





Lord help us:

All: To accept you in all parts of our lives.

Lord inspire us:

All: To surround ourselves with friends and faith communities that will nourish us and help us grow strong.



Lord guide us:

All: That you may produce in us love and peace, patience and kindness, faithfulness, humility and self-control.

Lord help us appreciate:

All: The gifts that we receive from you and from everyone in our lives.



Lord invite us:

All: To continue to help these young people grow and be inspired by us.

We make our prayer through Jesus Christ,  
our Lord and our brother,  
our teacher and our friend.

All: Amen



# Welcome to Year 10 Information Evening

Thursday 14<sup>th</sup> September 2017

Ms J Waters  
Headteacher



# Précis of Emergency Plans

All of our emergency plans have been developed with the care of the children as the priority. This sometimes means that immediate access to children may not be the most appropriate action for parents to take. This document summarises the plans we have in place and what you can expect should they be activated.

## **Emergency Plan**

The schools generic emergency plan details how the school management team will deal with an emergency affecting the school. This could be fire, snow, flood, power failure, pandemic flu, infectious disease or any other serious impact on the school.



Senior staff have delegated actions in an emergency and other plans may be activated as part of our response. Arrangements will be put in place to deal with communications, care of the children, dealing with suppliers and any other area.

### **Emergency Evacuation Plan**

Should something happen within the boundaries of the school site, or in close proximity, and we are advised to leave the school, this plan will be activated.

This predetermined plan details how the school will be evacuated, where we would go, with alternative's if required; detailed arrangements for care of the children, communication with parent/guardians/carers and collections arrangements if appropriate.



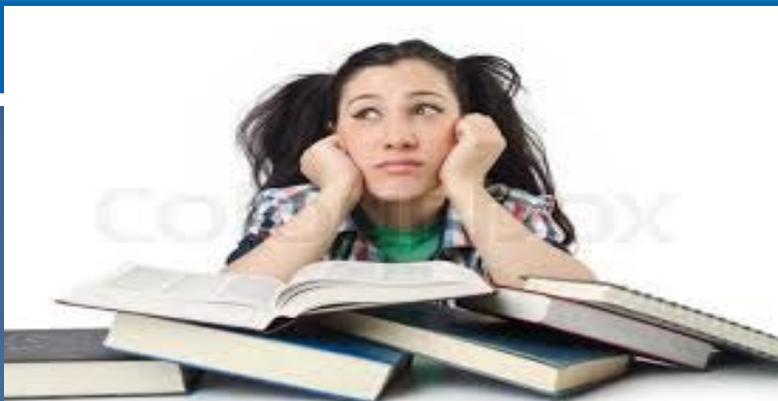
# Emergency Lockdown Plan

This plan details how the school will be made secure if circumstances demand it. When activated this plan will prohibit access to and egress from the school with the exception of emergency services personnel. Children and staff will not be permitted to leave the school during lockdown unless permitted to by the Police on the grounds of medical advice.

This plan details how parents/guardians/carers will be communicated with; arrangements for extended periods of care; emergency feeding and medical care of required.

Likely scenarios include; intruder on site; incident nearby that could affect the school (i.e. toxic smoke) or on receipt of advice/order from emergency services.

**This plan will always be activated on the advice of the emergency services.**



# Assessment, Reporting and Exams

Mr E Kelly

Deputy Head Teacher

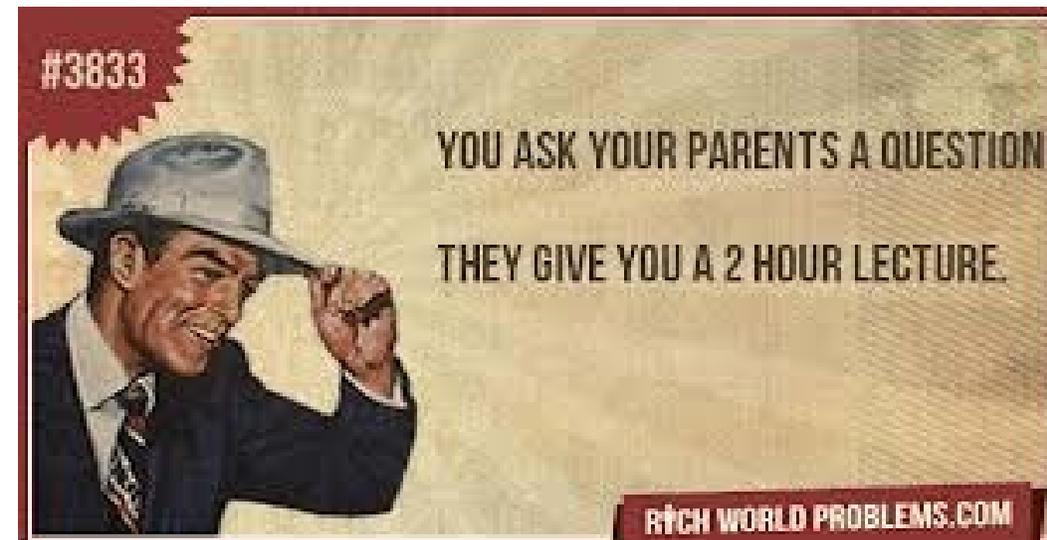


Revising **isn't** something that should be **challenging** or **difficult** at all. What revising is, unfortunately, is time consuming. **It takes a while.** That's why you might like to **start early** (nothing to do on a Sunday?)....



# Parents

- Yes you can help!!!!
- Parental support is eight times more important for your child's success than any other factor
- Every thing you know about what went on before is now different!!”





# Targets

Last year we issued Predictive GCSE targets to Year 9 as they had already begun their GCSE courses.

These will be reviewed this term once we have the information from FFT but there are likely to be very few changes.



# Standards of Attainment

- All subjects are graded on the new 1-9 Grades.
- These are fine graded into the same subdivisions we use at KS3

**Standards = Developing (lower end)/ Secure (mid grade) / Proficient (top end)**

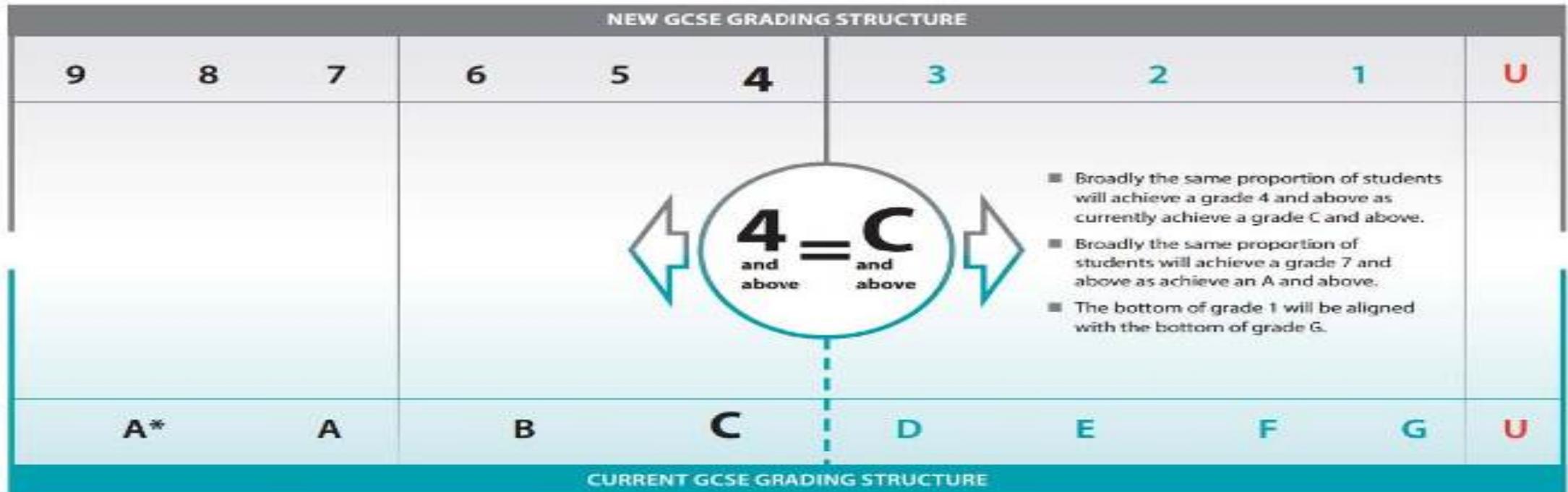
- Health and Social Care is a L2 Btec
- Health And Fitness L2 NCFE
- Vocational L2 courses are equivalents for the purposes of Progression to 6th Form. So = one qualification in the students best 8 GCSEs
- Your daughter is not expected to be achieving her targets. She should be no more than one whole grade away from her target; beyond this is considered underachieving.

