

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.

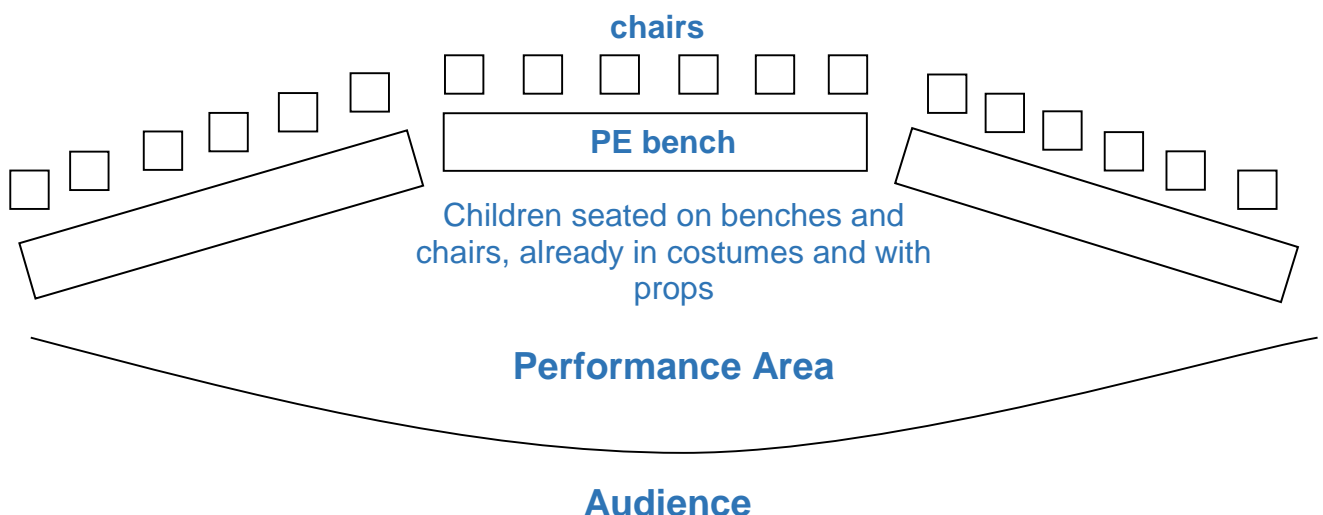
An *empty* packet of cigarettes, a bag of crisps, a recognisable hamburger-box, and a game-boy or games console handset are needed for the section on keeping the heart healthy.

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.

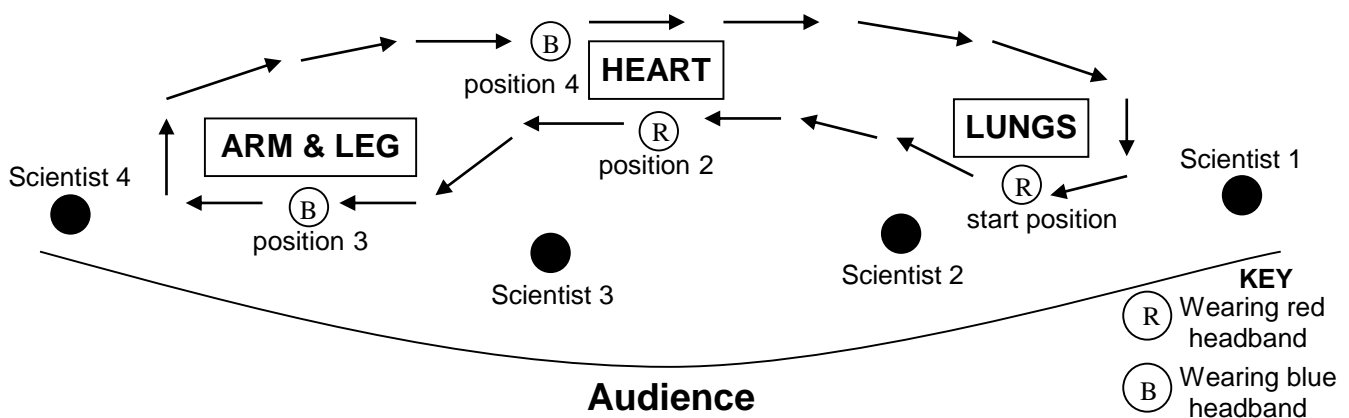
Child 8 The de-oxygenated blood travels through veins, (the blood vessels which have a blue appearance) back to your heart and is then pumped back to your lungs. When it reaches your lungs it unloads the carbon dioxide which is then expelled through your nose and mouth as a breath out. The 'empty' blood 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 CO₂.

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

Scientist 1 The CO₂ 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.

Child 11 Also the poisons in the smoke scar the lungs which mean they have abnormal cells growing in them. In extreme cases lung cancer can develop which may be fatal.

