

Lesson Plan

NEUROHEADWAY

Neuroscience Into Education

Heart and Vessels – Part 3: The Vessels

The aim of the lesson:

- 1) to learn what kind of vessels there are in the human body and what are their functions;
- 2) to find out the physical differences of different types of the vessels.

Resources:

- 1) multimedia to show the video
- 2) arterial blood pressure cuff
- 3) chronometer
- 4) paper, pen and ruler

Slide	Subject	Description	Time, min.
1–6	Intro to session	Brief review on the last lesson (heart anatomy and function). Review on the types of vessels and explanation of the differences.	15
7	Activity: Trial 1	Put the arterial blood pressure cuff on your friend's upper arm and inflate it to the pressure that the pulse still be felt in wrist (remember or write down the pressure). Now as the friend to low down the hand and actively compress your fist for several times. Do you notice any changes on your friend's hand? What are they? Why do they occur?	10
8	Trial 2	Put the arterial blood pressure cuff on your friend's upper arm and inflate it to the pressure that the pulse in the wrist is felt no more. Write down the pressure. Does the pressure differ from the pressure in the trial 1? Why? (for students of lower abilities it is not obligatory to compare the pressures between trial 1 and trial 2)	10
9	Trial 3	Press your finger nail for 2 min. and release at the same time switching on the chronometer. Check the time when your finger nail regains its color.	5
10	Trial 4 (G+T)	Calculate the difference between pressures recorded trial 1 and trial 2 in every student in your class.	10

		Draw the diagram of those differences	
11	Review and Questions	Students will have to make conclusions based on the previous three trials. Provide clarification to student's questions and maybe offer some sources for extra information if wanted	10
12	Extension	1) Repeat trial 3 after cooling your hands (for example under the cold water) and after rewarming them (for example under the warm/hot water). Be very exact when measuring time with chronometer (as if you are judge at Olympics). Is there difference? Why? 2) Find information and read about trial 3 test. It is used in emergency room and intensive care unit by doctors and nurses. What does it show? What information doctors and nurses look for by performing this test?	

