Year 7

Planner 2

2025/2026

Independent Study

Name & LF:

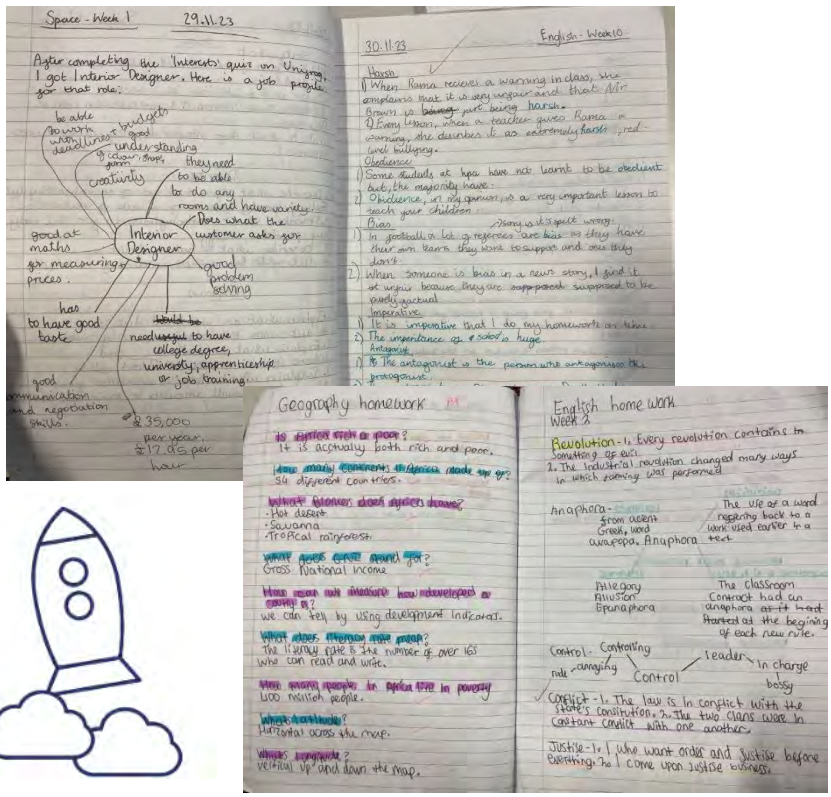
Hans Price Academy

Cabot Learning Federation

How to Complete Independent Study

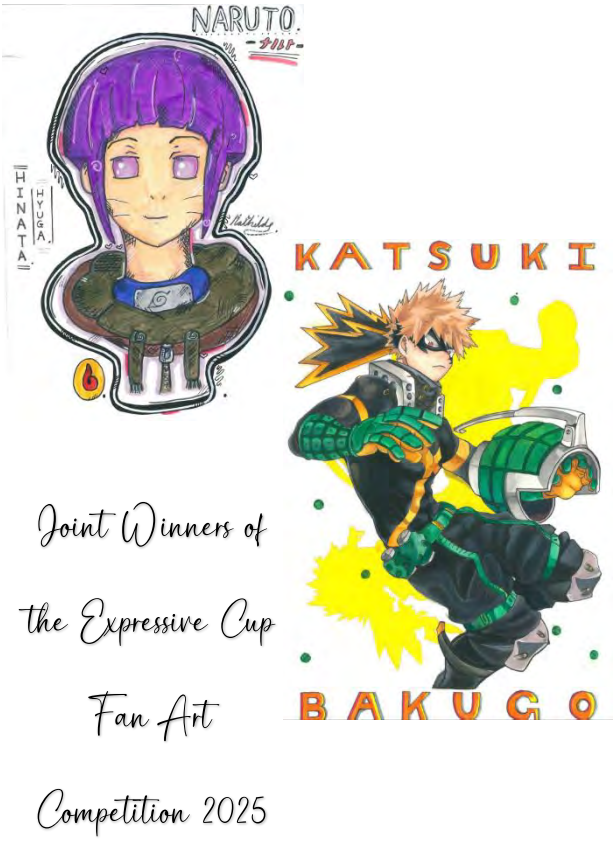
Completed IS is valued by teachers as it extends and supports the learning in lessons as well as embedding independent learning habits. It is rewarded with achievement points.

- Three pieces of compulsory IS are due each week for the core subjects: English, Maths and Science. The schedule is included in this booklet for clarity.
- Additional IS projects are introduced throughout the year for other subjects. These allow more creativity and challenge. They are rewarded and celebrated within each department.
- Independent study is introduced, supported and recorded by subject teachers. Further information is posted in Bromcom.
- To complete your independent study, you will need this knowledge organiser and your grey, IS exercise book. Most IS is set using this booklet. Maths will be set online in SPARX.
- IS resources can be collected from the library. Electronic copies of the booklets are available online, on the HPA website, alongside a video explaining IS.
- Compulsory IS Workshops on Tuesdays at 3pm for students who are not completing the core IS independently.



If students are struggling to complete the compulsory, core IS they will be expected to attend the workshop session after school the following week to address any barriers they are facing and ensure the work is completed successfully. This session sets them up for the coming week, rather than focusing on work that has been missed.

Contents



Challenge Task Schedule

The challenge tasks will be introduced by teachers in the term they are set. The are not compulsory but incredibly valuable to stretch and challenge learning. They will be recognised and rewarded within departments and allow students to be creative and tackle different projects.

Term	Subject	Task
Term 4	Art	Take a black and white photo of someone/somewhere/something important to you. Your Art teacher will discuss ideas and hand in dates with you.
Term 4	History	Create a presentation, poster or essay which explores the following question: How far did one individual change the course of British history?
Term 4	French/Spanish	My nightmare family project
Term 5	Geography	Create a presentation, poster or essay which explores the following question: How can we make our local area more sustainable?
Term 6	Computing	Code.org Hour of Code Challenge
Term 6	RS	Create a presentation, poster or essay which explores the following question: What does it mean to live a good life?

Independent Study Hand-In Schedule

The schedule below shows which pieces of independent study will be due each week. They will be checked by the teacher of the subject due in the lesson that week.

Date	Schedule	
Term 4		
23rd February	English	
	Maths	
	Science	
2nd March	English	
	Maths	
	Science	
9th March	English	
	Maths	
	Science	
16th March	English	
	Maths	
	Science	
23rd March	English	
	Maths	
	Science	
30th March	English	
	Maths	
	Science	
Term 5		
20th April	English	
	Maths	
	Science	
27th April	English	
	Maths	
	Science	
4th May	English	
	Maths	
	Science	
11th May	English	
	Maths	
	Science	
18th May	English	
	Maths	
	Science	

Date	Schedule	
Term 6		
1st June	English	
	Maths	
	Science	
8th June	English	
	Maths	
	Science	
15th June	English	
	Maths	
	Science	
22nd June	English	
	Maths	
	Science	
29th June	English	
	Maths	
	Science	
6th July	English	
	Maths	
	Science	
13th July	English	
	Maths	
	Science	
20th July	No IS	
	No IS	
	No IS	

Extra-Curricular	

#ReadyToLearnHPA

Hans Price Academy

Independent Study Challenge Tasks

Subject		**Task**
Date Set		
Date Due		
Subject		**Task**
Date Set		
Date Due		
Subject		**Task**
Date Set		
Date Due		
Subject		**Task**
Date Set		
Date Due		
Subject		**Task**
Date Set		
Date Due		
Subject		**Task**
Date Set		
Date Due		

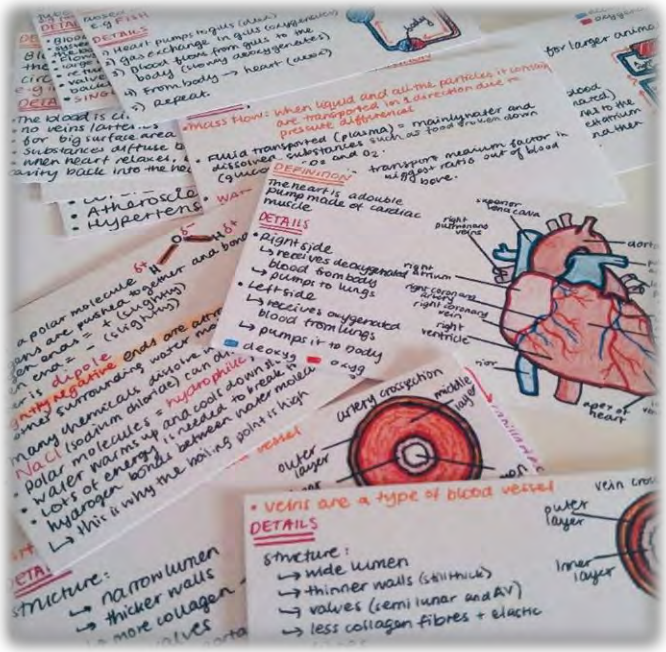
Revision Techniques

Flash Cards

Great for revising key terms and remembering definitions, dates, facts etc.

Split the page of your I.S textbook into four using a ruler or use flash cards which you can collect from the LRC and keep in your I.S folder.

Make brief notes on the information in the knowledge organiser, use colour coding and diagrams where you can to highlight key information.

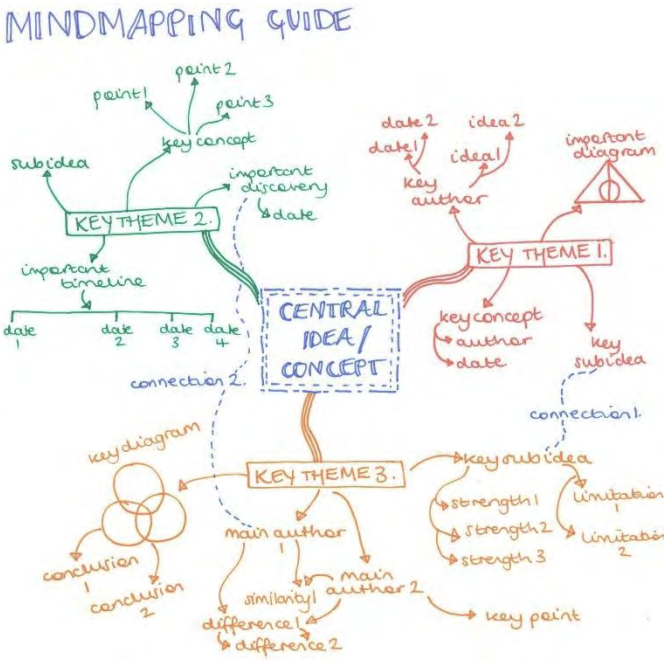


Mind Maps

Great for revising if you are a visual learner, allowing you to select and link key information.

Use a full page to add as much detail as you can to your mind map, starting with a key concept or topic at the centre. Use the knowledge organisers and your own ideas.

You can use colour coding, diagrams and connections to support your learning.



Self-Quizzing Questions

Here is a section of a Science Knowledge Organiser. You could test your grasp of this knowledge by asking yourself,

"What ions are found in acids? Acids contain hydrogen ions."

"What does corrosive mean? A corrosive acid can destroy skin cells and cause burns."

These are examples of self-quizzing questions. Write 10-20 self-quizzing questions and answers based on the subject knowledge organiser and focusing on the areas where you need to strengthen your knowledge.

2. Acids (pH 1-6)

- **Acids** are a family of chemicals, examples are lemon juice, vinegar and Coca Cola. There is also acid in our stomach.
- Acids contain Hydrogen (H^+) ions.
- **Strong acids** like hydrochloric acid are very corrosive this means they destroy skin cells and cause burns.
- **Weak acids** like vinegar are safe to eat but are still irritant to sensitive parts of the body.

