

Map of the module: *The Thread of Life*

This shows the relationship between the Chemical Storylines, the Activities and the Chemical Ideas. To aid planning, laboratory-based practical work is indicated by (P), activities involving IT skills are indicated by (IT) and those developing study skills by (S).

Chemical Ideas references in *italics* are covered in earlier modules and are included in synoptic learning outcomes for this module in the specifications. Emphasis in teaching and learning should be on the **new** (non-italicised) sections of Chemical Ideas. The degree to which revisited Chemical Ideas are studied will depend on the needs of individual students.

ACTIVITIES	CHEMICAL STORYLINE	CHEMICAL IDEAS
	TL1 MAN'S FUTURE IS IN HIS GENES	
TL2.1 Investigating an amino acid (P) TL2.2 The structures of peptides (IT) TL2.3 What's in aspartame? (P) TL2.4 The shapes of α -amino acids (IT)	TL2 WHAT ARE PROTEINS?	13.3 <i>Carboxylic acids and their derivatives</i> 13.4 <i>The -OH group in alcohols, acids and phenols</i> 13.8 <i>Amines and amides</i> 13.9 Amino acids and proteins (section on amino acids) 7.3 <i>Chromatography (section on t.l.c.)</i> 12.1 <i>Alkanes (section on drawing structural and skeletal formulae)</i> 3.2 <i>The shapes of molecules (section on bond angles)</i> 3.3 <i>Structural isomerism</i> 3.4 <i>E/Z isomerism</i> 3.5 <i>Optical isomerism</i>
TL3 Modelling protein structures	TL3 PROTEINS IN 3-D	5.3 <i>Bonds between molecules: temporary and permanent dipoles</i> 5.4 <i>Bonds between molecules: hydrogen bonding</i> 13.9 Amino acids and proteins (section on proteins)
TL4.1 Testing for glucose (P) TL4.2 Using the iodine clock method to find the order of a reaction (P) TL4.3 Methods of following reactions (P) TL4.4 Enzyme kinetics TL4.5 Kinetics graphs	TL4 ENZYMES	10.1 <i>Factors affecting reaction rates</i> 10.2 <i>The effect of temperature on rate</i> 10.3 <i>The effect of concentration on rate</i> 10.5 <i>What is a catalyst?</i> 10.6 <i>How do catalysts work?</i> 10.4 <i>Enzymes and rate</i> 15.9 <i>Atom economy and enzymes</i>
TL5 Modelling DNA	TL5 DNA FOR LIFE	
	TL6 MAKING USE OF DNA	
TL7 Check your knowledge and understanding (S)	TL7 SUMMARY	