

# Blood Circulation Game

Developed by June Agar at Rushey Mead School in Leicester. All the bits are here to make a board game, but some work by you and/or your children is needed. You might want to consider getting a group of children to construct the game for other children to play.

We have also added the Heart and Lungs Connect Four game. We have provided two sets of cards in different colours. You will need to enlarge the gameboard.

This activity is also available through the Leicester multicultural website.

Last update and partial revision: 7th October 2009

Webaddress:

<<http://www.collaborativelearning.org/bloodcirculation.pdf>>

## BRIEF SUMMARY OF BASIC PRINCIPLES BEHIND OUR TEACHING ACTIVITIES:

The project is a teacher network, and a non-profit making educational trust. Our main aim is to develop and disseminate classroom tested examples of effective group strategies across all phases and subjects. We hope they will inspire you to use similar strategies in other topics and curriculum areas. We run teacher workshops, swapshops and conferences throughout the European Union. The project publishes a catalogue of activities plus lists in selected subject areas, and a newsletter available by post or internet: 'PAPERCLIP'.

\*These activities were influenced by current thinking about the role of language in learning. They are designed to help children learn through talk and active learning in small groups. They work best in mixed classes where children in need of language or learning support are integrated. They are well suited for the development of speaking and listening. They provide teachers opportunities for spoken language and other assessment.

\*They support differentiation by placing a high value on what children can offer to each other on a particular topic, and also give children the chance to respect each other's views and formulate shared opinions which they can disseminate to peers. By helping them to take ideas and abstract concepts and move them about physically they help to develop thinking skills.

\*They give children the opportunity to participate in their own words and language in their own time without pressure. Many activities can be tried out in mother tongue and afterwards in English. A growing number of activities are available in more than one language, not translated, but mixed, so that you may need more than one language to complete the activity.

\*They encourage study skills in context, and should therefore be used with a range of appropriate information books which are preferably within reach in the classroom.

\*They are generally adaptable over a wide age range because children can bring their own knowledge to an activity and refer to books at an appropriate level. The activities work like catalysts.

\*All project activities were planned and developed by teachers working together, and the main reason they are disseminated is to encourage teachers to work effectively with each other inside and outside the classroom. They have made it possible for mainstream and language and learning support teachers to share an equal role in curriculum delivery. They should be adapted to local conditions. In order to help us keep pace with curriculum changes, please send any new or revised activities back to the project, so that we can add them to our lists of materials.

# Blood Circulation Game

## Learning Objectives:

To model and reinforce the circulation of the blood and the part played by the lungs, the heart and oxygen in this process. Children will need to have done some work on this and/or have access to information books.

## Preparation:

Construct your game board. Use the plan provided to draw a fine picture of the body or part of it; say just one and the bits in the middle! Put Lung cards on the appropriate box. Share Muscles and Organ cards between relevant activity squares. Have ready Emergency cards and lots of counters or cubes to use as oxygen counters. You also need one or two dice and a marker (picture of a blood corpuscle?) for each child.

## Rules:

The game is for groups of 3–6 children, working collaboratively. The aim is to go twice around the circuit in the role of a blood corpuscle without 'dying' (ie running out of oxygen). There are no winners in this game, just losers.

