SCIENCE KS1, KS2, KS3 AND KS4

## OUR AIMS

The intent of our science curriculum is to ensure that all pupils develop a sense of excitement and curiosity about the world around them. We want to equip them with the necessary science skills to help them understand the world and recognise the importance of science in the welfare of our future. The schemes of work in each year group have been written to ensure full coverage of the national curriculum and to promote a range of working scientifically skills, including questioning, researching and observing. We encourage our children to understand how science can be used to explain what is happening in each scientific investigation, predict how things will behave, and analyse causes. Scientific language is taught and then built upon as topics are revisited in different year groups and across key stages. It is our intent to encourage children to develop their scientific vocabulary, whilst learning to articulate scientific concepts. We aim to ensure that our children develop a secure understanding of each key block of knowledge and concepts in order to progress confidently to the next stage.

Year 1


Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn term
The human body
Seasonal changes (autumn)
Materials
Seasonal changes (winter)
Spring term
Planting A
Animals
Caring for the planet
Seasonal changes (spring)
Planting B
Consolidation
Summer term
Plants
Planting C
Growing and cooking
Seasonal changes (summer)
Consolidation

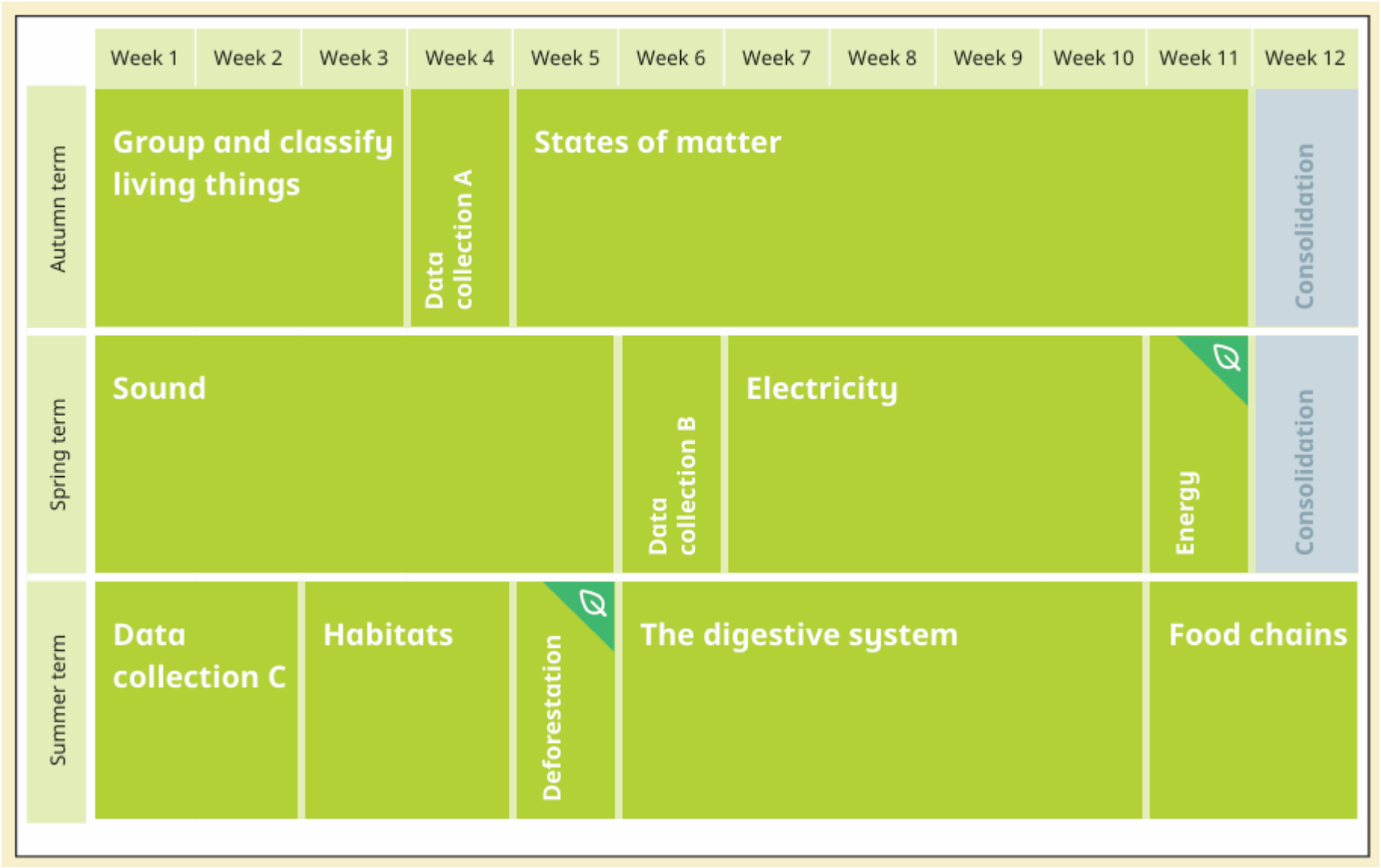
Year 2


Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn term
Animals' needs for survival
Humans
Materials
Plastic
Spring term
Plants (light and dark)
Living things and their habitats
Plants (light and dark)
Consolidation
Summer term
Plants (bulbs and seeds)
Growing up
Plants (bulbs and seeds)
Growing up
Wildlife
Consolidation

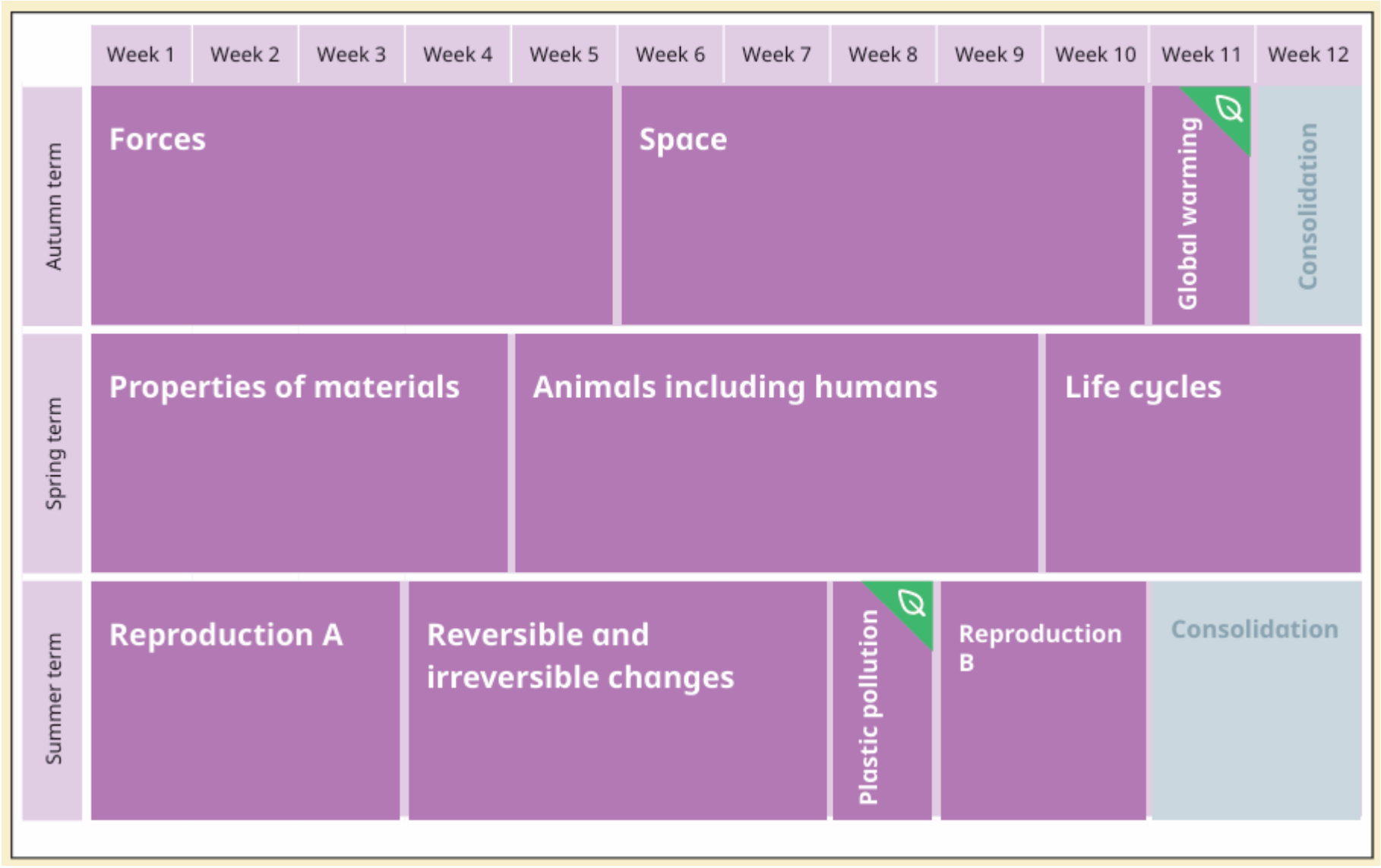
Year 3


Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn term
Skeletons
Movement
Nutrition and diet
Food waste
Rocks
Consolidation
Spring term
Fossils
Soils
Light
Consolidation
Summer term
Plants A
Forces
Magnets
Plants B
Biodiversity

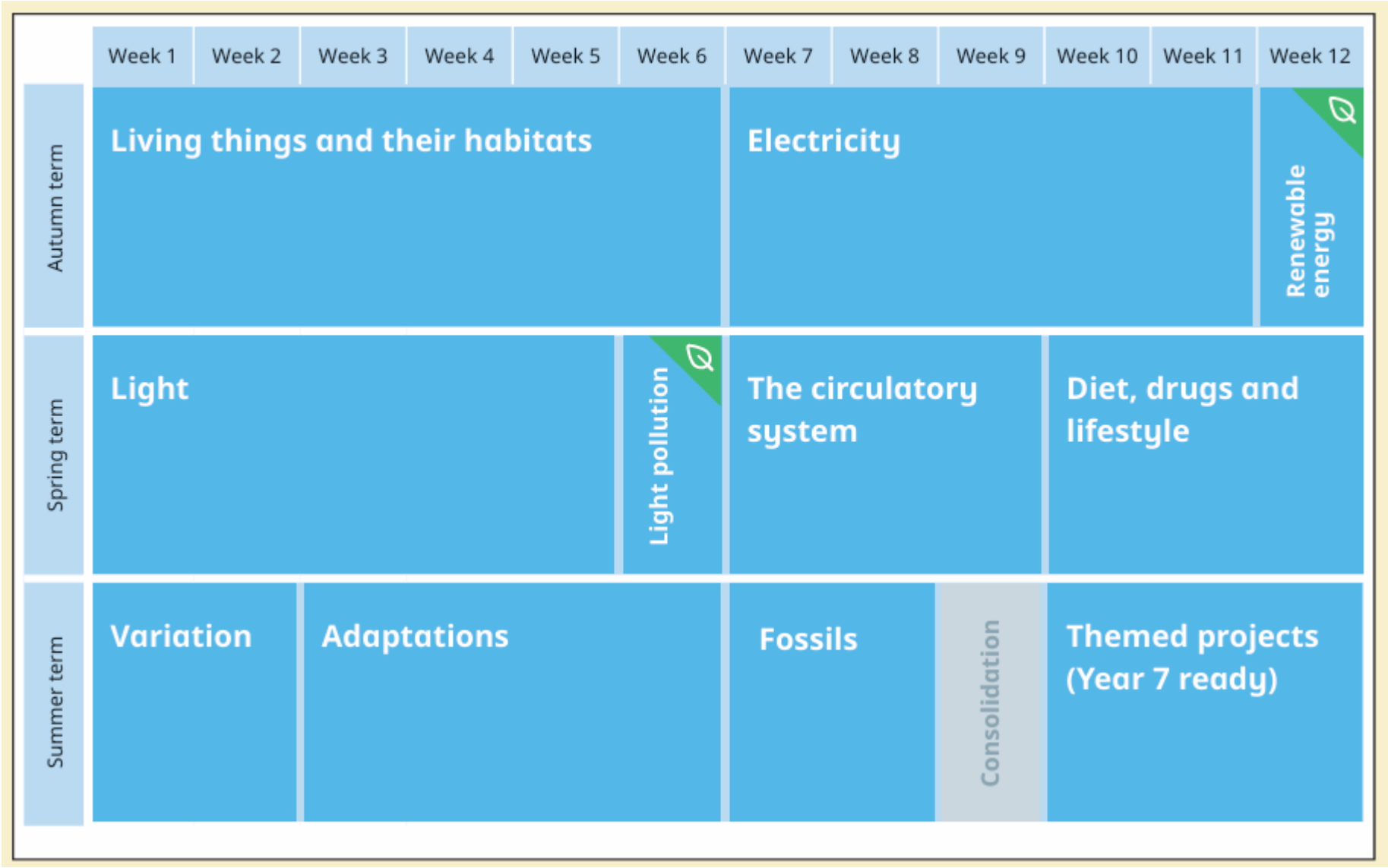
Year 4


Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn term
Group and classify living things
Data collection A
States of matter
Consolidation
Spring term
Sound
Data collection B
Electricity
Energy
Consolidation
Summer term
Data collection C
Habitats
Deforestation
The digestive system
Food chains

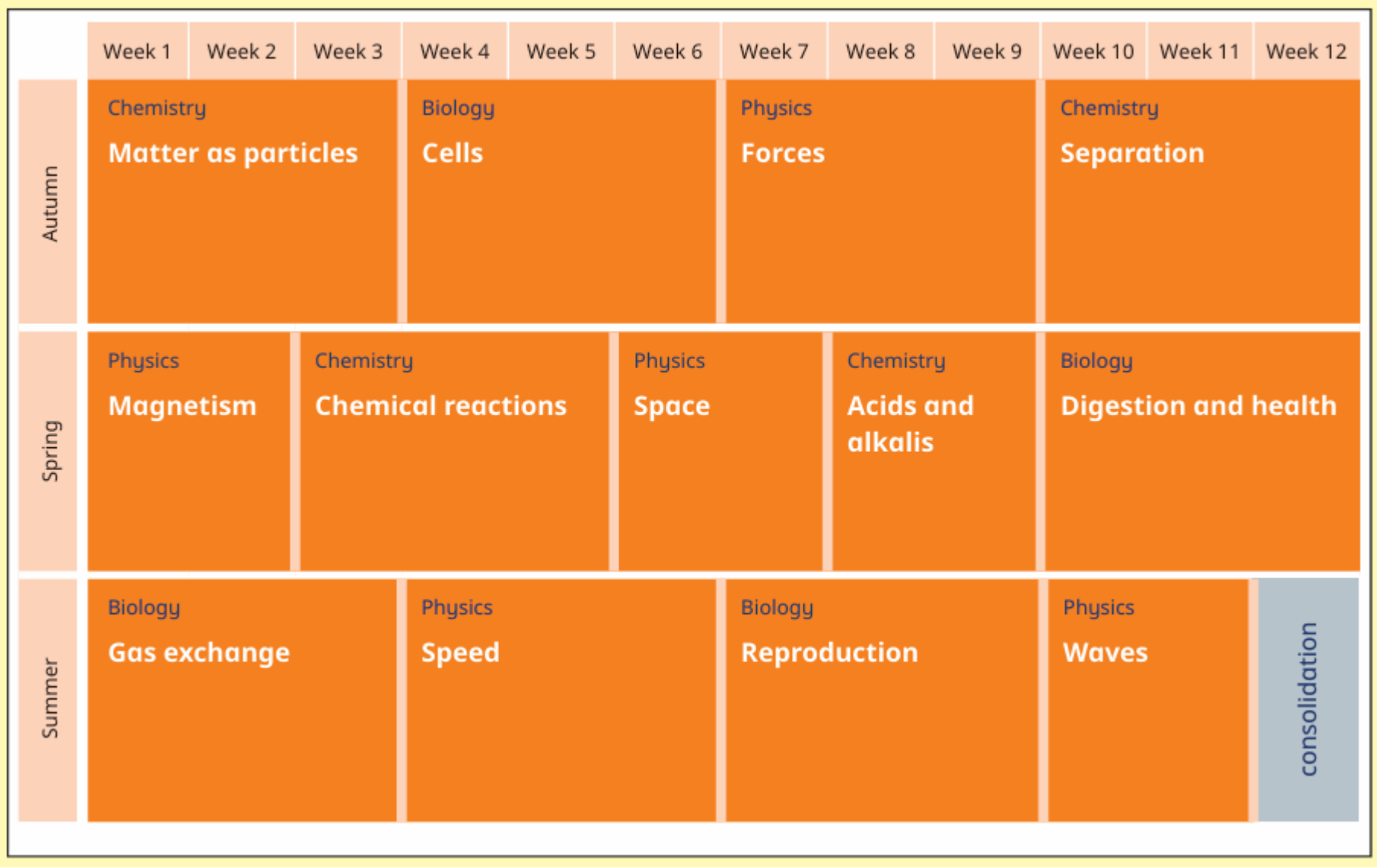
Year 5


Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn term
Forces
Space
Global warming
Consolidation
Spring term
Properties of materials
Animals including humans
Life cycles
Summer term
Reproduction A
Reversible and irreversible changes
Plastic pollution
Reproduction B
Consolidation

Year 6


Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn term
Living things and their habitats
Electricity
Renewable energy
Spring term
Light
Light pollution
The circulatory system
Diet, drugs and lifestyle
Summer term
Variation
Adaptations
Fossils
Consolidation
Themed projects (Year 7 ready)

Year 7


Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn
Chemistry
Matter as particles
Biology
Cells
Physics
Forces
Chemistry
Separation
Spring
Physics
Magnetism
Chemistry
Chemical reactions
Physics
Space
Chemistry
Acids and alkalis
Biology
Digestion and health
Summer
Biology
Gas exchange
Physics
Speed
Biology
Reproduction
Physics
Waves
consolidation

Year 8

| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Autumn | Chemistry **The periodic table** | | | Physics **Charge and electrical current** | | Biology **Transport systems** | | Physics **Energy and power** | | | Chemistry **Energetics** | |
| Spring | Physics **Light** | | | Chemistry **Reactions of metals** | | | Physics **Density and pressure** | Biology **Bioenergetics** | | | | |
| Summer | Biology **Coordination** | | | Physics **Electrical circuits** | | Biology **Genetics** | | Chemistry **Reactivity** | | Biology **Interdependence** | | consolidation |

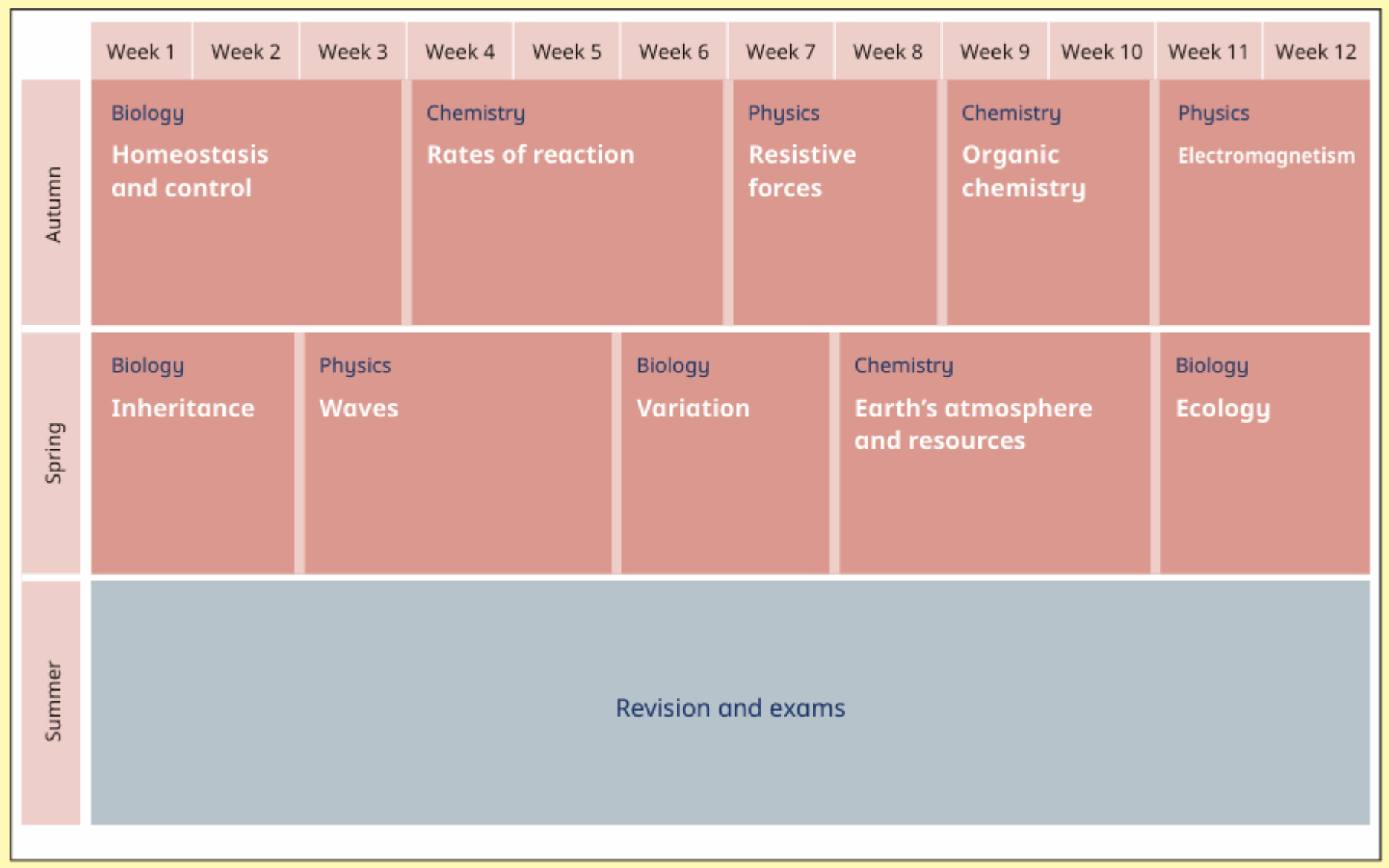
Year 9

| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Autumn | Biology **Respiration** | | Physics **Heating and cooling** | | | Chemistry **Earth and the atmosphere** | | | | Physics **Engineering** | | |
| Spring | Biology **Variation** | | Physics **Electromagnetism** | | Biology **Cells** | | | | | Chemistry **Atoms** | | |
| Summer | Physics **Forces** | | Biology **Cell transport** | | Chemistry **Bonding** | | | | Biology **Transport in organisms** | | | consolidation |

Year 10

| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Autumn | Physics **Electricity** | | | | Chemistry **Separating mixtures** | | Biology **Digestion and enzymes** | | Physics **Energy** | | | |
| Spring | Chemistry **Reactivity** | | Biology **Health and disease** | | | | Chemistry **Reactions of acids** | | Physics **The particle model** | | Chemistry **Electrolysis** | |
| Summer | Physics **Atoms and radioactivity** | | Chemistry **Energetics** | | Biology **Bioenergetics** | | Chemistry **Quantitative chemistry** | | Physics **Forces and motion** | | | consolidation |

Year 11


Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn
Biology
Homeostasis and control
Chemistry
Rates of reaction
Physics
Resistive forces
Chemistry
Organic chemistry
Physics
Electromagnetism
Spring
Biology
Inheritance
Physics
Waves
Biology
Variation
Chemistry
Earth's atmosphere and resources
Biology
Ecology
Summer
Revision and exams

## ENRICHMENT OPPORTUNITIES

## HOW TO SUPPORT YOUR CHILD'S LEARNING

Talk to your child daily, modal positive conversations, relationships and listening skills. Ask your child: have you had a nice day? Has anything interesting happened today? What have you learnt today? What were your achievements from today? Have we got any homework to do today? Has anything about today worried you? Who did you play with today? What games did you play? Were they fun? What topics are you covering in science? Did you learn anything new or surprising?
Watching documentaries together.

KS3 Revision–
BBC Bitesize has useful information and quizzes on all the topics covered in KS3 science.

KS4 Revision–

**Subject:** Combined Science: Trilogy

**Exam board:** AQA

**Assessment summary:** 6 exams, each lasting 1 hour 15 minutes. Students sit two Biology papers, two Chemistry papers and two Physics papers. Paper 1 assesses the first half of the content in each subject, while Paper 2 assesses the remaining content. Each paper contributes equally to the overall Combined Science qualification, which is graded using the 17-point scale from 1–1 to 9–9.

**Past Papers and Mark Schemes:** Specimen assessment materials, past papers and mark schemes are available on the AQA website:
https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/assessment-resources

**Entry Level Certificate (ELC) Science:** The AQA Entry Level Certificate (ELC) Science is designed to support students who may find GCSE Science challenging and provides a recognised qualification that can be studied alongside GCSE courses. The specification covers key concepts in Biology, Chemistry and Physics through a combination of externally set assessments and teacher-assessed practical and investigative work. The qualification is available at Entry Levels 1, 2 and 3, enabling students to achieve success at a level appropriate to their attainment while developing scientific knowledge, practical skills and confidence in science.

Useful Revision Websites: There is lots of useful information available on the BBC website to support revision and past students have found sites such as https://www.my-gcsescience.com/ ; http://www.darvill.clara.net/index.htm ; and http://www.docbrown.info/index.htm very useful.

Some of these may have subscription fees associated with them.

Revision apps:

There are many apps available to support your learning. It is important to check that they cover the new 9-1 GCSEs before using them.

Recommended revision guides: The school can provide students with revision guides from CGP at cost. Ask your science teacher. It is important to note that the revision guides often come with a code to download a digital copy of the guide.

Other useful information: Always remember that your teacher is a valuable resource and that they are always willing to support you in achieving your best possible result.