SCIENCE YEAR 9 - TERM 1.1

I EVALUATE

(Judging outcomes and reviewing effectiveness)

1. I can evaluate how genetic modifications may benefit or harm organisms.
2. I can critique data on selective breeding outcomes.
3. I can assess the risks and benefits of cloning and genetic engineering.
4. I can reflect on the ethical implications of genetic technologies.
5. I can evaluate how displacement reactions reflect reactivity trends.

I ANALYSE

(Interpreting, comparing, drawing conclusions)

1. I can analyse how mutations affect protein function and inheritance.
2. I can compare the reactivity of different metals with water and acids.
3. I can identify patterns in the reactivity series using displacement reactions.
4. I can interpret experimental data from genetic cross simulations.
5. I can explain relationships between chemical reactions and observable outcomes.

I PRACTISE

Hands-on tasks and practical investigation)

1. I can carry out experiments to observe metal reactions with acids and water.
2. I can investigate the effect of variables in displacement reactions.
3. I can model the structure of DNA using diagrams and models.
4. I can simulate selective breeding using scenarios.
5. I can handle scientific data using correct methods and tools.

I LINK

(Connecting concepts and justifying decisions)

1. I can justify how adaptations link to survival and selective breeding.
2. I can explain the connection between DNA, mutations, and traits.
3. I can link reactivity of metals to their use in everyday applications.
4. I can describe how scientific developments in genetics impact society.

I READ

KS3 CGP Revision Guide – Page 41 – 47, Page 75 - 90

BBC Bitesize - Scientific Skills, Genetics and Evolution, Reactions and Reactivity

I LEARN

BIOLOGY- GENETICS AND EVOLUTION

1. DNA Structure
2. Mutations
3. Selective breeding
4. Cloning
5. Genetic engineering

CHEMISTRY - REACTIVITY

1. Reactions of metals with water
2. Reactions of metals with acids
3. Reactions of oxides with acids
4. Displacement reactions

Scientific Skills

SCIENCE YEAR 9 - TERM 1.2

I EVALUATE

(Judging outcomes and reviewing effectiveness)

1. I can evaluate how environmental changes affect the success of competing organisms.
2. I can assess how human activities impact the balance of natural cycles like carbon and water.
3. I can weigh the effectiveness of adaptations in enabling organisms to survive and reproduce.
4. I can evaluate data from simulations and ecological models to judge ecosystem responses.

I ANALYSE

(Interpreting, comparing, explaining relationships)

1. I can analyse how biotic and abiotic factors affect the distribution of organisms.
2. I can compare different types of adaptations and their roles in survival.
3. I can examine how water and carbon cycle processes are interlinked.
4. I can identify patterns in population graphs and ecological data.

I SOLVE PROBLEMS

(Reasoning, drawing conclusions, applying logic)

1. I can solve problems involving food web disruptions caused by abiotic changes.
2. I can suggest how species might respond to changes in their habitat or climate.
3. I can use data to predict outcomes of competition under different environmental conditions.
4. I can troubleshoot gaps in cycles using flow diagrams and case studies.

I APPLY

(Using knowledge in new situations or contexts)

1. I can apply my understanding of adaptations to explain survival in extreme environments.
2. I can use the concept of limiting factors to predict population outcomes.
3. I can apply knowledge of cycles to explain global environmental challenges.
4. I can relate real-world examples to ecological theory, including human impact.

I READ

KS3 CGP Revision Guide Page 102-114, Page 36 -40

BBC Bitesize - Scientific Skills, Energy, Ecology

I LEARN

PHYSICS – ENERGY

1. Energy stores
2. Energy transfers
3. Friction and thermal energy
4. Renewable energy
5. Nonrenewable energy

BIOLOGY -ECOLOGY

1. Competition
2. Biotic and abiotic factors
3. Adaptations
4. The water cycle
5. The Carbon Cycle

Scientific Skills