Year 8

HALF TERM 2
KNOWLEDGE ORGANISERS



Look at the information carefully. Read it three times. It may help to say it as you read it.



Cover it up with your hand or a piece of paper.



Write it out, from memory.



Check what you have written matches the information on the knowledge organiser exactly. Tick your work with a purple pen to show it is correct if it does.



If it doesn't match exactly, use your purple pen to correct it.

Orsett Heath Academy

Masters of Recall

Maths & Equations — Year 8 — Term 1B — Unit 3 – 4: Statistics/Expressions

Week 1

Statistics Formulas

MEAN

Mean = $\frac{\text{Sum of observations}}{\text{(Number of observations)}}$

MEDIAN

For odd number of observations:

Median = $\frac{(n+1)}{2}^{th}$ observation

For even number of observations:

Median = $\frac{n/2^{th} + (n/2+1)^{th}}{2}$ observation

MODE

Mode = Value that occurs most frequently

Range

Difference between highest and lowest numbers

Week 2

To calculate the mean from a frequency table, we find the **total of the values** and **divide the total by the number of values**. The number of values is the total frequency. $Mean = \frac{total}{number\ of\ values} = \frac{total}{n}$

Age	Frequency	Age × Frequency
10	× 4	= 40
11	× 6	= 66
12	× 3	= 36
13	× 2	= 26
	15	168

mean = 168 ÷ 15 = **11·2**

Stem and Leaf Graph

15 16 21 23 23 26 26 30 32 41

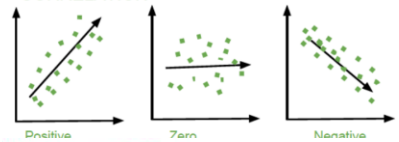
stem	leaf
1	5 6
2	1 3 3 6 6
3	0 2
4	1

The **stem** is usually the first digit or digits.

The **leaf** is usually the last digit.

Week 3

CORRELATION



What is an Outlier?

An outlier is a value that is much larger or smaller in a set of data.

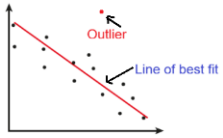
For example, here is a set of data:

3, 35, 37, 38, 40, 42, 44, 76

The outliers are 3 and 76 in this set of data

Line of best fit

The 'line of best fit' should go approximately through the 'middle' of all the points on a scatter graph and should only be used if there is a fairly strong correlation (positive or negative).



Week 4

$6a^3 \times 3a^2 = 6 \times a \times a \times a \times 3 \times a \times a$

$= 6 \times 3 \times a \times a \times a \times a \times a$

$= 18a^5$

Expanding brackets

$2(a + 6) = 2a + 12$ ✓

BOX METHOD

$2(a + b) = 2a + 2b$

	a	+ b
2	2a	+2b

Factorising to a single bracket means that we take out the **highest common factor** from each term in an algebraic expression.

$3x + 6 = 3(x + 2)$

3 is the HCF of $3x$ and 6, so this is written outside the single bracket.

$4xy + 6y = 2y(2x + 3)$

$2y$ is the HCF of $4xy$ and $6y$, so this is written outside the single bracket.

Multiplying Algebraic Expressions

Multiply the coefficients and the variables

Week 5

Data can be compared:

1. By comparing an average, such as the mean, median or mode.
2. By comparing the range

A small range shows that the data items are close together. This means the data is more **consistent**.

Class A: 28, 28, 29, 30, 30, 32, 34, 37, 37

Class B: 27, 30, 32, 32, 33, 33, 34, 37, 50

Range A = 37 – 28 = **9 seconds**

Range B = 50 – 27 = **23 seconds**

Range **B** is higher

Class **B**'s times were **more varied**

Class **B**'s times were **less consistent**

Week 6

In an algebraic expression, write numbers first and then letters in alphabetical order.