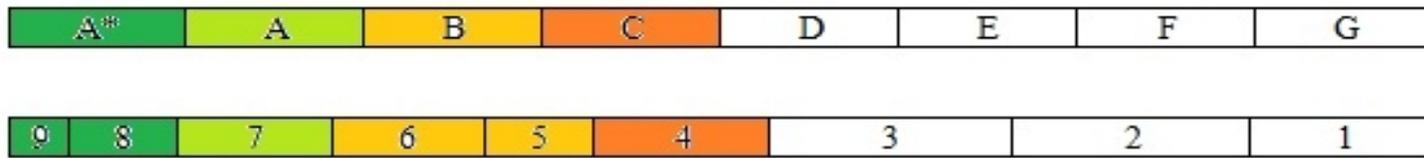
There are some exceptions to this in the case of MFL and Maths at this stage before the course is completed being 2 grades below target is considered on track

- You need to pay careful attention if you daughter is in the Vulnerable Zone (3p to 4d and 4p to 5d)



# The New GCSE grades and UHS





\*Only top 3% of all students in England will achieve a grade 9

- NEW GCSE gradings in all GCSE subjects
- Vocational Courses are Graded with GCSE equivalencies  
**Distinction\*/Distinction/Merit/Pass/Fail**
- The new GCSEs are graded 1 to 9, with 9 being the top grade. Fine graded to help understand position in the grade:

<b>Proficient</b>
<b>Secure</b>
<b>Developing</b>

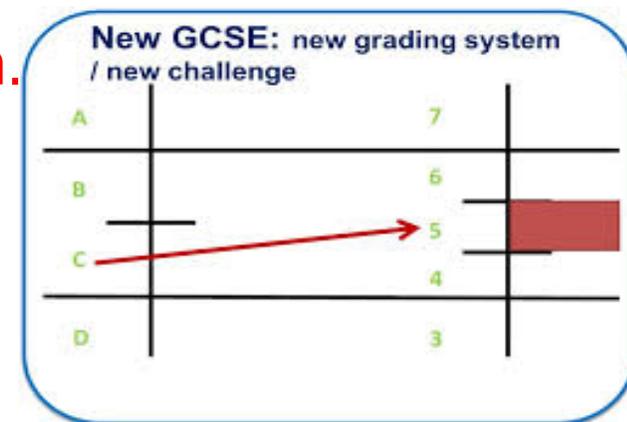


# What do the grades mean?

- The government have used the 4 grade as the standard in 2017 and although this grade continues to indicate a Pass it is the 5 grade which will be the expected threshold for year 10
- Grade 5 will be top grade C bottom Grade B of current system.

Broadly Old Grade C Coverts to grade 4

Old Grade A Coverts to 7



Top 20% of those who achieve grade 7&8 will receive a grade 9 (Elite Performers)

Grade 1 will covert to bottom grade G

Maths is the only tiered Exam with grades 4 and 5 available through both tiers

# To make this work:



- Effort grades are self explanatory

**Outstanding**

**Good**

**Requires improvement**

**Poor**



# Levels and GCSEs

- Levels have GCSE Equivalencies:

So students starting with KS2 Levels are minimum base line expected

- L4 students from KS2 will be expected to achieve GCSE Grade 5 minimum
- L5 to Grade 6/7 (but 5b and 5a KS2 should be Grade 8/9)
- L6 to A/A\* or Grade 8/9.
- We don't set targets of a 9.
- These conversions are based on students making expected progress. They are not limiting in that they should be exceeded



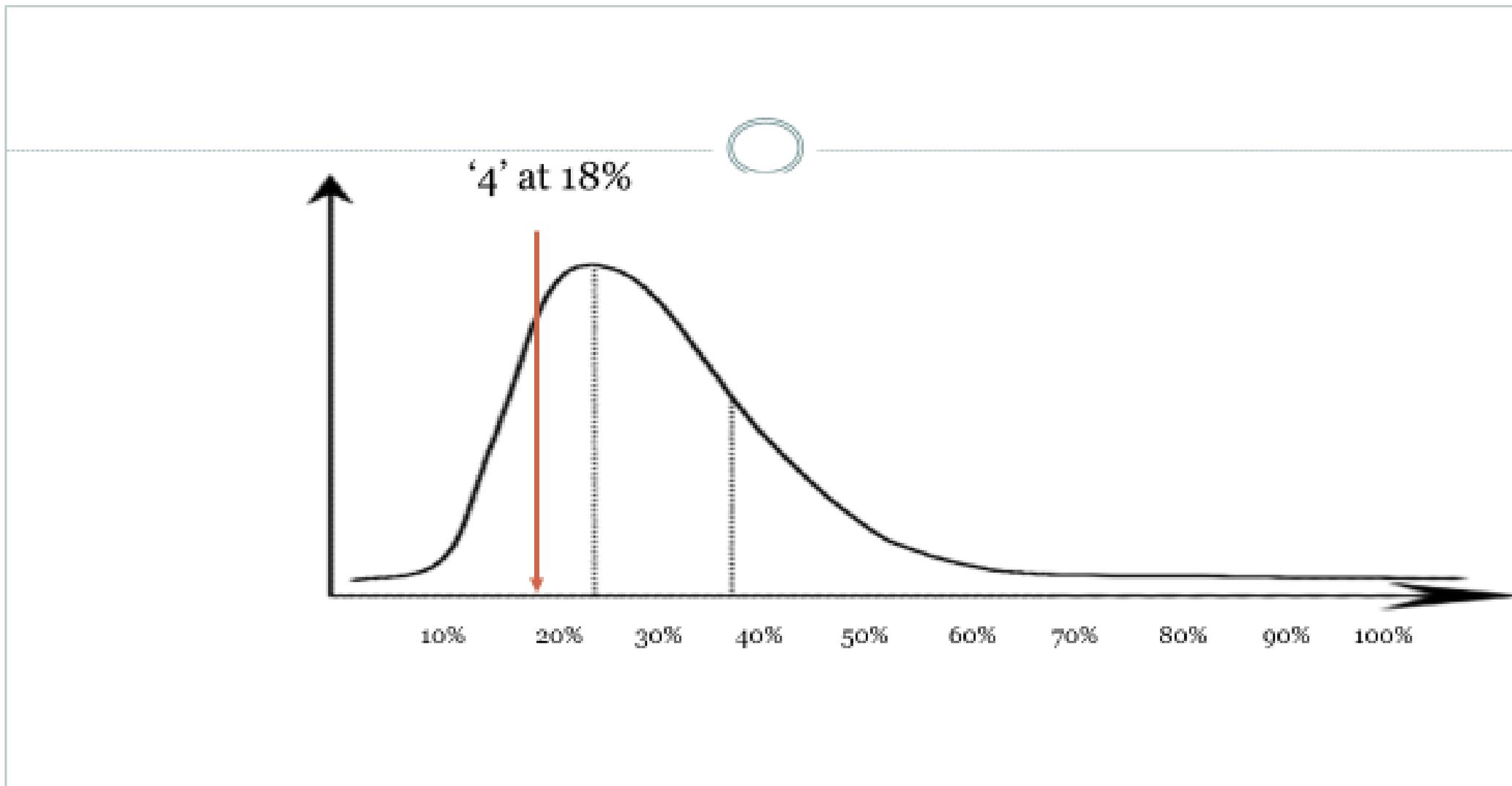
# Exams: What's going on?

- Exams are linear style with only limited subjects still having Controlled Assessment elements. Art, Drama, Dt, PE, MFL
- There are no early entry GCSE examinations
- Acquisition of Knowledge and Rote Learning
- So learning and retaining knowledge to long-term memory is even more important.



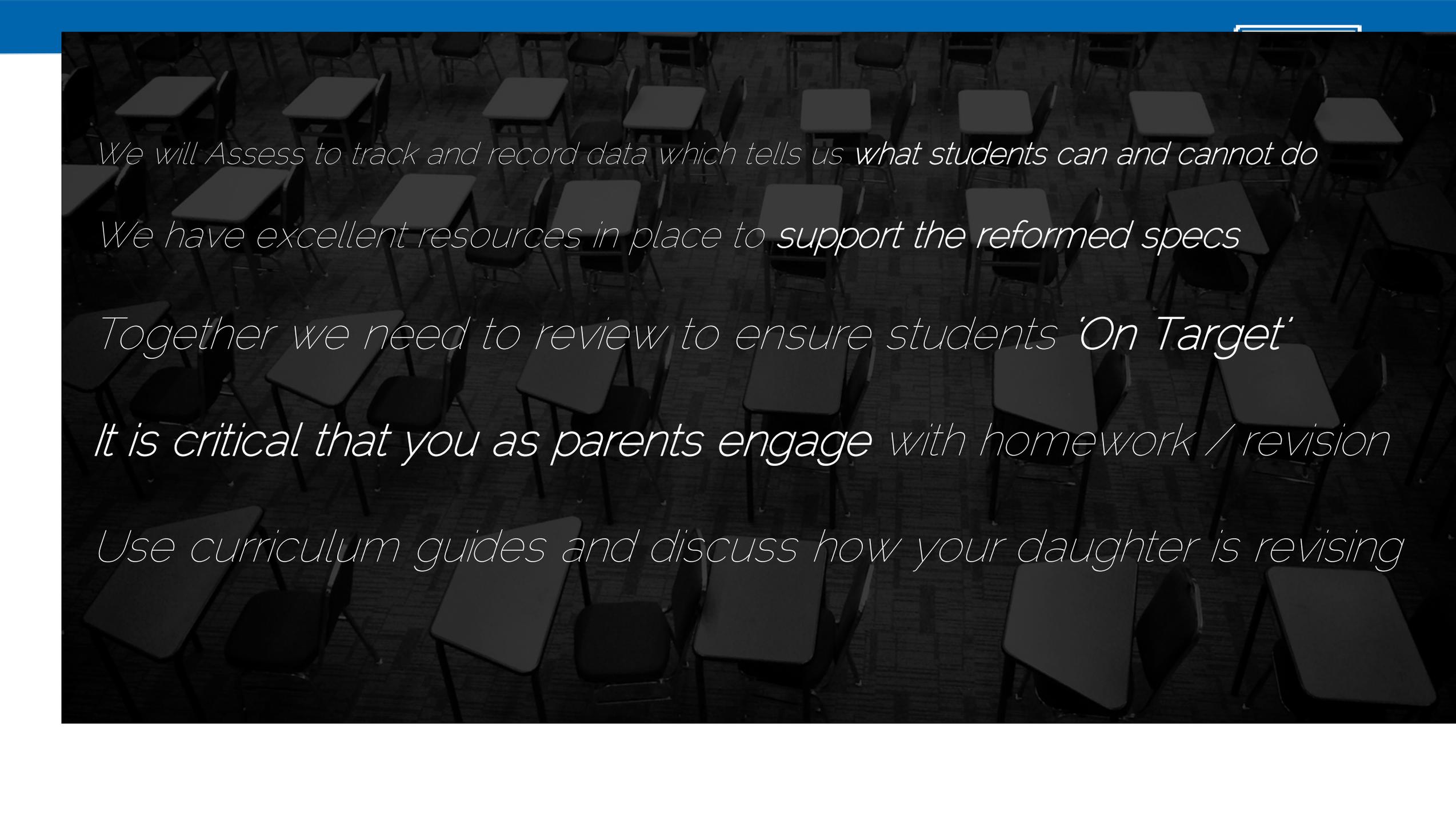
Every grade Matters!

