

Sets (s): all students

YEAR 12

SUBJECT Biology LP2 (SI)

Knowledge Focus: Enzymes, protein synthesis and cell division



**Ysgol Uwchradd
Prestatyn
High School**

This half term : Skills, Knowledge and Understanding to be developed

You will continue to learn about enzymes and how they speed up chemical reactions in living things. You will learn about the factors that affect the rate of enzyme reactions and how inhibitors affect enzymes. You will understand how proteins can be made by ribosomes using a template from DNA. You will also learn how cells divide by mitosis and meiosis.

Key Terms to be learned this half term:

Active site, tertiary, complimentary, enzyme-substrate complex, successful collision, denaturation, activation energy, competitive inhibitor, non-competitive inhibitor, allosteric site, end product inhibition, transcription, translation, DNA polymerase, RNA polymerase, helicase, introns, exons, interphase, prophase, metaphase, anaphase, telophase, cytokinesis, crossing over, independent assortment

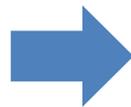
Week 1 and 2 Learning Objectives etc:

Explain why an increase in substrate or enzyme concentration increases enzyme action.

SPECIFIED PRACTICAL WORK: Investigate the effect of substrate concentration on enzyme action.

Know what inhibitors are and how they affect enzyme action.

Know how enzymes can be immobilised and the advantages of doing this.



Objective assessments:

Analysis of data from practical work and explanation of trends.

Homework:

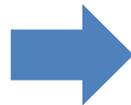
Past exam questions on enzymes.

Week 3 and 4 Learning Objectives etc:

Describe how mRNA is made during transcription and introns removed

Describe how proteins are made using mRNA as a template in translation.

Describe how proteins are modified after translation.



Objective assessments:

Completion of exam questions on protein synthesis.

Homework:

Past exam questions on protein synthesis.

Week 5 and 6 Learning Objectives etc:

State the functions of mitosis and explain its importance.

Describe the events that occur during mitosis using diagrams and microscope pictures.

SPECIFIED PRACTICAL WORK: Carry out a root tip squash to view cells undergoing mitosis.



SA test on all topics studied this half term

Objective assessments:

Answers to past exam questions.

Identification of stages of mitosis from pictures and photos.

Homework:

Revision for summative assessment.

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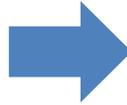
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Week 7

Describe what happens during meiosis and explain the importance of meiosis.

Compare meiosis with mitosis.

SPECIFIED PRACTICAL WORK: Look at anther cells undergoing meiosis to identify stages.



Objective assessments:

Answers to past exam questions.

Comparison of meiosis with mitosis

Homework: