AUTHOR / SCHOOL	Ināra Sprindžuka, Education Department Inese Barkovska, Daugavpils Valsts ģimnāzija, Latvia
DATE OF CLIL ACTIVITY	12.01.2017
CLASS / NUMBER OF STUDENTS	11, 16
SUBJECT	Biology
CLIL LANGUAGE	English
CLIL Activity Topic	Blood. Blood circulation.
CLIL Activity Time	40 minutes
Language Objectives	- To be able to tell about blood circulation.. - To be able to tell about a structure.
Language used for communication (BICS)	It consists of…, it helps to…,it controls…, it has…
Content Language (CALP)	Circulatory system, blood vessels, arteries, veins, capillaries, distribute, oxygenated, deoxygenated, nutrients, pulmonary.
Content Objectives	- To refresh students' prior knowledge in biology about blood and circulatory system.
Materials / Resources used	1. Science Revision Guide, higher level. Penny Johnson, Sue Kearsey, Damian Riddle, Pearson. 2.Key stage three. Science. The revision Guide(Levels 5-7) by Paddyn Gannon, 2007.

CLIL Activity - procedure	1. In-class talk about the role of blood. The teacger announces the topic and starts asking questions: -What ist he role of blood in human organism? -What organ system carries out the functions? -What vessels does the system consist of? What blood cells do you remember? (During the talk the new terms are introduced). 2.Students are offered a presentation about blood*. Students are offered to write down new terms and facts. 3.Evaluation of presentation. Students and teacher evaluate the presentation.** 4.Students are offered task on blood and circulatory system.*** 5.Conclusive talk. Teacher asks questions: - What did you get to know today? -Was there anything new for you? - Was the language/content easy/difficiult/too difficult for you?
Performance Assessment	
TEACHER´S NOTES	

***** Insert the given words in the text**: *red blood cells, white blood cells, destroyed, enguylfing, capillaries, phagocytes, digesting, haemoglobin.*

Red blood cells have life span up to 120 days after which they are 1. ……. or broken down in the liver. There are many more 2. …….. in the blood than there are 3. ……. , 300 for every one. White blood cells are larger than red blood cells, have a nucleus (lobed or spherical) and do not contain 4. …… . The main function of white blood cells is to defend the body against invading organisms, whether harmful or not. 5. …… are white blood cells which are able to change their shape and squeeze through gaps in the walls of 6. ……. . the phagocytes destroy invading organisms such as bacteria by flowing around them and 7. …… them and 8. …….. the organisms inside them.

Attachment 1(for teachers and students)

<u>Presentation quality</u> (4 points):

Content
Design
Language
Feedback (Tasks prepared by presenter to the audience)

<u>Presentation skills (4 points)</u>

Language
Posture and Gestures
Contact with the audience
Knowledge of the topic

<u>Questions</u> (2 points)

Language
Response (knowledge of the subject)

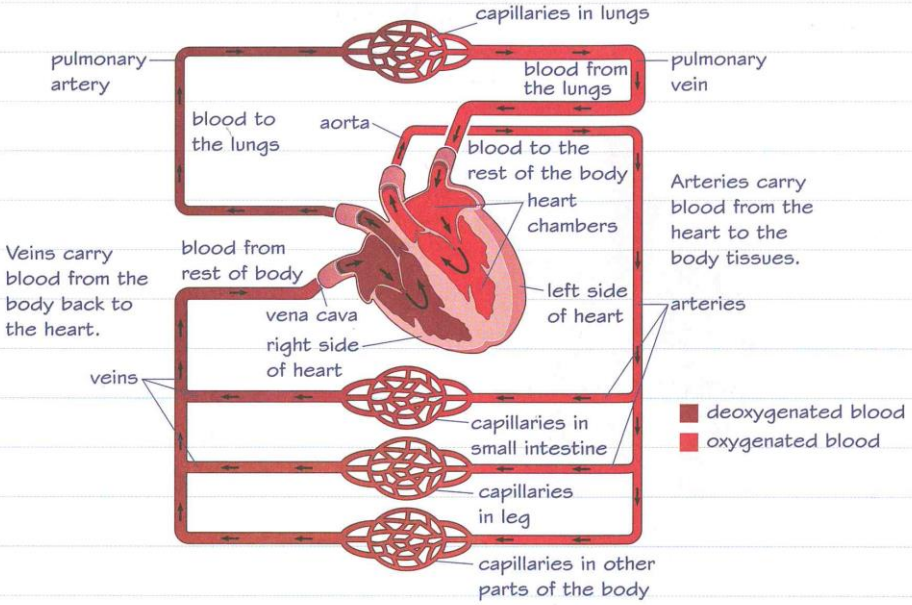
10	9	8	7	6	5	4	3	2	1
20	19	17	15	13	12	9	6	4	2