This Year's Maths had just 6 marks difference between achieving a grade 4 and achieving a grade 6!



# Spelling, Punctuation and Grammar

LEVEL	PERFORMANCE DESCRIPTOR	MARKS AWARDED
HIGH PERFORMANCE	<ul style="list-style-type: none"><li>• Learners spell and punctuate with consistent accuracy.</li><li>• Learners use rules of grammar with effective control of meaning overall.</li><li>• Learners use a wide range of specialist terms as appropriate.</li></ul>	3
INTERMEDIATE PERFORMANCE	<ul style="list-style-type: none"><li>• Learners spell and punctuate with considerable accuracy.</li><li>• Learners use rules of grammar with general control of meaning overall.</li><li>• Learners use a good range of specialist terms as appropriate.</li></ul>	2
THRESHOLD PERFORMANCE	<ul style="list-style-type: none"><li>• Learners spell and punctuate with reasonable accuracy.</li><li>• Learners use rules of grammar with some control of meaning and any errors do not</li></ul>	1



*We will Assess to track and record data which tells us what students can and cannot do*

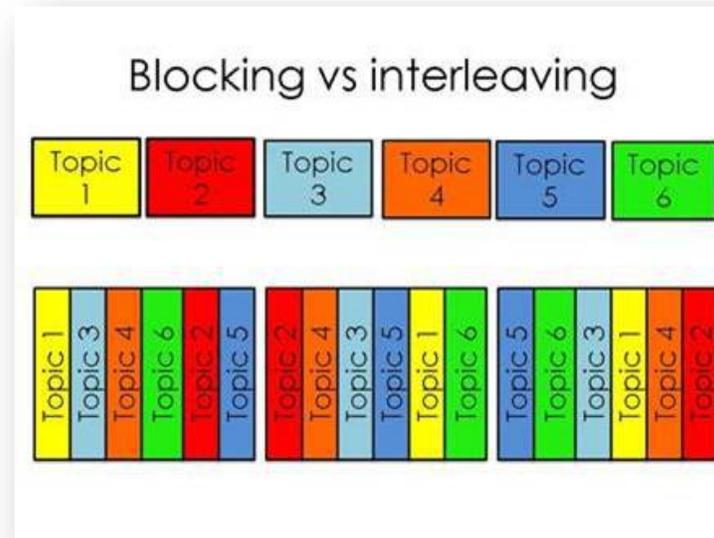
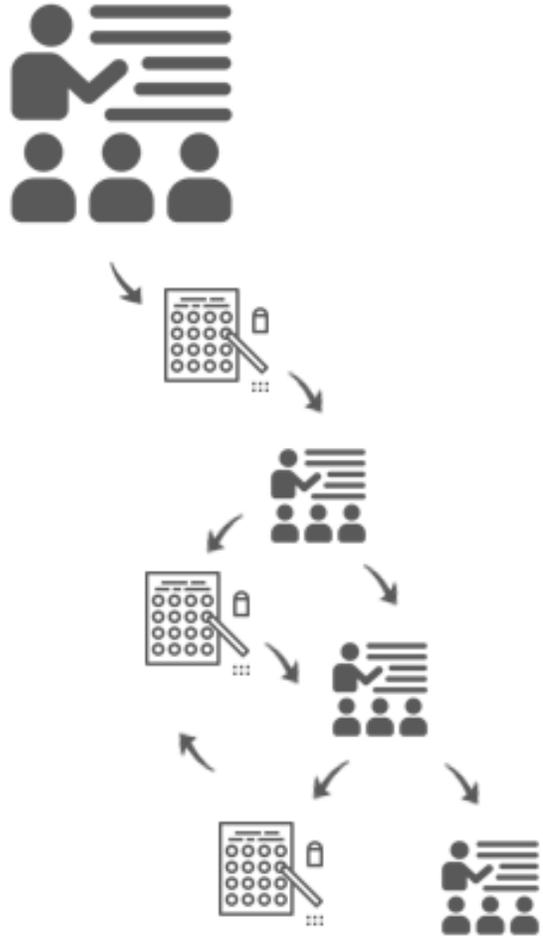
*We have excellent resources in place to support the reformed specs*

*Together we need to review to ensure students 'On Target'*

*It is critical that you as parents engage with homework / revision*

*Use curriculum guides and discuss how your daughter is revising*

## Interleaving



<https://bjorklab.psych.ucla.edu/>

“Research shows unequivocally that mastery and long-term retention are much better if you interleave practice than if you mass it.”

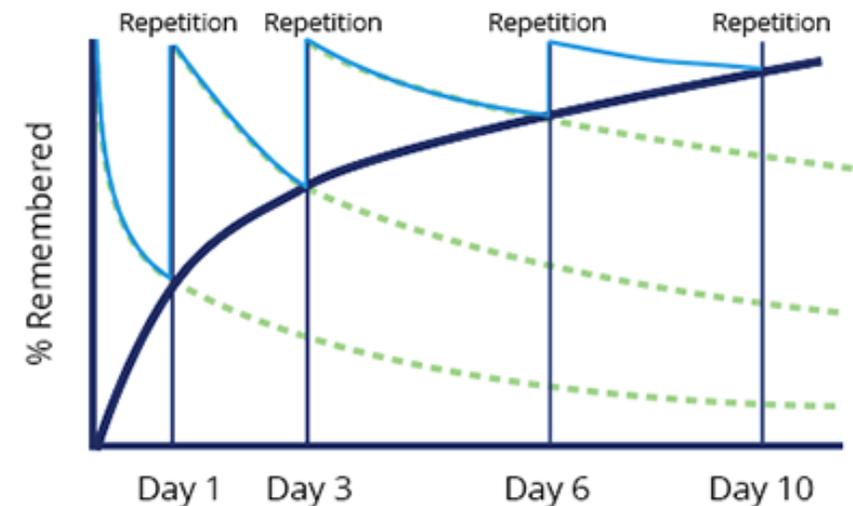
However, learners and teachers do not *feel* like it is working. Even after taking part in studies, many say that they *prefer massed practice!*



# Repetition, Practice and Rote-Learning

## Spaced Learning and Repetition: How They Work and Why

### Spaced Repetition





# Intervention and Support Available

- Your daughter should be able to articulate the grade she is working at and know what she need to do to reach the next grade. Subjects will have specific interventions
- Saturday morning Maths class.
- After School Lunch interventions
- Students being asked to re-draft and re-submit work particularly important in relation to Exam Practice. Green pen
- Differentiated learning in accordance with the assessment criteria.
- Revision classes/Extra help from staff –After school.
- Students with Specific SEND will have intervention as Co-ordinated by Mrs O'Connor
- Interventions 1:1 in English and Maths. Small groups in Science.

# Accessing this Information



- [www.ursulinehigh.merton.sch.uk](http://www.ursulinehigh.merton.sch.uk)
- Click on Progresso Link
- Enter username and password (distributed to you directly from Progresso on your school email). You will be asked to change it termly. Please do so and note your changed password.
- If you have more than one child, you will be able to access all details concerning all your daughters.
- If you experience any difficulty please ask for extra help when you come to collect your daughter's laptop. Alternatively follow the Progresso Log in help on the school website clicking 
- Please follow the instructions on the school website in this update button on how to retrieve your historic data/reports as they will have been removed in the Summer.

# Assessment, Reporting and Recording



**Autumn A EMB grades to be entered **Summative grade Reported****

**1<sup>st</sup> Academic Review Day 19<sup>th</sup> Oct P5/6. 20<sup>th</sup> October P1-5 (Parent/Student –Tutor Meeting)**

**Autumn B EMB grades to be entered**

Summary of Average Posted Home

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**Spring Term A EMB grades to be entered (Available online)**

**Spring Term B EMB grades to be entered **Summative grade Reported on Full Report****

**2<sup>nd</sup> Academic Review Day 27<sup>th</sup> March P5/6. 28<sup>th</sup> march P1-6 (Parent/Student –Tutor Meeting)**

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# Continued...



**Summer Term A EMB grades to be entered** Parents notified 25<sup>th</sup> May.

Summer B Internal Exam Week 18<sup>th</sup> June – 22<sup>nd</sup> June

Parents Evening 10<sup>th</sup> July

All termly and full reports are posted on Progresso under documents.