Termly Planner

Term 4						
	Monday	Tuesday	Wednesday	Thursday	Friday	Weekend
Week 1 23rd February	INSET Day					
Week 2 2nd March					INSET Day	
Week 3 9th March						
Week 4 16th March						
Week 5 23rd March						
Week 6 30th March					Bank Holiday	
Easter Holiday						

Term 5						
	Monday	Tuesday	Wednesday	Thursday	Friday	Weekend
Easter Holiday						
Week 1 20th April						
Week 2 27th April						
Week 3 4th May	Bank Holiday					
Week 4 11th May						
Week 5 18th May						
Half Term						

Term 6						
	Monday	Tuesday	Wednesday	Thursday	Friday	Weekend
Week 1 1st June						
Week 2 8th June						
Week 3 15th June						
Week 4 22nd June						
Week 5 29th June					INSET Day	
Week 6 6th July						
Week 7 13th July						
Week 8 20th July			Summer Holiday			

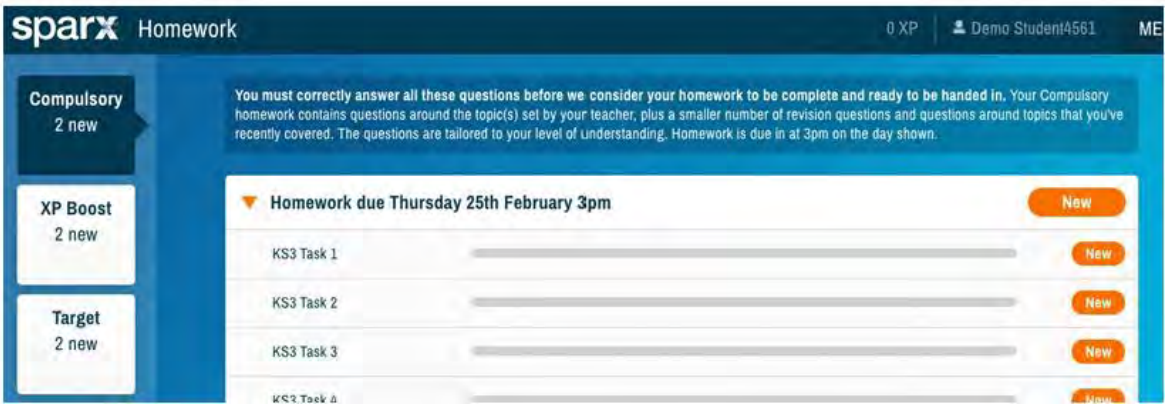
Maths Department – Independent Study Information

Sparx Maths

All Independent Study in the Maths department is set using the online platform SparxMaths.

Students need to log into their SparxMaths accounts from the HPA navigation page. Independent study contains 3 elements: Compulsory, XP Boost and Target.

Compulsory: Sparx independent study is tailored to your child and should offer them just the right level of challenge, based on the topics that their teacher has set. All questions in the Compulsory section must be answered correctly for the independent study to be marked as complete. Students need to use pen and paper to write out the bookwork codes and workings to each of their questions as the platform will check they are recording their work. Each task bar will show as green when fully complete. For the Independent study to be classed as complete, all task bars for that independent study need to be fully green. The percentage of independent study complete will show on the menu page:



XP Boost and Target sections are additional resources that the students can complete if they wish. They will support the students to make greater progress in Maths, but do not form part of the compulsory independent study.

If a student receives too much assistance with their independent study, Sparx may think they're able to tackle more difficult questions and their work could get harder. To prevent this, always encourage them to attempt the question first and to watch the support video before getting help.

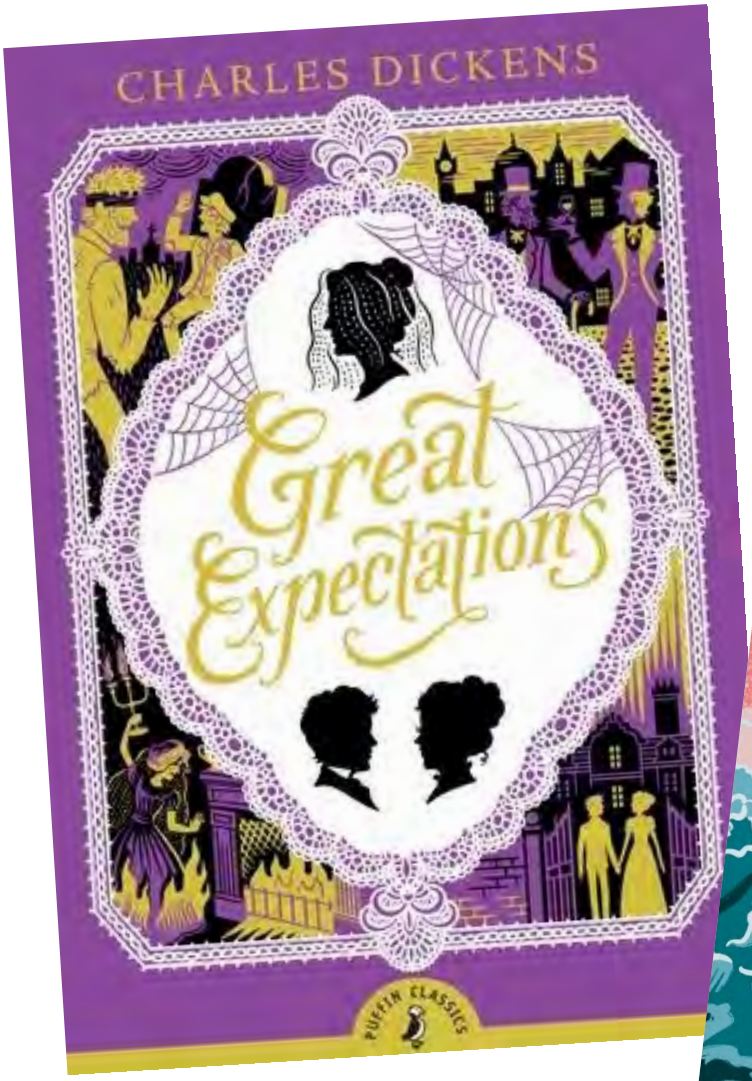
Parents whose children have been set compulsory independent study will receive a weekly email from Sparx, which includes an update on how much independent study their child has completed as well as any they have outstanding from the previous few weeks. Most importantly, the email contains a link to a short video that parents can watch and use to help support their child in answering one of their target questions.

English Department – Independent Study Information

Independent study for English is based around revision of Great Expectations and The Tempest. You will find the tasks for each week outlined below with a reminder of hand-in dates. Complete all tasks in your IS book.

You will find a variety of tasks for the next three terms, including vocabulary, punctuation and creative writing.

Tasks will be marked in English lessons. You can find the topics and reminders of hand-in dates outlined in this booklet.



Term 4 Topic - Dickens: Growing and Learning

Week	Task
w/c 23rd February	**Vocabulary:** Write a two/three sentence explanation of how each of these words links to the story of Great Expectations. Link it to characters/plot: ● Morality ● Benefactor ● Victim (definitions of the words are on the Knowledge Organiser on the next page)
w/c 2nd March	**Themes:** Write a sentence explaining why you think each of the following themes/ideas link to Great Expectations: 1) Class 2) Crime 3) Revenge
w/c 9th March	**Characters:** Finish these sentences using the because, but, so connectives: ● Estella supports Pip because ● Estella supports Pip, but ● Estella supports Pip, so and , complete these: ● Joe cares for Pip because ● Joe cares for Pip, but ● Joe cares for Pip, so
w/c 16th March	**Creative Task:** Create your own book cover for the book Great Expectations.
w/c 23rd March	**Vocabulary:** Write a two/three sentence explanation of how each of these words links to the story of Great Expectations. Link it to characters/plot: ● Hierarchy ● Benevolent ● Redemption (definitions of the words are on the Knowledge Organiser on the next page)
w/c 30th March	**Creative Task:** 1) Create 5 interview questions that you would like to ask any characters in Great Expectations. State which character you would like to ask them to. 2) For three questions, imagine how the character may respond. **Example:** **Estella:** What were your first impressions of Pip? **Estella's response:** At first, Pip seemed timid, almost painfully aware of his own low status. I used that weakness against him because I was taught to. But as he grew older, I saw him develop pride. I suppose my impression changed because he did.

Term 4 – Dickens Knowledge Organiser

Great Expectations

Year 7 English
Dickens: Growing and Learning

Page 1

Context

- Charles Dickens was born on February 7, 1812
- When he was twelve, his father was arrested and taken to debtors' prison.
- *Great Expectations* is set in early Victorian England, a time when great social changes were sweeping the nation.
- The Industrial Revolution of the late eighteenth and early nineteenth centuries had changed society.
- There was a huge divide between the rich, affluent areas and the poor, impoverished areas of London
- More and more people moved from the country to the city in search of jobs.
- Throughout England, the manners of the upper class were very strict and conservative: gentlemen and ladies were expected to have thorough classical educations and to behave appropriately in social situations.

Vocabulary and definitions

Morality	The between right and wrong or good and bad behaviour	**Hierarchy**	A system where people are ranked according to power/class
Benefactor	A person who gives money or other help to a person or cause.	**Benvelovent**	A kind person who often gives money to help others
Victim	A person harmed, injured, or killed as a result of a crime, accident	**Redemption**	The action of being saved from sin or evil

Great Expectations

Year 7 English
Dickens: Growing and Learning

Page 2

The characters of Great Expectations

Pip Pirrip	The protagonist and narrator, Pip begins the story as a young orphan boy being raised in the marsh country of Kent. Pip is passionate, romantic, and somewhat unrealistic at heart, and he tends to expect more for himself than is reasonable. Pip also has a powerful conscience, and he deeply wants to improve himself.	**Miss Havisham**	Miss Havisham is a wealthy, eccentric old woman who lives in a manor. As a young woman, Miss Havisham was jilted by her fiancé minutes before her wedding, and now she has a vendetta against all men. She deliberately raises Estella to be the tool of her revenge, training her to break men's hearts.
Joe	Joe is the father figure for Pip. Married to Pip's harsh sister. Joe has no formal education but possess a deep sense of integrity and an unfailing moral compass.	**Mrs Joe**	Mrs Joe is fiery, tyrannical and false. Obsessed with social status and reputation. Attacked by Orlick for being vile, her temperament changes and she becomes patient and docile.
Mr Jaggers	A famous lawyer in London. He is rational, sharp-minded and intimidating. He prides himself on either expressing not responding to human emotion.	**Estella**	The adopted daughter of Miss Havisham, Estella is proud, refined, beautiful, and cold, raised by Miss Havisham to "wreak revenge of the male sex".
Magwitch	The escaped convict that Pip meets as a young boy. Inspired by Pip's kindness, Magwitch devotes his life savings to Pip. His criminal record is largely due to unfortunate circumstances, not character. He is kind, good-hearted and generous.	**Biddy**	Biddy first befriends Pip when they attend school together. After Mrs. Joe is attacked and becomes an invalid, Biddy moves into Pip's home to care for her. Biddy represents the opposite of Estella; she is plain, kind, moral, and of Pip's own social class.

Term 5&6 Topic – The Tempest

Week	Task
w/c 20th April	**Vocabulary:** Betray Obedient Liberty For each word write the following: ● Definition ● Synonym (word which means the same) ● Antonym (word which means the opposite) ● Example sentence linked to The Tempest
w/c 27th April	**Creative:** Imagine a powerful storm is hitting an island. Write **six** descriptive sentences to describe the storm. Can you use the following: ● Three ambitious adjectives (ferocious, menacing, relentless) ● A simile ● Personification
w/c 4th May	**Characters:** Choose one character (Miranda, Ariel or Caliban). Write **three adjectives** to describe them and **three sentences** explaining why each word links to the character. **Example:** *Three adjectives:* powerful, controlling, protective *Sentence 1:* Prospero is powerful because he uses magic to command the island.
w/c 11th May	**Vocabulary:** Write a two/three sentence explanation of how each of these words links to the story of The Tempest. Link it to characters/plot: ● Tempest ● Supernatural ● Obedient (definitions of the words are on the Knowledge Organiser on the next page)
w/c 18th May	**Characters:** Finish these sentences using the because, but, so connectives: ● Prospero is a powerful leader because ● Prospero is a powerful leader, but ● Prospero is a powerful leader, so and , complete these: ● Ariel obeys Prospero because ● Ariel obeys Prospero, but ● Ariel obeys Prospero, so
w/c 30th March	**Creative:** Create an ACROSTIC poem about Ariel. Write the name Ariel down the side of your page. Each line will begin with a letter from his name. The poem does not need to rhyme. A R I E L

Week	Task
w/c 1st June	**Vocabulary:** Write a two/three sentence explanation of how each of these words links to the story of The Tempest. Link it to characters/plot: ● Vengeance ● Forgiveness ● Savage (definitions of the words are on the Knowledge Organiser on the next page)
w/c 8th June	**Punctuation:** Re-write this paragraph adding in the correct punctuation (Hint: Where will the speech marks go?) miranda stared out at the raging sea as the storm crashed around the island father she cried what is happening who is out there prospero raised his staff and said the storm is my doing my child and all will be revealed soon
w/c 15th June	**Themes:** Write a sentence explaining why you think each of the following themes/ideas link to The Tempest: 1) Ownership 2) Love 3) Betrayal
w/c 22nd June	**Vocabulary:** Write a two/three sentence explanation of how each of these words links to the story of The Tempest. Link it to characters/plot: ● Patriachal ● Vindictive ● Civilised (definitions of the words are on the Knowledge Organiser on the next page)
w/c 29th June	**Creative Task:** 1) Create 5 interview questions that you would like to ask any characters in The Tempest. State which character you would like to ask them to. 2) For three questions, imagine how the character may respond. **Example:** **Prospero:** Why did you use magic to create the storm that shipwrecked your enemies? **Prospero's response:** I created the storm because I needed my enemies to be brought to the island. It was the only way I could confront them and finally take back the dukedom that was stolen from me.
w/c 6th July	**Vocabulary:** Write a two/three sentence explanation of how each of these words links to the story of The Tempest. Link it to characters/plot: ● Exile ● Usurp ● Supernatural (definitions of the words are on the Knowledge Organiser on the next page)
w/c 13th July	**Punctuation:** Re-write this paragraph adding in the correct punctuation (Hint: Where will the speech marks go?) caliban stumbled across the sandy beach muttering to himself this island was mine before prospero came he growled why should i serve him any longer he kicked at a broken branch then whispered i will find a way to take back what belongs to me

w/c 20th July	**Creative:** Create your own book cover for the play The Tempest.