$2m \times 5n$

$2m \times 5n = 2 \times m \times 5 \times n$

$= 2 \times 5 \times m \times n$

$= 10mn$

Solving Equations

Function machine method

$8a - 5 = 11$

$a \rightarrow \times 8 \rightarrow -5 \rightarrow 11$

$2 \leftarrow \div 8 \leftarrow +5 \leftarrow 11$

$a = 2$

Balancing method

$8a - 5 = 11$

$+5 \quad +5$

$8a = 16$

$\div 8 \quad \div 8$

$a = 2$

English | Literature: Novel Study: Lord of the Flies | YEAR 8 TERM 2

Week 1	Week 2	Week 3
Context: the background information about the time, place, writer, or events that help us understand a text better. **Utopia -** An imagined place where everything is perfect (paradise, heaven).	**Upheaval:** a situation of panic or disorder. **Scornful:** expressing extreme contempt **Indignant:** feeling anger about something considered to be unfair	**Impalpable:** difficult to sense, especially to the touch **Incredulous:** not willing to believe **Malevolent:** wishing or doing bad things to others
Week 4	**Week 5**	**Week 6**
Allegory: a story, poem or picture with a hidden meaning (moral or political) **Ludicrous:** something so foolish or ridiculous that its funny **Relentless:** not willing or able to stop	**Tempestuous:** strong and turbulent emotions and behaviours **Solitary:** being without others; alone **Contemptuously:** in a way that shows you do not like or respect someone.	**Vicissitudes:** a change of circumstances, typically unwelcome or unpleasant **Contrite:** feeling deep guilt for one's wrongdoing and desire to make amends. **Exulting:** to rejoice greatly over a triumph.

Subject: Science

Topic: Atoms & Elements

YEAR 8 TERM 1b

Week 1

Each element is represented by a symbol.
The first letter of the symbol is always capitalised, any following letters are lower case.



Week 2

Properties of Metals

- shiny
- good conductor of heat
- good conductor of electricity
- sonorous
- oxides form alkaline solutions
- high density
- malleable
- ductile

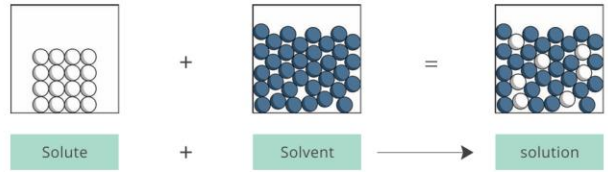
Properties of Non-Metals

- dull
- poor conductor of heat
- poor conductor of electricity
- not sonorous
- oxides form acidic solutions
- low density
- brittle

Week 3

solute	The substance that dissolves in a solvent to make a solution.
solution	A mixture of two or more substances, formed when a solute dissolves in a solvent. A liquid containing a dissolved solid or another liquid.
solvent	The substance in which a solute dissolves.

- Dissolving is the process of mixing a soluble solute into a solvent to create a solution.

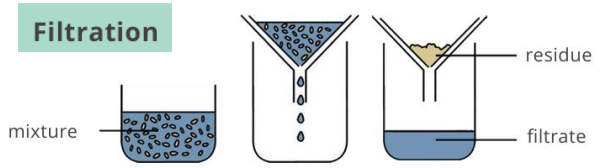


Week 4

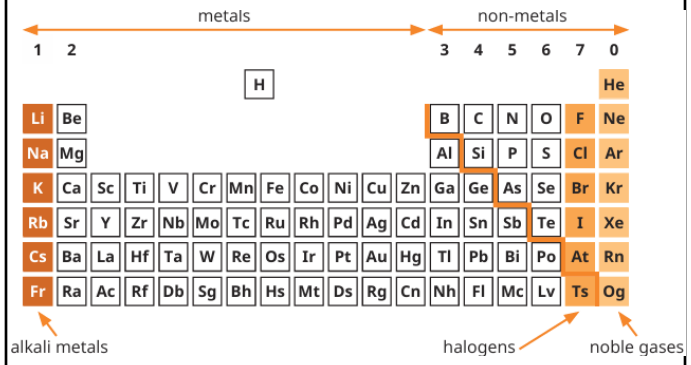
Compounds	Mixtures
The different elements are chemically joined together.	The different substances are not chemically joined together.
The substance has different properties to the elements it is made from.	Each substance keeps its own properties.
The elements can only be separated using chemical reactions.	Each substance can be separated easily using separating techniques like filtration, distillation, evaporation and chromatography.
You cannot vary the amount of each element. So, the compound water always has one oxygen atom and two hydrogen atoms per molecule.	You can vary the amount of each substance. So, you can add a teaspoon of salt to water, or a cup of salt to water, and it would still be a mixture of salt water.

Week 5

mixture	A substance consisting of two or more substances not chemically combined together. For example, saltwater and ink.
pure substance	A single element or compound, not mixed with any other substance.
saturated solution	A solution in which no more solute can dissolve at a given temperature.