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Mr E S Kelly Deputy Head teacher Standards

Tel 0208 8794335



# Sixth Form: Progression and Transition

Mr B Barton

Assistant Head Teacher KS5



# Pathways

## With 8 or more GCSEs (inc Eng/Maths)

- Four A Levels
- Three A Levels
- Two vocational subjects + one A Level

Dependent on  
GCSE results

## If not achieved 8 GCSEs (inc Eng or Maths), but achieved 5 GCSEs (inc Eng or Maths)

- Three Level 3 vocational

## If not achieved 5 GCSE (inc Eng or Maths)

- Level 2 Provision    Five GCSE Level courses



# Key Dates: Academic Year 2017/2018

22 <sup>nd</sup> March	Year 10 Sixth Form transitions meeting for parents
25 <sup>th</sup> June	Year 10 taster day for Sixth Form courses
10 <sup>th</sup> & 11 <sup>th</sup> July	Initial interviews for Sixth Form courses



# Teaching and Learning in Year 10

Mr O Nichols

Assistant Head Teacher

Teaching and Learning KS3/4



# Bridging the gap



KS3    KS4    KS5



## Students:

- Interested and highly motivated
- Achieving success
- Challenged and stimulated
- Knows how to improve



*How are these skills developed through the teaching methods used?*

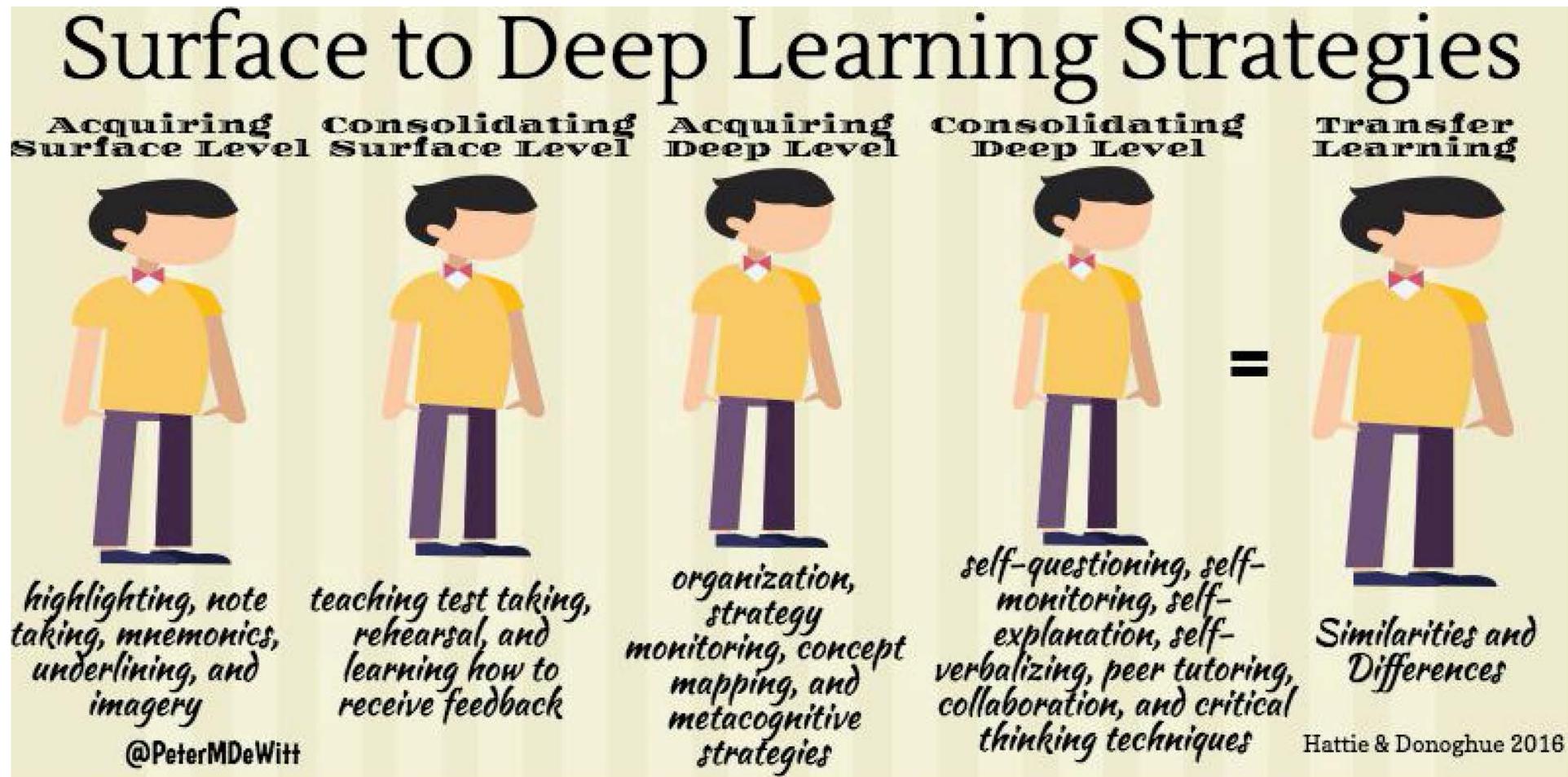
- Feedback (Green Pen)
- Flipped Learning (Prep)
- Challenge and differentiation
- Checking the learning
- Revision...



Revision and consolidation of  
learning **MUST** be on going



# Knowledge and understanding





# Pop quiz

- 1) What was no. 1 on September 4<sup>th</sup> 2016?
- 2) What was the biggest UK film to release in September 2016?
- 3) What was the biggest selling book in 2016?
- 4) What was the biggest news story between 3<sup>rd</sup> – 9<sup>th</sup> September?
- 5) What were the top 4 teams in the 2015/16 Premier League season? In order...



# Pop quiz

- 1) Cold water by Major Lazer ft. Justin Bieber
- 2) Bridget Jones' Baby
- 3) Harry Potter and the Cursed Child
- 4) Opening of the Paralympic Games
- 5) Leicester City, Arsenal, Spurs & Man City...

How many did you get right?



# How can we revise?

Active revision.

Not passive – sitting and reading the work isn't enough.

Re-writing the work isn't enough.

Highlighting some printed text isn't enough

When revision is passive, the students don't learn or understand the information in such a way that they can apply their knowledge to unfamiliar situations (AO3).

This can be worth 40% of your marks...



# What not to do...

## Formation of urea

Animals need to get rid of the waste products of metabolism, especially nitrogenous waste as it could become toxic if it accumulates. Many terrestrial mammals, including humans, excrete urea. Urea is produced in the liver from carbon dioxide and ammonia. Excess amino acids are deaminated (removal of the  $-NH_2$  group). In a metabolic pathway, known as the ornithine cycle, the amino group and carbon dioxide undergo a series of reactions, which result in the production of urea. The urea is transported in the blood to the kidneys, where it is removed in the urine.

## Formation of urine

Ultrafiltration occurs in the renal corpuscle. High blood pressure in the glomerulus forces water and solute molecules of low molecular mass (less than 68 000 rmm) through the walls of the capillaries and the epithelium of the Bowman's capsule into the lumen of the renal corpuscle. The capillaries of the glomerulus are permeable due to the presence of pores between the cells of their walls, allowing the filtrate to pass between the cells and through the basement membrane. The passage of the filtrate into the lumen of the nephron is assisted by specialised cells, the podocytes that make up the epithelium of the Bowman's capsule. Glomerular filtrate is produced at the rate of about 170 to 180 dm<sup>3</sup> per day; much of it is reabsorbed from the nephron.

The glomerular filtrate contains water, ions, urea, amino acids, glucose and some small blood proteins. It may also contain vitamins and hormones. It does not contain any blood cells or any proteins with an rmm of more than 68 000. In the proximal convoluted tubule, glucose, amino acids and sodium ions are actively reabsorbed into the capillary network. As a result of the movement of the sodium ions, water passes back into the capillary network by osmosis. About 50 per cent of the urea in the filtrate diffuses back into the blood, due to the concentration gradients. The reabsorption



# Examples...

The next few slides will guide you through how you need to work and prepare yourself for the exams.



# Notes.

This is not rewriting the work.

It's expressing it in a different format.

Convert a diagram to text.

Convert a text to a diagram

Create tables, flow charts and mind maps

Do simple bullet point summaries that cover just one page

Annotate work sheets or information sheets, don't just highlight the key words. Take ownership of anything printed.