- Child 12** Finally, because the smoking causes blood vessels to clog up and become narrower, the heart has to work extra hard to pump blood through a tighter gap. Under such strain we can suffer heart attacks or disease.
- Child 13** *(Holding up the crisp packet and burger)* If we eat a lot of fatty or sugary food we are putting our hearts in danger. Too many fried chips, crisps and burgers damage our blood vessels in the same way as smoking. They deposit a substance called cholesterol inside our arteries, which block them and can put strain on the heart.
- Child 14** Our heart is like any other muscle in our body – the more we exercise it the stronger it will become. If we run, skip, climb, skate or swim the heart beats faster to supply more oxygen and stays in shape itself. If we make ourselves out of breath at least once a day it is a good sign that we are keeping fit and exercising our heart.
- Child 15** *(Holding up the hand-held video game)* However, people who spend their spare time sitting on their bottoms watching TV or playing with these things are not exercising their heart. Over time it will get weak, and then when they do something that requires the heart to beat harder it may not be able to cope and a heart attack may occur. So remember....
- All** BE SMART AND START TO LOOK AFTER YOUR HEART!
- Child 11** The heart is thought of as the part of our body which feels love! This is of course nonsense as it is our brain that controls our emotions. But perhaps it is that crushing feeling in our chests when someone rejects us that leads to the expression 'a broken heart'. A bit like this.....
- Child 9** Hi! Will you go out with me?
- Child 10** Get lost!
- Child 9** Ooooooh! *(doubling up in pain, clutching his/her chest!)*
- Child 11** See!
- (The 7 children sit down and 5 narrators stand to one side)*
- Narrator 1** The ancient Greeks liked to tell tales called myths, many of which concerned love and broken hearts. We'd like to present to you now a real tearjerker, the story of Narcissus and Echo.
- (Narcissus enters and starts flexing his muscles, posing like Mr Universe!)*
- Narrator 2** Narcissus was one of the most handsome youths in all of ancient Greece. He was a strong athlete, a talented artist and a skilled hunter. He was quite a catch, and boy did he know it.

(More flexing and posing!)

Narrator 3 There was nothing he loved more than the attention given to him by adoring maidens and nymphs, who would follow him around desperately hoping for a kind word or other such sign of affection.

(Squealing maidens rush on and gather adoringly round Narcissus.)

Maidens Oh Narcissus, you gorgeous boy!
Your handsomeness fills us with joy!

Narrator 4 But although he found this flattering, Narcissus was always cold in his response to his admirers. After all, no one was beautiful enough to tempt him.

Narcissus Each of you is an attractive girl,
But not enough to rock my world!

(The maidens gasp in despair, then gather to one side leaving Narcissus flexing and posing.)

Narrator 5 Because Narcissus was so vain and cruel to these maidens they ended up filled with hatred for him. So they prayed to Aphrodite, the goddess of love, to punish him.

(Aphrodite enters and stands regally, whilst the maidens kneel before her.)

Maidens Great Aphrodite, heed our prayer,
And sort out forever that bag of hot air!
His words are spiteful, his manner vain.
He's caused our poor hearts so much pain.

Aphrodite Ladies, ladies, leave it to me.
I'll punish him, just wait and see.

(The maidens exit and Echo enters. She sighs longingly at Narcissus.)

Narrator 1 So Aphrodite sent a nymph, called Echo, to torment Narcissus. As her name suggests the only words she could speak were a repeat of the last ones spoken to her.

Narcissus Well, would you believe it, another one!
Not now, Dear. Please run along.

Echo Along.

Narcissus Is that all you have to say?
I'm sorry, but just go away!

Echo Away.

(Echo forlornly kneels before Aphrodite, leaving Narcissus flexing and posing.)

Narrator 2 So Echo wandered off, her heart broken. Narcissus would never love her. Silently, she prayed to Aphrodite.

Aphrodite Oh Echo, Echo. You poor, poor thing.
My word, you're really suffering.
I'll sort out Narcissus good and proper.
It's time Mr Hunky came a cropper!

(Echo exits, while Aphrodite waves her arms at Narcissus as if casting a spell. She then exits. Narcissus casually strolls around preening himself.)

Narrator 3 As Narcissus wandered he came across a pool. Thirsty, he leaned over to drink the clear water and for the first time ever caught sight of his own reflection.

(Narcissus kneels and peers down, then gasps.)

Narcissus Get a load of that stunning creature!
So perfect is each facial feature!
I've got feelings strange and new -
I have to get my hands on you!

(Narcissus reaches longingly into the water.)

Narrator 4 But, of course, when Narcissus reached out to touch what he thought was another beautiful person he disturbed the surface of the water and the reflection disappeared.

Narcissus Come back! Did I say something wrong?
I'll wait for you, I don't care how long.

Narrator 5 Narcissus had fallen deeply in love with his own reflection, a symbol of his vanity and selfishness. He would not leave the poolside, in spite of all the pleas from those who loved him.

(The maidens enter and stand mournfully behind Narcissus.)

Maidens Narcissus! You daft nit-wit,
Get a grip. Snap out of it!

Narrator 1 They prayed to the god Apollo to end his miserable life and Apollo took pity on Narcissus. His body crumbled beside the pool and in its place grew the Narcissus flower. Today it is a low but beautiful flower that bends its head over water, as if staring longingly at its own reflection.

All Aah!

(Everyone but Narrator 2 goes back to their seat.)

Narrator 2 Let us pray.

Dear God, thank you for our fit and healthy bodies. Help us open our hearts and give our time to those less fortunate than ourselves, so they, like us, have the freedom and opportunity to enjoy all the beauty around them. Amen

Song – Go With The Flow

The End

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