Term 5&6 – The Tempest Knowledge Organiser

Year 7 English
Shakespeare: The Tempest

Page 1

Key Vocabulary	
Tempest - a violent, windy storm	**Liberty** - being free and able to act as one pleases
Tempestuous – word to describe strong or conflicting emotions	**Supernatural –** something beyond scientific understanding
Obedient - submissive to another's au thority	**Vengeance** - harming someone because they have harmed you
Rebellious - showing a desire to resist authority	**Betrayal** - breaking someone's trust
Savage - fierce, violent, uncontrolled	**Vindictive**- an unreasonable desire for revenge

Key Vocabulary	
Forgiveness- to release feelings of vengeance or resentment; to show mercy	**Patriarchy –** a system of society where men are in power e.g. fathers, brother, husbands rule over women
Usurp – to take over someone's position of power without having a right to do so	**Exile** – to be sent away from an area and not allowed to return
Native –a person born in a place and is designated as coming from there	**Civilised-** considered to be more acceptable in society than others in terms of behaviour and manners
Authority – the power to give orders	**Colonialism** –the process of taking over a land and its people

Year 7 English
Shakespeare: The Tempest

Page 2

Characters	
Prospero	The play's protagonist and father of Miranda. He was once the Duke of Milan but was **usurped** by his brother.
Miranda	Prospero's daughter who has not lived amongst people since she was **exiled** with her father at the age of three.
Ariel	Prospero's spirit helper. He is an inhabitant of the magical island. He was imprisoned in a tree by Sycorax the witch until Prospero arrived and freed him. Ariel has to be Prospero's servant in return.
Caliban	He is another inhabitant of the island and Sycorax's son who is not fully human. He is described as 'moon-calf'. He is punished by Prospero for trying to take advantage of Miranda.

Characters	
Ferdinand and Alonzo	Ferdinand is Alonzo's son who is separated from his father during the tempest. Alonzo is the King of Naples.
Antonio	Prospero's brother. He took over Milan and wanted Prospero and his daughter killed
Stephano and Trinculo	Trinculo is a jester and Stephano is a servant of Alonzo's. They take advantage of Caliban and want him
Gonzalo	An honest old lord and old friend of Prospero's

Science Department – Independent Study Information

Independent study for science is completed in this booklet with knowledge organisers to help you recall or research information.

You will find the worksheets over the next series of pages and the knowledge organisers to help you answer the questions.

The questions will be marked in your science lessons, and any misconceptions will be corrected to support your learning.

You can find the topics and reminders of hand-in dates outlined below.

TITLE	HAND IN DATE
Energy transfers	23.02.26
Reproduction (boxes 1-4)	02.03.26
Reproduction (boxes 5-8)	09.03.26
Reproduction (summary)	16.03.26
Microbes (boxes 1-5)	23.03.26
Microbes (boxes 6-8)	30.03.26
Electricity	20.04.26
Electricity	27.04.26
Electricity	04.05.26
Physical and chemical changes	11.05.26
Physical and chemical changes	18.05.26
Physical and chemical changes	01.06.26
Acids and alkalis	08.06.26
Acids and alkalis	15.06.26
Acids and alkalis	22.06.26
Magnetism	29.06.26
Magnetism	06.07.26
Space	13.07.26

KS3 Science

Energy Transfers

Hans Price Academy

1. What is energy?

Energy is a quantity that is stored in objects and systems. It makes thing happen.

For example, the energy stored in a car makes it move.

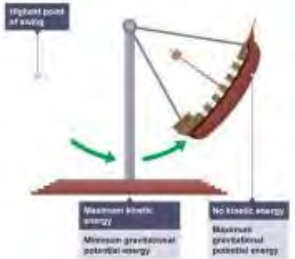
Energy is measured in **joules** (j).

2. Energy Stores

Energy store	Example
Chemical	
Kinetic	
Gravitational potential	
Elastic	
Thermal	

3. Energy Transfers

Energy can be transferred between different stores.

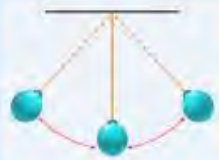


A swinging pirate ship ride at a theme park

4. Conservation of Energy

When energy is transferred from one store to another the **total amount of energy does not change**.

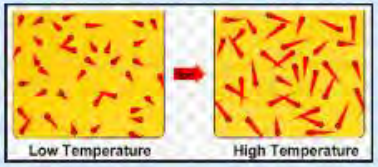
Energy cannot be created or destroyed. All that can be changed is how it is stored. This ideas is called **the law of conservation of energy.**



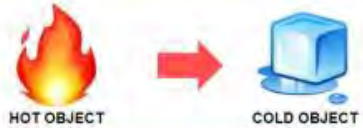
5. Temperature

The **temperature** of an object is to do with how hot or cold it is, measured in degrees Celsius (°C).

The temperature is due to the movement of the particles in the object. When an object is heated, its particles move more vigorously and its temperature increases.

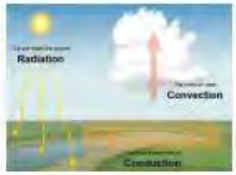


6. Heating



energy is **always transferred** from the **hotter** object to the **cooler** one

Energy can be transferred thermally in three ways:
conduction (between solids),
Convection (between liquids and gases), radiation (where there are no particles).



7. Conductor and Insulators

A substance that transfers energy easily from the hot end to the cold end it is called a **conductor**.

Examples – Metals, water, diamonds.

A substance that does not transfer energy easily from the hot part to the cold part is called an **insulator**.

Examples – Plastics, air, wool.

8. Power

The amount of energy transferred is called '**work done**' and is measured in joules (j)

Power is the amount of work done divided by the time it took to transfer all the energy. It is measured in **watts** (w).

To calculate the **power** we use the equation:

$$power = \frac{work\ done}{time\ taken}$$

$$P = \frac{E}{t}$$

Where:
- power (*P*) in watts (W)
- work done (*E*) in joules (J)
- time (*t*) in seconds (s)

ENERGY *week commencing* 23.02.26

1. State what energy is measured in.	**2. Name five energy stores.**	**3. State an example of a kinetic energy store.**
4. Describe the energy transfer when lifting a ball up and then dropping it.	**5. Calculate the power used when 200J is used in 50s.**	**6. Give an example of a good insulator.**
7. Describe what the law of 'conservation of energy' states.	**8. Explain what happens to particles when they increase in temperature.**	**9. State 3 ways energy can be transferred.**

Additional Notes

KS3 Science

Human Reproduction

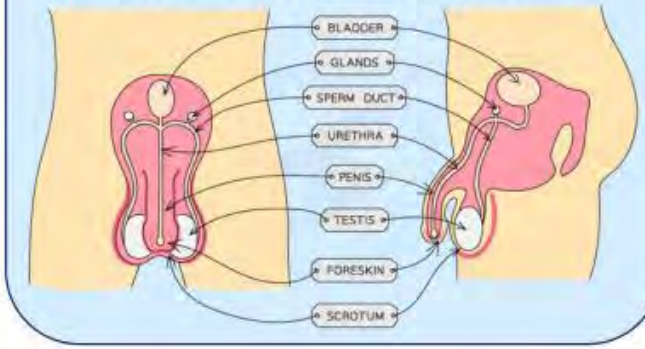
Hans Price Academy

1. Puberty and Adolescence

As a child develops into an adult, their body prepares for reproduction.

2. Male Reproductive System

ROLE – produce and store sperm cells for reproduction.

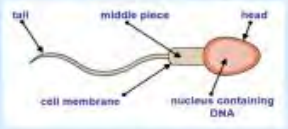


3. Female Reproductive System

ROLE – produce and release egg cells for reproduction.

4. Gametes

Gametes are sex cells. Sperm cells are the male gamete and egg cells (ova) are the female gamete.



ROLE: join with the egg cell for fertilisation.

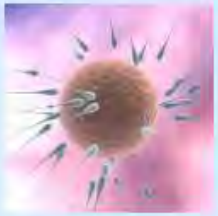
ADAPTATION:
tail to swim to egg.

ROLE: join with the sperm cell for fertilisation.

ADAPTATION:
Lots of nutrients and very large.

5. Fertilisation

Fertilisation: the process of a sperm cell and an egg fusing. Sperm cells are released into the female reproductive system during sexual intercourse (ejaculation). Only one sperm cell breaks through the cell membrane and enters the egg, and only the head enters.



The cells join together, putting the mother and father's genetic information together. The fertilised egg is now called an embryo.

6. Gestation and Pregnancy

A fertilised egg cell divides to form a ball of cells called an **embryo**. The embryo attaches to the lining of the uterus where it gets nutrients and oxygen. It begins to develop into a **foetus** and finally into a baby.

The foetus will grow an umbilical cord and a placenta. The placenta is responsible for removing waste substances, as well as providing oxygen and nutrients. The umbilical cord connects the foetus to the placenta.

The foetus is protected from bumps and knocks by the amniotic fluid sac.

7. Birth

In humans, gestation lasts 40 weeks. This is the amount of time it takes for a foetus to develop into a baby. When the baby is ready to be born, the cervix relaxes and the muscles in the wall of the uterus contract. Muscle contractions increase in intensity and frequency, eventually pushing the baby out of the vagina.

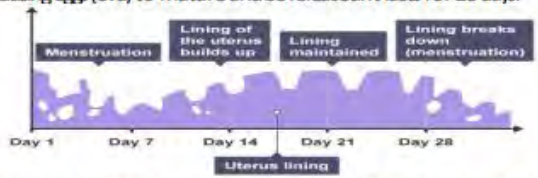
Unfortunately, a baby can enter the world unhealthy. This can be due to inheriting diseases from one of the parents or due to lifestyle choices made by the mother:

Smoking leads to less oxygen diffusing from mother to foetus via the placenta.

Foetal Alcohol Syndrome (FAS) is when the mother drinks excessive **alcohol** whilst pregnant. This damages the baby's nervous system and brain.

8. Menstrual Cycle

The menstrual cycle prepares the female body for pregnancy by causing eggs (ova) to mature and be released. It lasts for 28 days.



On about day 14, the mature egg cell is released from the ovary. This is called ovulation. If the egg cell does not meet with a sperm cell in the oviduct, the lining of the uterus begins to break down, the female experiences a period, and the cycle repeats.

REPRODUCTION *week commencing* 02.03.26

1. List three physical changes to males and females during puberty.	**2. List three components of the female reproductive system.**	**3. Describe the role of the female reproductive system.**
4. Describe the adaptations of the egg cell.	**5. Draw a labelled diagram of a sperm cell.**	**6. Define the term *fertilisation*.**
7. State what happens during day 14 of the menstrual cycle.	**8. Describe the role of the placenta.**	**9. Explain why pregnant women are told not to drink alcohol.**

REPRODUCTION *week commencing* 09.03.26

1. State the name of the male sex cell.	**2. State the length of gestation in humans.**	**3. State the length of the average menstrual cycle in females.**
4. Describe the role of the female reproductive system.	**5. Describe the role of the placenta.**	**6. Describe one difference between the male and female reproductive system.**
7. Explain the risk of a mother drinking alcohol whilst pregnant.	**8. Explain why smoking can be harmful to an unborn foetus.**	**9. Explain why ovulation is required for fertilisation.**

REPRODUCTION *week commencing* 16.03.26

1. List three components of the male reproductive system.	**2. State the length of gestation in humans.**	**3. State the role of the male reproductive system.**
4. Draw a labelled diagram of an egg cell.	**5. Define the term *fertilisation*.**	**6. Describe the role of the menstrual cycle.**
7. Describe the role of the amniotic fluid sac.	**8. Explain why smoking can be harmful to an unborn foetus.**	**9. Explain why sperm cells have a tail.**

Additional Notes

1. Micro-organisms

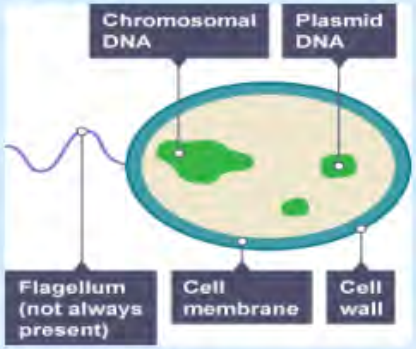
Micro-organism

small living thing

Micro-organisms are mostly categorised within the kingdoms: *prokaryotes(including bacteria), protists* or *fungi.*

Some micro-organisms can be useful, for example, yeast is used to make bread and alcohol, however some are very harmful – salmonella bacteria causes food poisoning.