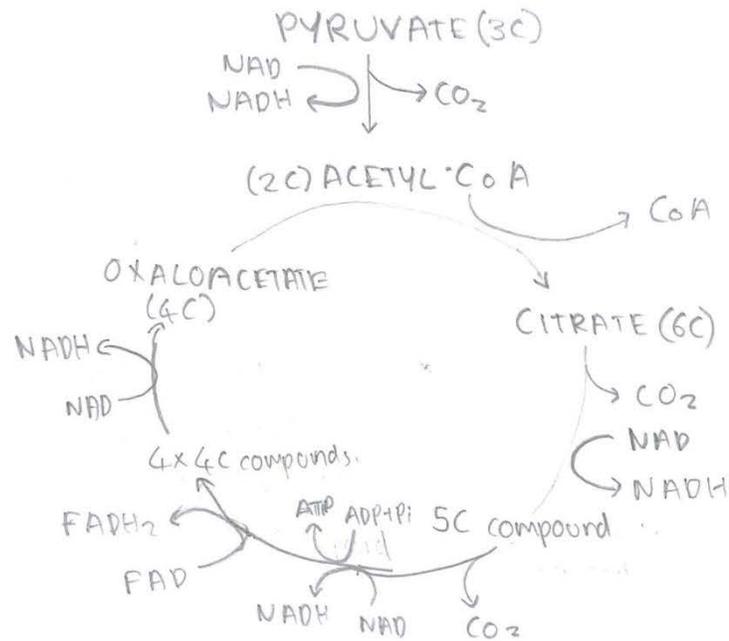


### Lesson 3

## Krebs cycle – look at the text and convert it to a diagram.

eries of chemical reactions carried out in the living cell; in most higher animals, including humans, it is essential for the oxidative metabolism of glucose and other simple sugars. The breakdown of glucose to carbon dioxide and water is a complex set of chemical interconversions called carbohydrate catabolism, and the Krebs cycle is the second of three major stages in the process, occurring between glycolysis and oxidative phosphorylation. This cycle, also known as the citric acid cycle, was named in recognition of the German chemist Hans Krebs, whose research into the cellular utilization of glucose contributed greatly to the modern understanding of this aspect of metabolism. The name citric acid cycle is derived from the first product generated by the sequence of conversions, i.e., citric acid. The reactions are seen to comprise a cycle inasmuch as citric acid is both the first product and the final reactant, being regenerated at the conclusion of one complete set of chemical rearrangements. Citric acid is a so-called tricarboxylic acid, containing three carboxyl groups (COOH). Hence the Krebs cycle is sometimes referred to as the tricarboxylic acid (TCA) cycle. The Krebs cycle begins with the condensation of one molecule of a compound called oxaloacetic acid and one molecule of acetyl CoA (a derivative of coenzyme A; see coenzyme). The acetyl portion of acetyl CoA is derived from pyruvic acid, which is produced by the degradation of glucose in glycolysis. After condensation, the oxaloacetic acid and acetyl CoA react to produce citric acid, which serves as a substrate for seven distinct enzymatized reactions that occur in sequence and proceed with the formation of seven intermediate compounds, including succinic acid, fumaric acid, and malic acid. Malic acid is converted to oxaloacetic acid, which, in turn, reacts with yet another molecule of acetyl CoA, thus producing citric acid, and the cycle begins again. Each turn of the citric acid cycle produces, simultaneously, two molecules of carbon dioxide and eight atoms of hydrogen as byproducts. The carbon dioxide generated is an ultimate end product of glucose breakdown and is removed from the cell by the blood. The hydrogen atoms are donated as hydride ions to the system of electron transport molecules, which allow for oxidative phosphorylation. In most higher plants, in certain microorganisms, such as the bacterium *Escherichia coli*, and in the algae, the citric acid cycle is modified to a form called the glyoxylate cycle, so named because of the prominent intermediate, glyoxylic acid.

### Diagram



ATP used: 0  
ATP made: 1  
NADH made: 3  
FADH made: 1  
CO<sub>2</sub> made: 2

Lesson 3

Electron Transport Chain – look at the diagram and convert it to text.



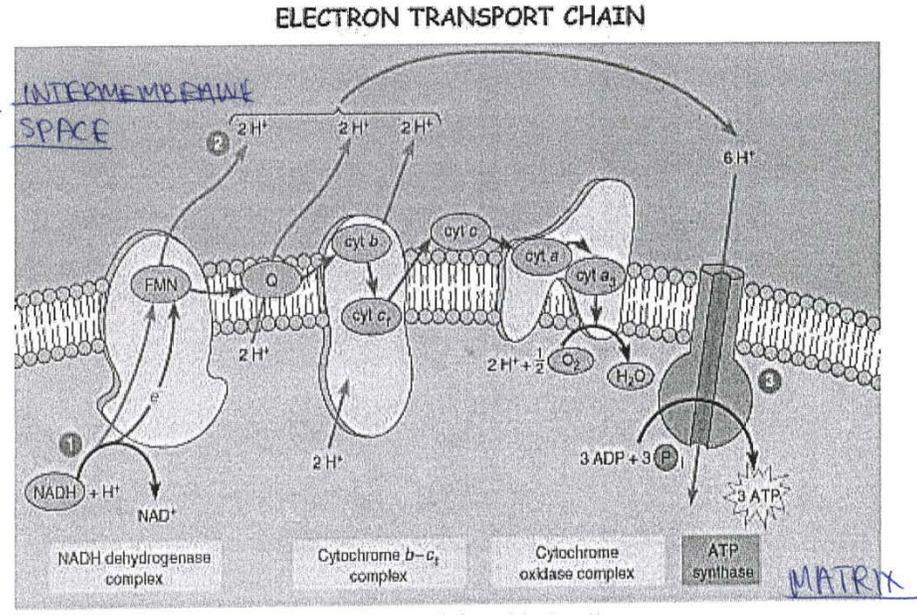
Text. This occurs using electron carriers embedded in the inner mitochondrial membranes which are folded into cristae for a greater surface area.

Reduced NAD and reduced FAD are reoxidised when they donate hydrogen atoms (which are split into protons and electrons) to the electron carriers.

The  $H^+$  are pumped into the intermembrane space and are unable to travel back into the matrix. This creates a concentration gradient.

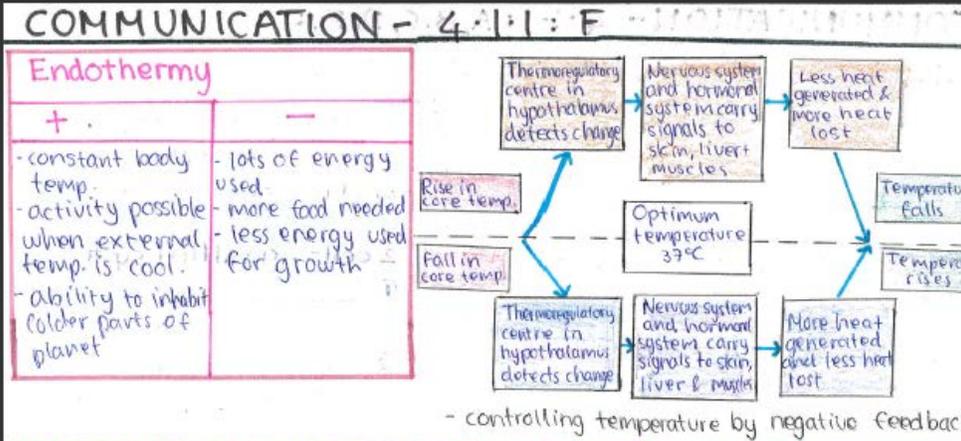
They can diffuse through ion channels associated with ATP synthase. This flow of protons is chemiosmosis. This stimulates oxidative phosphorylation: as protons flow through an ATP synthase enzyme, they drive the joining of  $ADP + P_i$  to form ATP. Oxygen acts as the final electron acceptor and combines with hydrogen to make water.

Diagram



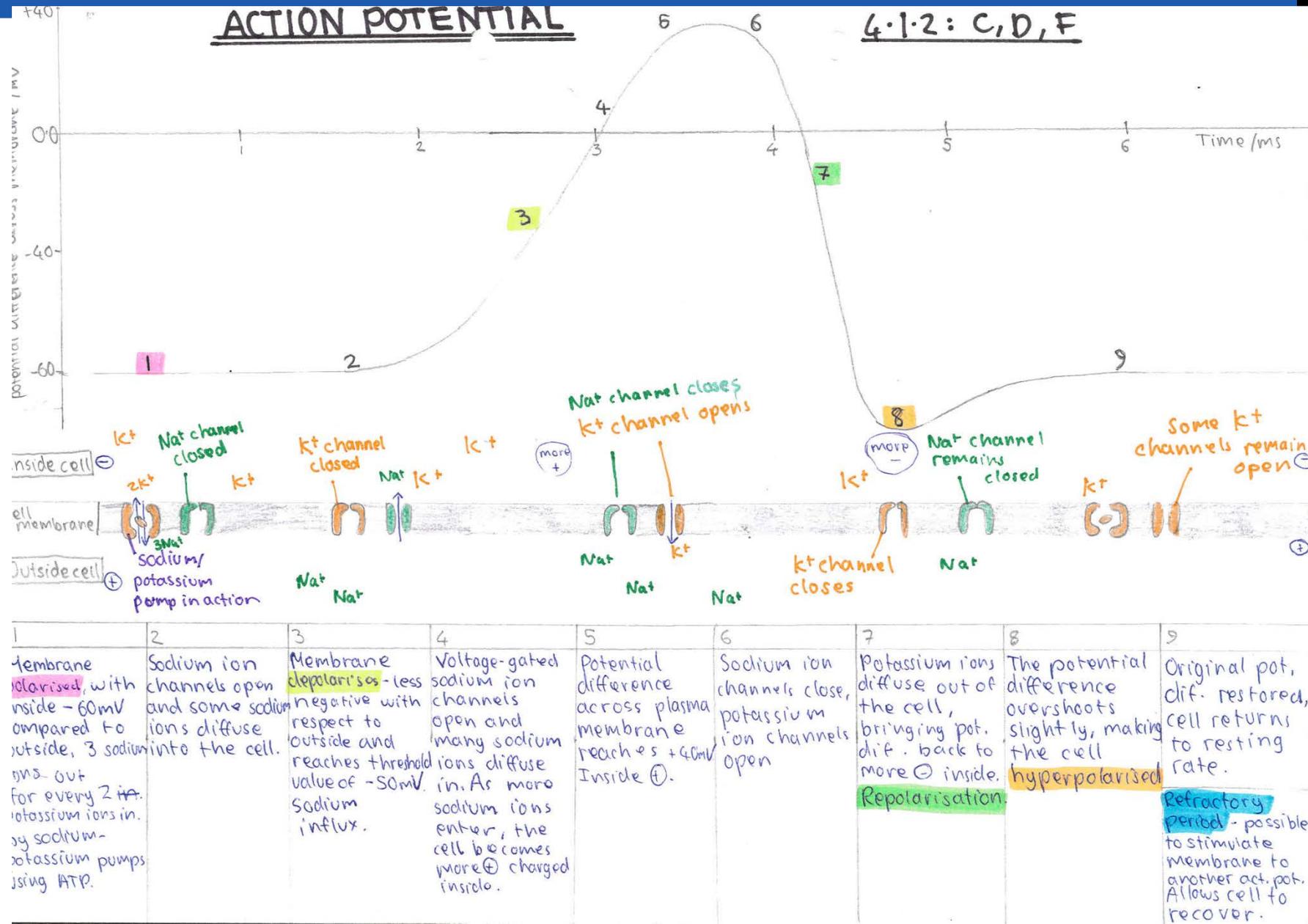
- ATP used; 2
- ATP made; 3
- NADH made; 0
- FADH made; 0
- CO2 made; 0