Week 6



Masters of Recall

Geography — Food and Famine — YEAR 8 TERM 2

Week 1	Week 2	Week 3
decompose – to break down. **equator** – the line of latitude at 0°. **latitude** – the distance north of south of the equator, measured in degrees, e.g. the North Pole's latitude is 90°N. **nutrient cycling** – the process of dead animals and plants breaking down and adding nutrients to the soil so new plants grow. **rainfall bands** – patterns of rainfall along lines of latitude.	**famine** – widespread malnutrition causing loss of life by starvation and disease. **food insecurity –** not having access to enough nutritious (healthy) food. **food security** – having access to enough nutritious (healthy) food. **malnutrition** – a lack of nutrition. **nutrition** – the food you eat and the way it affects your health. Good nutrition is necessary for good health.	**calories** – a unit for measuring the amount of energy food provides. **choropleth map** – a map which uses colour to show data across a geographical area. **distribution** – how something is spread over a certain area. **energy** – the power and ability to be very active without becoming tired. **food consumption** – how much food people consume (eat).
Week 4	**Week 5**	**Week 6**
air pressure – the force of the atmosphere towards Earth. **condensation** – the process where water vapour held in the atmosphere turns from a gas to liquid droplets as it cools. **drought** – long periods with little or no rain. **evaporation** – the process where water changes from liquid to gas as it is heated. **low air pressure** – air rises away from Earth's surface.	**conflict** – disagreement between countries, or within a country. **high air pressure** – air sinks towards Earth's surface. **soil fertility** – the ability of the soil to support plant growth. **topsoil** – the uppermost layer of soil with the most nutrients. **temperate** – mild or gentle. A temperate climate has temperatures between 0-30°C and plenty of rainfall.	**cost of living crisis** – a situation in which the cost of basic things such as good and fuel, is rising much faster than most people's incomes. **displacement** – people forced to leave their homes. (People become '**displaced**'). **life expectancy** – the length of time a person is likely to live. **long-term** – strategies used to make long-lasting change. **strategy** – an action that can help to fix a problem.

Masters of Recall

History

VIRGINIA AND MASSACHUSETTS

YEAR 8 TERM 2

Week 1	Week 2	Week 3
Coloniser - A coloniser is a person that settles in an area, uses its resources and makes decision for the people already living there. **Empire -** An empire is what you get when one country controls many colonies. **Indigenous person** - someone whose family and ancestors have lived in a land for a very long time, before other people came. They have their own culture, language, and traditions connected to that land.	**Jamestown -** the name of the settlement the English colonisers established in Virginia. **Indentured Servant** - a person who agreed to work for someone for a set amount of time. They did not get paid wages, but agreed to work for a certain number of years usually in exchange for passage to a new country, food, and shelter.	The Anglo-Powhatan Wars were caused by English Powhatan crops spreading too far into Powhatan lands. **1661** – slavery was made legal in Virginia **1662** – a law meant that now any child born to a slave was also a slave, leaving families stuck in slavery for generations.
Week 4	**Week 5**	**Week 6**
Chattel slavery - a system where people were treated as property that could be bought, sold, and owned forever. **John Winthrop -** the leader of the group of colonists who settled in Massachusetts. **Puritan –** very strict Protestants. Lots of Puritans moved to Massachusetts as colonisers to have religious freedom.	In indigenous culture, women did the farming and they planted different plants interspersed by hand. In English farming, men did the farming and used ploughs and straight lines. **Praying towns** - Settlements set up by Puritan missionaries full of indigenous people who has agreed to convert to Christianity in exchange for protection.	The English won King Phillip's War. After King Philip's War, many indigenous people were killed or sold into slavery.

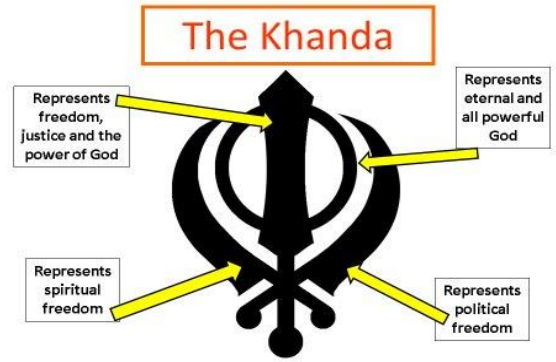
Subject **German** Topic **Media and Past tense** YEAR **8** TERM **2**

