Year 11 Science Personalised Learning Checklist- Autumn 2
Organic Chemistry

	Learning Statements	Tier	R	A	G
1	Name the three types of bonds that can form (combined only recap)	F			
2	Explain how atoms bond ionically (combined only recap)	F			
3	Use different models to represent the ions in an ionic compound (combined only recap)	F			
4	Evaluate the use of different models of representation (combined only recap)	F			
5	Work out the empirical formula for different ionic compounds (combined only recap)	F			
6	Describe and explain the properties of ionic compounds (combined only recap)	F			
7	Explain how atoms bond covalently (combined only recap)	F			
8	Use different models to represent the atoms in a covalent compound (hydrogen, chlorine, oxygen, nitrogen, hydrogen chloride, water, ammonia, methane) (combined only recap)	F			
9	Describe the structure of diamond, graphite, graphenes and fullerenes (combined only recap)	F			
10	Explain the properties of simple and giant covalent compounds (combined only recap)	F			
11	Describe the structure of a polymer (combined only recap)	F			
12	Work out the molecular formula of a substance given a model or diagram of it's structure (combined only recap)	F			
13	Explain how atoms bond metallically (combined only recap)	F			
14	Describe and explain the properties of giant metallic structures (combined only recap)	F			
15	Explain what crude oil is and how it is formed	F			
16	Define 'alkanes' and give the general formula	F			
17	Recall the formulae and structures for the first 4 alkanes (methane, ethane, propane and butane)	F			
18	Define 'alkenes' and give the general formula	F			
19	Recall the formulae and structures for the first 4 alkenes (ethene, propene, butane, pentene)	F			
20	Define the terms 'saturated' and 'unsaturated' and link to alkanes and alkenes	F			
21	Use the bromine test to identify whether there are alkanes or alkenes present	F			
22	Explain the process of fractional distillation	F			
23	Name and describe the uses (fuels and feedstock for the petrochemical industry e.g. solvents, lubricants, polymers and detergents) of each of the fractions produced (petrol, diesel, kerosene, heavy fuel oil and LPG)	F			
24	Describe why carbon can form such a vast array of natural and synthetic compounds	F			
25	Explain how the size of hydrocarbon is linked to their boiling point, viscosity and flammability	F			
26	Describe the combustion of hydrocarbons and write balanced symbol equations	F			
27	Describe what is meant by 'cracking'	F			
28	Describe why cracking is required	F			
29	Describe the methods and conditions used for 'catalytic cracking' and 'steam cracking'	F			
30	Recall the uses of alkenes produced during cracking (polymers)	F			

31	Balance chemical equations for cracking	F			
32	Name the monomers that make up DNA (nucleotides), protein (amino acids), starch (glucose) and cellulose (separate only)	F			