# Some good examples



BODY COMPONENT	RESPONSE IF BODY TEMP. IS TOO HIGH	RESPONSE IF BODY TEMP. IS TOO LOW
Liver cells	Rate of metabolism reduced; less heat generated	Rate of metabolism increased; more heat generated
Hairs on the skin	Hairs lie flat, providing little insulation.	Hairs raised to trap air close to the skin
Lungs, mouth and nose	Panting increases evaporation of water from mouth and lungs.	No panting so less water evaporation
Sweat glands	Increased sweat production using heat from body to evaporate	Decreased sweat production
Arterioles leading to capillaries	Vasodilation allows more heat to radiate from the blood.	Vasoconstriction reducing blood flow to surface of skin
Skeletal muscle	No spontaneous contractions	Spontaneous contractions generate extra thermal energy

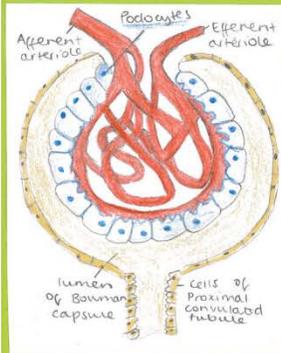
TOO HOT	TOO COLD	Ectotherm temperature regulation		
		Adaptation	What it does	Example
Remain inactive and spread out limbs to increase surface area	Move about to generate heat or in extreme cold roll into a ball to reduce so.	Expose body to sun	More heat absorbed	Snakes Locusts
Orientate body to decrease surface area exposed to the sun	Orientate body to increase surface area exposed to the sun	Orientate body away from sun	Lower s.a. exposed + less heat absorbed	Locusts
Move into shade or hide in a burrow	Move into sunlight to bask	Hide in burrow	Reduced heat absorption	Lizards
		Alter body shape (e.g. expand/contract ribcage)	Exposes more or less s.a. to the sun	Horned lizards
		Increase breathing movements	Evaporates more water	Locusts



1	2	3	4	5	6	7	8	9
Membrane polarised, with inside -60mV compared to outside, 3 sodium ions out for every 2 potassium ions in. by sodium-potassium pumps using ATP.	Sodium ion channels open and some sodium ions diffuse into the cell.	Membrane depolarises - less negative with respect to outside and reaches threshold value of -50mV. Sodium influx.	Voltage-gated sodium ion channels open and many sodium ions diffuse in. As more sodium ions enter, the cell becomes more positive inside.	Potential difference across plasma membrane reaches +40mV. Inside (+).	Sodium ion channels close, potassium ion channels open.	Potassium ions diffuse out of the cell, bringing potential back to more negative inside. Repolarisation.	The potential difference overshoots slightly, making the cell hyperpolarised.	Original potential restored, cell returns to resting rate. Refractory period - possible to stimulate membrane to another action potential. Allows cell to recover.

# ULTRAFILTRATION

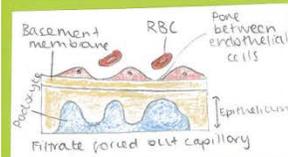
The kidney filters out waste products from the blood plasma which are excreted in the urine. The afferent arteriole which supplies the glomerulus (a network of capillaries in close contact with the Bowman's capsule) has a larger width than efferent arteriole  $\Rightarrow$  largely increased pressure inside glomerular capillaries than efferent, forcing fluid through the blood capillaries into renal capsule = ULTRAFILTRATION.



## FILTRATION PRESSURE

The blood flowing through the afferent arteriole is at high pressure + due to the small width of efferent, a burst of pressure forces molecules within the blood through the glomerular capillaries into the Bowman's capsule.

The materials pass through pores in the endothelium. The endothelial cells line the basement membrane of the Bowman's capsule (made of collagen + other glycoproteins + fibres). Podocytes, epithelial cells of the capsule have projections called major processes ensuring there are gaps between cells. Fluid can flow between these cells into the renal capsule.



Each layer (endothelium, basement membrane + epithelium) are adapted to allow passage of these substances:

- Endothelial cells have gaps between them + substances can dissolve through.
- Basement membrane - consists of collagen fibres which act as a filter, preventing large molecules ( $69,000 + \text{RMM}$ )
- Podocytes have major processes to keep gaps between cells.

Not all substances are removed from the blood plasma + into the glomerular filtrate. Molecules of  $\text{H}_2\text{O}$ , glucose + urea + amino acids + ions are removed from the blood plasma + filtrated into the nephron. The majority of proteins are too big to fit through the gaps in the basement membrane + remain in the blood, eg. RBC





This is all about *thinking*, understanding the work and learning to express it in ways that are not simply recalling a text book word for word.

Every research paper on this topic agrees that it is the only way to both retain knowledge and understand it

The exam papers ask the students to apply knowledge they have to unfamiliar situations. The best way to be able to do this is to approach their work from so many angles that they can learn to draw connections between their work and what the examiner is actually asking.



# Past papers and practise Questions

This is key to improving exam technique.

Choose a topic using the syllabus

Learn the work using active revision

Try some exam questions on that topic. Use the books first.

Use the mark scheme to go through the work and correct any mistakes

Use the mark scheme to go back over your notes and make additions, in a Green Pen, on what the examiner expects of you.

Re-learn the areas you did poorly on

Test yourself without the books.

Mark/annotate/revise.

Reflect – do you need to go back over the topic? What isn't working? What can you do about it?

(iv) State the process by which molecules and ions, other than water, will move from the blood into the dialysate.

Diffusion

(v) Suggest why the direction of flow of the blood and the dialysate is as shown in Fig. 4.3.

Maintains diffusion gradient

[Total: 14]

(c) Complete the following passage, using the most suitable term in each case:

ADH is a hormone that is produced by specialised nerve cells known as osmoreceptors cells. These cells detect changes in the water potential of the blood flowing through the hypothalamus. If the water potential of the blood is too low then ADH is released.

ADH is not secreted immediately into the blood but passes along the axon of the specialised nerve cells to the posterior pituitary gland, from where it is released into the blood.

ADH acts on the cells of the collecting duct

The ADH molecule attaches to receptors on the membrane of these cells and causes protein channels known as aquaporins to insert

themselves into the membrane. Water passes through these channels by osmosis and a smaller volume of more concentrated urine is produced.

(d) ADH does not stay in the blood indefinitely.

Suggest where ADH is removed from the blood and describe what then happens to the ADH molecule.

Broken down by liver/hepatocytes  
deamination - amine group removed.

amino cycle  
Broken down into urea and excreted.

[3]

2 Urine is a liquid that is composed of a number of different substances.

(a) Urea is one compound that is excreted from the mammalian body in urine.

(i) Name the organ that produces urea.

Liver

[1]

(ii) It has been observed that the urea content of urine is relatively high when a person eats an excessive amount of protein in their diet.

Suggest why a high intake of protein in the diet will be likely to result in a high concentration of urea in urine.

High intake of proteins  
↓  
lots of amine acids  
Amine removed  
converted to ammonia  
ammonia enters  
amino cycle  
increased blood conc of urea

The liver removes the potentially toxic amine. The amino group forms toxic ammonia + converts to urea which is less toxic. Urea is transported to kidney for excretion. The remaining remains used for processes such as respiration.  
High protein diet → excess amino acids → more deamination → More urea.

[3]

(b) Suggest what condition is indicated by the presence of glucose in a person's urine.

diabetes

[1]

(c) (i) Pregnancy may be detected by testing a woman's urine.

State the substance that is being tested for in urine when a pregnancy test is carried out.

hCG hormone

[1]

High conc urea = increases H<sub>2</sub>O absorption from urine.





## Module 4: Kidneys

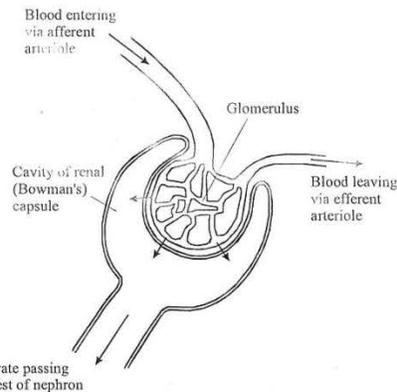
1. Describe the following processes which occur during urine formation in mammals.

(a) Ultrafiltration → blood under high pressure in glomerulus  
 Molecular filtration in the glomerulus of kidneys. Some molecules are filtered out of the glomerulus blood into the renal capsule. (2) ①

(b) Selective reabsorption of glucose → in proximal convoluted tubule  
 Absorption of certain molecules - back into the blood from the fluid in the nephron tubule. → carriers in membrane: active transport (2) ①

(Total 4 marks)

2. The diagram shows part of a nephron from a mammalian kidney.



(a) Name the region of the kidney in which the renal capsules are found.

