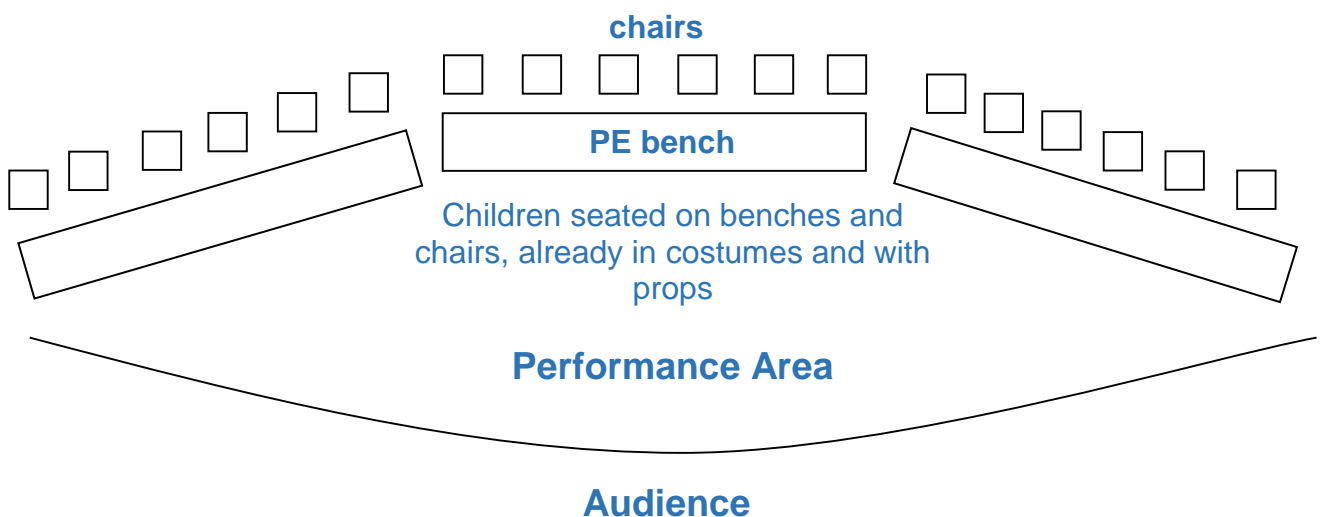
An *empty* packet of cigarettes, a bag of crisps, a recognisable hamburger-box, and a game-boy or games console handset are needed for the section on keeping the heart healthy.

The ancient myth characters could wear bed sheet togas, or white t-shirts (belted at the waist) and shorts.

## Music required

A heavy beat instrumental disco or dance track.

## Seating



*(As the dance music starts an aerobics instructor enters and jogs on the spot facing the audience, while approximately eight 'pupils' stand in two rows of four behind.)*

**Instructor** Hi everybody, and welcome to 'Body Beautiful', the fitness programme that you can join in with at home. As I put these volunteers through their paces feel free to follow us on our way to a healthier body. Here goes.....*(in time to the music)*.....  
Let's jog on the spot ..2..3..4..5..6..7..8.....  
Stretch to the left ..2..3..4..5..6..7..8.. and right..2..3..4..5..6..7..8....  
Lean forward..2..3..4..5..6..7..8.. and twist..2..3..4..5..6..7..8....  
and back to jogging on the spot. Ooh yeah! Feel that fat burning. Ok, lets lift those knees up to those elbows...Left.. Right.. Left.. Right.. Left.. Right.. Left.. Right.. Ooh yeah! Looking good! And relax. *(The music stops and the pupils collapse)* So, how do you feel?

**Pupils** Gasp! Gasp!

**Instructor** I guess I'll need a few more intensive sessions with you lot. But that's enough for today, so see you next week on 'Body Beautiful!'

*(They all return to their seats. 8 children stand up and face the audience in a line.)*

**Child 1** Let's try to explain exactly what has just happened. In a short space of time these people took their bodies from rest to rigorous activity. The muscles in their bodies, particularly in their arms and legs, have been asked to work very hard. In order to do that, they require more oxygen.

**Child 2** Oxygen is the fuel we use to keep our engines, or our bodies, functioning. Without it we wouldn't be able to survive. This precious oxygen is carried in our blood. This blood travels through arteries and smaller capillaries to every single muscle, organ, bone and body fibre that needs it.

**Child 3** So of course, the harder we make those muscles and organs work the more oxygen they will need. This is where our heart comes in, as it is our heart that pumps this oxygen-rich blood around the body.

**Child 4** We can feel our hearts beating faster the more exercise we do. With every beat our heart pumps the blood, and it must therefore beat and pump faster to provide the hard working muscles with the oxygen they need.

**Child 5** But why do we pant and gasp when we exercise? Well, the way we get that much-needed oxygen into our bodies is by breathing it into our lungs. The more oxygen we need the harder and faster we must breathe.

**Child 6** Once the blood has carried this oxygen to where it is needed, it delivers it, and is then, therefore, like an empty van ready to be reloaded. What it loads up on is a waste gas, carbon dioxide, which is produced when the muscles have used up the batch of oxygen delivered by previous blood cells.

**Child 7** The blood that has now collected carbon dioxide is called de-oxygenated blood. Its next job is to dump the carbon dioxide and load up again with oxygen, so it can continue to supply the working parts of our body.

