

Brentry Primary School - Science

Topic: Animals including humans

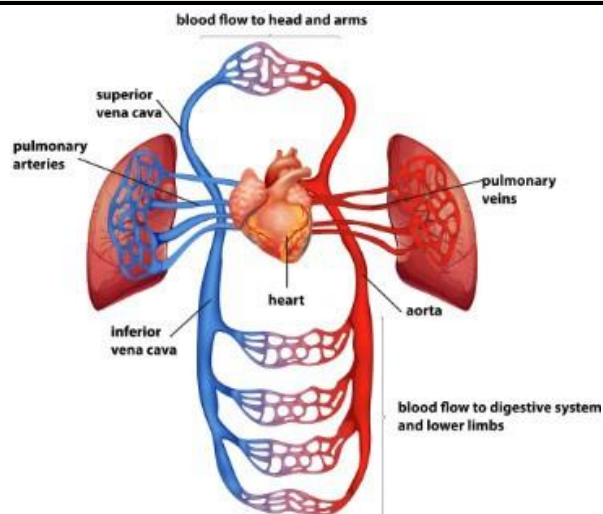
Year: 6

Strand: Biology

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.

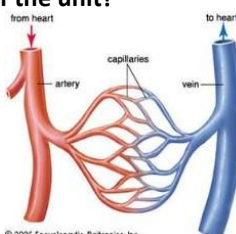
Diagram - The Circulatory System



What is the **circulatory system**?

What will I know by the end of the unit:

- 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**.



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**.

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 death

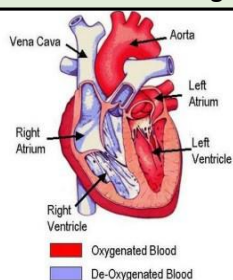
Why is exercise so important?

- 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

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
blood vessels	the narrow tubes through which your blood flows. Arteries, veins and capillaries are blood vessels .
capillaries	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

Diagram - 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**.

Investigate!

- How does your **pulse** change with exercise? What is the most efficient way of presenting this data?
- Which exercise produces the fastest **pulse**? How would you make this a fair test?

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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:

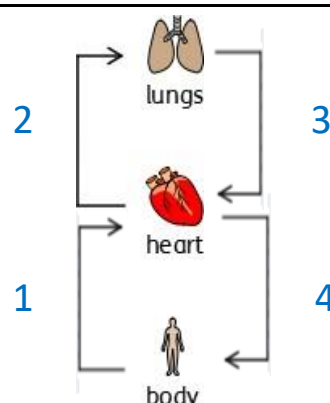
reading a book

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