**4.2 Blood Vessels**

**Key facts**

* There are 3 types: arteries, veins and capillaries.
* Arteries have thick muscular walls with lots of elastin fibres.
* Veins have thinner walls with wide lumen and valves to prevent backflow.
* Capillaries are tiny, with thin walls only one cell thick, allowing exchange through their walls with surrounding tissues. Large surface area = greater rate of diffusion.

**Task 1:** Task 1: Watch free Science lessons (if you can) and do a mind map of the information

GCSE Biology 9-1 Arteries, Veins and Capillaries

**Task 2: Answer following questions**

1. What are the three different kind of blood Vessels?
2. Where do arteries carry blood from?
3. What is the difference between the wall of an artery and the wall of a vein?
4. Why can’t substance get through the walls of arteries and veins?
5. Where do you find capillary networks?
6. What links the artery going to the liver and the vein leaving the liver?

**Task 3: Copy and Complete the Summary box using words given below:**

***Arteries away capillaries heart network heart thick***

Arteries take blood ………from the heart. The wall of n artery is ………… Veins have thinner walls than…………….Veins carry blood to the ………………….. The ……………….link arteries and veins. Capillary walls re thin so substances cm pass through. In an organ, capillaries form a ……………..of capillaries.

**Task 4: Copy and complete table to compare structure of artery, Vein and Capillaries**

**4.2 Blood**

**Key Facts**

**Blood** is made up of **four** parts:

1. **Plasma** is the liquid part of the blood and transports nutrients like Glucose, urea, carbon dioxide, hormones, antibodies and water
2. Red blood cells (**RBCs**) transport oxygen. It contains a protein called haemoglobin. Haemoglobin contains Iron ion and it binds to oxygen and forms Oxyhaemoglobin. Oxyhaemoglobin carries Oxygen to all cells where it dissociates to form haemoglobin and Oxygen. Oxygen is used in respiration and Haemoglobin is freed to transport more oxygen.
3. White blood cells are part of the immune system and protects us from diseases.

(**WBCs**). A type of WBCs called **Phagocytes** engulf and digest bacteria. Some White blood cells also release **Antibodies** which destroys disease causing microorganisms called Pathogens.

1. **Platelets** are involved in blood **clotting**

**Task 1: Watch Freescience lesson Video**

GCSE Biology 9-1 The Blood

**Task 2: Make a Poster to show how Red Blood Cells and White Blood Cells are adapted to carry its Function**

**Task 3: Answer following questions**

1. What is the liquid part of the Blood called?
2. What is a Capillary?
3. What do red blood cells do?
4. What do white blood cells do?
5. Give two differences between White blood cells and Red blood cells.
6. What di platelets do?
7. Where are platelets formed?
8. Write three things the plasma transports?
9. Name a waste chemical that is taken from your liver to your Kidneys by the plasma.
10. Capillaries a thin walls. Why do you think it is important?
11. Red blood cells are packed with Haemoglobin. Why do you think they have no nucleus?

**Task 4: Complete the summary using the words in the box:**

**Cuts disease oxygen plasma platelets transports water white**

Blood is made of ……………and contains red blood cells. ……………blood cells and ……………….. Red blood cells carry ……………..to the other cells in your body. White blood cells protect the body from…………………….and platelets help …………………..to heal. Plasma is mainly …………………Plasma ……………………many dissolved chemicals around the body.

**Revision Circulation and Transport**

**Task 1: Solve these anagrams and use the keyowrds to complete the table in task 2**

Gnome Oil Bah Homer No idiots bane My lex old cold rebels

Re Ex Ices Silica Pearl Sun clue Tantra snip Rio Teal Slept Toast Ma Yep Gotcha

**Task 2: Copy and compete the definitions:**

|  |  |
| --- | --- |
| Word  | Definitions  |
|  | A molecule dissolved in the blood plasma. It signals between cells. Adrenaline is one  |
|  | This controls the activities of the cell. A red blood cells does not have this so that it carry more oxygen  |
|  | A type of White blood cells that engulfs and digest bacteria |
|  | Diffusion of water vapour through the stomata |
|  | Narrow tube which transports minerals and water up a plant |
|  | These are released by white blood cells and attack bacteria.  |
|  | These carry oxygen from the lungs to your body cells |
|  | These travel in your blood and help it to clot when you cut yourself.  |
|  | Thin walled blood vessels which are permeable to small molecules like glucose, oxygen and carbon dioxide |
|  | This contain iron and carries oxygen in Red blood cells  |
|  | This makes your heart beat faster |
|  | Tiny pores on the bottom of leaves which allow gas exchange |

**Task 3: Copy and complete the paragraph by using the correct word in the brackets:**

Your heart has chambers called atria and .V..................These are separated by ………..which stops the blood flowing backwards. ……………………carry oxygen from the lungs to the body cells. The waste gas ……………….is then carried back to the lungs and breathed out.