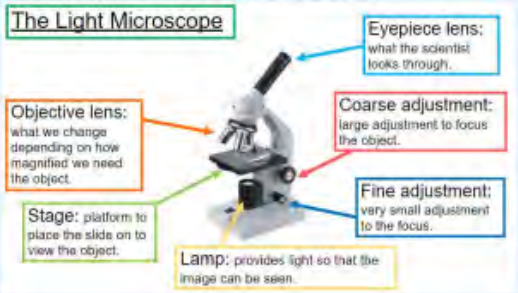
4. Bacterial cell



5. How are pathogens spread?

2. The Microscope

Due to their very small size, micro-organisms need to be viewed under a microscope.



KS3 Science

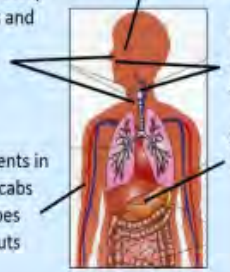
Micro-organisms and Disease

Hans Price Academy

6. Primary Defences Against Pathogens

Cilia – tiny hairs found in nose and respiratory system that wafts and traps dust

Skin – barrier that stops microbes entering body



Mucus – in nose and respiratory tract that traps dust and microbes

Stomach – stomach acid kills microbes

Platelets – fragments in blood that form scabs to prevent microbes getting through cuts

3. What are pathogens?

A pathogen is a micro-organism that causes diseases.

Examples of pathogens: bacteria, fungi or viruses.

Because pathogens are living, they are made up of cells.

Their cells are different to plant and animal cells.

7. The Immune Response

If a pathogen bypasses the primary defences, it will enter the bloodstream. The human body has specialised blood cells to destroy the pathogen.

LYMPHOCYTES: white blood cells which recognise the pathogen and produce antibodies which attach to the pathogen's surface.

PHAGOCYTES: white blood cells which engulf and destroy the pathogen.

MEMORY CELLS: remember the shape of the pathogen and act rapidly if the person becomes reinfected.

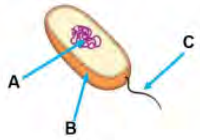
8. Vaccinations

A vaccination is a dead/weakened pathogen that is injected into the body, causing the body to carry out the immune response, ultimately producing antibodies.

Having antibodies in the blood is the definition of being *immune.*

Vaccinations are used for diseases that are extremely dangerous.

MICRO-ORGANISMS AND DISEASE *week commencing* 23.03.26

1. Define the term *micro-organism.*	**2. Name the piece of the light microscope where the slide is placed.**	**3. Name the two lenses on the light microscope.**
4. Define the term *pathogen.*	**5. Label the bacterial cell.** 	**6. Name the structure which helps the bacterial cell move.**
7. Describe how DNA is found in a bacterial cell.	**8. Describe three ways pathogens can be spread.**	**9. Explain why wearing a mask does not protect from all diseases.**

MICRO-ORGANISMS AND DISEASE *week commencing* 30.03.26

1. Define the term *micro-organism.*	**2. Define the term *immunity.***	**3. State one use of yeast.**
4. Describe 3 different ways that pathogens can be spread.	**5. Describe the role of lymphocytes.**	**6. Describe one difference between a bacterial cell and an animal cell.**
7. Explain how vaccination leads to immunity.	**8. Explain how memory cells increase the speed of the immune response.**	**9. Explain how wearing a mask reduces the spread of a cold.**

KS3 Science **Electricity**

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1. Conductors and insulators

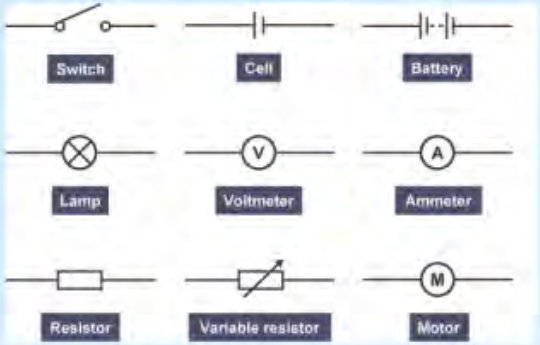
A substance that transfers energy electrically is called an **electrical conductor**.

Examples of electrical conductors: metals

A substance that does not transfer energy electrically is called an **electrical insulator**.

Examples of electrical insulators: plastic, wood.

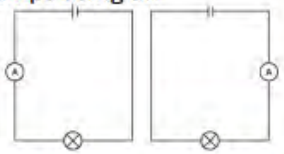
2. Circuit symbols



3. Current

Inside the wires of an electrical circuit, there are electrons. When the circuit is connected, the electrons flow. The rate at which the electrons flow is called the current. The faster they flow, the bigger the current.

Current is measured in amps using an ammeter.



4. Potential difference

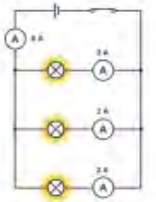
When the electrons pass the battery, they are transferred **energy**, in the form of **volts**. The electrons then transfer these volts to another circuit component (e.g. the bulb), when they pass it. **Potential difference** is a measure of the **difference in volts** the electrons have **before and after** a circuit component. The bigger the difference in energy, the bigger the potential difference. Potential difference is measured in **volts**, using a voltmeter.

5. Series circuits

A series circuit contains components connected one after the other, in one loop.
In series circuits, if one component fails, all the components stop working.

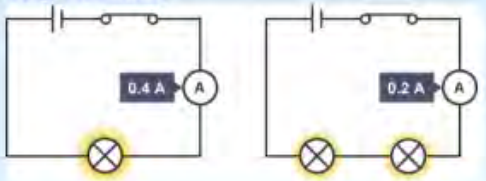
6. Parallel Circuits

Components in parallel circuits are connected on different branches of the circuit. They form more than one loop.
If one component connected in parallel fails, the other components in other loops still work.



7. Resistance

The wires and the other components in a circuit make it harder for the electrons to flow. This is called resistance. The unit of **resistance** is the **ohm**, and it has the symbol Ω. Resistance increases if you add more components to a circuit e.g. more bulbs.

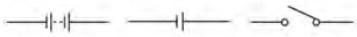
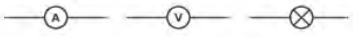
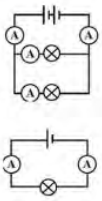
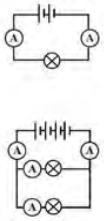
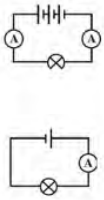


8. Calculating resistance

The equation for calculating resistance is:
Resistance = potential difference ÷ current

The circuit has a current of 3A and the battery has a potential difference of 9V. Calculate the resistance.
Resistance = pot diff / current
Resistance = 9 / 3
Resistance = 3 Ω

ELECTRICITY *week commencing* 20.04.26

1. Describe current in an electrical circuit.	**2. Describe potential difference in an electrical circuit.**	**3. Describe resistance in an electrical circuit.**
4. Name the circuit symbols. 	**5. Name the circuit symbols.** 	**6. Compare a series to a parallel circuit.**
7. State whether these are series or parallel circuits. 	**8. State whether these are series or parallel circuits.** 	**9. State whether these are series or parallel circuits.** 

ELECTRICITY *week commencing* 27.04.26

1. State the unit used to measure electric current.	**2. State one material that is a good conductor of electricity.**	**3. State the name of the component used to measure potential difference in a circuit.**
4. Describe how the brightness of a bulb changes when more cells are added in series. .	**5. Describe the difference between a series circuit and a parallel circuit.**	**6. Describe what happens to resistance if you add more components in a circuit.**
7. Explain why a bulb does not light up if there is a break in the circuit.	**8.Explain why metals are good conductors of electricity.**	**9. Explain why adding more bulbs in series makes each bulb dimmer.**

ELECTRICITY *week commencing* 04.05.26

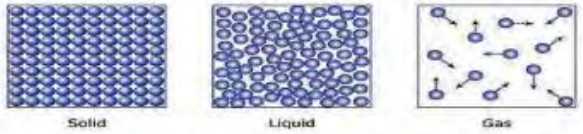
1. Materials that will not conduct electricity are called _____.	2. Draw a series circuit containing a battery, a lamp, a resistor, and a switch.	3. Draw a circuit with two lamps in parallel, a cell and a switch.
4. State the name of the component used to measure current in a circuit.	5. State the equation used to calculate resistance, which links current and potential difference	6. Describe what happens in a series circuit if one component fails.
7. Describe what current is.	8. Calculate the resistance in a circuit with a potential difference of 8 V and a current of 2 A.	9. Calculate the current in a circuit with a potential difference of 12 V and a resistance of 4 Ω

Additional Notes

KS3 Science Physical and Chemical Change

1. Particle Theory

All matter is made up of particles.



- Solids - arranged in a regular pattern and can only vibrate in a fixed position. They keep their shape
- Liquids - arranged randomly but are still touching each other, can move or flow.
- Gases, particles are far apart and are arranged randomly. They will fill the container they are in

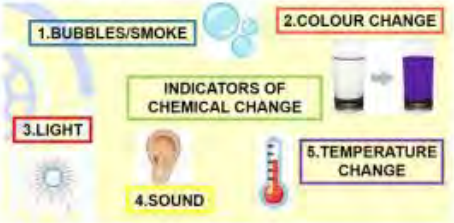
2. Physical Changes

In a physical change, the matter's physical appearance is changed, but no chemical bonds are broken or formed. For example, when water is heated from liquid water to gaseous steam, only the appearance of water is changed – both steam and liquid water have the chemical formula H_2O.

Solid - ice.	Liquid - water.	Gas - steam.
The particles are held firmly in place but they vibrate.	The particles gain more energy. The vibrations become stronger until they break apart.	The particles have gained enough energy to break free. They are moving very quickly.
H_2O	H_2O	H_2O

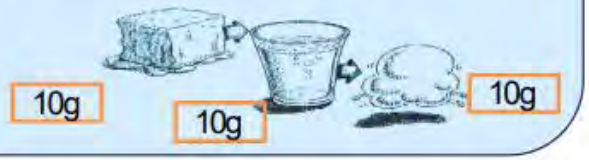
3. Chemical Changes

- Chemical reactions create **new** substances.
- In a chemical reaction the atoms **rearrange** themselves and then **join back together** in a different way.



4. Conservation of Mass

The Law of Conservation of Mass states that mass cannot be created or destroyed.
Therefore, mass stays the same before and after a change of state. For example, 10g of ice melts into 10g of water and 10g of water evaporates into 10g of water vapour. The same applies to other substances.



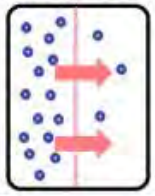
5. Conservation of mass in chemical change

No **atoms** are created or destroyed in a chemical reaction. Instead, they just join together in a different way than they were before the reaction, and form **products**. This means that the total **mass** of the products in a chemical reaction will be the same as the total mass of the **reactants**.

6. Diffusion

Diffusion is the movement of particles from a higher concentration to a lower concentration.

Diffusion will stop when particles spread themselves evenly. Diffusion occurs in liquids and gases but not in solids, because particles in a solid are not free to move.

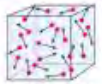


7. Factors affecting Diffusion

There are 2 factors affecting the rate of diffusion:

- **Temperature:** When temperature increases, particles gain more energy. They can then move and spread out at a higher rate.
- **Concentration:** When concentration increases, the rate of diffusion increases because there is a steeper concentration gradient.

8. Brownian Motion



Particles in fluids (liquids and gases) move randomly. This is called Brownian motion. They do this because they are bombarded by the other moving particles in the fluid. Larger particles can be moved by light, fast-moving molecules.
Brownian motion is named after the **botanist Robert Brown**, who first observed this in 1827. He used a microscope to look at pollen grains moving randomly in water. At this point, he could not explain why this occurred.