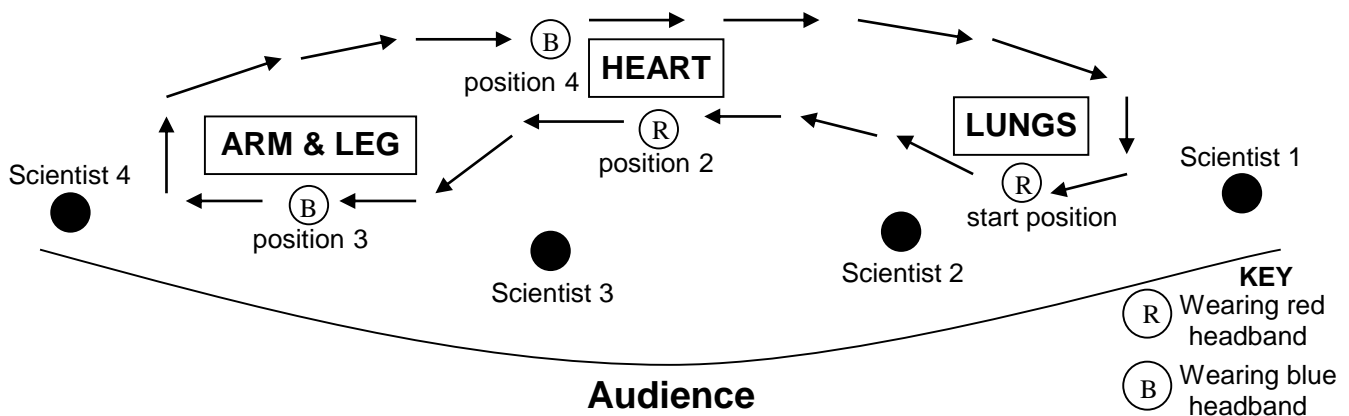
**Child 8** The de-oxygenated blood travels through veins, (the blood vessels which have a blue appearance) back to your heart and is then pumped back to your lungs. When it reaches your lungs it unloads the carbon dioxide which is then expelled through your nose and mouth as a breath out. The 'empty' blood then picks up more oxygen that has been breathed into the lungs, goes back to the heart and is then pumped back to where it is needed.

**Child 1** I can see from your faces that you are thoroughly confused, so let's make it a little easier for you to understand. Let's take a look inside our circulatory system to see what exactly is going on.

*(They sit down and the 4 scientists step forward to the positions shown below. They will point to things as they are mentioned)*

**Scientist 1** Let's follow a blood cell on its journey around the body as it delivers oxygen and collects CO2 for disposal.

*(The children with the cut out body parts, and one child playing a blood cell wearing a red headband and holding a blue headband, step forward and position themselves as shown. The arrows show the path the blood cell will take.)*



**Scientist 1** Firstly, oxygen is breathed into the lungs where it is held in tiny sacks. Our friendly blood cell is waiting there and collects this oxygen, becoming oxygenated.

*(The blood cell, in the start position, points at the red headband it is wearing.)*

**Scientist 2** It then travels along a large vein back to the heart, from where it will be pumped on its mission to deliver oxygen.

*(The blood cell moves to position 2.)*

**Scientist 3** The heart is powerful enough to pump the blood cell anywhere in the body. During aerobics our limbs are working hard, so in this case it is to these limbs where it will be going, along arteries.

*(The heart gives a vigorous shudder, and the blood cell lurches and moves to position 3.)*

**Scientist 4** As our blood cell delivers its oxygen it also picks up carbon dioxide produced by the muscles. It is now de-oxygenated.

*(The blood cell changes its red headband for the blue one.)*

**Scientist 3** Our de-oxygenated blood cell then travels back to the heart along veins.

*(The blood cell moves to position 4.)*

**Scientist 2** From here it is pumped back to the lungs where it drops off its load of CO<sub>2</sub>.

*(The heart gives a vigorous shudder, and the blood cell lurches and moves back to the start position.)*

**Scientist 1** The CO<sub>2</sub> is breathed out of the lungs, and oxygen is breathed in. Our blood cell picks up this oxygen from the small sacks in the lungs, and becomes oxygenated again.

*(The blood cell changes its blue headband for the red one.)*

**Scientist 3** And the whole process is repeated again! Of course, there are millions of blood cells doing this. Our model can show that we have a constantly circulating blood supply keeping our bodies alive.

*(At this point all remaining children stand and take positions all around the circuit that the blood cell travelled. Everyone wears either a red or blue headband, and carries the other, depending on where they are positioned. As the dance music plays the children move around in a complete circuit, changing their headbands to red every time they pass the lungs and to blue as they pass the arms and legs. They should lurch every time they pass the heart. A whole class acting as blood cells in the circulatory system will look very impressive. The music fades when appropriate, and everyone sits down. 7 children then stand in a line at the front.)*

**Child 9** As you've seen, our heart and lungs are very important for keeping us alive. If we abuse them we are in trouble. Despite better health education and experts advising us, many people – particularly adults – choose to behave in a way that puts them at risk.

**Child 10** *(Holding up the cigarette packet)* Smoking is one of the biggest killers in our world. The tar in cigarettes coats the lungs, which makes it difficult for oxygen to be released into the blood.

**.....end of script sample.....**

