Jeavons Wood Primary School – Science Knowledge Organiser

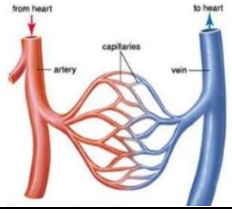
Topic: Animals including humans | **Year:6** | **Strand: Biology**

Big Question: What does my blood do?

What should I already know?

*Which things are living and which are not.
*Classification of animals (e.g. amphibians, reptiles, birds, fish, mammals, invertebrates)
*Animals that are carnivores, herbivores and omnivores.
*Animals have offspring which grow into adults.
*The basic needs of animals for survival (water, food, air)
*The importance of exercise, hygiene and a balanced diet.
*Animals get nutrition from what they eat.
*Some animals have skeletons for support, protection and movement.
*The basic parts of the digestive system.
*The different types of teeth in humans.
*Respiration is one of the seven life processes.
*The life cycle of a human and how we change as we grow.

What will I know by the end of the unit?

What is the circulatory system?  	*The circulatory system is made of the heart, lungs and the blood vessels. *Arteries carry oxygenated blood from the heart to the rest of the body. *Veins carry deoxygenated blood from the body to the heart. *Nutrients, oxygen and carbon dioxide are exchanged via the capillaries.
Choices that can harm the circulatory system	*Some choices, such as smoking and drinking alcohol can be harmful to our health. *Tobacco can cause short-term effects such as shortness of breath, difficulty sleeping and loss of taste and long-term effects such as lung disease, cancer and death. *Alcohol can cause short-term effects such as addiction and loss of control and long-term effects such as organ damage, cancer and an earlier death.
Why is exercise so important?	Exercise can: *tone our muscles and reduce fat *increase fitness *make you feel physically and mentally healthier *strengthens the heart *improves lung function *improves skin

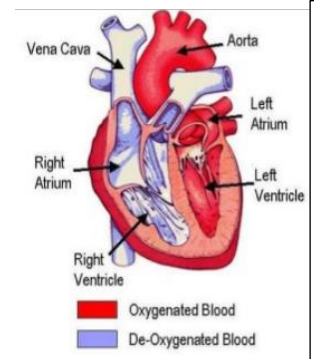


Diagram of the Heart:

*The heart is composed of four chambers; the right atrium, the right ventricle, the left atrium and the left ventricle.

*How often your heart pumps is called your pulse.

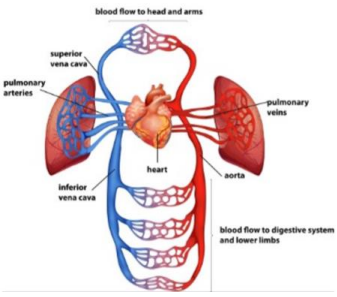
Where will my learning go next?

Yr 7: Cells and organisation. The skeletal and muscular system. Nutrition and digestion. Gas exchange stems. Reproduction and health.

Vocabulary

aorta	the main artery through which blood leaves your heart before it flows through the rest of your body
arteries	a tube in your body that carries oxygenated blood from your heart to the rest of your body
atrium	one of the chambers in the heart
arteries	the narrow tubes through which your blood flows. Arteries, veins and capillaries are blood vessels
capilliaries	tiny blood vessels in your body
Carbon dioxide	a gas produced by animals and people breathing out
Circulatory system	the system responsible for circulating blood through the body, that supplies nutrients and oxygen to the body and removes waste products such as carbon dioxide.
deoxygenated	blood that does not contain oxygen
heart	the organ in your chest that pumps the blood around your body
lungs	two organs inside your chest which fill with air when you breathe in. They oxygenate the blood and remove carbon dioxide from it.
nutrients	substances that help plants and animals to grow
organ	a part of your body that has a particular purpose
oxygen	a colourless gas that plants and animals need to survive
oxygenated	blood that contains oxygen
pulse	the regular beating of blood through your body. How fast or slow your pulse is depends on the activity you are doing
respiration	process of respiring; breathing ; inhaling and exhaling air
veins	a tube in your body that carries deoxygenated blood to your heart from the rest of your body
vena cava	a large vein through which deoxygenated blood reaches your heart from the body
ventricle	one of the chambers in the heart
via	through

Diagrams – The Circulatory System



1. The right atrium collects the deoxygenated blood from the body, via the vena cava. It sends the blood to the right ventricle.
2. The right ventricle pumps the deoxygenated blood to the lungs. Here the blood picks up oxygen and disposes of carbon dioxide.
3. The lungs send oxygenated blood back to the left atrium which pumps it to the left ventricle.
4. The left ventricle pumps the blood to the rest of the body, via the aorta

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Big Question: What does my blood do?

Question 1: The heart, blood vessels and lungs make up the...	Start of unit:	End of unit:
digestive system		
circulatory system		
skeletal system		
muscular system		

Question 2: Which one of these is **not** an organ?	Start of unit:	End of unit:
heart		
lungs		
blood		

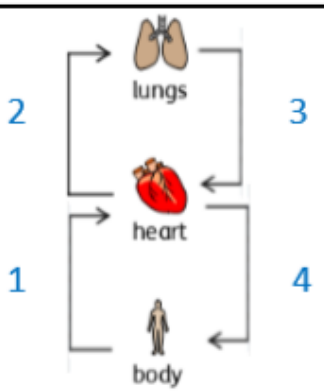
Question 3: The most effective way to show the change in pulse rate over time is by using a...	Start of unit:	End of unit:
picture		
bar chart		
pie chart		
line graph		

Question 4: You are investigating which exercise yields the highest heart rate. How can you ensure a fair test? Tick two.	Start of unit:	End of unit:
treat everybody the same		
measure the same subject's pulse before, during and after each exercise.		
ensure the starting heart rate is the same before each exercise		
complete each exercise without resting in between.		

Question 5: The veins carry _____ blood.	Start of unit:	End of unit:
deoxygenated		
oxygenated		
blue		

Question 6: Tick TWO boxes below to show the two activities that would increase pulse rate the most.	Start of unit:	End of unit:
reading a book		
playing football		
drinking water		
going for a walk		

Question 7: Explain what is happening at each stage of the process.



1	
2	
3	
4	

Question 8: Which of these can harm our bodies? Tick two.	Start of unit:	End of unit:
smoking		
all drugs		
alcohol		
exercise		

Question 9: The function of the blood is to provide the body with...(tick three)	Start of unit:	End of unit:
nutrients		
water		
carbon dioxide		
oxygen		

Question 10: Arteries, veins and capillaries are examples of...	Start of unit:	End of unit:
blood		
blood vessels		
blood types		
nutrients		