PHYSICAL AND CHEMICAL CHANGE *week commencing* 11.05.26

1. State if ice freezing is a physical or chemical change.	2. If I react 5g of hydrogen and 5g of oxygen together, state the mass of water I will have.	3. If I have 30g of steam cooling down to water, state the mass of water I will have.
4. Describe *Brownian motion*.	5. Describe what happens to particles when heated.	6. Define *physical change.*
7. Explain why frying an egg is a chemical change.	8. Explain why increasing temperature, increases the rate of diffusion.	9. Explain why melting butter is a physical change.

PHYSICAL AND CHEMICAL CHANGE *week commencing* 18.05.26

1. State what is meant by a physical change.	2. State one example of a physical change.	3. State one sign that a chemical reaction has taken place.
4. Describe what happens when ice melts into water.	5. Describe one factor that affects diffusion.	6. Describe one difference between a physical change and a chemical change.
7. Explain why melting chocolate is a physical change.	8. Explain why diffusion cannot occur in solids.	9. Explain why a chemical change is usually difficult to reverse.

PHYSICAL AND CHEMICAL CHANGE *week commencing* 01.06.26

1. Draw a particle diagram to show the arrangement of particles in a liquid.	**2. State the law of conservation of mass.**	**3. Define *Brownian motion*.**
4. Name the scientist who observed Brownian motion.	**5. State what causes Brownian motion.**	**6. Describe how particles are arranged in a solid.**
7. Compare the mass of reactants and products in a chemical reaction.	**8. Explain how concentration affects diffusion.**	**9. Explain why 10g of ice will produce 10g of water vapour.**

Additional Notes

1. Safety


Irritant


Corrosive

- When handling acids and alkalis in the lab we need to take safety precautions, for example wearing goggles.
- Concentrated acid is corrosive and will destroy skin cells.
- Dilute acids have lots of water added, they are an irritant and cause redness or blistering of the skin.

2. Acids (pH 1-6)

- **Acids** are a family of chemicals, examples are lemon juice, vinegar and Coca Cola. There is also acid in our stomach.
- Acids contain Hydrogen (H^+) ions.
- **Strong acids** like hydrochloric acid are very corrosive this means they destroy skin cells and cause burns.
- **Weak acids** like vinegar are safe to eat but are still irritant to sensitive parts of the body.

3. Alkalis (pH 8-14)

- Alkalis, are a family of chemicals that have a soapy feel, they are also corrosive. Examples of these are toothpaste, soap and oven cleaner.
- Alkalis contain Hydroxide (OH-) ions.

KS3 Science

Acids & Alkalis

Hans Price Academy

4. pH Scale

- The pH scale measures the strength of acids and alkalis, it runs from 0-14.
- Neutral solutions are pH 7 exactly.
- Acidic solutions have pH values less than 7.
- Alkaline solutions have pH values more than 7.
- The closer to pH 0 you go, the more strongly acidic a solution is.
- The closer to pH 14 you go, the more strongly alkaline a solution is.

5. pH Indicators

- **Indicators** are chemicals that show whether a substance is an **acid** or an **alkali**
- There are many different indicators, for example **litmus paper** and **universal indicator**
- There are also natural indicators such as **red cabbage**

6. Neutralisation

- A chemical reaction happens if you mix together an acid and a base. The reaction is called **neutralisation**. A neutral solution is made if you add just the right amount of acid and alkali together.
- Neutralisation reactions form **salts.** The name of the salt depends on the name of the acid, and the metal in the alkali.
- Hydrochloric acid makes **"chlorides"**, nitric acid make **"nitrates"**, sulphuric acid makes **"sulphates"**

Everyday Neutralisation

Farmers use lime (calcium oxide) to neutralise acid soils.
Your stomach contains hydrochloric acid, too much of this causes indigestion. Antacid tablets contain alkalis to neutralise the extra acid.
Wasp stings are alkaline, they can be neutralised using vinegar.

General equations for neutralisation reactions:

Acid + Metal Hydroxide → Salt + Water

Acid + Metal Oxide → Salt + Water

Acid + Metal Carbonate → Salt + Water + Carbon dioxide

ACIDS AND ALKALIS *week commencing* 08.06.26

1. State the term given to a substance with a pH above 7.	**2. State the acid which produces sulfate salts.**	**3. State the part of the body where acid is found.**
4. Describe the type of reaction that occurs when an acid and alkali are mixed together.	**5. Name the salt produced when nitric acid reacts with magnesium hydroxide.**	**6. List three alkalis found in our homes.**
7. Complete the word equation: **Magnesium hydroxide** **+ →** **hydrochloric acid**	**8. State which indicators we use to find out if a substance is an acid.**	**9. Define the term *corrosive*.**

ACIDS AND ALKALIS *week commencing* 15.06.26

1. State the name of the substance used to test whether a solution is acidic or alkaline.	**2. State the pH value of a neutral solution.**	**3. State whether hydrochloric acid is an acid or an alkali.**
4. Describe what happens to blue litmus paper when it is placed in an acidic solution.	**5. Describe how the pH scale shows whether a substance is acidic or alkaline.**	**6. Describe one everyday use of an alkali.**
7. Explain why you need to wash acid off your hands if you spill it.	**8. Explain what happens during neutralisation.**	**9. Explain the difference in ions between an acid and an alkali.**

ACIDS AND ALKALIS *week commencing* 22.06.26

1. State what kind of ion alkalis contain.	2. Name one indicator.	3. State what pH is known as 'neutral'.
4. Describe one safety precaution when working with acids and alkalis.	5. Describe how to identify a strong acid.	6. Describe how to identify a strong alkali.
7. Describe a 'neutralisation' reaction.	8. Explain why it is called a 'neutralisation' reaction.	9. State what is added to acids to make them safe to use in the lab.

Additional Notes

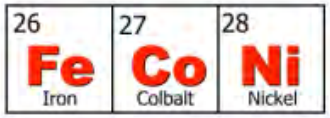
KS3 Science **Magnetism**

1. Magnetic Materials

A magnet is a material that produces its own magnetic field. These metals are magnetic:

- Iron
- Cobalt
- nickel

Steel is mostly iron, so steel is magnetic too.



2. Permanent magnets

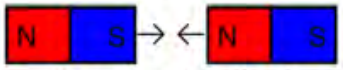
A bar magnet is a **permanent magnet**. This means that its magnetism is there all the time and cannot be turned on or off. A bar magnet has two magnetic poles:

- **north pole** (or north-seeking pole)
- **south pole** (or south-seeking pole)

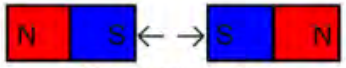
3. Attract or repel?

Magnets have two poles, a North pole (N) and a South pole (S).

- **opposite poles attract** (N and S)
- **like poles repel** (N and N, OR S and S)



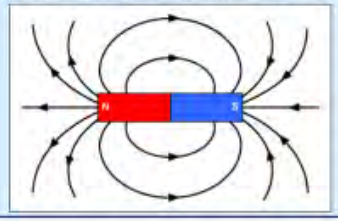
Opposite poles **attract**



Same poles **repel**

4. Magnetic fields

A magnet creates a **magnetic field** around it. You cannot see a magnetic field, but you can observe its effects. A force is exerted on a magnetic material brought into a magnetic field. The force is a **non-contact force** because the magnet and the material do not have to touch each other.



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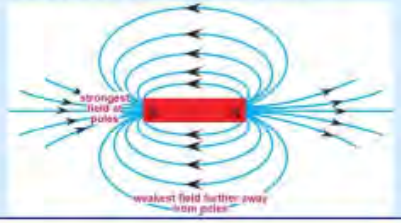
5. Plotting Magnetic Fields

Although we cannot see magnetic fields, we can detect them using iron filings and plot them with a plotting compass.

- field lines point from north to south pole
- field lines are more concentrated at the poles.
- The magnetic field is strongest at the poles, where the field lines are most concentrated.



6. The Earth's Magnetic Field

The Earth behaves as if it contains a giant magnet. This is because it has a core made of iron. It produces a magnetic field in which the field lines are most concentrated at the poles. This magnetic field can be detected using magnetic materials or magnets.

7. Navigating with a compass

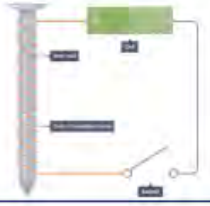
A compass comprises:

- a magnetic needle mounted on a pivot (so it can turn freely)
- a dial to show the direction

The north pole (north-seeking pole) of the compass needle points towards the Earth's north pole. If the needle points to the N on the dial, you know that the compass is pointing north. This lets you navigate outdoors using a map.

8. Electromagnets

When an electric current flows in a wire, it creates a magnetic field around the wire. This effect can be used to make an **electromagnet**. A simple electromagnet is made up of a length of wire turned into a coil and connected to a battery or power supply.



MAGNETISM *week commencing* 29.06.26

1. Use the diagram to state which materials are magnetic. 	**2. Complete the diagram to show the magnets attracting.** 	**3. Complete the diagram to show the magnets repelling.** 
4. Describe what happens when the north pole of one magnet is brought close to the north pole of another magnet.	**5. Suggest whether iron filings are magnetic.**	**6. Describe the magnetic field around a bar magnet.**
7. Explain why magnets attract some metals but not others.	**8. Explain why the Earth produces a magnetic field.**	**9. Explain why a magnetic compass points north.**

MAGNETISM *week commencing* 06.07.26

1. Name three magnetic materials.	**2. State where the arrows on a magnetic field point to.**	**3. I put a south pole and south pole together. State whether they will attract or repel.**
4. Describe how a compass works.	**5. Describe how an electromagnet produces a magnetic field.**	**6. Describe a permanent magnet.**
7. Explain whether magnetism is a contact or non-contact force.	**8. Explain why the Earth produces a magnetic field.**	**9. Explain where the magnetic field is strongest on a bar magnet.**

KS3 Science **Space**

Hans Price Academy

1. Our solar system

The **Sun**, a **star** at the centre of our **solar system**, is our only source of **visible light**.
Our Solar System contains:

- 8 planets
- Dwarf planets
- Moons
- Asteroids
- Comets

2. The Earth's orbit

The Earth moves around the Sun in an **orbit** which takes a **year (just over 365 days)**.
Planets orbit the Sun in roughly circular orbits.
The force of **gravity** keeps planets in orbit.

3. The Earth's rotation

The Earth **rotates** about its north to south axis. This makes it appear that the Sun and stars are moving around the Earth.
This rotation causes **day and night** as different parts of the Earth face towards or away from the Sun.
It takes about 24 hours for the Earth to spin in its axis.

4. A tilted Earth

The Earth's axis is **tilted** so that the length of the day varies depending on the position the Earth and the time of year.
This causes the **seasons.**

5. The Moon

The **Moon** is a natural **satellite** which orbits the Earth, taking about 4 weeks to complete an **orbit**.
The Moon **reflects light** from the Sun as it moves around the Earth. Only the parts lit by the Sun's rays are seen.
Other planets also have moons.

6. The planets

The Earth is one of eight known planets in the Solar System:
Mercury, **V**enus, **E**arth, **M**ars, **J**upiter, **S**aturn, **U**ranus and **N**eptune.
The planets are different distances from the Sun and have **different orbits**; they take different amounts of time to orbit the Sun.
The distances between planets is huge – Neptune is 4.5billion km from the Sun, 30 times further than the Earth.

7. Exploring the solar system

Exploring the solar system is possible with **robot missions** e.g. exploration of the planets by Voyager I and II.
Exploring shorter distances from the Earth is possible by humans, e.g. the International Space Station (ISS) and the Moon.

8. The Universe

The solar system is part of a **galaxy** of stars, dust and gas, called the **Milky Way**.
Our galaxy is one of many billions in the **Universe.**
These galaxies are enormous distances apart so the **lightyear** is used as a unit of distance. This is the distance light would travel in a year.
Many other stars appear to have planets, some of which may be able to support life.

