DEPARTMENT_____ SHAMOKIN AREA SCHOOL DISTRICT GRADE(s)_____
COURSE_____ MAPPING

TIME FRAME (month or week)	CONTENT	SKILLS	STANDARD(s)	ASSESSMENT
August	1. Organic Compounds	1.01 Identify the number of bonds for carbon and other atoms in organic molecules	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	Homework, Quizzes, Tests, Labs
		1.02 Predict whether an organic molecule is polar or nonpolar.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		1.03 Identify properties characteristic of organic and inorganic compounds.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		1.04 Classify organic molecules according to their functional groups.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		1.05 Write condensed structural formulas for constitutional isomers.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
	2. Alkanes	2.01 Write expanded, condensed, or line-bond structural formulas for the first ten continuous alkanes.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	Homework, Quizzes, Tests, Labs
		2.02 Write the IUPAC names for alkanes.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		2.03 Draw the correct structural formulas of alkanes and their constitutional isomers.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		2.04 Write the IUPAC and common names for a haloalkane; draw the condensed structural formula given the name.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		2.05 Give the IUPAC name for a cycloalkane; draw the structural formulas from the IUPAC name.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		2.06 Identify the physical properties of alkanes and cycloalkanes.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		2.07 Write balanced equations for the combustion and halogenation of alkanes and cycloalkanes.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
	3. Unsaturated Hydrocarbons	3.01 Identify structural formulas as alkenes, cycloalkenes, and alkynes.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	Homework, Quizzes, Tests, Labs
		3.02 Write the IUPAC names for alkenes and alkynes; give common names for simple structures.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		3.03 Write the structural formulas and names for constitutional and cis-trans isomers of alkenes.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		3.04 Write the structural formulas and names for the organic products of addition reactions of alkenes and alkynes.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		3.05 Draw structural formulas of monomers that form a polymer or a three-monomer section of a polymer.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		3.06 Describe the bonding in benzene; name aromatic compounds, and write their structural formulas.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		3.07 Describe the physical and chemical properties of aromatic compounds; draw structural formulas produced by substitution of benzene.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
	4. Alcohols, Phenols, Ethers, and Thiols	4.01 Classify alcohols as primary, secondary, or tertiary.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	Homework, Quizzes, Tests, Labs
		4.02 Give IUPAC and common names for alcohols, phenols, and thiols; draw their condensed structural formulas.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		4.03 Give the IUPAC and common names of ethers; draw the condensed structural formula.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		4.04 Describe some physical properties of alcohols, phenols, and ethers.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		4.05 Write equations for the combustion, dehydration, and oxidation of alcohols.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
	5. Aldehydes, Ketones, and Chiral Molecules	5.01 Identify compounds with the carbonyl group as aldehydes and ketones.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	Homework, Quizzes, Tests, Labs
		5.02 Give the IUPAC and common names for aldehydes and ketones; draw their condensed structural formulas.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		5.03 Identify aldehydes and ketones in common use.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		5.04 Compare the physical properties of aldehydes and ketones to those of alkanes and alcohols.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		5.05 Identify chiral and achiral carbon atoms in an organic molecule.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		5.06 Draw the structural formulas of reactants and products for the oxidation or reduction of aldehydes or ketones.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		5.07 Write the products of the addition of alcohols to aldehydes and ketones.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
	6. Carboxylic Acids and Esters	6.01 Give the common names, IUPAC names, and condensed formulas of carboxylic acids.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	Homework, Quizzes, Tests, Labs
		6.02 Describe the physical properties of carboxylic acids and esters.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		6.03 Give the IUPAC and commmon names for esters; draw condensed structural formulas.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
	7. Amines and Amides	7.01 Classify amines as primary, secondary, or tertiary.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	Homework, Quizzes, Tests, Labs

		7.02 Name amines and amides using common and IUPAC names; draw the condensed structures given the names.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		7.03 Describe the physical properties of amines and amides	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
		7.04 Predict the products or reactants of reactions of amines and amides.	3.3.10.A, 3.3.10.B, 3.4.10.A, 3.4.12.A	
	8. Carbohydrates	8.01 Classify carbohydrates as monosaccharides, disaccharides, or polysaccharides.	3.3.12.A, 3.3.12.B, 3.3.12.C	Homework, Quizzes, Tests, Labs
		8.02 Classify a monosaccharide as an aldose or ketose and indicate the number of carbon atoms.	3.3.12.A, 3.3.12.B, 3.3.12.C	
		8.03 Identify a Fischer projection of a sugar as the D or L configuration.	3.3.12.A, 3.3.12.B, 3.3.12.C	
		8.04 Draw and identify the open chain and cyclic structure for monosaccharides.	3.3.12.A, 3.3.12.B, 3.3.12.C	
		8.05 Identify the products of oxidation or reduction of monosaccharides; determine whether a carbohydrate is a reducing sugar.	3.3.12.A, 3.3.12.B, 3.3.12.C	
		8.06 Describe the monosaccharide units and linkages in disaccharides.	3.3.12.A, 3.3.12.B, 3.3.12.C	
		8.07 Describe the structural features of amylose, amylopectin, glycogen, and cellulose.	3.3.12.A, 3.3.12.B, 3.3.12.C	
	9. Lipids	9.01 Describe the classes of lipids.	3.3.12.A, 3.3.12.B, 3.3.12.C	Homework, Quizzes, Tests, Labs
		9.02 Identify a fatty acid as saturated or unsaturated.	3.3.12.A, 3.3.12.B, 3.3.12.C	
		9.03 Describe the physical properties of waxes, fats, and oils.	3.3.12.A, 3.3.12.B, 3.3.12.C	
		9.04 Describe the structures of steroids.	3.3.12.A, 3.3.12.B, 3.3.12.C	
		9.05 Describe the composition and function of the lipid bilayer in cell membranes.	3.3.12.A, 3.3.12.B, 3.3.12.C	
	10. Amino Acids and Proteins	10.01 Classify proteins by their function in the cells.	3.3.12.A, 3.3.12.B, 3.3.12.C	Homework, Quizzes, Tests, Labs
		10.02 Draw the structure for an amino acid.	3.3.12.A, 3.3.12.B, 3.3.12.C	
		10.03 Identify and distinguish between primary, secondary, tertiary, and quaternary structures of a protein.	3.3.12.A, 3.3.12.B, 3.3.12.C	
		10.04 Describe the hydrolysis and denaturation of proteins.	3.3.12.A, 3.3.12.B, 3.3.12.C	
	Other topics in Biochemistry as time allows			

DEPARTMENT_____
COURSE_____

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