

Year 7 Home Learning Pack

Multiple activities to complete whilst not at school



Home Learning Work Booklet – Introduction



Purpose of the Handbook

This home learning booklet has been created to support pupils when they are unable to attend school. Each page contains a different learning activity covering a range of subjects, including English, Maths, Science and the foundation subjects. The activities are designed to be engaging, practical and achievable, helping pupils to continue their learning in a manageable and positive way while at home.

Pupils should choose one activity at a time to complete, with the support of a parent, carer or another trusted adult where needed. There is no expectation to complete every page in one go; instead, pupils are encouraged to work at a pace that suits them. The focus should be on trying their best, enjoying learning and maintaining good learning habits until they are able to return to school.

Useful Free Learning Websites

Parents, carers and pupils may find the following free, UK-based websites helpful when completing home learning activities:

- BBC Bitesize – <https://www.bbc.co.uk/bitesize> - Clear lessons, videos and quizzes for all subjects and year groups.
- Oak National Academy – <https://www.thenational.academy> - High-quality video lessons aligned to the English National Curriculum.
- Times Tables Rock Stars – <https://ttrockstars.com> - Fun and interactive times tables practice.
- White Rose Maths – <https://whiteroseeducation.com/parents> - Maths videos, worksheets and guidance for parents.
- National Geographic Kids (UK) – <https://www.natgeokids.com/uk> - Engaging Science and Geography content.
- Topmarks – <https://www.topmarks.co.uk> - Educational games and activities linked to the UK curriculum.
- Phonics Play – <https://www.phonicsplay.co.uk> - Free phonics games and resources (some content available without login).
- Twinkl (Free Resources Section) – <https://www.twinkl.co.uk/resources/free> - Printable activities and resources across all subjects.

Learning Activities

Pupils may choose any activity from any section of the booklet. There is no set order to follow, and activities do not need to be completed in sequence. This flexibility allows pupils to select tasks that interest them or suit their confidence and energy levels on the day. The aim is to keep learning enjoyable and accessible, while encouraging pupils to remain curious and engaged during their time away from school.

1 - English

2 - Maths

3 - Science

4 - Foundation Subjects

5 - Mental Health and Wellbeing Reflective Tasks

6 - Lined, Squared and Plain Paper





01

English

Arthur Conan Doyle Reading Comprehension

Text: Sherlock Holmes and the Adventure of the Speckled Band (simplified, longer version)

“It was a cold, wet night when I arrived at the country house. Helen Stoner, a young woman with a worried expression, explained her strange fears. She spoke of her late sister, who had died mysteriously, and of a curious whistle that sometimes echoed through the halls. I listened carefully, noting every detail, for I knew that small clues often solve great mysteries.

The house was old and shadowed, with long corridors, high ceilings, and doors that seemed to whisper secrets of the past. Helen told me about her stepfather, Dr. Roylott, a man of violent temper and unusual habits. He had a collection of exotic animals and a fondness for strange experiments. The night her sister died, she had heard a whistle, seen shadows, and then the tragic event occurred.

Helen feared for her own life, now that she had to move into the room once occupied by her sister. The story she told me was full of small, mysterious details, yet they all pointed to a terrible danger. I examined the room carefully, noting the bell rope, the ventilator, and the bed clamped to the floor. Everything seemed ordinary, yet in mysteries, the ordinary can hide the extraordinary.”

Questions:

What is the main problem in the story?

How does the author create a sense of suspense in the first paragraph?

What do we learn about Helen’s stepfather, Dr. Roylott?

Find two examples of descriptive language and explain their effect.

What does “the ordinary can hide the extraordinary” mean in your own words?

Which details suggest that Helen’s life is in danger?

Predict what you think might happen next in the story.



Non-Fiction Article – Climate Change

Text:

“The Earth’s climate is changing faster than at any point in human history. Global temperatures have risen by over 1°C in the last century, causing serious consequences. Glaciers are melting at unprecedented rates, raising sea levels and threatening coastal communities. Extreme weather events—such as hurricanes, floods, and heatwaves—are becoming more frequent and more severe.

Scientists agree that human activity is the main cause of climate change. Burning coal, oil, and gas releases greenhouse gases into the atmosphere, trapping heat and causing the planet to warm. Deforestation and intensive farming also contribute by reducing the planet’s ability to absorb carbon dioxide.

Governments and organisations are trying to combat climate change. Renewable energy sources, such as solar and wind power, are being developed to reduce reliance on fossil fuels. Individuals can also help by conserving energy, recycling, and using public transport.

Climate change does not only affect the environment. It impacts human health, food security, and the economy. The United Nations warns that urgent action is needed to prevent irreversible damage. Young people across the world are campaigning for climate justice, demanding that leaders take responsibility for protecting the planet for future generations.”

Questions:

What are the main causes of climate change according to the text?

List three effects of climate change mentioned in the article.

What solutions are suggested for individuals and governments?

Explain what “greenhouse gases” are in your own words.

Identify three persuasive techniques used in the text.

Why do you think the author mentions young people campaigning?

Which paragraph has the most factual information? Why?

Find three challenging words and explain their meaning using context clues.

Summarise the article in 5–7 sentences.



Comparing Characters

Text A:

“James was always first to arrive at school, his bag neatly packed and his uniform spotless. He helped others with homework and never complained. He listened carefully in lessons and often stayed behind to ask teachers extra questions. His friends admired his reliability, and even when faced with difficult challenges, he remained calm and focused. James believed that hard work and discipline were keys to success, and he tried to encourage others to do the same.”

Text B:

“Ella often rushed into class, her hair messy and books scattered across her desk. She argued with friends about trivial matters and sometimes forgot her homework, yet she had a creative mind and clever ideas. Ella loved drawing, writing stories, and inventing games for younger children. She struggled with rules and structure, but her imagination and quick thinking often helped her and others out of tricky situations. Despite her faults, teachers recognised her potential and encouraged her to channel her energy positively.”

Questions:

List three personality traits of James.

List three personality traits of Ella.

Compare how each character handles challenges.

How do James and Ella’s strengths and weaknesses differ?

Which character would you prefer as a friend? Explain why.

Find two descriptive phrases in each text and explain their effect.

Which character is more disciplined? Which is more creative? Support your answer with evidence from the text.

Write a short paragraph predicting what each character might do next in school.

Newspaper Article Writing

Prompt Text:

“Last Friday, during the school fair, a mysterious event occurred. The giant chocolate cake, which had taken weeks to bake and decorate, disappeared from the main hall just before judging began. Witnesses claimed to see a shadowy figure near the hall, moving quickly, but no one knew who it was. Some students said they heard whispers about a secret plan to steal the cake as a prank. Others suggested it might be a rival school’s students who sneaked in. The hall was left in chaos, and the principal promised to investigate immediately. Teachers interviewed witnesses, and CCTV footage was checked, but the thief remained unknown. The fair continued, but everyone remembered the day of the missing cake with excitement and suspense.”

Questions / Instructions:

Write a headline for the article.

Write an opening paragraph summarising the event.

Include quotes from at least two witnesses.

Explain what happened, who was involved, and any possible motives.

End with a concluding sentence about the outcome or future investigation.

Identify three words from the text that make the story more dramatic.

Modern vs Classic Texts

Text A (Classic):

“It was a bright, sunny morning, yet an uneasiness lingered in the small village. Children played in the streets, unaware of the coming storm of events that would change their lives forever. Doors creaked and shutters rattled as a cold wind swept through, carrying whispers of secrets long buried. Villagers went about their daily routines, but a sense of tension hung in the air, as though time itself paused to witness an approaching calamity. The town clock struck nine, echoing ominously through the narrow lanes, warning that change was near.”

Text B (Modern):

“Liam tapped on his phone as he walked to school, earbuds in. Messages popped up one after another: ‘Meet me at lunch,’ ‘You won’t believe this!’ His friends laughed, oblivious to the tension brewing in the classroom. Posters for the upcoming talent show covered the walls, and the smell of toast drifted from the canteen. Liam glanced at the clock and hurried, hoping to avoid being late. But the notifications kept coming, each one more urgent than the last, and he knew that by the end of the day, nothing would be the same.”

Questions:

Compare the setting in the classic and modern texts.

How does the author create suspense in each passage?

Identify examples of descriptive language in both texts.

Which passage is easier to relate to? Why?

Discuss the difference in language style between the texts.

Find examples of figurative language (metaphor, simile, personification) in each text.

What clues suggest that something important or dramatic is about to happen in each passage?

Summarise each passage in 3–4 sentences

Sentence Types

Text/Exercise:

“The sun rose over the city.
Can you believe what happened yesterday?
Close the window before it rains!
What a beautiful day it is!”

Instructions:

Identify each sentence type: declarative, interrogative, imperative, or exclamatory.

Write 5 of your own sentences of each type.

Rewrite one paragraph of your own using a mix of all four sentence types.

Punctuation Practice

Text:

yesterday i went to the market it was busy there were stalls selling fruit vegetables and clothes i bought apples oranges and a scarf “did you enjoy your trip” asked my mum “yes it was amazing” i replied

Instructions:

Add full stops, commas, and quotation marks where needed.

Explain why you placed each punctuation mark.

Rewrite the corrected paragraph neatly.



Active and Passive Voice

Text/Exercise:

The chef cooked a delicious meal.

The teacher explained the lesson.

The dog chased the cat.

The students completed the project.

Instructions:

Rewrite each sentence in the passive voice.

Highlight the subject and object in both active and passive forms.

Write 5 new sentences about your day, and convert them to passive voice.

Direct and Indirect Speech

Text:

“I can’t believe you’re late!” said Mrs Taylor.

“I finished my homework last night,” said Sarah.

“Don’t forget to bring your book tomorrow,” reminded Mr Jones.

Instructions:

Convert all sentences to indirect speech.

Pay attention to tense, pronouns, and punctuation.

Write 5 of your own sentences in direct speech and convert them.



Word Classes

Text:

“The excited children ran quickly through the park, laughing and shouting. The sun shone brightly, and colourful flowers decorated the gardens.”

Instructions:

Identify all nouns, verbs, adjectives, adverbs, and conjunctions.

Write 5 sentences of your own containing at least 3 different word classes in each.

Challenge: underline the word class in your sentences.

Prefixes and Suffixes

Text/Exercise:

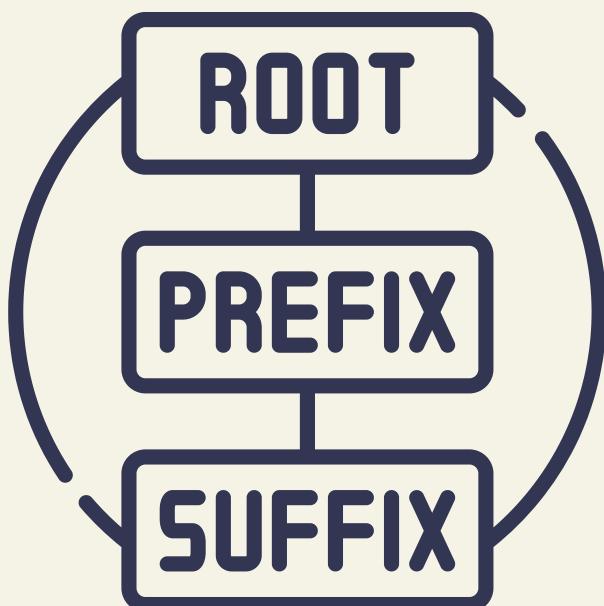
Base words: happy, play, care, move, help

Instructions:

Add prefixes (un-, dis-, re-) and suffixes (-ful, -less, -ment) to make new words.

Write a sentence for each new word.

Challenge: create a short paragraph using at least 10 new words.



Synonyms and Antonyms

Text:

Words: small, quick, happy, loud, dark, brave, clever, strange, quiet, strong

Instructions:

Write a synonym and an antonym for each word.

Write 5 sentences using at least 3 synonyms or antonyms in each.

Highlight the word and its synonym/antonym in your sentences.

Context Clues

Text:

“The abandoned mansion looked sinister, with broken windows and creaking doors. A chill ran down Emma’s spine as she stepped into the shadowed hallway. Cobwebs draped the corners, and dust covered every surface, making the air heavy and musty.”

Instructions:

Identify 5 challenging words (sinister, creaking, shadowed, draped, musty).

Use context clues to guess their meanings.

Check with a dictionary and write the definitions.

Write a paragraph of your own using at least 3 of these words correctly.

Homophones and Confusing Words

Text/Exercise:

Fill in the blanks with the correct word: their/there/they're, your/you're, affect/effect
_____ going to the park later.

Can you bring _____ books with you?

The weather can _____ my mood.

I love living over _____ by the river.

_____ very kind to help me.

Instructions:

Complete the sentences.

Write 5 of your own sentences using these homophones.

Word Families

Text/Exercise:

Base words: act, move, help, create, speak

Instructions:

Write all words you can form from each base word (actor, action, active, etc.).

Write a paragraph of 80–100 words using at least 5 words from your word families.

Story Writing

Prompt Text:

“It was a dark and stormy night when I heard a strange sound coming from the attic. At first, I thought it was the wind, but the noise grew louder and seemed almost... alive.”

Instructions:

Continue the story for 500 words.

Include dialogue, description, and suspense.

Use at least 5 descriptive adjectives and 3 adverbs.



Descriptive Writing

Prompt Text:

Imagine you are in a mysterious forest. The trees are tall, the air smells damp, and shadows move strangely between the trunks. Birds are silent, and only the crunch of leaves under your feet can be heard.

Instructions:

Write a 200–300 word descriptive paragraph.

Include all five senses (sight, sound, smell, touch, taste).

Use figurative language: similes, metaphors, personification.

Poetry Analysis

Text: Excerpt from The Highwayman by Alfred Noyes

“The wind was a torrent of darkness among the gusty trees.
The moon was a ghostly galleon tossed upon cloudy seas.
The road was a ribbon of moonlight over the purple moor,
And the highwayman came riding —
Riding — riding —
The highwayman came riding, up to the old inn-door.”

Questions:

Identify rhyming words.

What imagery is used to describe the wind and moon?

How does the poem create suspense?

Identify examples of alliteration and repetition.

Summarise the scene in your own words.

Poetry Writing

Prompt Text:

Write a poem of 12–16 lines on one of these themes:

Nature

Friendship

Mystery

Instructions:

Use rhyme, rhythm, and figurative language.

Include at least 2 similes and 2 metaphors.

Read your poem aloud to check the rhythm.

Letter Writing – Community Issue

Prompt Text:

Imagine you are writing to your local council about a problem in your area (e.g., dangerous playground equipment, litter, or noisy traffic).

Instructions:

Write a formal letter including:

Address and date

Salutation

Introduction explaining the issue

Paragraph describing why it's a problem

Suggested solution

Closing and signature

Use formal language, paragraphing, and persuasive techniques.

Aim for 200–250 words.



02

Maths Activities



Place Value and Powers

Text/Problem:

“Consider the number 54,382. Each digit has a place value, and powers of 10 can be used to express numbers in expanded form.”

Questions:

Identify the value of each digit.

Write the number in expanded form using powers of 10.

Round the number to the nearest 10, 100, 1,000, and 10,000.

Compare 54,382 and 60,000 using $<$, $>$, or $=$.

Create two new five-digit numbers and write them in expanded form.

Addition, Subtraction, and Estimation

Text/Problem:

“A town has 4,562 people and another town has 3,789 people. Find the total population.”

Questions:

Solve using column addition.

Subtract $4,562 - 3,789$.

Estimate the total population to the nearest hundred.

Create a word problem involving addition and subtraction of 4-digit numbers.

Check your answers using the inverse operation.

Multiplication and Division – Larger Numbers

Text/Problem:

“A factory produces 356 items per day. How many items are produced in 28 days?”

Questions:

Multiply 356×28 .

Divide $9,968 \div 16$.

Solve 425×36 using long multiplication.

Create a real-life word problem involving multiplication or division.

Explain step by step how you solved each problem.



Fractions – Equivalent, Adding, and Subtracting

Text/Problem:

“A cake is divided into 12 pieces. Sarah ate $3/12$ and John ate $5/12$. How much of the cake was eaten?”

Questions:

Add $3/12 + 5/12$.

Simplify the fraction $8/12$.

Subtract $5/12$ from $7/12$.

Convert $1/2$ to twelfths.

Create your own fraction addition or subtraction problem.

Fractions – Multiplying and Dividing

Text/Problem:

“A recipe uses $\frac{3}{5}$ cup of sugar. If the recipe is doubled, how much sugar is needed? If halved, how much sugar is needed?”

Questions:

Solve for a doubled recipe.

Solve for a halved recipe.

Multiply $\frac{2}{3} \times 4$.

Divide $\frac{5}{6} \div 2$.

Create a fraction word problem involving multiplication or division.

Decimals

Text/Problem:

“A laptop costs £349.75. Another laptop costs £412.50. How much more expensive is the second laptop?”

Questions:

Subtract £412.50 – £349.75.

Add £349.75 + £412.50.

Multiply £12.75 × 4.

Divide £1,224 ÷ 12.

Create your own decimal word problem.

Percentages

Text/Problem:

“A school has 420 pupils. 35% are girls. How many girls are in the school?”

Questions:

Calculate the number of girls.

Calculate the number of boys.

A test score is 18/24. What percentage is that?

Increase £240 by 15%.

Create your own percentage problem and solve it



Ratio and Proportion

Text/Problem:

“Ingredients for a recipe are in the ratio 2:3 for sugar and flour. If 200g of sugar is used, how much flour is needed?”

Questions:

Solve the problem.

Halve the recipe.

SATs-style: A bag has red and blue balls in ratio 4:5. There are 12 red balls. How many blue balls?

Create your own ratio problem.

Explain the importance of ratio in real life.

Algebra – Expressions and Equations

Text/Problem:

“Solve $3x + 7 = 22$ and $5y - 9 = 26$.”

Questions:

Solve each equation step by step.

Substitute $x = 5$ into $3x + 7$.

Create your own linear equation.

Check your solution by substitution.

Write a paragraph explaining how to solve linear equations.

Geometry – Angles in Triangles and Quadrilaterals

Text/Problem:

“A triangle has angles 45° and 55° . Find the third angle. A quadrilateral has three angles 90° , 80° , 100° . Find the fourth angle.”

Questions:

Solve for missing angles.

Draw the triangle and quadrilateral to scale.

Explain why the sum of angles in a triangle is 180° and in a quadrilateral is 360° .

Create your own triangle and quadrilateral angle problems.

SATs-style: A triangle has angles in ratio 2:3:4. Find each angle.

Perimeter and Area – Rectangles, Squares, and Triangles

Text/Problem:

“A rectangle has length 12cm and width 8cm. A triangle has base 7cm and height 5cm.”

Questions:

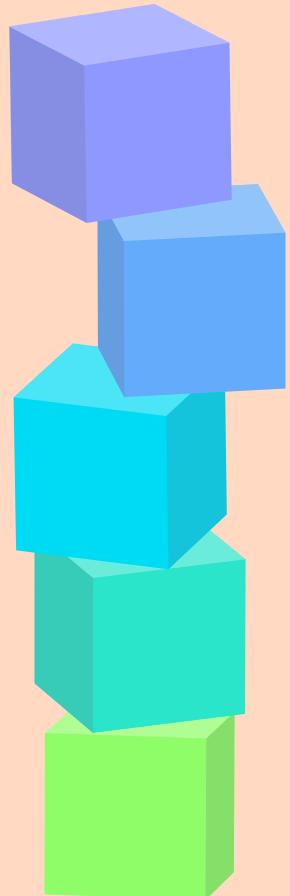
Calculate perimeter and area of the rectangle.

Calculate area of the triangle.

Draw both shapes to scale.

Compare areas and perimeters.

Create your own perimeter and area problem.



Volume – Cubes, Cuboids, and Prisms

Text/Problem:

“A cube has sides 4cm. A cuboid has length 6cm, width 3cm, and height 5cm.”

Questions:

Calculate volume of the cube.

Calculate volume of the cuboid.

Draw both 3D shapes.

Compare volumes.

Create a problem involving the volume of a prism.



Coordinates and Graphs

Text/Problem:

“Plot points A(2,3), B(5,7), C(8,3) and draw the triangle.”

Questions:

Plot the points on graph paper.

Draw the triangle connecting points.

Find the midpoint of each side.

Translate the triangle by (3,-2).

Create a new set of points and repeat.

Transformations – Reflection, Rotation, Translation

Text/Problem:

“Triangle A(1,1), B(3,2), C(2,4). Reflect in the y-axis, rotate 90° clockwise, translate by (2,-1).”

Questions:

Perform each transformation.

Draw each stage clearly.

Explain differences between reflection, rotation, and translation.

SATs-style: Rotate triangle P(2,3) Q(4,1) 180° about the origin.

Create your own shape and transform it.

Probability – Simple Events

Text/Problem:

“A bag contains 3 red, 4 blue, and 5 green marbles. Find the probability of picking red, blue, or green.”

Questions:

Write probabilities as fractions.

Convert probabilities to percentages.

Draw a probability tree diagram for 2 draws.

SATs-style: A dice is rolled once. Probability of even number?

Create your own probability problem.

Statistics – Mean, Mode, Median, Range

Text/Problem:

“Data set: 5, 8, 12, 8, 7, 10, 8.”

Questions:

Find the mean.

Find the mode.

Find the median.

Find the range.

Create a data set and calculate mean, mode, median, and range.



Money Problems

Text/Problem:

“A shop sells 12 pens at £2.50 each and 8 notebooks at £3.75 each. Calculate total cost and revenue if sold at £5 each.”

Questions:

Calculate cost of pens.

Calculate cost of notebooks.

Calculate revenue.

Calculate profit.

Create your own word problem involving money.

Time – Duration and Conversions

Text/Problem:

“A film starts at 14:20 and lasts 2 hours 35 minutes. What time does it end?”

Questions:

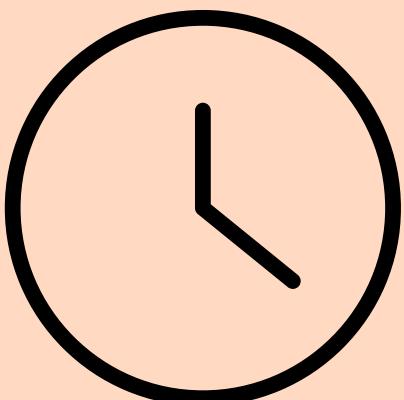
Calculate end time.

Convert 2 hours 35 minutes to minutes.

SATs-style: A train leaves at 09:45 and arrives at 12:10. Duration?

Create a time duration problem.

Explain your method.



Measurement – Length, Mass, Capacity

Text/Problem:

“A tank is 2.5m long, 1.2m wide, and 0.8m high. 1 litre of water = 1kg.”

Questions:

Calculate volume of the tank.

Convert volume to litres.

Calculate weight if filled with water.

SATs-style: Convert 2.5m to cm and mm.

Create your own measurement problem.

Mixed Operations Challenge

Text/Problem:

“A shop buys 15 boxes of pencils at £3.25 each and 10 boxes of crayons at £4.50 each. They sell each box for £6. Calculate profit.”

Questions:

Calculate total cost of pencils.

Calculate total cost of crayons.

Calculate total revenue.

Calculate profit.

Create your own mixed operation word problem.



03

Science



Cells and Microscopy

Text:

“All living organisms are made of cells. Some organisms, like bacteria, are single-celled, while humans and animals are multicellular. Cells carry out the essential functions of life, such as obtaining energy, growing, and reproducing. Plant cells have a cell wall, chloroplasts for photosynthesis, and a large vacuole for storing water and nutrients. Animal cells do not have these structures but have specialised parts for movement and communication. Scientists use microscopes to see cells in detail. Modern microscopes, including digital and electron microscopes, allow biologists to study the smallest structures inside cells, which helps in understanding diseases and developing medicines.”

Tasks:

Draw and label a plant cell and an animal cell.

Make a table comparing plant and animal cell structures and functions.

Research one organelle and write 3–4 sentences about its role.

Explain why microscopes are important in biology.

The Digestive System

Text:

“The digestive system breaks down food into small molecules that the body can use. Food starts in the mouth, where teeth chew it and saliva begins digesting starch. It passes down the oesophagus to the stomach, where acids and enzymes digest proteins. The food becomes a liquid called chyme, which moves into the small intestine. Nutrients pass into the blood through tiny finger-like structures called villi. The remaining material goes into the large intestine, where water is absorbed, and waste is stored before leaving the body as faeces.”

Tasks:

Draw a flowchart showing the path of food through the digestive system.

Explain what enzymes do in digestion.

Write a paragraph on why fibre is important for digestion.

Research one digestive disorder and write a brief explanation.

Circulatory System

Text:

“The heart is a muscular pump that sends blood around the body. Blood carries oxygen, nutrients, and waste products. Arteries carry blood away from the heart, veins return it, and capillaries allow exchanges of substances. Blood contains red blood cells (carry oxygen), white blood cells (fight infection), platelets (help clotting), and plasma (carries nutrients and hormones). Healthy lifestyle choices, like exercise and diet, help keep the heart and blood vessels healthy.”

Tasks:

Draw a labelled diagram of the heart showing blood flow.

Make a table comparing arteries, veins, and capillaries.

Research one cardiovascular disease and write 4–5 sentences explaining it.

Explain how exercise affects heart rate.

Reproduction in Humans

Text:

“Humans reproduce sexually. Male reproductive organs produce sperm, while female organs produce eggs. Fertilisation occurs when a sperm meets an egg, forming a zygote. The zygote divides to form an embryo, which develops into a fetus in the uterus. Puberty is the stage when bodies develop and become capable of reproduction. Hormonal changes trigger growth, sexual development, and other changes.”

Tasks:

Draw diagrams of male and female reproductive systems.

Write a timeline from fertilisation to birth.

Research one hormone involved in puberty and explain its effect.

Explain how lifestyle choices can affect reproductive health.

Photosynthesis and Plant Nutrition

Text:

“Photosynthesis allows plants to make food using sunlight, carbon dioxide, and water. Chlorophyll in chloroplasts absorbs light energy, turning CO_2 and water into glucose and oxygen. Plants need minerals like nitrogen, potassium, and phosphorus from soil to grow. Factors affecting photosynthesis include light intensity, water availability, temperature, and CO_2 levels. Photosynthesis is essential because it produces oxygen for animals and forms the base of the food chain.”

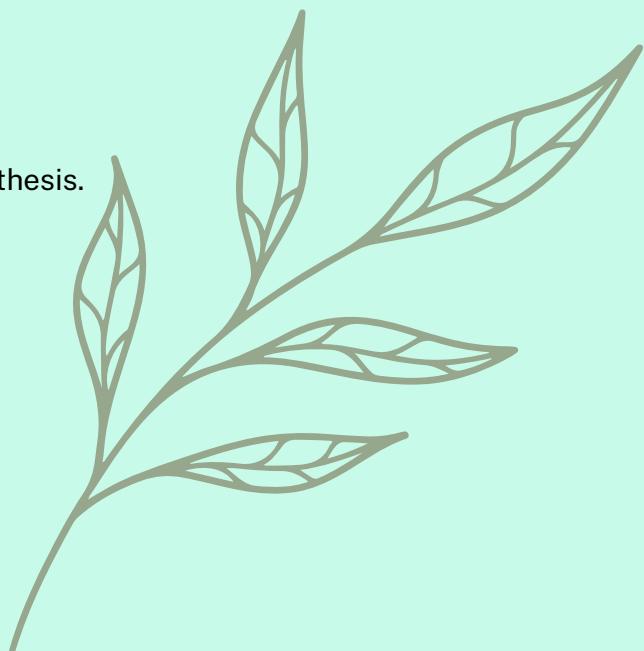
Tasks:

Draw and label a diagram of photosynthesis.

Write the word and symbol equations for photosynthesis.

Design an experiment to test the effect of light on photosynthesis.

Explain why photosynthesis is important for life on Earth.



States of Matter

Text:

“Matter exists as solids, liquids, or gases. Solids have a fixed shape and volume; liquids have a fixed volume but take the shape of their container; gases have neither fixed shape nor volume. Particles in solids vibrate in place, in liquids they move past each other, and in gases they move freely. Heating or cooling can change the state, e.g., melting, freezing, condensation, evaporation, and sublimation. Particle theory helps explain diffusion, pressure, and gas laws.”

Tasks:

Draw particle diagrams for solids, liquids, and gases.

Explain what happens to particles when water boils.

Give an example of sublimation in everyday life.

Calculate the energy needed to melt 20 g of ice (research latent heat of fusion).

Mixtures and Separation

Text:

“Mixtures are combinations of substances that are not chemically bonded. They can be separated by filtration, evaporation, distillation, or chromatography. These techniques are used in laboratories, industry, and environmental science to purify substances, test water quality, and make medicines.”

Tasks:

Describe the difference between a mixture and a compound.

Draw a diagram showing distillation.

Design a simple separation experiment at home.

Write 4–5 sentences explaining why separation techniques are useful.

Elements, Compounds, and Reactions

Text:

“Elements are pure substances made of one type of atom. Compounds are made when elements chemically combine. Chemical reactions rearrange atoms to make new substances. Indicators of chemical reactions include colour change, gas production, temperature change, or precipitate formation. Understanding chemical reactions allows scientists to create materials, medicines, and fuels safely and effectively.”

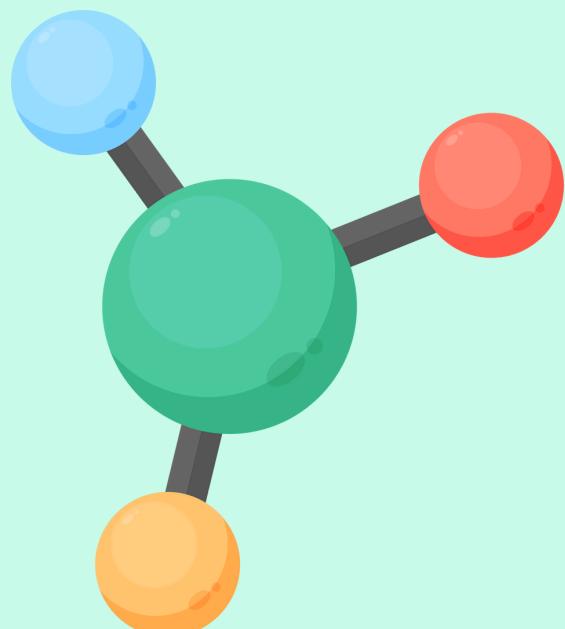
Tasks:

List 5 elements and 5 compounds with formulas.

Identify 3 signs of a chemical reaction from everyday life.

Write a simple balanced chemical equation.

Explain why chemical changes differ from physical changes.



Acids, Bases, and pH

Text:

“Acids have a sour taste and pH below 7, e.g., lemon juice. Bases (alkalis) have a bitter taste and pH above 7, e.g., soap. Neutral substances have a pH of 7, e.g., pure water. Indicators, such as litmus paper, show if a substance is acidic, neutral, or basic. Understanding pH is important in agriculture, medicine, and cleaning products.”

Tasks:

Test household substances for pH and record results.

Explain why acid rain is harmful.

Design an experiment to neutralise an acid with a base.

Write a paragraph about why pH is important in daily life.

Energy Resources

Text:

“Energy is needed for everyday life. Renewable resources (solar, wind, hydro) can be replenished, while non-renewable sources (coal, oil, gas) are limited and produce greenhouse gases. Using energy efficiently reduces pollution and conserves resources. Engineers design renewable energy systems to be more efficient, and everyone can reduce energy use at home and school to protect the environment.”

Tasks:

Create a table comparing renewable and non-renewable energy.

Research one renewable energy technology and write a short report.

Calculate energy usage for a household appliance over a week.

Design a plan to reduce energy use at home or school.

Forces and Motion

Text:

“A force is a push or pull that changes an object’s motion or shape. Forces include gravity, friction, air resistance, tension, and applied forces. Newton’s laws describe how objects move: an object stays still or moves at constant speed unless acted on; force equals mass \times acceleration; every action has an equal and opposite reaction. Forces are everywhere, from pushing a door to sliding a box.”

Tasks:

Draw a diagram showing forces on a moving car.

Calculate force: A 5 kg object accelerates at 2 m/s².

Give three real-life examples of Newton’s third law.

Investigate friction using household materials.

Energy and Work

Text:

“Energy is the ability to do work. It exists as kinetic, potential, thermal, chemical, electrical, or light energy. Energy cannot be created or destroyed, only transferred or transformed. Work happens when a force moves an object. Machines like pulleys and levers transfer energy efficiently. Understanding energy transfer is important in engineering, sports, and everyday life.”

Tasks:

Draw an energy transfer diagram for a bouncing ball.

Calculate work done: 10 N force moves object 3 m.

Explain one example of energy transformation in a household device.

Write a paragraph explaining why energy efficiency matters.



Waves and Sound

Text:

“Waves transfer energy without moving matter. Sound waves are longitudinal and need a medium. The pitch depends on frequency, and loudness on amplitude. Light waves are transverse, travel in straight lines, and can reflect, refract, and diffract. Waves are important in communication, music, and optics.”

Tasks:

Compare longitudinal and transverse waves.

Draw diagrams showing reflection and refraction.

Investigate how sound travels in air, water, and solids.

Calculate frequency given wave speed and wavelength.

Electricity

Text:

“Electricity is the flow of charge. Simple circuits include a battery, wires, and a component. Series circuits share current; parallel circuits have branches. Conductors allow current, insulators do not. Electrical energy can be transformed into light, heat, or motion. Safety is essential when working with electricity.”

Tasks:

Draw series and parallel circuits.

Explain why parallel circuits are used in houses.

Research an example of electrical energy transformation.

Write instructions for building a safe simple circuit.



Magnetism

Text:

“Magnets attract or repel certain metals. Like poles repel, opposite attract. Magnetic fields can be visualised with iron filings. Earth acts as a giant magnet, and compasses point north. Magnets are used in motors, generators, trains, and medical imaging.”

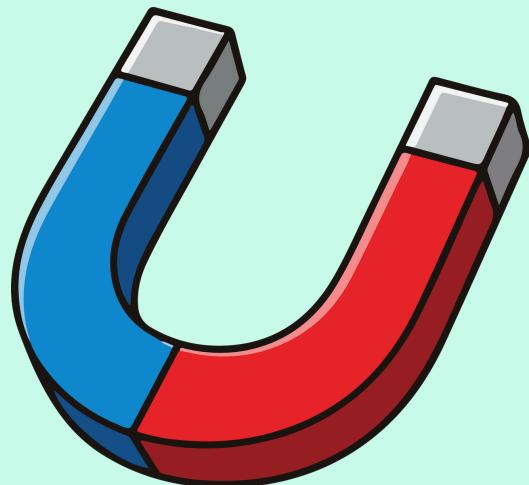
Tasks:

Draw a magnetic field around a bar magnet.

Investigate magnet strength using paper clips.

Explain how motors use magnetism.

Research a modern application of magnetism.



04

Foundation Subjects



Climate Change and Its Effects

Text:

“Climate change is the long-term alteration of Earth’s weather patterns caused by natural processes and human activity. Greenhouse gases such as carbon dioxide trap heat in the atmosphere, leading to rising temperatures. Consequences include melting glaciers, rising sea levels, extreme weather events, and impacts on wildlife and human communities.”

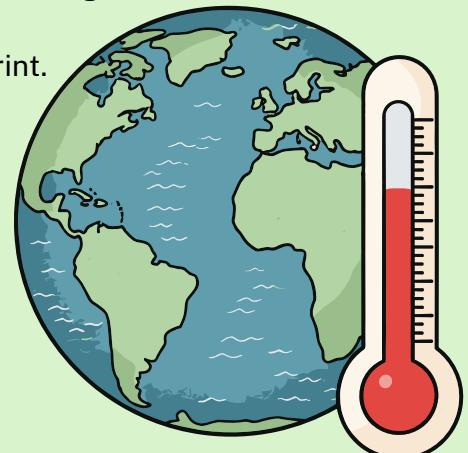
Tasks:

Draw a diagram showing the greenhouse effect.

Research one recent extreme weather event and describe its impact.

Write a paragraph explaining how human activities contribute to climate change.

Suggest three actions individuals can take to reduce their carbon footprint.



Population and Urbanisation

Text:

“Urban areas are growing rapidly due to migration from rural areas and population growth. Cities face challenges such as housing shortages, traffic congestion, and pollution. Urbanisation can provide better access to jobs, education, and healthcare, but it also puts pressure on infrastructure and resources.”

Tasks:

Create a chart showing the advantages and disadvantages of urbanisation.

Research one major city and describe its population issues.

Draw a map showing urban vs rural areas.

Write a paragraph suggesting solutions to urban challenges.

River Processes

Text:

“Rivers shape the landscape through erosion, transportation, and deposition. Erosion wears away the riverbanks and bed. Transportation moves sediment downstream. Deposition occurs when the river loses energy, forming features like deltas, floodplains, and levees.”

Tasks:

Draw a labeled diagram showing erosion, transportation, and deposition.

Describe how a meander forms.

Research one flood management strategy.

Write a paragraph explaining why river management is important.



The Industrial Revolution

Text:

“The Industrial Revolution began in Britain in the 18th century. It transformed economies from farming to manufacturing. Factories, steam engines, and urbanisation changed the way people lived and worked. Child labour and poor working conditions were common, prompting social reform movements.”

Tasks:

Create a timeline of key Industrial Revolution inventions.

Write a diary entry from the perspective of a factory worker.

Research one social reformer and summarise their impact.

Draw a diagram showing the difference between rural and industrial towns.

World War I

“World War I (1914–1918) involved countries across Europe and beyond. Trench warfare, new weapons, and total war had devastating effects on soldiers and civilians. The Treaty of Versailles ended the war but created tensions leading to World War II.”

Tasks:

Draw a trench cross-section and label key features.

Write a short letter as a soldier on the front line.

Research one key battle and summarise it.

Create a mind map showing causes and effects of World War I.

Beliefs and Practices in World Religions

Text:

“Different religions have unique beliefs and practices. Christianity emphasises love and forgiveness, Islam teaches submission to Allah and prayer, Hinduism focuses on dharma and karma, and Buddhism teaches the Four Noble Truths and the Eightfold Path.”

Tasks:

Create a table showing key beliefs and practices of four religions.

Research one religious festival and explain its significance.

Draw symbols associated with each religion.

Write a paragraph explaining how understanding religion promotes tolerance.

Ethical Issues – Animal Rights

Text:

“Different religions and ethical systems have views on how humans should treat animals. Some promote vegetarianism, cruelty-free living, or conservation. Ethical debates focus on testing, hunting, and farming practices.”

Tasks:

List three arguments for and against animal testing.

Research one religious perspective on animal welfare.

Write a balanced paragraph presenting both sides of an ethical issue.

Draw a poster promoting responsible treatment of animals.

Exploring Musical Genres

Text:

“Music can be divided into genres such as classical, jazz, rock, and world music. Each genre has distinctive instruments, rhythms, and structures. Understanding music from different cultures promotes appreciation and creativity.”

Tasks:

Research one musical genre and list its key features.

Listen to a piece of music from that genre and describe its instruments and mood.

Create a short rhythm or melody inspired by the genre.

Write a paragraph explaining why music differs across cultures.



Composing Music

Text:

“Composing music involves creating melody, harmony, rhythm, and dynamics. Composers experiment with tempo, key, and instrumentation to evoke emotions and tell stories.”

Tasks:

Write a 4–8 bar melody using notation or a piano app.

Add rhythmic patterns or percussion to accompany the melody.

Record or perform your composition.

Write a paragraph explaining your creative choices.

Healthy Lifestyles

Text:

“A healthy lifestyle includes a balanced diet, regular exercise, adequate sleep, and mental wellbeing. Physical activity strengthens the heart, muscles, and bones. Nutrition provides energy, while sleep and stress management support mental health.”

Tasks:

Create a weekly plan incorporating exercise, meals, and sleep.

Research one mental health strategy for teenagers.

Write a paragraph explaining why balance is important.

Reflect: set a personal health goal for the week.



Citizenship and Rights

Text:

“Citizenship involves understanding rights and responsibilities. Young people have legal rights, such as education and protection, and responsibilities, such as respecting others and participating in the community.”

Tasks:

Make a poster showing five rights and five responsibilities.

Research one way teenagers can participate in the community.

Write a paragraph explaining the importance of respecting others' rights.

Create a scenario showing responsible citizenship.

Digital Citizenship

Text:

“Being safe online involves protecting personal information, communicating respectfully, and understanding digital footprints. Social media, messaging, and online gaming require responsibility and critical thinking.”

Tasks:

Make a guide for safe online behaviour.

Research one example of positive online use.

Write a paragraph on the dangers of oversharing personal information.

Design a digital safety poster for your peers.

Portrait Drawing

Text:

“Portraits capture a person’s appearance and character. Artists use proportion, shading, and perspective to create realism. Observing carefully helps capture likeness and expression.”

Tasks:

Draw a portrait of a family member, friend, or famous person.

Add shading to show light and shadow.

Annotate your drawing to explain your techniques.

Write a paragraph about the challenges and successes of your portrait.



Exploring Art Styles

Text:

“Different art movements, such as Impressionism, Cubism, and Surrealism, show how artists interpret the world. Techniques, colours, and subject matter vary widely.”

Tasks:

Research one art movement and list key features.

Create a piece inspired by that style.

Compare your artwork to an original artist’s work.

Write a paragraph explaining your creative decisions.

Mechanical Systems

Text:

“Mechanical systems, including levers, pulleys, gears, and cams, transfer force and motion. Engineers use these principles to design machines efficiently and safely.”

Tasks:

Draw three mechanical systems and label parts.

Explain how each system transfers force.

Research a real-world machine and describe its mechanism.

Design a simple mechanism for a household task.

Fitness Planning

Text:

“Fitness involves strength, endurance, flexibility, and coordination. Planning exercises ensures all aspects of fitness are developed safely.”

Tasks:

Create a one-week fitness plan including cardio, strength, and flexibility exercises.

Record your performance in each session.

Research one type of exercise that improves flexibility.

Write a paragraph reflecting on your plan’s effectiveness.

Team Sports Tactics

Text:

“Team sports require strategy, communication, and understanding of positions. Tactics can maximise performance and teamwork.”

Tasks:

Choose a team sport and draw a diagram of player positions.

Explain three tactics that can improve team performance.

Research a professional team’s strategy.

Write a paragraph reflecting on how tactics affect outcomes.

Dance and Movement

Text:

“Dance combines rhythm, expression, and coordination. Choreography tells a story or conveys emotion through movement. Warm-up and cool-down prevent injury.”

Tasks:

Create a short dance sequence (2–3 minutes).

Record or perform the sequence.

Annotate each move explaining its purpose.

Write a paragraph on how movement communicates emotion.



Outdoor Adventure and Orienteering

Text:

“Orienteering involves navigation using a map and compass. Outdoor activities develop fitness, problem-solving, and teamwork skills. Safety and preparation are essential.”

Tasks:

Draw a simple map of your local area or garden.

Plan a short orienteering route and mark checkpoints.

Explain how you would use a compass to navigate.

Reflect on the skills required for outdoor navigation.

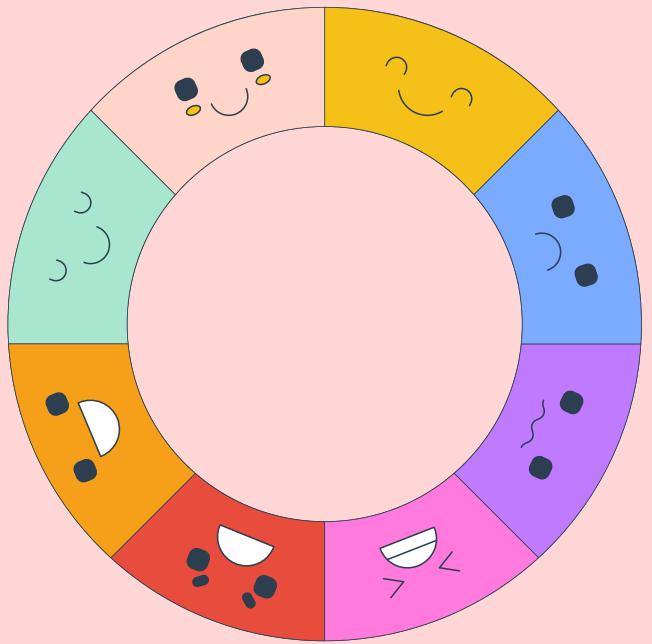


05

Mental Health and Wellbeing Reflective Tasks



My Emotions Diary



Objective: Increase awareness of emotions.

Instructions:

Keep a diary for one week.

Each day, write down:

How you felt in the morning, afternoon, and evening.

What caused these feelings.

At the end of the week, reflect:

Which emotions appeared most often?

What situations made you feel happy or calm?

Reflection Prompt: How can you respond to emotions in a positive way next time?

Gratitude Journal

Objective: Foster positive thinking.

Instructions:

Write 3 things you are grateful for today.

Explain why they are important to you.

Share your favourite entry with someone if you want.

Reflection Prompt: How does focusing on gratitude affect your mood?



My Safe Space Drawing

Objective: Explore safe places and coping strategies.

Instructions:

Draw a place where you feel safe and calm.

Add details about:

What you see, hear, and smell there.

Who you are with or if you are alone.

Write a paragraph explaining why this space makes you feel safe.

Reflection Prompt: How can you use this safe space in real life when you feel stressed?

Mood Tracker Wheel

Objective: Identify patterns in emotions.

Instructions:

Draw a circle divided into 7 sections for each day of the week.

Use colours or symbols to represent your mood each day.

Reflect on:

Which colours appear most?

Are there any triggers for certain moods?

Reflection Prompt: How can understanding your mood patterns help you manage them?

Positive Affirmations

Objective: Build self-esteem.

Instructions:

Write 5 positive statements about yourself, e.g., "I am brave," "I am creative."

Repeat them aloud daily.

Create a poster to display your affirmations in your room.

Reflection Prompt: How do these statements make you feel about yourself?

My Support Network Map

Objective: Recognise support systems.

Instructions:

Draw a circle with your name in the middle.

Around it, write the names of people you trust or who support you.

Include teachers, friends, family, or others.

Colour code: e.g., green = talk to often, yellow = sometimes, red = rarely.

Reflection Prompt: Who can you turn to when you feel upset or worried?

Stress Busters List

Objective: Identify coping strategies.

Instructions:

List 10 activities that help you feel calm when stressed (e.g., drawing, listening to music, walking).

Try at least 3 this week.

Write a short reflection after each activity about how it made you feel.

Reflection Prompt: Which strategies worked best for you and why?



Mindfulness Colouring

Objective: Practice mindfulness and focus.

Instructions:

Use a mindfulness colouring sheet or draw a mandala.

Colour slowly, focusing on the shapes and patterns.

Take deep breaths and notice your thoughts, but do not judge them.

Reflection Prompt: How did concentrating on colouring affect your mind and body?

My Achievements Journal

Objective: Recognise personal strengths.

Instructions:

Write down 3 achievements from the past week.

They can be big or small (e.g., completing homework, helping a friend).

Reflect on the skills or qualities you used to achieve them.

Reflection Prompt: How can you build on these strengths in the future?



Worry Box Exercise

Objective: Externalise worries.

Instructions:

Write down worries on small pieces of paper.

Place them in a box or envelope.

Once a day, pick one, read it, and write a positive action you could take or a thought to calm it.



Kindness Challenge

Objective: Promote empathy and social wellbeing.

Instructions:

Plan 3 acts of kindness this week (e.g., compliment a friend, help someone at home).

Record what you did and how it made you feel.

Reflect on how it made others feel.

Reflection Prompt: How did doing kind acts affect your mood and the mood of others?

Mood Playlist

Objective: Use music for emotional regulation.

Instructions:

Create a playlist of songs that make you feel:

Happy

Calm

Motivated

Listen to one playlist daily and note how it changes your mood.

Reflection Prompt: Which type of music is most effective for you? Why?



Thought Clouds

Objective: Recognise negative thoughts and replace them with positive ones.

Instructions:

Draw thought clouds on a page.

Write down negative thoughts in one colour.

Rewrite each thought positively in a different colour.

Discuss or reflect on how this changes your feelings.

Reflection Prompt: How can reframing thoughts help you manage stress or anxiety?

Goal Setting and Reflection

Objective: Promote personal growth.

Instructions:

Set 3 short-term goals for the week.

Break each goal into small steps.

At the end of the week, reflect:

Did you achieve them?

What helped or hindered you?

Reflection Prompt: What can you do differently next week to succeed?

Journaling About Challenges

Objective: Build resilience and problem-solving skills.

Instructions:

Write about a challenge you faced recently.

Describe:

What happened

How you felt

How you reacted

Reflect on how you could handle it differently next time.

Reflection Prompt: What did you learn about yourself from this experience?

My Happiness Map

Objective: Recognise sources of happiness.

Instructions:

Draw a map with yourself in the centre.

Branch out to list people, activities, and places that make you happy.

Colour-code by type of happiness (social, physical, creative, etc.)

Reflection Prompt: How can you increase time spent on things that make you happy?



