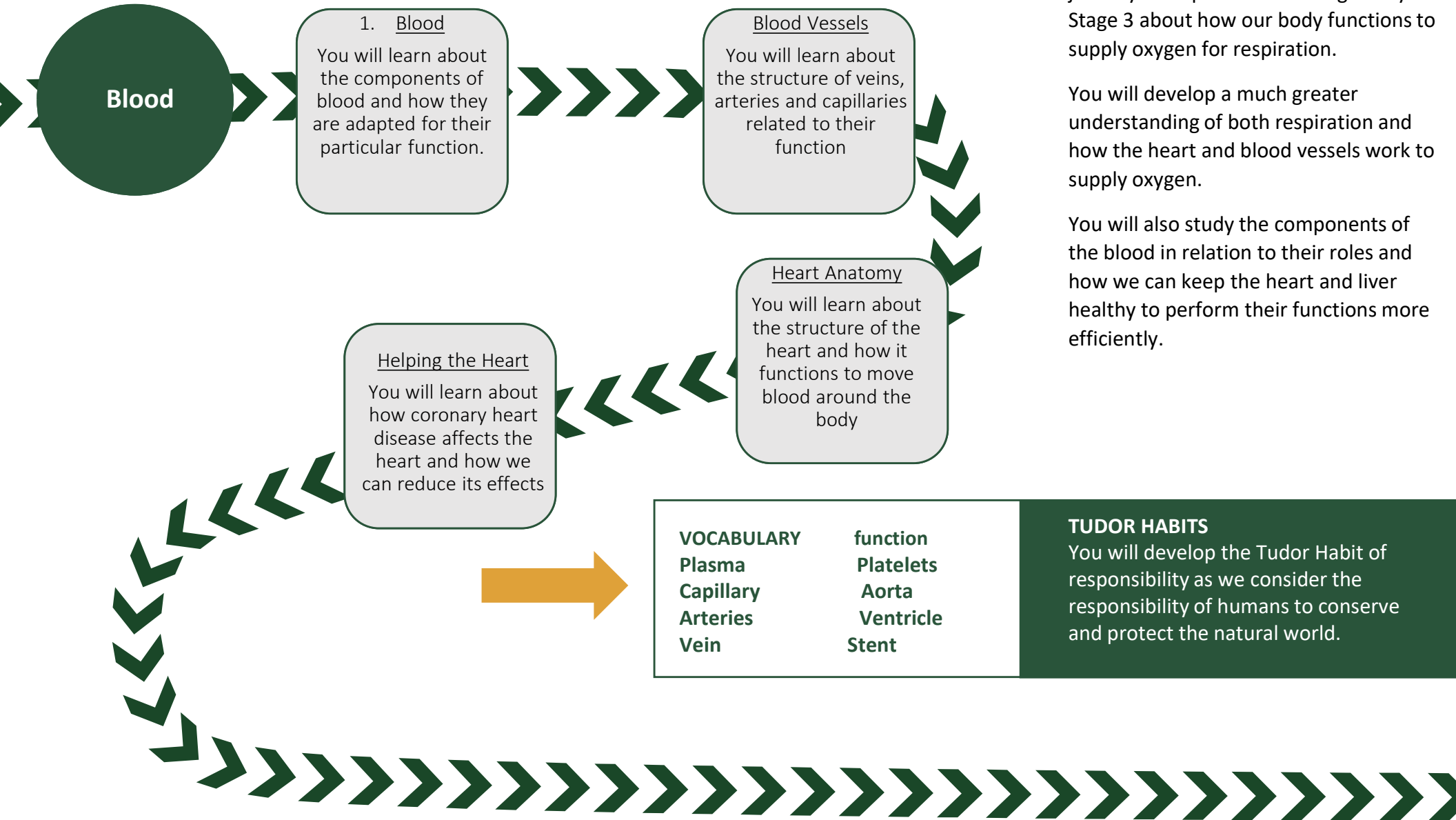




B2 Organisation 2 - The Cardiovascular system



This module continues your learning journey from previous learning in Key Stage 3 about how our body functions to supply oxygen for respiration.

You will develop a much greater understanding of both respiration and how the heart and blood vessels work to supply oxygen.

You will also study the components of the blood in relation to their roles and how we can keep the heart and liver healthy to perform their functions more efficiently.



