

# Science

### **Physics**

- Fluids the particle model, calculations with density, state changes, pressure in fluids, floating and sinking, the force of drag
- **Light** how light travels, the use of ray diagrams, ways of investigating light, reflection and refraction, the science behind cameras and eyes, explaining colour
- Energy Transfers the difference between internal energy and temperature, transferring energy by heating, controlling energy transfers, power and efficiency, calculating the cost of energy, the effect of energy use on the planet
- Earth and Space models of the solar system, understanding what causes the seasons, the Earth's magnetic field, gravity in space, beyond the solar system, studying space

### Chemistry

- **Combustion** burning fuels, reacting metals with oxygen, stopping combustion reactions, air pollution, global warming, reducing pollution
- The Periodic Table Dalton's atomic model, reactions of elements, chemical formulae, Mendeleev's table, groups of the modern periodic table, physical properties and trends, chemical properties and trends
- Metals and Their Uses metal properties, catalysts, rusting and corrosion, metals and water, the reactivity series, metals and acids, pure metals and alloys
- **Rocks** rocks and their uses, the formation of igneous and metamorphic rocks, weathering and erosion, the formation of sedimentary rocks, materials in the Earth



# **Science**

### **Biology**

- Food and Nutrition nutrients in food, testing foods, uses of nutrients, balanced diets, deficiency diseases, starvation, obesity, the digestive system, gut bacteria, enzymes, absorption of food, small intestine adaptations
- Plants and their Reproduction classification and biodiversity, sampling techniques, types of reproduction, pollination, cross-pollination, fertilisation and dispersal, germination and growth
- **Breathing and Respiration-** aerobic respiration, gas exchange, measuring respiration, internal transportation of oxygen, gas exchange in different organisms, anaerobic respiration
- Unicellular Organisms unicellular vs multicellular, microscopic fungi, bacteria cells, protoctista, decomposers and the carbon cycle, recycling carbon.





# **English**

In KS3 Year 8 English curriculum includes following topics-

Literature

**Fiction Texts - Reading & Writing** 

Non-fiction reading

Non-fiction transactional writing

**Poetry** 

**Prose Study** 

**Essay Writing** 

Spelling, Punctuation & Grammar

Spoken English

Shakespeare study





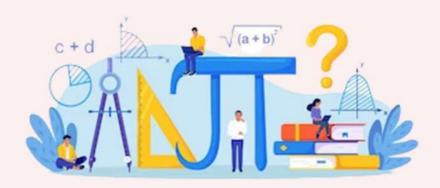
### Math

#### Number

- Fractions, decimals and percentages
- Place value
- Negative numbers
- Factors and multiples
- Indices
- Standard form
- Rounding
- BIDMAS (order of operations)

### **Algebra**

- Manipulating algebraic expressions
- Expanding and factorising
- Solving equations
- Using formulae
- Sequences
- Graphs
- Inequalities





# Math

### Ratio, proportion and rates of change

- Ratio
- Direct proportion
- Conversion rates

### Geometry and measure

- Area and perimeter
- Surface area and volume
- Angles
- Parallel lines
- Properties of polygons
- Transformations
- Speed/distance/time
- Construction and loci
- Bearings
- Congruence
- Pythagoras Theorem





# Math

### **Probability topics**

- Theoretical probability
- Experimental probability
- Sample space diagrams
- Venn diagrams

### **Statistics**

- Data collection
- Pie charts
- Scatter diagrams
- Averages

