Year 8 Learning Journey

Autumn Term

Health and Nutrition

Core knowledge
1. Recall the names of the nutrients in food and how food acts as fuel for the body.
2. Recall why we need food (energy, growth and repair, health).
3. Recall some good sources of carbohydrates, fats, proteins and fibre.
4. Describe the general uses of carbohydrates, fats (lipids), proteins, vitamins and minerals by the body, including water and fibre.
5. Describe tests for fat and starch.
6. Interpret results from simple food tests (e.g. fat, starch, protein, vitamin C).
7. Recall that if a person's energy intake is different from the amount of energy they need, their mass will change
8. Calculate energy requirements for daily needs and activities.
9. Explain the benefits of a balanced diet and correctly use the term: malnutrition.
10. Describe the effects of obesity on health and the factors that may lead to it.
11. Describe the causes and control of Type 2 diabetes.
12. Explain how deficiency diseases are caused and give examples of deficiency diseases (kwashiorkor, scurvy, rickets).
13. Describe the functions of the organs in the human digestive system and explain why digestion is necessary
14. Describe what happens during ingestion, absorption and egestion.
15. Describe some benefits and drawbacks of bacteria in the digestive system.
16. Describe the role of enzymes as catalysts in digestion and model basic enzyme action.
17. Describe the features of the small intestine wall and explain how the cells in the small intestine are adapted to absorb nutrients quickly.
18. Use a knowledge of diffusion to explain how nutrients enter the blood from the small intestine.
19. 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 food tests				
Balanced diets and malnutrition				

Key Vocabulary
Tier 2- Interpret, Calculate, Explain, Use, Recall
Tier 3- Carbohydrates, Fats, Proteins, Malnutrition, Diabetes, Digestion, Enzyme, Catalyst, Diffusion.

Year 8 Learning Journey

Spring Term

Respiration and Movement

Core knowledge
1. Describe what happens in respiration (in terms of needing oxygen to release energy from food and producing carbon dioxide) and model using a word equation.
2. Describe and explain how breathing rate and heart rate are affected by exercise.
3. Correctly use the terms: breathing, breathing rate, ventilation, inhalation, exhalation.
4. Describe how muscles attached to ribs and the diaphragm produce breathing movements and use a model to explain how lungs expand and contract.
5. Describe the functions of the organs in the human gaseous exchange system and describe what happens during gas exchange.
6. Explain how the lungs are adapted for efficient gas exchange.
7. Explain how and why a concentration gradient is maintained for oxygen and carbon dioxide between the blood and lungs.
8. Describe the functions of red blood cells, white blood cells and plasma and state where blood cells are made.
9. Describe the structure of red blood cells and explain how a red blood cell is adapted to its function.
10. State the functions of arteries, veins, and capillaries.
11. Explain how the structure of capillaries is related to their function.
12. Explain how the heart pumps blood by the action of muscles.
13. Identify the main bones in the human skeleton
14. Recall the main functions of the skeleton (support, protection, movement).
15. Describe the basic parts of joints and classify joints as different types.
16. Use a knowledge of bones and joints to identify problems with them.
17. Describe how muscles and bones work together to allow movement.
18. Identify and explain how muscle cells are adapted to their function.
19. Describe what happens when muscles contract and relax.
20. Recall that anaerobic respiration releases less energy than aerobic respiration.
21. Describe how lactic acid is removed from tissues.
22. Explain why anaerobic activity cannot be sustained.
23. Model anaerobic respiration using a word equation.
24. Recall that drugs are substances that affect how the body works.
25. Describe the effects of stimulants and depressants, including on reaction times.

Learning Checkpoints

Learning Checkpoint Title	Attempt 1		Attempt 2 / Extend	
	Mark	RAG	Mark	RAG
The respiratory System				
Gas Exchange				

Key Vocabulary
Tier 2- Model, Relate, Interpret, Suggest, Identify
Tier 3- Respiration, Gas exchange, Red blood cells, Arteries, Veins, Capillaries, Anaerobic respiration

Year 8 Learning Journey

Summer Term

Microorganisms

Core knowledge
1. State the meaning of: multicellular, unicellular, and identify organisms that are unicellular and those that are multicellular.
2. Use the key characteristics of microorganism cell structure to classify microorganisms.
3. Use a knowledge of diffusion to explain how materials enter and leave unicellular organisms.
4. Recall the five kingdoms of organisms.
5. Justify the lack of a virus kingdom.
6. Recall that some foods, such as bread, beer and wine, are made using yeast.
7. Recall the conditions under which yeast grow quickly.
8. Recall what happens in aerobic and anaerobic respiration in yeast.
9. Explain what happens in fermentation.
10. Describe how yeast multiply by budding.
11. Explain how yeast can be used to make both alcoholic drinks and bread.
12. Describe, identify and state the basic functions of the parts of a bacterial cell (soft cell wall, flagella, cytoplasm, cell membrane, chromosome).
13. Recall what happens in anaerobic respiration in bacteria.
14. Explain why bacteria are used to make yoghurt.
15. Explain why bacteria grow well in certain conditions.
16. Describe how bacteria multiply by binary fission.
17. Recall the conditions under which algae grow quickly.
18. Describe, identify, and state the basic functions of common parts of protoctist cells
19. Give examples of decomposer microorganisms.
20. State the names of the compounds in which carbon is held in an ecosystem.
21. Describe the methods by which carbon is recycled in an ecosystem.
22. Explain the importance of decomposers in an ecosystem.
23. Explain ways in which decay can be prevented, such as freezing, refrigeration, drying, canning, salting, jamming, pickling and pasteurisation.
24. Model the recycling of carbon in an ecosystem using the carbon cycle.

Learning Checkpoints

Learning Checkpoint Title	Attempt 1		Attempt 2 / Extend	
	Mark	RAG	Mark	RAG
Classifying Microorganisms				
Yeast and Bacteria				

Key Vocabulary
Tier 2- Justify, model, give, distinguish, explain
Tier 3- Unicellular, Multicellular, Microorganism, Fermentation, Budding, Binary fission, Protoctist