B4 Bioenergetics 1 - Respiration

Respiration

Aerobic Respiration

You will learn about the process of aerobic respiration.

Response to exercise

You will learn about the effect of exercise on the body linked to respiration.

Anaerobic respiration

You will learn how and why the body performs anaerobic respiration and explain the oxygen debt.

Metabolism and the liver

You will learn the importance of the liver and its functions

VOCABULARY

Aerobic
Anaerobic
Mitochondria
Lactic acid
Metabolism

Bile

This module continues your learning journey from previous learning in Key Stage 3 about how our body functions to supply oxygen for respiration.

You will develop a much greater understanding of both respiration and how the heart and blood vessels work to supply oxygen.

You will also study the components of the blood in relation to their roles and how we can keep the heart and liver healthy to perform their functions more efficiently.

TUDOR HABITS

You will develop the Tudor Habit of responsibility as we consider the responsibility of humans to conserve and protect the natural world.



B3 Infection & Response 1 - Non communicable disease

Non - Communicable Disease

What is health?

In this lesson you will learn about the differences between healthy and unhealthy people and how to improve your health

Non-communicable diseases

In this lesson you will learn about non-communicable diseases and their risk factors

Cancer

In this lesson you will learn how cancer is formed, the differences between malignant and benign and how to treat cancer

Smoking

In this lesson you will learn how smoking is a risk factor for several diseases and the effect each component has on the body

Alcohol

In this lesson you will learn how alcohol is a risk factor for several diseases and the effect of drinking whilst pregnant

VOCABULARY

Health
Benign
Malignant
Tumour
Carcinogen

Risk Factors
Impact

TUDOR HABITS AND VALUES

You will develop the Tudor Habit of kindness and empathy as we consider our own health and the health of others whilst managing the wellbeing of others as family members may be suffering with diseases studied.

This module continues your learning journey from a previous module on Health in KS3.

This module looks at how risk factors can cause diseases not spread by pathogens and how they effect the body.

From this you will develop a understanding on how to reduce the risk of developing the diseases studied.

You will also look at how cancer is caused and how it can be treated.



LEARNING JOURNEY

Biology

B3 – Infection + response 2 – Health and disease

Communicable Disease Type and Spread

Spreading of Disease

You will learn how pathogens are spread from person / animal to person and identify methods to prevent this infection

Viral Disease

You will learn about viral diseases including measles and HIV. You will understand why they are difficult to treat.

Bacterial Disease

You will learn about bacterial diseases including salmonella and gonorrhoea. You will learn about symptoms and treatment

Growing Bacteria (Seps)

You will learn about how we grow and study bacteria using aseptic techniques. You will also link this to future lessons on antibiotics.

Fighting Disease

Antibiotic Resistance

You will learn about antibiotic resistance and how it has evolved due to human usage. This will introduce you to MRSA.

Antibiotics

You will learn about how antibiotics were discovered and why they are an effective drug against bacteria but not viral infections.

Human Defence

You will learn about how humans prevent pathogens entering the body and then how the immune system fights off disease if they do.

Vaccinations

You will learn about how artificial immunity is used to fight disease and why vaccinations are useful in herd immunity.

Stopping the Spread

You will learn about how we try to prevent the spread of disease and compare methods to look at the difference in impact.

Drug Development

You will learn about the stages in medical drug development in ensuring drugs that are effective, safe and have the correct dosage are developed

TUDOR HABITS AND VALUES

You will develop the Tudor Habit of responsibility and empathy as we consider your responsibility for your own health and how to prevent disease spread.

VOCABULARY

Pathogen
Communicable
Vaccination
Double-blind trial
Antigen

Transmission
Inhibition
Resistant
Phagocyte

Plant Disease

You will learn about plant disease and how this impacts plants with focus on Rose Black Spot and other common diseases.

Monoclonal Antibodies (Seps)

You will learn about monoclonal antibodies, how we make and could potentially use them.

This module continues your learning journey from the previous module on Non-Communicable Disease.