Week 1	Week 2	Week 3
der Zeichentrickfilm → cartoon der Schauspieler → actor die Schauspielerin → actress blöd → stupid gruselig → creepy spannend → exciting	unterhaltsam → entertaining die Nachrichten → news die Seifenoper → soap opera aufnehmen → to record verpassen → to miss gucken → to watch	der Roman → novel die Zeitschrift → magazine die Zeitung → newspaper das Sachbuch → non-fiction book im Schlafenzimmer → in the bedroom in der Badewanne → in the bath
Week 4	**Week 5**	**Week 6**
Zeit verbringen → to spend time Ich will → I want Ich sollte → I should Ich sollte nicht → I should not Ich kann → I can Ich darf → I'm allowed	meiner Meinung nach → in my opinion ich bin (nicht) süchtig → I'm (not) addicted das macht Spaß → that's fun das macht (un)fit → that makes you (un)fit das ist (un)gesund → that's (un)healthy das ist passiv/aktiv → that's passive/active	das nächste Mal → next time immer → always ab und zu → now and then (nicht) mehr als → (not) more than vom…bis→ from … to pro Tag → per day *Masters of Recall*

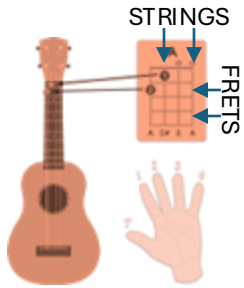
Subject- RE

Topic- Sikhism

YEAR 8 TERM 2

Week 1	Week 2	Week 3
Gurdwara- Sikh place of worship The Golden Temple- The most famous Gurdwara in the world Langar- A free community kitchen in the Gurdwara	Nishan Sahib- The tall, orange flagpole that is always outside a Gurdwara. It always has the Sikh flag on. Darbar Sahib- The room where the Guru Granth Sahib is read. Divan Hall-Prayer hall	
Week 4	**Week 5**	
Nam Simran- Remember God's name always. Kifat Karna- Earn an honest living. Vand Chhakna- Share in charity with those who are less fortunate. This shows generosity and self-sacrifice.	Sewa- pronounced seva "Selfless Service" Manmukh- (man- or self-centred) Gurmukh- (God-centred.)	 **Singh**: Punjabi for 'lion.' Surname for male Sikhs after Amrit ceremony.  **Khalsa**: the 'pure ones'. Sikh brotherhood who have gone through the Amrit ceremony.  **Kaur**: Punjabi for 'princess.' Surname for female Sikhs after Amrit ceremony.  **Amrit ceremony**: The event when a Sikh joins the Khalsa. **Persecution**: killing or mistreating others because of their beliefs  **Sacrifice**: offering something to God or to give something up.  **Panj piare**: Punjabi for 'the five beloved ones'. First 5 members of the Khalsa. *Masters of Recall*

Subject: MUSIC | Topic: UKULELE CHORDS | YEAR 8 TERM 1.2

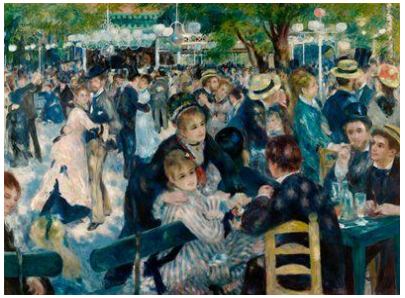
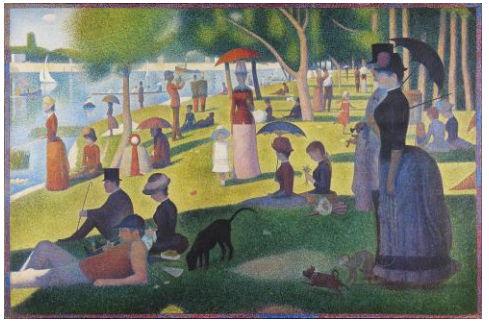
Week 1	Week 2	Week 3
THE UKULELE **Ukulele** A small four-stringed instrument usually tuned G-C-E-A. **String** A stretched wire that vibrates to produce sound when strummed or plucked. **Fret** A metal strip on the fingerboard that helps produce different notes.	**PLAYING CHORDS** **Chord** Two or more notes played together to create harmony. **Finger Position** The correct placement of fingers on the strings and frets. **Chord Shape** The pattern formed by the fingers when playing a chord.	**READING CHORD DIAGRAMS** **Chord Diagram** A visual representation showing where fingers should be placed to play a chord. **Open String** A string played without pressing down on a fret. **Finger Number** A number used to show which finger should be used on a chord diagram. 
Week 4	**Week 5**	**Week 6**
STRUMMING **Strumming Pattern** A sequence of down and up strums used to create rhythm. **Downstroke** A strum moving from the top string towards the bottom string. **Upstroke** A strum moving from the bottom string towards the top string.	**READING MUSIC** **Lead Sheet** A simplified score showing lyrics, melody and chord symbols. **Chord Symbol** A letter or symbol that tells the performer which chord to play. **Bar (Measure)** A section of music containing a set number of beats.	**PERFORMANCE** **Accompaniment** Musical support played alongside a melody. **Pulse** The steady beat that runs throughout a piece of music. **Tempo** The speed at which music is performed.