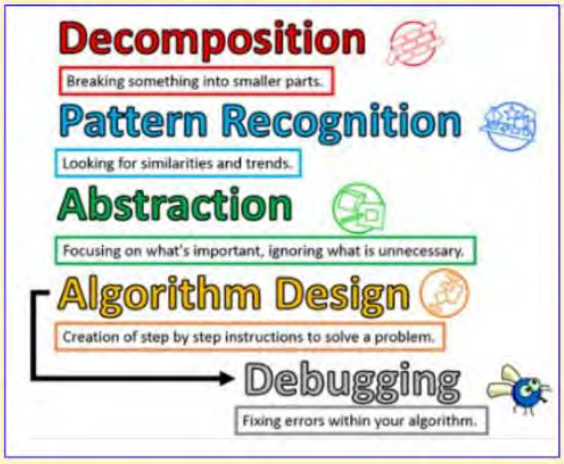
SPACE *week commencing* 13.07.26

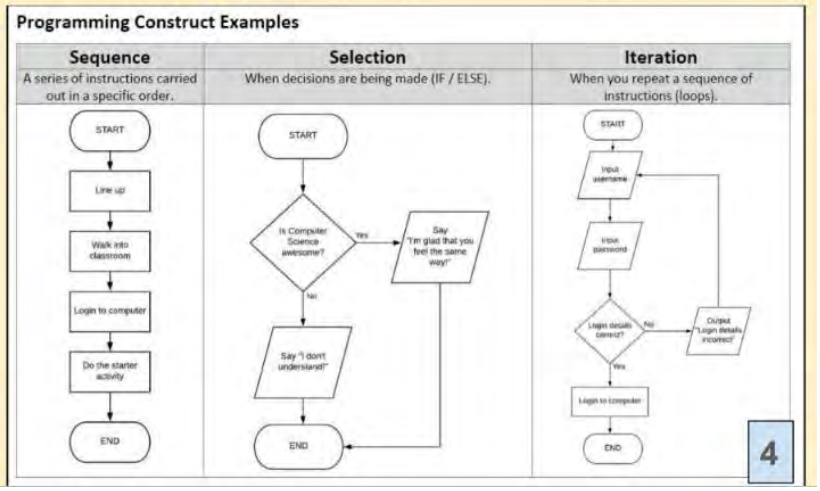
1. State how long it takes for the Earth to orbit the sun.	2. State how long it takes for the moon to orbit the Earth.	3. State 2 other things found in our solar system other than planets.
4. Describe how seasons occur on Earth.	5. Describe how it is possible to explore other planets.	6. Describe what is meant by a 'lightyear'.
7. Describe what causes day and night on Earth.	8. Explain why different planets take different amounts of time to orbit the sun.	9. Explain why planets stay in orbit.

Additional Notes

Computing Knowledge Organisers

Computational Thinking	Abstraction	Decomposition	Pattern Recognition	Algorithms	Sequence	Selection
Computational thinking allows us to take a complex problem, understand what the problem is and develop possible solutions. We can then present these solutions in a way that a computer, a human, or both, can understand.	Focusing on the important information only. Ignoring the details that are not needed.	Breaking down a complex problem or system into smaller, more manageable parts.	Looking for similarities among and within problems. Looking for patterns.	Developing a step-by-step solution to the problem, or the rules to follow to solve the problem.	Following an ordered set of instructions.	Making a decision within a computer program to decide which instruction to carry out next.





Variables & Data Types

A **variable** is used to **store data** that **can change while the program is running**. The variable name (e.g. score) is used to identify the memory location of the data that is stored in RAM

A variable can be used to store different types of data:

Character	One character such as a letter or symbol
Real	A number with a decimal point in it (e.g. 3.14)
Integer	A whole number (e.g. 3)
Boolean	Can either be True or False
String	One or more characters (e.g. Hello)

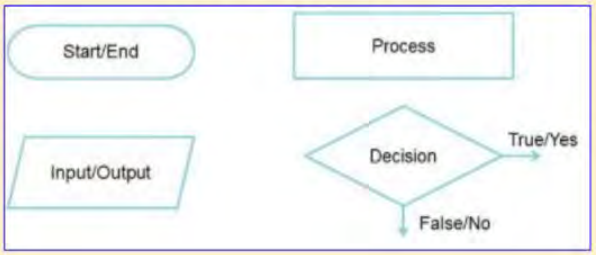
Comparison Operators

Greater than	>
Less than	<
Greater than or equal to	>=
Less than or equal to	<=
Equal to	==
Not equal to	!=

Arithmetic Operators

Add	+
Subtract	-
Multiply	*
Divide	/

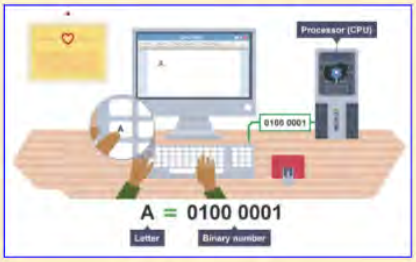
Flowchart Shapes



Representing Characters

Why is text represented as a binary number?

Computers don't understand letters and numbers the way that we do. Everything in a computer is represented by an electrical signal which can be in one of two states: **on** or **off**. These two states (**on** and **off**) can be **represented** by two numbers (**1** and **0**). This means that we must **represent** all information, including text, as a **binary number** (made up of 1s and 0s). So we came up with **standard systems** for **representing** each character as a **binary number**. One **standard system** for representing characters is **ASCII Code** and another is **Unicode**



ASCII Code

ASCII stands for **American Standard Code for Information Interchange**. Originally, **ASCII Code** represented each character as a **binary number** with **8 binary digits** (**8 bits**). That's a binary number, made up of 8 values and each value will be either 1 or 0. For example, 1000001. So ASCII Code can represent 256 different characters (2^8).

- the letter 'a' has the binary number 0110 0001
- the letter 'b' has the binary number 0110 0010
- the letter 'c' has the binary number 0110 0011

Character Set

Characters are grouped together to form a **character set**. The **character set** is **all the characters** that a computer **understands** and **can display.** A **character set** includes:

- ✔ letters and numbers
- ✔ symbols (*, &, : etc.)
- ✔ control characters (e.g. Shift, Escape)

Unicode

Unicode was created to allow more characters to be represented. This allowed emoticons and characters from languages other than English to be represented. Unicode uses **16 bits** to represent each character (65,536 different characters: 2^{16}) and adapted versions of Unicode now use up to **32 bits.**

8

Representing Images

An image is made up of **pixels.** Each **pixel** will have a colour and the **higher the number of colours** that you want to use, the **higher the number of bits** you will need to represent each colour.

The **resolution** of the image is the number of **pixels per inch** that we use to display an image. The higher the resolution the **better the picture quality** but the **larger the file size**

The number of bits needed to represent an image is called the **colour depth.** The greater the colour depth, the **greater the number of colours** and the **better the image quality**...

...but the **more bits** we use for each pixel, the **larger the image file size** because each bit takes up space in the file

Representing Images: Colour Depth Calculator

00000000	0000000	000000	00000	0000	000	00	0
8 bits	7 bits	6 bits	5 bits	4 bits	3 bits	2 bits	1 bit
2^8	2^7	2^6	2^5	2^4	2^3	2^2	2^1
2x2x2x2 x2x2x2x 2	2x2x2x2 x2x2x2	2x2x2x2 x2x2	2x2x2x2 x2	2x2x2x2	2x2x2	2x2	2
256 colours	128 colours	64 colours	32 colours	16 colours	8 colours	4 colours	2 colours

Converting Binary to Denary

- In **binary**, each **binary digit (bit)** can only have a value of **0** or **1**.
- Our number system (counting in tens) is called **denary**.
- To convert an **8 bit binary number** to a **denary number** we put the binary digits in separate columns (see the table below).
- Each 1 will have the denary value of the column that the 1 is in.

128	64	32	16	8	4	2	1
0	0	0	0	1	0	1	0

We just add the numbers together of all columns with a **1** in. So, this number has a **denary value** of **8 + 2 = 10**

Binary Units

Bit	Nibble	Byte	Kilobyte	Megabyte	Gigabyte	Terabyte
A single 1 or 0	4 bits	8 bits	1000 Bytes (1024)	1000 Kilobytes (1024)	1000 Megabytes (1024)	1000 Gigabytes (1024)

French Knowledge Organisers

7.3 My life at school Knowledge Organiser

School – Subjects, uniform and time, comparing subjects and teachers.

Porter is a regular verb which follows the pattern below. The verb "**aller**" is irregular but an important verb.

Pronouns	**Porter** – to wear
Je (I)	Je porte – I wear
Tu (you)	Tu portes – you wear
il (he), **elle** (she)	il /elle porte - He/she wears
Nous (we)	Nous portons – we wear
Vous (you) (pl. or formal)	Vous portez – you wear(pl. or formal)
ils /elles (they)	ils/elles portent – they wear

Aller – to go

Je vais - I go
Tu vas – you go
il /elle va– he/she goes
Nous allons –we go
Vous allez – you (pl) go
ils/elles vont– they go

Comparisons

Plus...que - more...than
Paul est **plus** sérieux **que** Thomas
Moins...que - less ...than
Thomas est **moins** sérieux **que** Paul
Aussi...que - as...as
Paul est **aussi** sérieux **que** Jacques

Superlative

Le / la plus – the most Julie est la plus intelligente
Le / la moins – the least Marie est la moins intelligente

Opinion phrases help to make our work more interesting – have a look at your vocabulary list. Try to use a range of different ones in your work e.g. **J'aime** (I like)/**Je pense que** (I think that)/ **à mon avis** (in my opinion).

Time phrases help to make our work more detailed by telling us when things happen - have a look at your vocabulary list e.g. **normalement** (normally), **rarement** (rarely), **deux fois par semaine** (twice a week).

Quelle est ta matière préférée?	What is your favourite subject?
L'anglais	English
L'espagnol	Spanish
Le français	French
Le théâtre	Drama
Le dessin	Art
Le sport / l'EPS	PE
L'informatique	Computer Science
L'éducation civique	PSHE
L' histoire	History
La musique	Music
La technologie	Technology
La géographie	Geography
La religion	RE
Les mathématiques	Maths
Les sciences	Science
Les sciences humaines	Humanities

Que penses-tu?	What do you think?
C'est	It is
Ce n'est pas	It isn't
Créatif	Creative
Intéressant	Interesting
Pratique	Practical
Utile	Useful
(in)confortable	(un)comfortable
Cher	Expensive
Bon marché	Cheap
À la mode	Fashionable
Démodé	Unfashionable
Sale	Dirty
Propre	Clean
Moche	Ugly

Comment est ton uniforme?	What is your school uniform like?
Je porte ...	I wear..
Une veste	Blazer
Un pull	Jumper
Une chemise	Shirt
Un T-shirt	T-shirt
Un pantalon	Trousers
Une cravate	Tie
Une jupe	Skirt
Des chaussettes	Socks
Des chaussures	Shoes
Des collants	Tights

Verbes au collège	Verbs at school
Étudier	To study
Écouter	To listen
Bavarder	To chat
Travailler	To work
Passer	To spend
Jouer	To play
Se reposer	To rest
Se relaxer	To relax

Comment est ton prof ?	What is your teacher like?
Gentil (-le)	Kind
Agréable	Pleasant
Ennuyeux (-se)	Boring
Organisé (e)	Organised
Content (e)	Happy
Difficile	Difficult
Facile	Easy
Amusant (e)	Fun
Coléreux (-se)	Angry
Strict (e)	Strict
Grincheux (-se)	Grumpy
Fort (e)	Strong
Joli (e)	Handsome/ pretty
Horrible	Awful
Fascinant(e)	Exciting
Jeune	Young
Mature	Mature
Petit(e)	Small
Grand (e)	Tall
Parfait(e)	Perfect
Rapide	Fast
Riche	Rich
Bruyant(e)	Noisy
Sage	Wise
Sérieux(-se)	Serious
Timide	Shy
Travailleur(-se)	Hard working
Triste	Sad
Âgé(e)	Old

Free Time Year 7 FRENCH 7.4 Knowledge Organiser

Sports and other hobbies with opinions + infinitives including jouer and faire Weather.

Finir, jouer & vendre are regular verbs which follows the patterns below; which we have seen before. The verb "faire" is irregular but important, especially for this topic with sports.

Pronouns	Finir– to finish	Jouer – to play	Vendre– to sell
je (I)	Je finis– I finish	Je joue – I play	Je vends– I sell
tu (you)	Tu finis– you finish	Tu joues – you play	Tu vends– you sell
il (he), **elle** (she), **on** (we)	il/elle/on finit - He/she/we finishes	il/elle/on joue - He/she/we play	il/elle/on vend– he/she/we sell
nous (we)	Nous finissons– we finish	Nous jouons – we play	Nous vendons– we sell
vous (you) (pl. or formal)	Vous finissez– you finish (pl. or formal)	Vous jouez – you play (pl. or formal)	Vous vendez– you sell (pl. or formal)
ils/elles (they)	ils/ elles finissent– they finish	ils/ elles jouent – they play	ils/elles vendent– they sell

Faire – to do

Je fais - I do
Tu fais – you do
Il/elle/on fait – he/she does/we do
Nous faisons –we do
Vous faites – you (pl) do
Ils/elles font – they do

Now you should be able to create some of your own questions using the question words below.

Quand? – When?
Qui? – Who?
Où? – Where?
Combien? – How many?
Qu'est-ce que...? What?
Comment? – How?
Pourquoi? – Why?
Que? – What?
Quel(le)? – Which?

How to improve your writing?
When writing in French, you can make your sentences better by adding the following:

- Range of opinions and reasons
- Connectives to extend your sentences
- Qualifiers e.g. très, assez
- Comparisons
- Rather than just using 'je', write verbs using other pronouns

Qu'est-ce que tu aimes faire?	What do you like to do?
Regarder la télévision	To watch TV
Écouter de la musique	To listen to music
Aller au cinéma	To go to the cinema
Lire un livre	To read a book
Faire du shopping	To go shopping
Aller au parc	To go to the park
Aller au gymnase	To go to the gym
Rencontrer des amis/copains	To meet up with friends
Jouer du piano	To play the piano
Visiter ma famille	To visit family
Aller en ville	To go to town
Faire de la cuisine	To cook
Chanter	To sing
Nager	To swim
Faire mes devoirs	To do my homework
Télécharger de la musique	To download music
Surfer sur Internet	To surf the Internet
Jouer aux jeux-vidéos	To play video games
Tchatter avec mes amis	To chat with my friends
Prendre des photos	To take photos
Regarder des vidéos marrantes	To watch funny videos
Envoyer des textos	To send texts
Acheter en ligne	To buy online
Regarder des clips YouTube	To watch YouTube videos
Écrire un email	To write an email
Utiliser mon portable	To use my mobile phone

7.4 Free time
FRENCH

Quel sport aimes-tu?	What sport do you like?
Jouer au foot	To play football
Jouer au rugby	To play rugby
Jouer au tennis	To play tennis
Jouer au golf	To play golf
Jouer au volley	To play volleyball
Jouer au basket	To play basketball
Faire du vélo	To do some cycling
Faire du ski	To do some skiing
Faire du patin à glace	To do some ice skating
Faire de la natation	To do some swimming
Faire de la gymnastique	To do some gymnastics
Faire de l'équitation	To do some horse-riding
Faire de l'athlétisme	To do some athletics

Qu'est-ce que tu regardes?	What do you watch?
J'aime regarder	I like to watch
Les actualités	The news
Les comédies	Comedies
Les dessins animés	Cartoons
Les documentaires	Documentaries
Les émissions	Programmes
Les feuilletons	Soap operas
Les films d'amour	Romantic films
Les films d'action	Action films
Les films d'horreur	Horror films
Les films policiers	Detective films
Les jeux télévisés	Game shows
Les séries	Series

Quand ?	When?
Normalement	Normally
D'habitude	Usually
Tous les jours	Every day
Deux fois par semaine	Twice a week
De temps en temps	From time to time
Rarement	Rarely
Souvent	Often
Quelquefois / parfois	Sometimes

Quel temps fait-il?	What is the weather like?
Il fait beau	It is good weather
Il fait chaud	It is hot
Il fait froid	It is cold
Il fait 25 degrés	It is 25 degrees
Il fait mauvais	It is bad weather
Il pleut	It is raining
Il neige	It is snowing
Il y a du vent	It is windy
Il y a des nuages	There are clouds
Il y a des orages	There are storms
Il y a du brouillard	It is foggy
Il y a du soleil	It is sunny

Spanish Knowledge Organisers

7.3 My life at school Knowledge Organiser

School – Subjects, uniform and time, comparing subjects and teachers.

Llevar is a regular verbs which follow the pattern below. The verbs "jugar" is irregular but an important verb.

Pronouns	llevar– to wear
Yo (I)	Llev**o** – I wear
tú (you)	Llev**as** – you wear
el (he), **ella** (she),	Llev**a** - He/she wears
nosotros (we)	Llev**amos** – we wear
vosotros (you) (pl. or formal)	Llev**áis** – you wear(pl. or formal)
Ellos/ellas (they)	Llev**an** – they wear

Jugar– to play
Yo juego- I play
Tu juegas – you play
Él/ella juega – he/she plays
Nosotros jugamos –we play
Vosotros jugáis – you (pl) play
Ellos/ellas juegan – they play

Comparisons

más	- more	Juán es más interesante que Pablo
menos	- less	Pablo es menos interesante que Juan
tan...como	- as...as	Pablo es tan interesante como Juan

Superlative

El/la más	– the most	Juan es el más inteligente
El/la menos	– the least	María es la menos simpática

Opinion phrases help to make our work more interesting – have a look at the list on your vocabulary list. Try to use a range of different ones in your work e.g. Me gusta (I like)/Pienso que (I think that)/ En mi opinión (in my opinion).

Time phrases help to make our work more detailed by telling us when things happen have a look at the list on your vocabulary list e.g. Normalmente (normally), raremente (rarely), dos veces a la semana (twice a week).

7.3 My life at school

¿Cuál es tu asignatura favorita?	What is your favourite subject?
El inglés	English
El español	Spanish
El francés	French
El teatro	Drama
El dibujo	Art
El deporte	PE
La informática	Computer Science
La música	Music
La tecnología	Technology
La geografía	Geography
La historia	History
La religión	RE
La educación personal y social	PSHE
Las matemáticas	Maths
Las ciencias	Science
Las humanidades	Humanities

¿Qúe Piensas?	What do you think?
Es	It is
No es	It isn't
Interesante	Interesting
Práctico	Practical
Útil	Useful
Fácil	Easy
Difícil	Difficult
Aburrido	Boring
Emocionante	Exciting
(in)cómodo	(un) comfortable
Caro	Expensive
Barato	Cheap
De moda	Fashionable
Pasado de moda	Unfashionable

¿Cómo es tu uniforme escolar?	What is your school uniform like?
Llevo...	I wear..
Una chaqueta	Blazer
Un jersey	Jumper
Una camisa	Shirt
Una camiseta	T-shirt
Una corbata	Tie
Una falda	Skirt
Unos calcetines	Socks
Unos pantalones	Trousers
Unos zapatos	Shoes
Unas medias	Tights

Verbos en el colegio	Verbs at school
Estudiar	To study
Escuchar	To listen
Charlar	To chat
Trabajar	To work
Pasar	To spend
Jugar	To play
Descansar	To rest
Relajar	To relax

¿Cómo es tu profe...?	What is your teacher like?
Amable	Kind
Agradable	Pleasant
Aburrido/a	Boring
Asqueroso/a	Disgusting
Cómodo/a	Comfortable
Contento/a	Happy
Difícil	Difficult
Divertido/a	Fun
Enfadado/a	Angry
Estricto /a	Strict
Feo/a	Ugly
Fuerte	Strong
Grande	big
Guapo/a	Handsome
Horrible	Awful
Emocionante	Exciting
Joven	Young
Limpio/a	Clean
Maduro/a	Mature
Pequeño/a	Small
Perfecto/a	Perfect
Rápido/a	Fast
Rico/a	Rich
Ruidoso/a	Noisy
Sabio/a	Wise
Serio/a	Serious
Sucio/a	Dirty
Tímido/a	Shy
Trabajador/a	Hard working
Triste	Sad
Viejo/a	old

7.4 Spanish Free Time Knowledge Organiser

Sports and other hobbies with opinions + inf. including. jugar and hacer
Weather.

Llevar, vivir & comer are a regular verbs which follow the pattern below. The verbs "jugar" and "hacer" are irregular but important verbs, especially for this topic on sports.

Pronouns	**Estudiar** – to study	**vivir**– to live	**comer**– to eat
Yo (I)	Estudi**o** – I study	Viv**o**– I live	Com**o** – I eat
tú (you)	Estudi**as** – you study	Viv**es** – you live	Com**es** – you eat
el (he), **ella** (she),	Estudi**a** - He/she studies	Viv**e** - He/she lives	Com**e** – he/she eats
nosotros (we)	Estudi**amos** – we study	Viv**imos** – we live	Com**emos** – we eat
vosotros (you) (pl. or formal)	Estudi**áis** – you study (pl. or formal)	Viv**is** – you live (pl. or formal)	Com**éis** – you eat (pl. or formal)
Ellos/ellas (they)	Estudi**an** – they study	Viv**en** – they live	Com**en** – they eat

Hacer– to do
Yo hago - I do
Tu haces – you do
Él/ella hace – he/she does
Nosotros hacemos –we do
Vosotros hacéis – you (pl) do
Ellos hacen – they do

Jugar– to play
Yo juego- I play
Tu juegas – you play
Él/ella juega – he/she plays
Nosotros jugamos –we play
Vosotros jugáis – you (pl) play
Ellos/ellas juegan – they play

Now you should be able to create some of your own questions using the question words below. Don't forget the upside down question mark at the beginning of a question.

¿Cuándo? – When?
¿Quién? – Who?
¿Dónde? – Where?
¿Cuántos? – How many?
¿Qué? What?
¿Cómo? – How?
¿Por qué? – Why?
¿Cuál? – Which?

How to improve your writing?
When writing in Spanish, you can make your sentences better by adding the following:
- Range of opinions and reasons
- Rather than just using 'yo', write verbs using other pronouns
- Connectives to extend your sentences
- Qualifiers e.g. muy, bastante
- Comparisons

7.4 Free time SPANISH

¿ Qué te gusta hacer?	What do you like to do?
Ver la televisión	To watch TV
Escuchar música	To listen to music
Ir al cine	To go to the cinema
Leer un libro	To read a book
Ir de compras	To go shopping
Ir al parque	To go to the park
Ir al gimnasio	To go to the gym
Ir al polideportivo	To go to the sports centre
Salir con mis amigos	To go out with my friends
Tocar el piano	To play the piano
Visitar mi familia	To visit family
Ir al centro	To go to town
Hacer la cocina	To cook
Cantar	To sing
Nadar	To swim
Hacer mis deberes	To do my homework
Descargar música	To download music
Navegar por Internet	To surf the Internet
Jugar a los videojuegos	To play video games
Chatear con mis amigos	To chat with my friends
Sacar fotos	To take photos
Ver los videos divertidos	To watch funny videos
Mandar mensajes	To send texts
Comprar en línea	To buy online
Ver los videos de youtube	To watch Youtube videos
Escribir un correo electrónico	To write an email
Usar mi móvil	To use my mobile phone

¿ Qué deporte te gusta?	What sport do you like?
Jugar al fútbol	To play football
Jugar al rugby	To play rugby
Jugar al tenis	To play tennis
Jugar al golf	To play golf
Jugar al voleibol	To play volleyball
Jugar al baloncesto	To play basketball
Hacer ciclismo	To do some cycling
Hacer esquí	To do some skiing
Hacer patinaje	To do some ice skating
Hacer natación	To do some swimming
Hacer gimnasia	To do some gymnastics
Hacer equitación	To do some horse-riding
Hacer atletismo	To do some athletics

¿ Qué te gusta ver?	What do you like to watch?
Me gusta ver	I like to watch
Las noticias	The news
Comedias	Comedies
Dibujos animados	Cartoons
Documentales	Documentaries
Programas	Programmes
Telenovelas	Soap operas
Películas románticas	Romantic films
Películas de acción	Action films
Películas de terror	Horror films
Películas policíacas	Detective films
Concursos	Game shows
Series	Series

¿Cúando?	When?
Normalmente	Normally
Generalmente	Generally
Todos los días	Every day
Dos veces a la semana	Twice a week
De vez en cuando	From time to time
Rara vez	Rarely
Cuando puedo	When I can
Jamás/nunca	Never
A veces	Sometimes

¿Qúe tiempo hace?	What is the weather like?
Hace buen tiempo	It is good weather
Hace calor	It is hot
Hace sol	It is sunny
Hace frío	It is cold
Hace 25 grados	It is 25 degrees
Hace mal tiempo	It is bad weather
Llueve	It is raining
Nieva	It is snowing
Hay viento	It is windy
Hay nubes	There are clouds
Hay tormenta	There are storms

CAREERS AT HPA

Our Careers guidance and provision at Hans Price offers a wide range of experiences and opportunities to inform and develop aspirations for the future. In addition to a careers featuring in our SPACE curriculum and weaving through all subjects taught at Hans Price, all students use UniFrog to support their careers provision and their planning for Post-16 and beyond.

Unifrog is the universal destinations platform and is designed to support learners in making the most informed decisions about their futures. It has a range of tools that are suitable for all year groups. Each student has their own account where they can explore all the career and next step options available to them and find information on everything from managing their workload to writing a winning CV. Students have access to a wide variety of video and written content, and interactive quizzes and tests, information about careers and the local labour market and emerging industries.

Students can access Unifrog through the LCF Student Navigator page or searching for Unifrog online. Students initially sign up to the platform by clicking a link in their welcome email, where they create a password and can begin using the platform. They sign in to Unifrog using their Hans Price email address and password and they can do so from any computer, tablet, or smartphone. We would encourage you to use the platform with your child so you can support them through the process of deciding their next step.