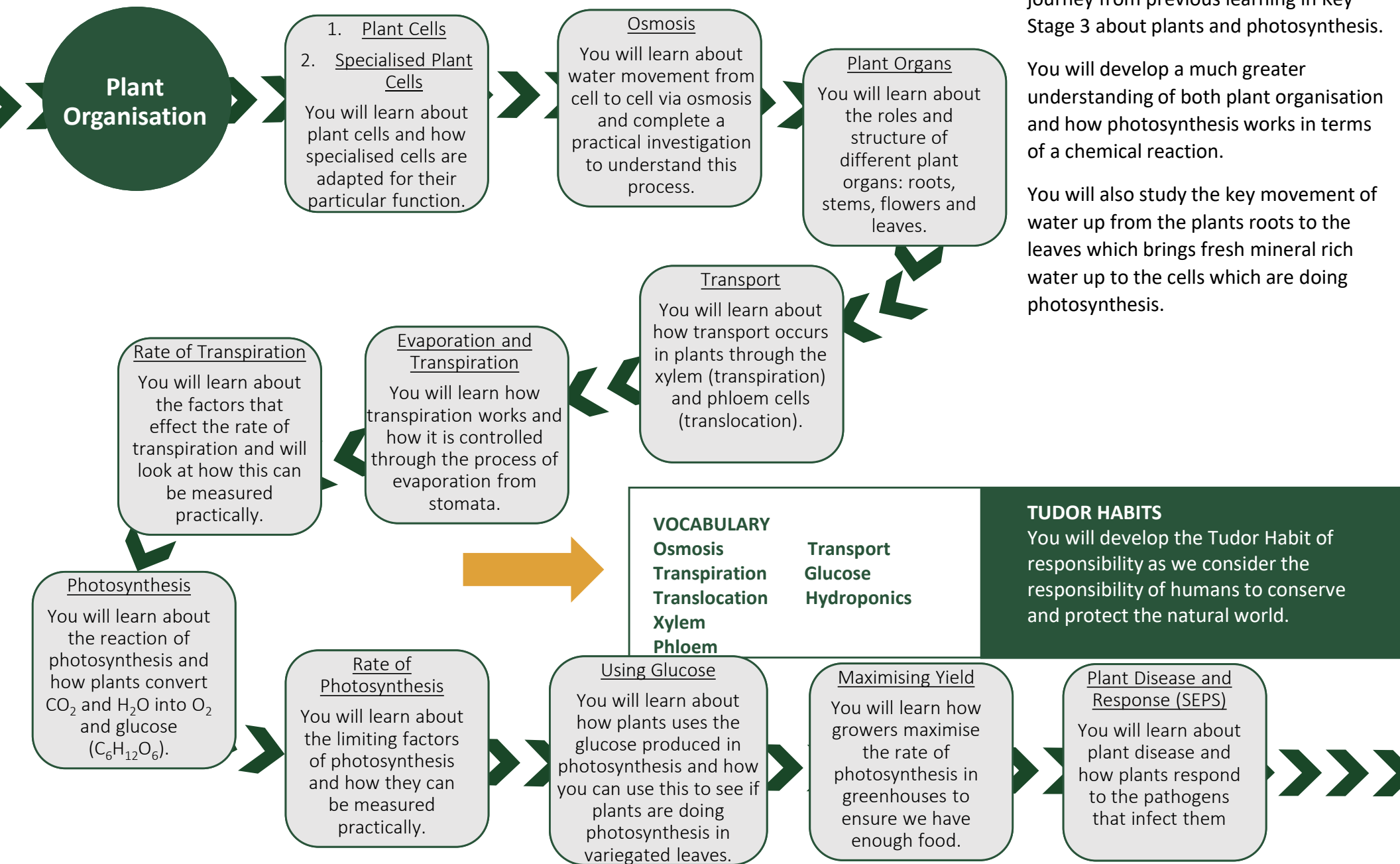
This module looks at how disease is caused by different pathogens and how they actually make you unwell.

From this you will develop a understanding on how we fight diseases through both natural methods and treatment.

The final part of the module is about plant disease which many often don't consider but has a large impact on our ability to produce crops and feed the world.



B4 – Bioenergetics 2 – Photosynthesis and plants



This module continues your learning journey from previous learning in Key Stage 3 about plants and photosynthesis.

You will develop a much greater understanding of both plant organisation and how photosynthesis works in terms of a chemical reaction.

You will also study the key movement of water up from the plants roots to the leaves which brings fresh mineral rich water up to the cells which are doing photosynthesis.