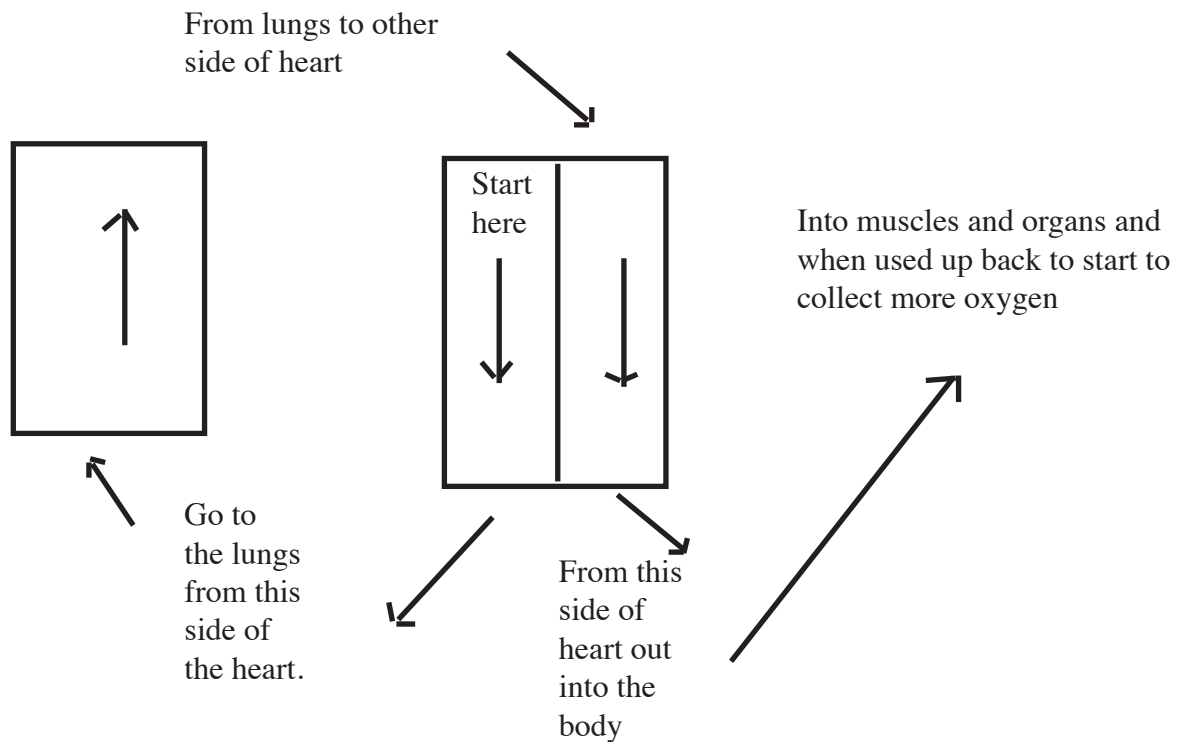
Everyone starts in the heart and has to throw an even number and double it to start modelling the push from the heart muscle. They go to the lungs and, when they land on a lung square, pick up a Lung Card and take oxygen counters. Some will land twice on lung squares and get two Lung cards.

They then return to the heart and wait for an even number, double it again to give them the push to go off through the arteries and veins. When they land on a Muscles and Organs square they have to take a card and 'use up' the number of oxygen counters the activity in that part of the body needs. They should then return to the heart for more oxygen. If they have to give more oxygen than they have in store they can take an Emergency card, but can only use one during the game.

# Lung cards

Take 5 oxygen counters.	Take 6 oxygen counters.	Take 7 oxygen counters.	Take 8 oxygen counters.
Take 9 oxygen counters.	Take 10 oxygen counters.	Take 11 oxygen counters.	Take 12 oxygen counters.
Emergency cards	Take 6 deep breaths and 6 oxygen counters.	Take 4 deep breaths and 4 oxygen counters.	Take 9 deep breaths and 9 oxygen counters.
Take 6 deep breaths and 6 oxygen counters.	Take 5 deep breaths and 5 oxygen counters.	Take 4 deep breaths and 4 oxygen counters.	Take 6 deep breaths and 6 oxygen counters.
Take 8 deep breaths and 8 oxygen counters.	Take 9 deep breaths and 9 oxygen counters.	Take 4 deep breaths and 4 oxygen counters.	Take 6 deep breaths and 6 oxygen counters.
Muscles and organs cards	Use up 4 oxygen counters.	Use up 5 oxygen counters.	Use up 3 oxygen counters.
Use up 3 oxygen counters.	Use up 4 oxygen counters.	Use up 5 oxygen counters.	Use up 6 oxygen counters.
Use up 7 oxygen counters.	Use up 8 oxygen counters.	Use up 9 oxygen counters.	Use up 10 oxygen counters.

# How to Make the Blood Circulation Game Board



It is up to you how large or complicated you make this board. The blood could go wandering off into the whole body. You could just provide an arm with opportunities to use up oxygen at shoulder muscles, biceps, wrists and fingers. We have given you the writing for these squares. If players land on a muscles and organs square they must give up their oxygen and then go straight back to the heart for more. So you need to provide a short cut from arteries to veins. Many children think that the blood has to course all the way round before it can return. This game also clarifies the dual role of the heart.

Below are the labels for the game board.

Lungs are where the blood picks up oxygen.	Shoulder muscles. When you move your muscles use up oxygen.	Biceps. When you move your muscles use up oxygen.	Wrist muscles. When you move your muscles use up oxygen.
Finger muscles. When you move you muscles use up oxygen.	Heart. Wait here for any even number and double it.	Lungs. Pick up your oxygen counters here.	Heart. Start your journey here.