Cortex (1)

(b) Describe and explain the process of ultrafiltration.

- high pressure of blood in glomerulus  
 - because afferent vessel wider than efferent  
 - small molecules forced out

- large molecules remain in  
 - basement membrane is a filter  
 - large pores in capillary walls

(4)

(c) Name one substance, filtered from the blood, that would be completely reabsorbed as the filtrate passes through the nephron.

glucose (1)

(Total 6 marks)

3. Give an account of the structure of the kidney.

(Allow two lined pages).

(Total 8 marks)

4. The table below shows the typical concentration of four solutes (urea, glucose, sodium ions and potassium ions) in the filtrate produced in the Bowman's capsule and in the proximal convoluted tubule of a nephron (kidney tubule).

Solute	Concentration of solute / g dm <sup>-3</sup>	
	Bowman's capsule	Proximal convoluted tubule
Urea	0.30	0.55
Glucose	0.10	0.00
Sodium ions	0.33	0.33
Potassium ions	0.17	0.02

ultrafiltrate

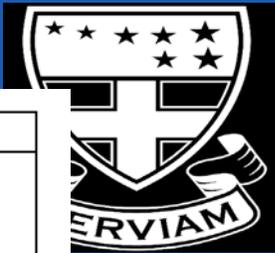
(a) Explain how the filtrate is produced in the Bowman's capsule.

The blood in the glomerulus is under high pressure as the afferent vessel is wider than the efferent. This forces small molecules out of the capillaries, into the Bowman's capsule; the basement membrane acting as a filter (3)

(b) In the proximal convoluted tubule, large volumes of water are reabsorbed from the filtrate into the blood. Suggest why the concentration of sodium ions remains unchanged but the concentration of urea increases in the proximal convoluted tubule.

- sodium ions pumped out of tubule  
 - at same rate as water  
 - urea not reabsorbed

∴ increased ratio of urea to water



Question		Answer	Marks	Guidance
3	(a)	1 large molecules / proteins / blood cells , cannot , leave blood / enter the filtrate or (named) small molecules can , leave blood / enter filtrate;	4 max	1 Needs more than a figs ref DO NOT CREDIT through , cells / membranes DO NOT CREDIT ref to erythrocytes being large molecules or proteins ACCEPT capillary / glomerulus , for 'blood'
		2 endothelium / fenestrations / basement membrane , prevents , large molecules / erythrocytes , reaching , renal / Bowmans capsule ;		2 Needs ref to entering Bowmans capsule to explain data in table DO NOT CREDIT basal membrane
		3 <u>all</u> glucose / glucose completely , reabsorbed at the , proximal convoluted tubule / PCT ;		3 Needs to be a clear statement, not from figs DO NOT CREDIT distal convoluted tubule / DCT
		4 <u>all</u> amino acids / amino acids completely , reabsorbed at the , proximal convoluted tubule / PCT ;		4 Needs to be a clear statement, not from figs DO NOT CREDIT distal convoluted tubule / DCT
		5 (some / not all) ions , reabsorbed / move into blood (at any part of , nephron / tubule) ;		5 ACCEPT ref to named ions IGNORE salts DO NOT CREDIT if stated that all ions are reabsorbed
		6 urea / ion , <u>concentration</u> increases (between filtrate and urine) because , movement (of urea / ion) into tubule / water removed ;		6 Must be a clear specific statement and not part of a list Reason must refer <b>only</b> to water removal
		QWC – technical terms used appropriately <u>and</u> spelled correctly ;	1	Use of three terms from: endothelium / endothelial fenestration(s) basement membrane Bowmans capsule reabsorb (or derived term) proximal convoluted tubule Please insert a QWC symbol next to the pencil icon, followed by a tick (✓) if QWC has been awarded or a cross (✗) if QWC has not been awarded You should use the green dot to identify the QWC terms that you are crediting.

# Other ideas



Flashcards – to keep on the student at all times. Take them out on the bus, in the corridor, on the sofa at home. Make the unfamiliar terminology part of everyday lexicon.

Kerboodle

Teachers – use them. Show them your work and ask them to give some tips on what else to add.

Make a list of questions you want to go through next time you see them, or even email it to them

Be proactive – come with a list of syllabus statements you want the teacher to cover.

# Organisation is also Key

The syllabus looks like this...



## 3.2.1.2 Structure of prokaryotic cells and of viruses

Content	Opportunities for skills development
<p>Prokaryotic cells are much smaller than eukaryotic cells. They also differ from eukaryotic cells in having:</p> <ul style="list-style-type: none"><li>• cytoplasm that lacks membrane-bound organelles</li><li>• smaller ribosomes</li><li>• no nucleus; instead they have a single circular DNA molecule that is free in the cytoplasm and is not associated with proteins</li><li>• a cell wall that contains murein, a glycoprotein.</li></ul> <p>In addition, many prokaryotic cells have:</p> <ul style="list-style-type: none"><li>• one or more plasmids</li><li>• a capsule surrounding the cell</li><li>• one or more flagella.</li></ul> <p>Details of these structural differences are <b>not</b> required.</p> <p>Viruses are acellular and non-living. The structure of virus particles to include genetic material, capsid and attachment protein.</p>	

## 3.2.1.3 Methods of studying cells

Content	Opportunities for skills development
<p>The principles and limitations of optical microscopes, transmission electron microscopes and scanning electron microscopes.</p> <p>Measuring the size of an object viewed with an optical microscope. The difference between magnification and resolution.</p> <p>Use of the formula: <math>\text{magnification} = \frac{\text{size of image}}{\text{size of real object}}</math></p> <p>Principles of cell fractionation and ultracentrifugation as used to separate cell components.</p> <p><b>Students should be able to</b> appreciate that there was a considerable period of time during which the scientific community distinguished between artefacts and cell organelles.</p>	<p><b>AT d, e and f</b></p> <p>Students could use iodine in potassium iodide solution to identify starch grains in plant cells.</p> <p><b>MS 1.8</b></p>

# Organisation



Use the syllabus to split your work into bite sized chunks.

Decide what sections you will revise.

Actively learn the work

Test.

Correct

Re-learn based upon mistakes

Re-test

Correct

Evaluate.

Determine the next activity for the next day.

The next day, test on previous work first.



# Organisation

It's not about setting 1 hour and 32 minutes 53 seconds to a task.

Choose your subject and then the topic and take as long as you need to.

Plan the next day before you finish, don't do a huge, inflexible revision timetable. Only plan what subjects you're going to revise that evening in a general timeframe.

Be flexible – if you knew the topic better than you thought and completed the work quickly, take a break and start another one before moving on to the next subject.

Revise every night and at weekends.



# Teaching and learning beyond school- parents can help

- Curriculum guide for information on courses
- School calendar for events
- Homework timetable
- Planner- always check and sign
- Exercise books
- Time and space to study
- Talk about learning



## Contact details

[Owen.nichols@ursulinehigh.merton.sch.uk](mailto:Owen.nichols@ursulinehigh.merton.sch.uk)

Phone: 020 3908 4164



# Pastoral Care

Mrs A Watson  
Assistant Head Teacher



# Online Safety

- Recognise the risks-has my child got the emotional maturity to handle all social media?
- Remove Smart phones in the evening. Most activity happens when your daughter is on her own.
- Check her Apps/messages
- Know logins and passwords
- School monitoring of devices – even at home (e-forensics)



# Where can I get practical advice?

[www.childnet.com](http://www.childnet.com)

[www.saferinternet.org.uk](http://www.saferinternet.org.uk)

<https://www.tigermobiles.com/2015/05/how-to-protect-your-children-on-their-smartphone/>

<https://www.internetmatters.org/>





## How to Keep Kids Safe on Popular Apps

To comply with COPPA (Children's Online Privacy Protection Act), most services like Facebook and Snapchat require their users to be at least 13 years old



Parents need to be aware that children can lie about their date of birth in order to sign up for certain sites

**Snapchat:**

**What it is:** Allows users to send pictures and videos that delete themselves after a short period of time (usually a few seconds)

**The risks:**

- May encourage risky behaviour**  
Teens may think that since the inappropriate photo or video will be deleted, it doesn't matter
- Pictures and videos are not gone forever**
  - With technical knowhow, they can be retrieved
  - A screenshot or simply taking a picture of the screen with another device can also capture the image

**What to do:**

- Ensure children know that anything digital (including "self-destructing" pictures and videos) can still be shared with others
- Manage account settings so that your child can only receive pictures from their friends list, as opposed to everyone
- Follow up by monitoring their friends list



# Punctuality



Numbers of lates	Staff responsible/action to be taken	Consequence for pupil
1	Tutor conversation/HOY	Student signs in early the next day
2-3	Tutor conversation/HOY	Student signs in early the next day
4	Tutor phone call home	Parents informed/ Student signs in early the next day
5-8	Deputy Head late detention. Letter home (PSA)/HOY call home.	1 hour's detention on day of 5 <sup>th</sup> late /parents informed
9	HOY – phone call home. Loss of break and lunch times all week. (PSA rota). Second letter home.	Parents informed/break and lunch detentions for week.
10-12	HOY holds meetings with parents, punctuality action plan put in place. Half termly review. Loss of break and lunch times for second week. Third letter home.	Parent meeting/action plan/ break and lunch detentions for week.
13-14	Year Group Senior Leader meeting with parents to review action plan and support.	Parent meeting/action plan/ break and lunch detentions for week.
15	Meeting with Head Teacher and parents. Head Teacher's Saturday detention (Fortnightly 9-10am, SLT rota).	Head Teacher's Saturday detention.
16 +	Escalation to Governors panel.	