Attachment 2

BIOLOGY Had a look ☐ Nearly there ☐ Nailed it! ☐

The circulatory system

An organ system is a group of organs that work together to carry out a particular function in the body. The circulatory system is an organ system that consists of the heart, the blood vessels and the blood. Its function is to transport materials around the body.



Worked example

Describe the role of arteries, veins and capillaries in the human circulatory system.

Arteries carry blood away from the heart – all arteries except the pulmonary arteries carry oxygenated blood to the body. Veins carry blood towards the heart – all veins except the pulmonary veins carry deoxygenated blood from the body back towards the heart. Capillaries exchange materials, such as oxygen, glucose and carbon dioxide, with body tissues.

Remember: a key function of blood is to deliver oxygen and glucose to cells for respiration and to remove the carbon dioxide produced by respiration from cells.

Now try this

target D-C

1. Describe the role of the circulatory system in the body. **(1 mark)**
2. State the difference between the role of arteries and veins in the circulatory system. **(2 marks)**

Attachment 3

BIOLOGY Had a look ☐ Nearly there ☐ Nailed it! ☐

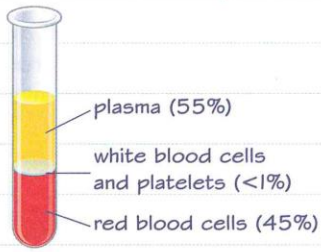
Blood

Blood is made of four main parts: plasma, red blood cells, white blood cells and platelets. Each part of blood has a particular function (job).

Blood plasma

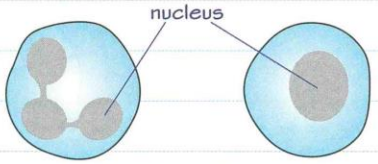
Plasma is the liquid part of blood:

- It carries the blood cells through the blood vessels.
- It contains many dissolved substances, such as carbon dioxide and glucose.



White blood cells

White blood cells are larger than red blood cells, and they have a nucleus. All types of white blood cells are part of the immune system, which attacks pathogens in the body.



Some white blood cells surround and destroy pathogens.

Some white blood cells produce antibodies that destroy pathogens.

Platelets

Platelets are fragments of larger cells. They have no nucleus. Their function is to cause blood to clot when a blood vessel has been damaged. The clot blocks the wound and prevents pathogens getting into the blood.

Worked example

Explain how the structure of a red blood cell is related to its function.

Biconcave means the cell is dimpled on both sides so that it is thinner in the middle than at the edges.

Red blood cells contain haemoglobin which carries oxygen. The biconcave shape of a red blood cell means it has a large surface area. This makes it easier for oxygen to diffuse into and out of the cell. The cell has no nucleus. This means the cell has room for more haemoglobin to carry more oxygen.

Now try this

target E-C

1. Respiring cells need oxygen and glucose. State which parts of the blood carry each of these substances. **(2 marks)**

target D-B

2. Describe two ways in which white blood cells help to protect the body against disease. **(2 marks)**

target C-A

3. Explain how platelets help to protect the body against infection. **(3 marks)**