



**Bosvena**

School

**“At Bosvena School, we nurture healing, curiosity, and courage so every child can thrive, in learning, in relationships, and in life.”**



B- Bravery

E- Empathy

A- Aspirations

C- Communication

O- Opportunity

N- Nurture

## Sensible Science Overview KS1-KS4

Key Stage 1	Key Stage 2	Key Stage 3	Key Stage 4
<b>Scientific Thinking &amp; Enquiry:</b> <ol style="list-style-type: none"> <li>1. Ask simple questions about things they notice</li> <li>2. Make basic predictions ("I think... because...")</li> <li>3. Carry out simple tests with support</li> <li>4. Observe using senses and simple tools</li> <li>5. Talk about what happened in simple terms</li> </ol>	<b>Scientific Thinking &amp; Enquiry:</b> <ol style="list-style-type: none"> <li>6. Ask structured questions that can be investigated</li> <li>7. Plan a simple test that controls one variable</li> <li>8. Measure more accurately using standard tools (thermometer, ruler, stopwatch)</li> <li>9. Record findings using tables or bar charts</li> <li>10. Identify patterns and say what they mean</li> </ol>	<b>Scientific Thinking &amp; Enquiry:</b> <ol style="list-style-type: none"> <li>11. Plan investigations predicting relationships between variables</li> <li>12. Use precise measurement and repeat results to gain reliability</li> <li>13. Use appropriate methods (e.g., sampling, fair testing, digital tools).</li> <li>14. Present findings using line graphs and basic statistics.</li> <li>15. Evaluate findings, identifying strengths and weaknesses in methodology.</li> </ol>	<b>Scientific Thinking &amp; Enquiry:</b> <ol style="list-style-type: none"> <li>16. Independently design investigations to test hypotheses</li> <li>17. Use formal sampling and control techniques</li> <li>18. Process and analyse data using averages, percentages, uncertainty and error</li> <li>19. Explain limitations and reliability of data</li> <li>20. Draw evidence-based conclusions and justify them scientifically</li> </ol>
<b>Biology for Life:</b> <ol style="list-style-type: none"> <li>1. Know humans and animals have basic needs (food, oxygen, water)</li> <li>2. Identify simple body parts and their functions</li> <li>3. Recognise that living things grow and change</li> <li>4. Begin to understand diet and keeping healthy</li> </ol>	<b>Biology for Life:</b> <ol style="list-style-type: none"> <li>5. Understand the circulatory, digestive, skeletal and muscular systems</li> <li>6. Know about nutrition, exercise, sleep and hygiene</li> <li>7. Understand life cycles of plants and animals</li> <li>8. Learn how organisms depend on their environment</li> </ol>	<b>Biology for Life:</b> <ol style="list-style-type: none"> <li>9. Explain body systems in terms of structure and function</li> <li>10. Understand the role of microbes in disease and health</li> <li>11. Learn about reproduction, genetics and inheritance</li> <li>12. Understand ecosystems, food chains, and environmental pressures</li> </ol>	<b>Biology for Life:</b> <ol style="list-style-type: none"> <li>11. Understand diseases, immunity, vaccination and health risks</li> <li>12. Explain inheritance, variation and evolution in genetic terms</li> <li>13. Analyse how lifestyle choices affect long-term health</li> <li>14. Evaluate environmental impact, biodiversity loss and sustainability decisions</li> </ol>
<b>Chemistry &amp; Materials:</b> <ol style="list-style-type: none"> <li>1. Group materials by basic properties (hard/soft, solid/liquid, shiny/dull)</li> <li>2. Understand simple material changes (melting, heating, mixing)</li> </ol>	<b>Chemistry &amp; Materials:</b> <ol style="list-style-type: none"> <li>3. Understand solids, liquids and gases and reversible changes</li> <li>4. Know some reactions cause permanent change (e.g., burning, rusting)</li> <li>5. Begin to think about why different materials are suited to different uses</li> </ol>	<b>Chemistry &amp; Materials:</b> <ol style="list-style-type: none"> <li>6. Understand particle theory and the structure of matter</li> <li>7. Learn about chemical reactions, conservation of mass, acids &amp; alkalis</li> <li>8. Know about atoms, elements, compounds and the periodic table</li> <li>9. Apply chemistry to real contexts (cleaning products, fuels, food ingredients)</li> </ol>	<b>Chemistry &amp; Materials:</b> <ol style="list-style-type: none"> <li>10. Understand bonding, chemical equations and quantitative reactions</li> <li>11. Analyse environmental chemistry (pollution, CO<sub>2</sub>, plastics, recycling)</li> <li>12. Understand how industrial processes link to real materials (metals, fertilisers, fuels)</li> <li>13. Evaluate chemical risks and safety information (labels, MSDS, storage etc.)</li> </ol>
<b>Physics &amp; The Physical World:</b> <ol style="list-style-type: none"> <li>1. Recognise pushes, pulls, and simple forces</li> <li>2. Know light and sound come from sources</li> <li>3. Begin to understand simple movement and temperature changes</li> </ol>	<b>Physics &amp; The Physical World:</b> <ol style="list-style-type: none"> <li>4. Understand the effects of forces (friction, gravity, air resistance)</li> <li>5. Begin to understand electricity in simple circuits</li> <li>6. Learn about the Sun, Earth, Moon and day/night</li> <li>7. Understand simple energy ideas</li> </ol>	<b>Physics &amp; The Physical World:</b> <ol style="list-style-type: none"> <li>8. Use calculations involving forces, motion and speed</li> <li>9. Work with electrical circuits and components</li> <li>10. Understand energy transfers, heating, insulation and efficiency</li> <li>11. Develop understanding of waves (sound, light) and why they matter</li> </ol>	<b>Physics &amp; The Physical World:</b> <ol style="list-style-type: none"> <li>12. Apply physics to real systems (household electricity, appliances, bills)</li> <li>13. Calculate power, energy usage and cost</li> <li>14. Understand renewable energy, climate change and engineering solutions</li> <li>15. Use physics to analyse real-world safety (car stopping distances, electrical ratings, structural stability)</li> </ol>
<b>Real-Life Application, Evaluation &amp; Decision-Making:</b> <ol style="list-style-type: none"> <li>1. Begin to talk about noticing and learning from mistakes</li> <li>2. Understand that some sources (teachers, books) help us learn</li> </ol>	<b>Real-Life Application, Evaluation &amp; Decision-Making:</b> <ol style="list-style-type: none"> <li>3. Compare ideas and evidence</li> <li>4. Begin to recognise that sources can disagree</li> <li>5. Make simple fact-based decisions</li> </ol>	<b>Real-Life Application, Evaluation &amp; Decision-Making:</b> <ol style="list-style-type: none"> <li>6. Understand how science helps us evaluate claims (advertising, online misinformation)</li> <li>7. Spot weak arguments and missing evidence</li> <li>8. Understand peer review and reliability</li> </ol>	<b>Real-Life Application, Evaluation &amp; Decision-Making:</b> <ol style="list-style-type: none"> <li>9. Make informed personal decisions (vaccination, health, sustainability, energy use)</li> <li>10. Analyse scientific claims in the media and online</li> <li>11. Understand political, ethical and environmental trade-offs</li> <li>12. Explain reasoning clearly and with evidence</li> </ol>