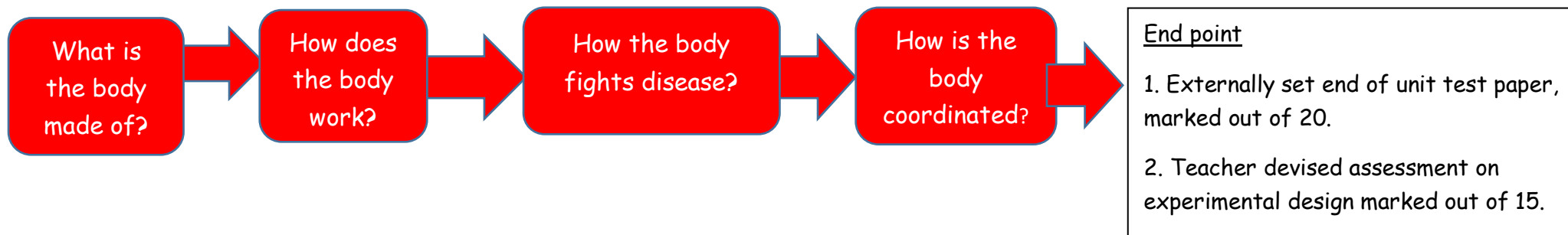
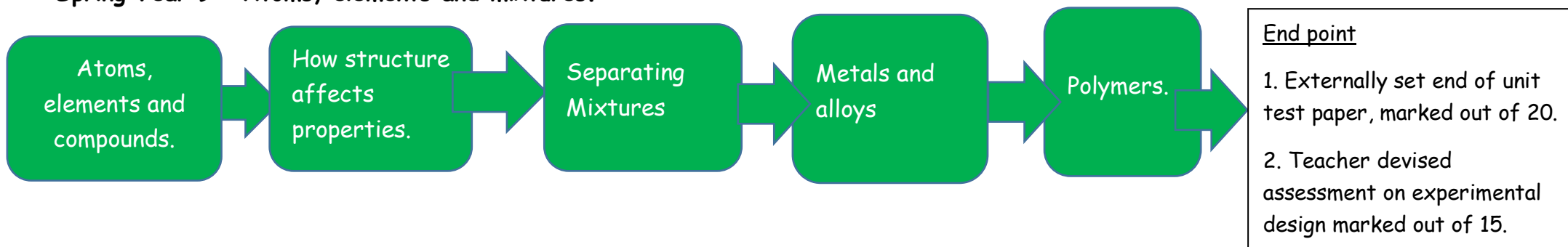


High starters- Year 9

Autumn year 9 - The human body



Spring Year 9 - Atoms, elements and mixtures.



Summer Year 9 Energy, forces and the structure of matter



Atomic Structure

Describing the basic structure and electronic configuration of atoms and exploring how and why the atomic model has changed over time. Identifying atoms from formulae, writing word and balancing symbol equations.



The Periodic Table

Describing the structure of the modern periodic table and exploring how it was developed. Gaining an appreciation of how new experimental evidence may lead to a new scientific model. Explaining the trends of reactivity in each group, applying prior knowledge of electron configuration.



Structure and Bonding

Recapping states of matter and evaluating the use of models in science. Using knowledge of atoms and the periodic table to describe ionic, covalent and metallic bonding and explain the properties of the resulting structures. Describing the structures and applications of nanoparticles.



Year 10- GCSE Chemistry Curriculum Map

Electrolysis

Describing electrolysis of molten ionic compounds, aqueous solutions and in extracting metals. Predicting the products of electrolysis. Planning an investigation on the electrolysis of aqueous solutions.



Chemical Changes

Analysing the reaction of metals with oxygen, water, dilute acid and displacement reactions in order to deduce an order of reactivity. Using this to explain why and how metals can be extracted from their ores. Practical skills are developed by making a pure dry sample of a soluble salt.



Chemical Calculations

Calculating relative formula/molecular mass. Describing what is meant by the chemical amount 'mole'. Calculate percentage yield and atom economy of reactions used in industry.



Energy changes

Describing exothermic and endothermic reactions, explaining how to investigate energy changes and evaluating its real-world applications.



Paper 1
assessment

Useful links

<https://www.bbc.co.uk/bitesize/examspecs/z8xtmnb>

<https://www.youtube.com/playlist?list=PLIdqqlGKox7WeOKVGHxcd69kKqtwrKI8W>

https://www.youtube.com/playlist?list=PL9IouNCPbCxULWXC09jt0PsuAbxYpw2_1

Rates and Equilibrium

Investigating four variables that can be manipulated to change the rate of reaction. Chemical reactions may also be reversible, and we investigate how altering conditions will affect the yield of the desired product.



Crude Oil and Fuels

Describing the composition of crude oil, how it can be separated by fractional distillation and the uses of each fraction. Analysing the larger fractions and explaining how and why they must be cracked. Writing equations for the combustion of hydrocarbons.



Organic Reactions

Describing the reactions of alkenes and the structure of alcohol. Describing how alcohols react and explaining some of their uses.



Year 11- GCSE Chemistry Curriculum Map

The Earth's Atmosphere

The importance of this topic has perhaps taken on even more significance in recent years with environmental issues high on the agenda. Analysing some of the solutions which chemists are currently working on and appreciating the role of peer-reviews.



Chemical Analysis

The study of analytical chemistry shows how chemistry is applied in different contextual environments outside of the school laboratory, whether it is forensic scientists in a police station, chemists running blood tests in a hospital or antidoping scientists at the Olympics.



Polymers

Explain and compare the basic properties of addition polymerisation. Describing natural polymers such as starch, cellulose, protein and DNA whilst making cross-curricular links to Biology



Using Earths resources

Describe rusting and explain prevention. Interpreting and evaluating the composition and uses of alloys. Explaining differences between thermosetting and thermosoftening polymers. Explain why, now more than ever, nitrogen based fertilisers are needed to improve crop yields and why the economics of the process must be considered.



Paper 2
assessment



GCSE Chemistry exams
Good luck