KS3 Science

Year Group 7

Half Term 1

|  |  |
| --- | --- |
| Number of Hours | Topic |
| 9 | Cells and Organisation |
| 9 | States of matter |
| May get started this half term | Race for the Line (forces) |
| As available | Revision work |
| Reasons behind order of topic in this half term |
| * Understanding of cells and organelles needed for future topics such as photosynthesis, genetics
* Knowledge of body systems needed for reproduction and respiration topic
* States of matter introduces the idea of particle theory needed for future topics such as diffusion (in gas exchange)
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KS3 Science

Year Group 7

Half Term 2

|  |  |
| --- | --- |
| Number of Hours | Topic |
| 2 | Race for the Line – Forces |
| 9 | Nutrition and Digestion |
| 5 | Atoms, Elements and Compounds |
| As available | Revision work |
| Reasons behind order of topic in this half term |
| * Race for line topic gives a simple introduction to forces to support technology project
* Nutrition topic builds on prior knowledge of balanced diets and helps to ensure healthy eating habits at this crucial stage (secondary transition) Nutrition in plants builds foundation for photosynthesis topic
* Digestion topic builds on organisation topic and allows study of enzymes and introduction to the idea of chemical reactions ahead of the next topic (chemical reactions)
* Atoms, Elements and Compounds topic introduces concept of elements and symbols, the idea of chemical reactions as the rearrangement of atoms is needed for many future topics. The topic introduces how we represent chemical reactions using formulae and using equations which builds a foundation for respiration, photosynthesis, etc.
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KS3 Science

Year Group 7

Half Term 3

|  |  |
| --- | --- |
| Number of Hours | Topic |
| 4 | Atoms, Elements and Compounds continued |
| 8 | Energy |
| 3 | Reproduction |
| As available | Revision work |
| Reasons behind order of topic in this half term |
| * Reproduction topic builds on organisation topic and allows discussion of pregnancy, STDs, contraception prior to students becoming sexually active
* Energy topic introduces the principal of the conservation of energy. Energy values of different foods (from labels) allows revision of nutrition work. Energy transfers in changing motion and dropping an object lays foundations for forces topic, energy transfers in electrical circuits lays foundation for electricity topic
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KS3 Science

Year Group 7

Half Term 4

|  |  |
| --- | --- |
| Number of Hours | Topic |
| 6 | Reproduction continued |
| 8 | Electricity |
| 3 | Gas Exchange |
| As available | Revision work |
| Reasons behind order of topic in this half term |
| * Electricity topic builds on energy changes in electric circuits covered in energy topic. Static electricity builds on knowledge of atoms from chemical reactions topic. Key knowledge of electrical circuits provides foundation for GCSE work
* Gas Exchange topic builds on knowledge of diffusion covered in states of matter, builds a foundation for respiration and photosynthesis topics. Key knowledge such as main organs of the breathing system and adaptations for gas exchange covered to provide foundation for GCSE work. The effects of smoking, asthma and exercise on breathing system promotes healthy lifestyles.
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KS3 Science

Year Group 7

Half Term 5

|  |  |
| --- | --- |
| Number of Hours | Topic |
| 3 | Gas Exchange continued |
| 9 | Pure and impure substances |
| 3 | Magnetism |
| As available | Revision work |
| Reasons behind order of topic in this half term |
| * Pure and impure substances topic allows the Introduction of solubility, dissolving and purity to be introduced. The topic allows students to build on the practical skills developed over several topics with many opportunities for practical work (separating mixtures: filtration, evaporation, distillation and chromatography).
* Magnetism topic makes links back to electricity topic (electromagnetism) and provides foundation for GCSE work
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KS3 Science

Year Group 7

Half Term 6

|  |  |
| --- | --- |
| Number of Hours | Topic |
| 3 | Magnetism Continued  |
| 8 (more if time) | Space |
| 2 minimum, more if available  | Health |
| As available | Revision Work |
| Reasons behind order of topic in this half term |
| * Space topic done in last half term as it lends itself to project work and staff can judge how much time they have to spare more easily, links made to GCSE Physics space unit
* Health topic links to PSHE topics and promotes health awareness
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KS3 Science

Year Group 8

Half Term 1

|  |  |
| --- | --- |
| Number of Hours | Topic |
| 8 | Photosynthesis |
| 9 | Chemical Reactions |
| 5 | Light Waves |
| As available | Revision work |
| Reasons behind order of topic in this half term |
| * Photosynthesis topic builds on many previous topics (cells and organisation, chemical reactions, diffusion, gas exchange) and makes links to ecology topic (producers, crop growth)
* chemical reactions topics builds on Atoms, Elements and Compounds topic
* Light topic introduces waves and builds on ideas covered in the energy topic
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KS3 Science

Year Group 8

Half Term 2

|  |  |
| --- | --- |
| Number of Hours | Topic |
| 4 | Light Waves Continued |
| 8 | Respiration |
| 5 | The Periodic Table |
| As available | Revision work |
| Reasons behind order of topic in this half term |
| * Respiration topic builds on gas exchange work and uses ideas developed in chemical reactions and energy topic
* Periodic Table topic draws on previous knowledge and understand to look at trends and develop understanding of chemical reactions
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KS3 Science

Year Group 8

Half Term 3

|  |  |
| --- | --- |
| Number of Hours | Topic |
| 4 | The Periodic Table |
| 8 | Sound |
| 5 | Ecology |
| As available | Revision work |
| Reasons behind order of topic in this half term |
| * Sound topic draws on knowledge from wave topic
* Ecology draws on knowledge from photosynthesis topic
* Both topics provide a foundation of knowledge for GCSE
 |

KS3 Science

Year Group 8

Half Term 4

|  |  |
| --- | --- |
| Number of Hours | Topic |
| 3 | Ecology Continued |
| 8 | Forces and Motion |
| As available | Revision work |
| Reasons behind order of topic in this half term |
| * Forces work draws on race for the line topic
* Both these topics provide a foundation for GCSE work
 |

KS3 Science

Year Group 8

Half Term 5

|  |  |
| --- | --- |
| Number of Hours | Topic |
| 8 | Genetics and Evolution |
| 11 | Earth and Atmosphere |
| As available | Revision work |
| Reasons behind order of topic in this half term |
| * Genetics topic relies on cell and reproduction knowledge
* Earth and Atmosphere draws on knowledge from Energy topic (fossil fuels) and introduces carbon cycle and of climate change covered at GCSE
* Both these topics lay foundations for GCSE work
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KS3 Science

Year Group 8

Half Term 6

|  |  |
| --- | --- |
| Number of Hours | Topic |
| 8 | Pressure and Moments |
| 4 | Skeleton and Muscles |
| As available | Revision work |
| Reasons behind order of topic in this half term |
| * Pressure and moment topics build on knowledge from forces topic, more complex calculation work can be done. The topic lays foundations needed for GCSE
* Skeletons and muscles builds on knowledge of forces and levers. Opportunities for project work if time in this last half term.
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