You can also have your own Unifrog account. You'll be able to research careers, attend webinars delivered by employers and universities to learn more about their opportunities, and compare pathways so you can support your child in making an informed decision about their next steps. The sign up code you need is: **HPAMParents** and you can sign up here: www.unifrog.org/code. You can also sign up to Unifrog's parent/carer newsletter when you first sign

PERFORMING ARTS OPPORTUNITIES

SCHOOL MUSICAL:

SCHOOL MUSICAL IS IN JULY - REHEARSALS ARE TUESDAY & WEDNESDAY AFTER SCHOOL READY FOR THE SHOW IN JULY.

DANCE SHOW:

YOU CAN AUDITION FOR THE DANCE SHOW IN APRIL. AUDITIONS ARE USUALLY 3 WEEKS BEFORE THE SHOW.

MUSIC SHOW:

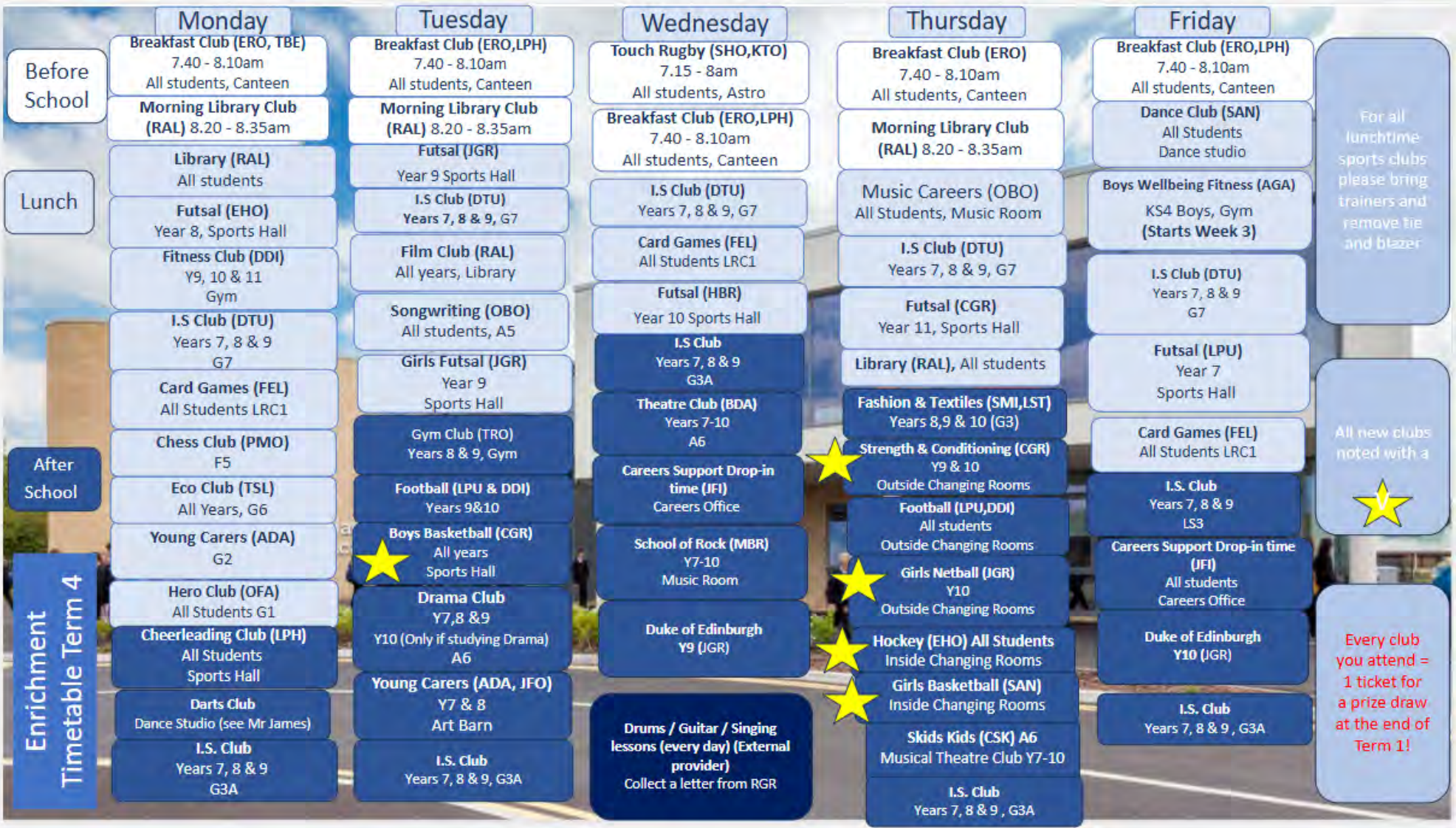
YOU CAN AUDITION FOR THE MUSIC SHOW IN FEBRUARY. AUDITIONS ARE USUALLY 3 WEEKS BEFORE THE SHOW.

PLEASE SEE YOUR MUSIC TEACHER FOR A LIST OF UP TO DATE CLUBS.

DANCE CLUB:

DANCE CLUB WITH ANGELS DANCE ACADEMY IS EVERY FRIDAY LUNCH IN THE DANCE STUDIO.

Extra-Curricular opportunities you can try this term. All clubs are free to attend.



	Monday	Tuesday	Wednesday	Thursday	Friday
Before School	Breakfast Club (ERO, TBE) 7.40 - 8.10am All students, Canteen Morning Library Club (RAL) 8.20 - 8.35am	Breakfast Club (ERO,LPH) 7.40 - 8.10am All students, Canteen Morning Library Club (RAL) 8.20 - 8.35am	Touch Rugby (SHO,KTO) 7.15 - 8am All students, Astro Breakfast Club (ERO,LPH) 7.40 - 8.10am All students, Canteen	Breakfast Club (ERO) 7.40 - 8.10am All students, Canteen Morning Library Club (RAL) 8.20 - 8.35am	Breakfast Club (ERO,LPH) 7.40 - 8.10am All students, Canteen
Lunch	Library (RAL) All students Futsal (EHO) Year 8, Sports Hall Fitness Club (DDI) Y9, 10 & 11 Gym	Futsal (JGR) Year 9 Sports Hall I.S Club (DTU) Years 7, 8 & 9, G7 Film Club (RAL) All years, Library Songwriting (OBO) All students, A5	I.S Club (DTU) Years 7, 8 & 9, G7 Card Games (FEL) All Students LRC1 Futsal (HBR) Year 10 Sports Hall	Music Careers (OBO) All Students, Music Room I.S Club (DTU) Years 7, 8 & 9, G7 Futsal (CGR) Year 11, Sports Hall Library (RAL), All students	Dance Club (SAN) All Students Dance studio Boys Wellbeing Fitness (AGA) KS4 Boys, Gym (Starts Week 3) I.S Club (DTU) Years 7, 8 & 9 G7 Futsal (LPU) Year 7 Sports Hall Card Games (FEL) All Students LRC1
After School	I.S Club (DTU) Years 7, 8 & 9 G7 Card Games (FEL) All Students LRC1 Chess Club (PMO) F5 Eco Club (TSL) All Years, G6 Young Carers (ADA) G2 Hero Club (OFA) All Students G1 Cheerleading Club (LPH) All Students Sports Hall Darts Club Dance Studio (see Mr James) I.S. Club Years 7, 8 & 9 G3A	Gym Club (TRO) Years 8 & 9, Gym Football (LPU & DDI) Years 9&10 Boys Basketball (CGR) All years Sports Hall Drama Club Y7,8 &9 Y10 (Only if studying Drama) A6 Young Carers (ADA, JFO) Y7 & 8 Art Barn I.S. Club Years 7, 8 & 9, G3A	I.S Club Years 7, 8 & 9 G3A Theatre Club (BDA) Years 7-10 A6 Careers Support Drop-in time (JFI) Careers Office School of Rock (MBR) Y7-10 Music Room Duke of Edinburgh Y9 (JGR) Drums / Guitar / Singing lessons (every day) (External provider) Collect a letter from RGR	Fashion & Textiles (SMI,LST) Years 8,9 & 10 (G3) Strength & Conditioning (CGR) Y9 & 10 Outside Changing Rooms Football (LPU,DDI) All students Outside Changing Rooms Girls Netball (JGR) Y10 Outside Changing Rooms Hockey (EHO) All Students Inside Changing Rooms Girls Basketball (SAN) Inside Changing Rooms Skids Kids (CSK) A6 Musical Theatre Club Y7-10 I.S. Club Years 7, 8 & 9 , G3A	I.S. Club Years 7, 8 & 9 LS3 Careers Support Drop-in time (JFI) All students Careers Office Duke of Edinburgh Y10 (JGR) I.S. Club Years 7, 8 & 9 , G3A

Enrichment Timetable Term 4

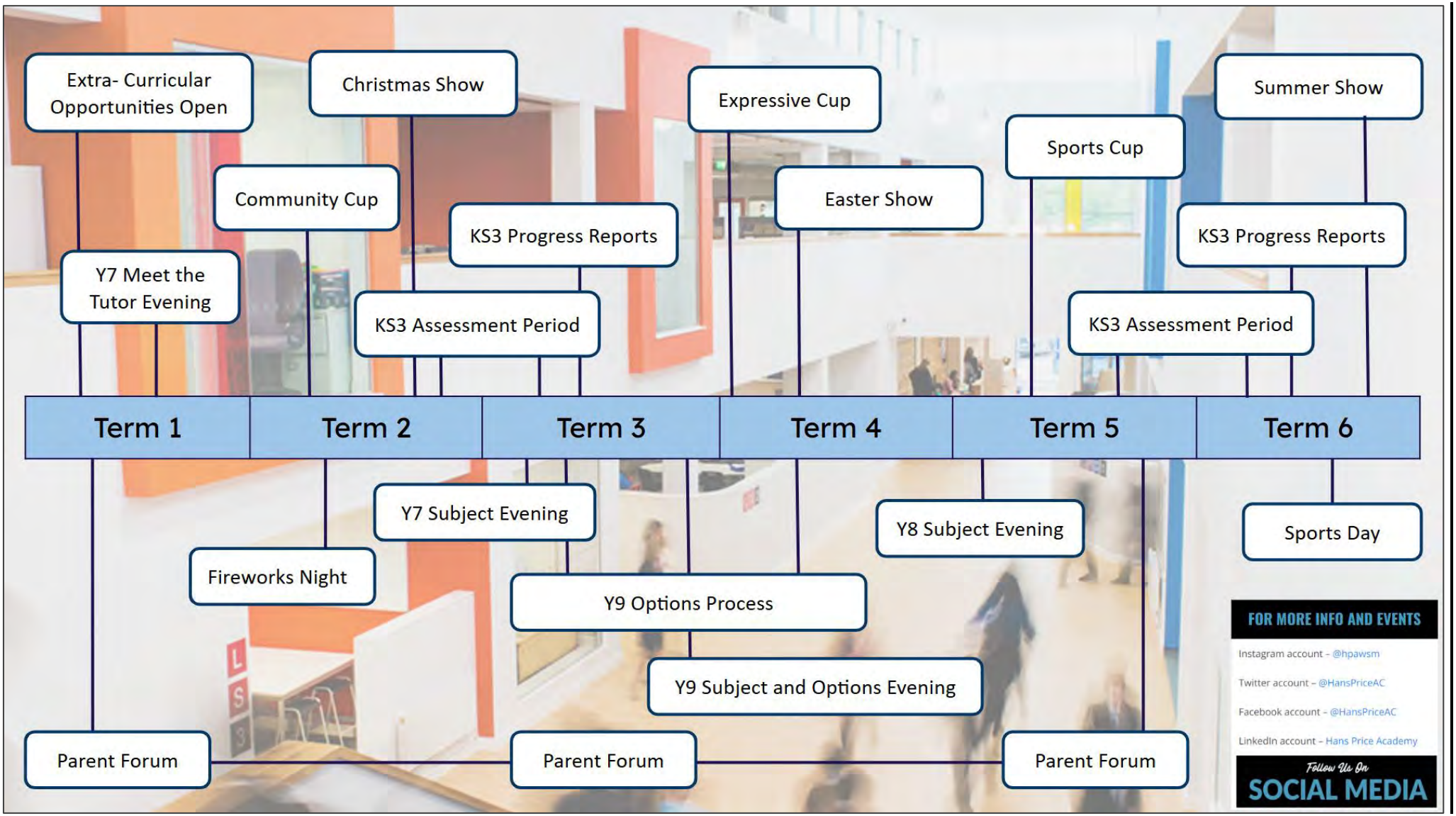
For all lunchtime sports clubs please bring trainers and remove tie and blazer

All new clubs noted with a ★

Every club you attend = 1 ticket for a prize draw at the end of Term 1!

Term 5/6 Additions					

Hans Price Academy KS3 Timeline



Timetable