# LGBTQI



Accompaniment is an art of **enabling someone to grow, to develop, to help and support that person to discover who they are** as being made in God's image; to help someone to become fully human with an intrinsic dignity. – Pope Francis

Archdiocese of Southwark with  
Catholic Secondary Headteachers



Framework for guiding Catholic schools on developing a  
pastoral response to the needs of students who identify  
as LGBT within Catholic schools



The framework has allowed UHS to:

- Create a guidance on providing an appropriate response to meeting the needs of students who identify as LGBT
- To help UHS remove barriers which are oppressive and disadvantaging for LGBT students.

# LGBTQI



The starting point for supporting students who identify as LGBT is the recognition that every person, regardless of their sexuality is created in the image and likeness of God and therefore has an intrinsic dignity which must be respected at all times.

The Framework sets out four essential pillars when considering a pastoral response to the needs of LGBT students:

- 1) Accompaniment
- 2) Discernment
- 3) Informed Conscience
- 4) Seeing the person / not the act



# LGBTQI Provision at UHS

- Changing names and gender markers on files – by agreement of parents for students 16 or under.
- 16+ name changed by deed poll– requires reprints of exam certificates etc.
- Gender neutral toilet e.g. KS3 toilet.
- A bullying policy and code of conduct for students which recognises prejudice related to LGBTQI.
- Mentoring
- Equalities Group
- School Counsellor
- PSHEC program to address LGBTQI and equality issues.
- Work with parents to signpost support services.
- A copy of the guidance will be available on-line for you to access.



# Rhythm of Year 10 & Parental Support

Miss E Hickey  
Head of Year 10



# Serviam



**I will serve**

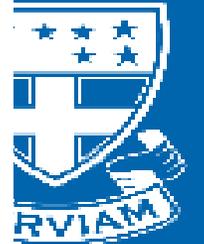
*'to play an active role in school life'*

*'to give back to the school, local and global community'*

# Student Leadership and Enrichment

## Student Leadership:

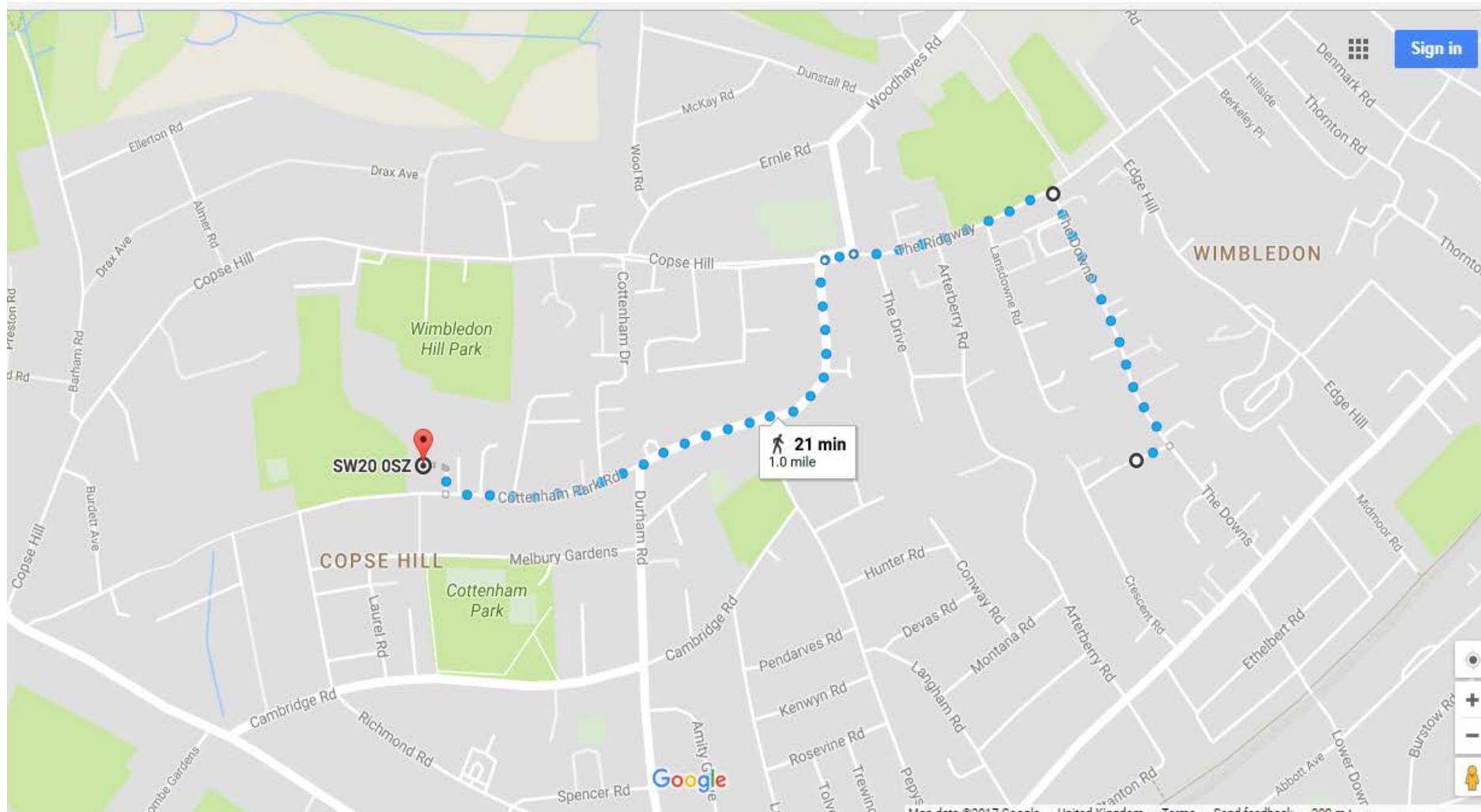
- Arts
- Community
- Media
- International
- Environment
- Teaching & Learning
- Science
- New Technologies
- School Council



# Enrichment Activities



# Y10 Sports Clubs and Lessons: Ursuline Playing Fields, Cottenham Park Rd, Wimbledon, SW20 0SZ



# PSHEC



## Autumn A:

- Britain in the World and the Commonwealth
- Britain in the EU
- Prevent: Radicalisation and Terrorism. Focus on: How terrorists recruit and who do they target? How terrorism affects society and Community against extremism.

## Autumn B:

- Mental Health and Well-being [Part 1 - Part 3]. Focus on: stress; pressure groups; drugs, eating disorders, exercise.

## Spring A

- Well Woman [Part 1 – Part 3]. Focus on: Sexuality; The myth of the ideal body; Gender and sex; The media; Song lyrics and sexism; Pornography

## Spring B

- Justice [Part 1-Part 2]. Focus on: Human Rights -The right to money; Free speech; Asylum; Healthcare; The law; Education; Religion and belief; Voting

## Summer A

- Retreat Day: *'It's not just about me'*
- Prevent Follow up: TBC on review on Autumn A

## Summer B

- Equality [Part 1 – Part 2]. Focus on: Bullying; Racism; Homophobia; Child Labour; Refugees; Human Rights

# Important dates



- **Academic Review Day [Autumn Term]: Thursday 19<sup>th</sup> & Friday 20<sup>th</sup> October**
- **Academic Review Day [Spring Term]: Tuesday 27<sup>th</sup> and Wednesday 28<sup>th</sup> March**
- **Y10 Parents' Revision Evening USFC: Monday 21<sup>st</sup> May**
- **Y10 Sixth Form Transitions Parents' Meeting USFC: Thursday 7<sup>th</sup> June**
- **Year 10 exam week - 18<sup>th</sup> – 22<sup>nd</sup> June 2018**
- **Y10 Parents' Evening: Tuesday 10<sup>th</sup> July 2018**
- **Year 10 Interview for 6<sup>th</sup> form: 10<sup>th</sup> - 11<sup>th</sup> July**



# Be Informed

- Know what your daughter's subject targets are (p10 in planner)
- Track current grades in planner/Progresso
- Look at comments teachers are making and targets that are being set in their workbooks
- Use exam board websites – mark schemes; past papers; examiners reports
- Long-term planning as well as short-term
- Devise a revision timetable and ensure it is being used
- Ensure your daughter attends intervention and support classes



# How can you help?

Please check your daughter's diary daily to see what is set, outstanding from yesterday.

Develop the habit of asking questions like:

- *What homework do you have?*
- *How long will that take?*
- *What equipment do you need to complete that?*
- *How do you think you might plan that piece of work?*
- *What are the key words that you need to use?*
- *Explain them to me?*
- *Show me how to do that?*
- *What did you learn?*
- *How does this apply to your assessments/exams?*



# What is the homework routine in your home?

- *Where is homework completed in the home?*
- *When is the homework completed?*
- *Are you able to monitor the use of ICT?*
- *Organisation is vital. Is everything packed for tomorrow?*



# Reminder: Medical Plans

*What do these include?*

- Allergies
- Causes of pain/discomfort when a student may require paracetamol/ibuprofen.
- Asthma or breathing difficulties.
- Any condition/s that may impact on the students learning or safety at school or on school trips.

*Why do we have medical plans?*

- Staff can respond appropriately and in the interest of the student during an emergency.
- Staff can take steps to prevent issues arising at school or on school trips.
- Ensure the safety of staff and students.



# Questions

Any general questions?

If you do have a specific question, please do stay behind and our staff would be happy to answer them.