



## Year 7 Learning Journey

### Autumn Term

#### Life

Core knowledge
1. Correctly use the term: habitat, community, ecosystem
2. Identify the physical environmental factors that make up the environment in a habitat.
3. Describe how physical environmental factors vary in a habitat, both on a daily basis and seasonally.
4. State the resources that organisms need from their habitats and ecosystems.
5. Describe how the distribution of organisms is controlled by the availability of resources.
6. Explain how changes in a population or community in an ecosystem affect other populations.
7. Describe the adaptations of a range of organisms to their habitats.
8. Compare similar adaptations in plants and animals that live in similar places.
9. Describe physical and behavioural adaptations of organisms to daily and seasonal changes, including deciduous and evergreen trees, nocturnal organisms, hibernation and migration.
10. Explain why organisms are in competition in a given habitat.
11. Define feeding relationships in terms of energy flow.
12. Evaluate food chains and food webs as models of feeding relationships.
13. Use food chains to create food webs and identify food chains within food webs.
14. Use a food web to identify food sources for different animals and give reasons for identifying organisms as: carnivores, consumers, herbivores, omnivores, predators, prey, producers.
15. Use food webs to predict the effects of changes in populations.

#### Learning Checkpoints

Learning Checkpoint Title	Attempt 1		Attempt 2 / Extend	
	Mark	RAG	Mark	RAG
Life				
Competition and adaptations				

#### Key Vocabulary

**Tier 2-** Evaluate, Use, Identify, Organise, Compare

**Tier 3-** Habitat, Community, Ecosystem, Food Chain, Consumer, Producer, Predator, Prey



## Year 7 Learning Journey

### Spring

#### What are we made of?

Core knowledge
1. State the use of a microscope.
2. Identify the basic parts of a light microscope.
3. Describe the functions of the parts of a light microscope.
4. Describe how to prepare a microscope slide.
5. Identify the basic parts of a prepared light microscope slide.
6. Describe how to use a light microscope to examine a slide.
7. Estimate sizes using microscope fields of view.
8. Calculate total magnification using a formula.
9. Identify the parts of animal cells.
10. Describe what the nucleus, cell membrane and cytoplasm do.
11. Identify and describe the function of mitochondria.
12. Justify the classification of an organism as an animal based on cell structure.
13. Suggest reasons for differences between animal cells (in terms of their function).
14. Identify named tissues in organs.
15. Describe the functions of different tissues in an organ.
16. Locate and identify some organs.
17. Describe the functions of a large range of organs.
18. Identify organs working together as a system, and describe how they work together

#### Learning Checkpoints

Learning Checkpoint Title	Attempt 1		Attempt 2 / Extend	
	Mark	RAG	Mark	RAG
Microscopy				
Cells, Tissues and Organs				

#### Key Vocabulary

**Tier 2-** Locate, Justify, Estimate, Suggest, Calculate

**Tier 3-** Microscope, Magnification, Animal Cell, Nucleus, Cell Membrane, Cytoplasm, Mitochondria



## Year 7 Learning Journey

### Spring

#### You are what you eat

<b>Core knowledge</b>
1. Recall how food acts as fuel for the body and the names of nutrients in food.
2. Recall some good sources of carbohydrates, fats, proteins and fibre.
3. Describe the uses of fibre and water by the body.
4. Interpret nutrition information labels.
5. Describe and interpret results from food tests
6. Recall that if a person's energy intake is different from the amount of energy they need, their mass will change
7. Calculate energy requirements for daily needs and activities.
8. Describe the general uses of carbohydrates, fats (lipids), proteins, vitamins and minerals by the body.
9. Explain the benefits of a balanced diet and correctly use the term: malnutrition.
10. Describe the effects of obesity on health and factors that may lead to it.
11. Identify and describe examples of deficiency diseases (kwashiorkor, scurvy, rickets), and explain how they are caused.
12. Describe the functions of the organs in the human digestive system.
13. Describe what happens during ingestion, absorption and egestion.
14. Explain why digestion is necessary.
15. Describe the role of enzymes as catalysts in digestion.
16. Describe the features of the small intestine wall and explain how the cells in the small intestine are adapted to absorb nutrients quickly.
17. Explain how diffusion occurs in terms of movement of particles.
18. Explain how bile helps in the digestion of lipids.

#### Learning Checkpoints

Learning Checkpoint Title	Attempt 1		Attempt 2 / Extend	
	Mark	RAG	Mark	RAG
Nutrients and balanced diet				
Digestion				

<b>Key Vocabulary</b>
<b>Tier 2-</b> Recall, Interpret, State, Calculate, Describe
<b>Tier 3-</b> Balanced diet, Carbohydrates, Proteins, Obesity, Deficiency Disease, Digestion, Enzyme



## Year 7 Learning Journey

### Summer

#### Why do we breathe?

<b>Core knowledge</b>
1. State the key parts of the respiratory system
2. Describe the movement of air through the lungs
3. Identify different parts of the lungs.
4. Successfully use dissection equipment appropriately.
5. Describe how the diaphragm allows breathing to occur
6. Measure lung volume experimentally
7. Recall that plasma carries cells and products in the blood.
8. Describe the role of red blood cells, white blood cells and the platelets.
9. Suggest how these cells are specialised for their role.
10. Describe how gases move into and out of the blood by diffusion.
11. Explain how the adaptations of the alveoli and red blood cells assist with gas exchange
12. Recall that the heart is a pump
13. Describe the role of the right and left side of the heart and where it pumps blood to.
14. Suggest why the blood going into the right side of the heart is low in oxygen.

#### Learning Checkpoints

Learning Checkpoint Title	Attempt 1		Attempt 2 / Extend	
	Mark	RAG	Mark	RAG
Respiratory System				
Blood and heart				

<b>Key Vocabulary</b>
<b>Tier 2-</b> Suggest, Recall, Identify, Measure, Describe
<b>Tier 3-</b> Respiratory, Diaphragm, Volume, Plasma, Alveoli, Platelets