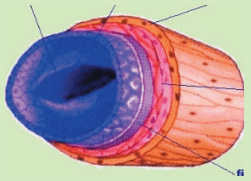
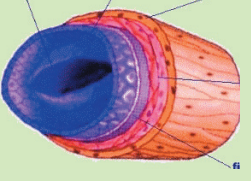
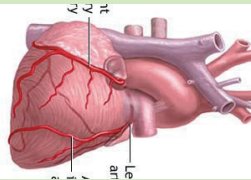
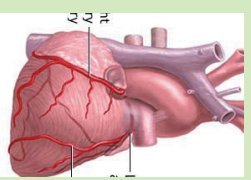
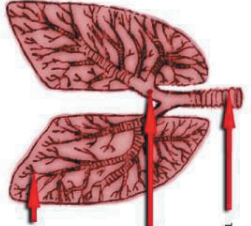

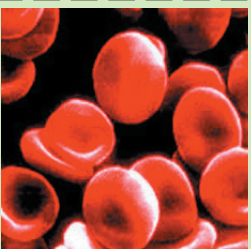
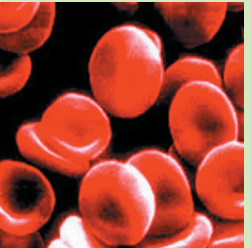
# The Heart and Lungs Connect Four Game

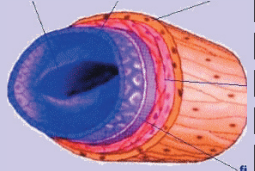
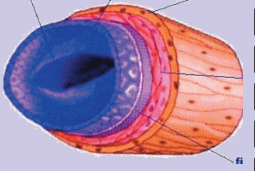
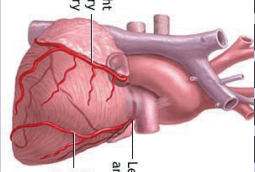
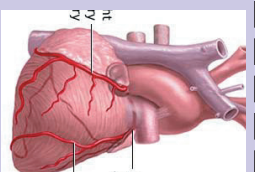


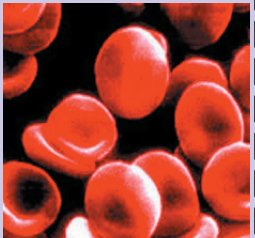
How to play:

1. One can play against one or better two against two because it stimulates more discussion.
2. Put the cards in two piles face down.
3. Each side should take turns to pick up one of their cards and match it to the description written on the board.
- 4.. The first player to get four cards in a row wins. The row can be vertical, horizontal or diagonal.

# The Heart and Lungs Connect Four Game

<p>They take oxygen in oxygen.</p>	<p>They have valves so the blood can only travel one way.</p>	<p>Exercise makes it beat faster.</p>	<p>Car fumes and air pollution are bad for these.</p>	<p>It has four valves.</p>	<p>Blood travels through these small tubes.</p>	<p>It travels to every part of the body.</p>	<p>Eating fatty foods is bad for this organ.</p>
<p>Blood travels through these small tubes.</p>	<p>They are protected by the rib cage.</p>	<p>It carries oxygen round the body.</p>	<p>It travels to every part of the body.</p>	<p>It is a muscle.</p>	<p>Blood with no oxygen is pumped back to these.</p>	<p>They have valves so the blood can only travel one way.</p>	<p>It is dark red when it does not contain oxygen.</p>
<p>It pumps blood around the body.</p>	<p>It has four valves.</p>	<p>Blood collects oxygen from these.</p>	<p>The pulse measures beats from this.</p>	<p>Car fumes and air pollution are bad for these.</p>	<p>We have two of these.</p>	<p>They are protected by the rib cage.</p>	<p>It carries oxygen round the body.</p>
<p>It is bright red when full of oxygen.</p>	<p>Smoking is bad for them.</p>		<p>Eating fatty foods is bad for this organ.</p>	<p>It pumps blood around the body.</p>	<p>Exercise makes it beat faster.</p>	<p>It is bright red when full of oxygen.</p>	<p>They connect all parts of the body to the heart.</p>
	<p>Blood collects oxygen from these.</p>	<p>We have two of these.</p>	<p>Smoking is bad for them.</p>	<p>They take oxygen in oxygen.</p>	<p>Blood with no oxygen is pumped back to these.</p>	<p>The pulse measures beats from this.</p>	<p>They connect all parts of the body to the heart.</p>

veins and arteries	lungs	blood	heart	
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