Masters of Recall

Subject: ART

Topic: WRITING ABOUT ART

YEAR 8 HALF TERM 2

Week 1: Knowledge	Week 2: Understanding	Week 3: Beyond and the Big Question
Key questions to ask: What is the artist's name? Where/when were they born? (this is important to put the work in context) What do you know about the artist's background? When was the work created? What is their style of work? What does the artwork show? Is the artwork part of a series? Is there a theme?	**Key questions to ask:** What is the main focus/where your eye is drawn to? What formal elements have they used and how? How would you describe the composition? If they have used people in their artwork, can you read any body or facial language? How has the artist achieved the meaning, concept, or message? What techniques has the artist used? What are your opinions of the work and why?	**Key questions to ask:** What viewpoint has the artist used? Does the artwork have depth or is it shallow? What materials do you think they have used? Can you think of any other materials they could have used? What skills will you develop looking at this artist? How could you experiment with the artists ideas further? How will you be influenced by this artists work when planning your own artwork?
Week 4: Analysis in Practice	**Week 5: Analysis in Practice**	**Week 6: Analysis in Practice**
Using the questions from week 1-3, research this artwork and have a go at writing your own response.  Claude Monet: Impression, Sunrise, 1872	Using the questions from week 1-3, research this artwork and have a go at writing your own response.  Pierre-Auguste Renoir: Dance at Le Moulin de la Galette, 1876	Using the questions from week 1-3, research this artwork and have a go at writing your own response.  Georges Seurat: A Sunday on La Grande Jatte, 1884

Masters of Recall

Subject: Drama | Topic: Response To Stimulus | YEAR 8 TERM 2

Week 1 & 2

Stimulus: a starting point used to inspire a new play. It acts as a trigger to get your imagination going. A stimulus can be anything: a picture, a song, a prop, or just one word.

Devised Drama: the process of creating an original performance from scratch, usually as a result of responding to a stimulus. Instead of following a pre-written script, a group of actors (an ensemble) works together to invent their own characters, plot, and stage action based on a single starting point

Narrative: The story in a play. It is a connected sequence of events that tells the audience who the characters are, what happens to them, and how they solve a problem. You can make a play more interesting by changing the way you perform a narrative, for example using flashbacks.

Flashback: a scene that temporarily interrupts the main story to show an event that happened in the past. It is used to reveal secrets, explain character motives, and provide important background information to the audience.

Week 3&4

Still Image: a frozen picture that actors make with their bodies. It captures a key moment in a story. Performers do not talk or move. They use strong body language, facial expressions, and stage space to show feelings or events.

Rolling Montage: a devised technique where several short, overlapping still images or scenes are performed in a continuous loop. Actors move seamlessly from one location or time period to the next without leaving the stage. It is often used to show a sequence of events, track character progress, or build dramatic tension.

Split Screen: a technique where the stage is divided into two or more separate playing areas. Actors perform different scenes at the same time. The audience shifts their focus between the zones to compare the events or explore different sides of a story.

Cross Cutting: a performance technique where the action shifts quickly back and forth between two or more different scenes on stage. It is used to compare stories, change locations, or jump through time.

Week 5&6

Verbatim: a style of drama where actors create a play using the exact words of real people. The script comes from recorded interviews, news reports, or public records. Actors carefully copy the exact speech patterns—including pauses, stutters, and slang—to bring authentic voices to the stage.

Stylised Style Scenes to make Devised Drama engaging:

Advert Theatre: Using the elements of an advert like short, punchy scenes, a jingle, slogan, celebrity endorsement, to sell a product or an idea.

News Report Scene: Used to present real or fictional stories in a formal TV-style broadcast. Using elements such as direct address, formal language and royal pronunciation. It is used as a creative device to present the facts, opinions, or consequences of an issue to an audience.