Animals Including Humans	**Science** **Knowledge Organiser**	**Learning Lens: Biology** **Class**: Year 6

Previous Knowledge

Classification of animals; animals that are carnivores, herbivores and omnivores.
The basic needs of animals and how they get nutrients from what they eat.

Project Hook or 'Wow' memory

To be a real scientist and dissect and observe a heart.

Learning Steps	Key Knowledge (answers)
How would you make a classification key for vertebrates and invertebrates . Identify and classify	Vertebrates are animals with backbones. Vertebrates are divided into five groups: mammals, birds, fish, reptiles and amphibians. Invertebrates are animals without backbones. These are divided into five further groups: molluscs, insects, annelids, arachnids, crustaceans and echinoderms.
What function do the small and large intestines have within the body? Research	The nutrients pass through the villi and are absorbed into the blood vessels. Water is absorbed in the small intestine in exactly the same way as other nutrients are absorbed. Blood transports: gases, nutrients an waste products.
How does the heart pump blood around our bodies? **Observational skills**	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. To understand that oxygenated blood and deoxygenated body is pumped around your body. To dissect a heart and identify the four chambers and the chambers.
Which organs of the body make up the circulatory system and where are they found? **Identify and classify**	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 to the heart. Nutrients, oxygenated an carbon dioxide are exchanged via the capillaries.
How our life choices affect the circulatory system? Research	Some choices, such as smoking and drinking alcohol can be harmful to our health. Tobacco can cause short-term effects such a 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? **Observing over time/ comparative tests. Fair testing**	The more physical the activity the more impact it has on your pulse/heart rate. Exercise can: tone or muscles and reduce fat; increase fitness; make you feel physically and mentally healthier; improve lung function and improve skin.

The key skills we want pupils to use during this topic:

To develop children's skills in **comparative tests** when discussing and testing types of exercises has the greatest effect on our heart rate.

Identifying and classifying which types of the body make up the circulatory system and making a classification key for vertebrates, invertebrates or microorganisms.

Developing children's skills in observing how does their heart rate change during the day.

Developing children's skills in fair tests when measuring how the length of time we exercise for affects our heart rate.

Key vocabulary

arteries	A tube in your body that carries oxygenated blood from the heart to the rest of the body.
capillaries	Tiny blood vessels in the body.
Circulatory system	The system responsible for circulating blood through the body, that supplies nutrients and oxygen to the body and removes waste products eg) carbon dioxide.
respiration	Process of respiring, breathing, inhaling and exhaling air.
Oxygenated **Deoxygenated**	Blood that contains oxygen. Blood that does not contain oxygen.
Pulse	The regular beating of blood through the body. This changes with activity.

Statutory Requirements

I can identify and name the main parts of the human circulatory system and describe the functions of the heart, blood vessels and blood

I can recognise the effect of diet, exercise, drugs and lifestyle on the way bodies function.

I can describe the ways in which nutrients and water are transported within animals, including humans.

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