

ISCA ACADEMY



INSPIRATION FOR LIFE



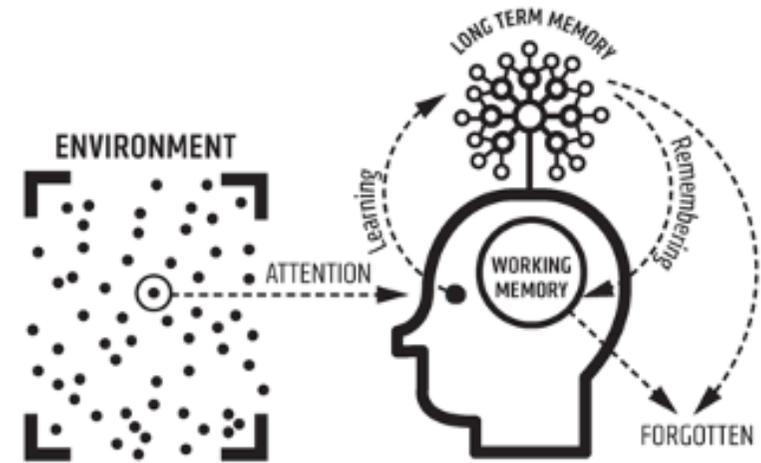
KNOWLEDGE ORGANISER
Summer 2021

Year 11

Improving your Long-Term Memory

Memory

- Your memory is split into two parts; the working-memory and the long-term memory. Everybody's working-memory is limited, and can therefore become easily overwhelmed. Your long-term memory, on the other hand, is effectively limitless.
- You can support your working memory by storing key facts and processes in long-term memory. These facts and processes can then be **retrieved**, to stop your working memory becoming overloaded.



Willingham Simple Model of Memory

- Knowledge Organisers (KOs) are a key way to help you learn. Each KO has the key information that needs to be memorised to help you master your subject and be successful in lessons. We have also introduced a new section entitled '**Enquiry Tasks**' to ensure you are able to apply this new knowledge in a variety of contexts. These will not be set every week but teachers will direct students when to complete these.
- There is strong scientific evidence from cognitive psychology that shows the benefits of **self-quizzing** in promoting **retrieval strength**. This is your ability to quickly recall key facts related to your subject or topic.

How should I self-quiz and how often?

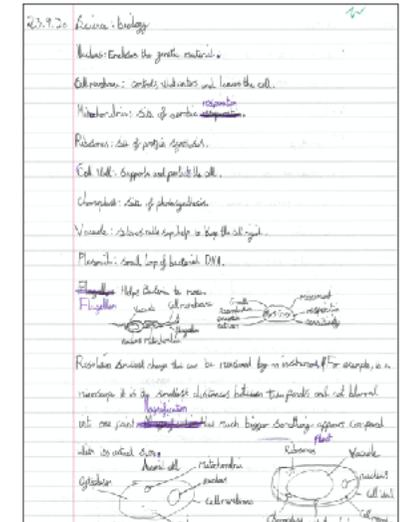
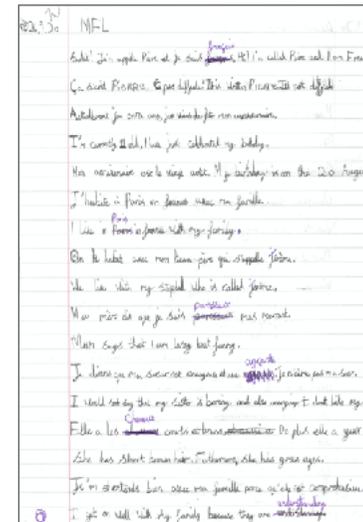
There are lots of different ways to **learn** the material in your knowledge organiser and the list below is not exhaustive. You could:

1. **Make flash cards** based on the knowledge organiser and ask someone to quiz you.
2. **Create a revision clock.** Draw a clock and add the topic in the middle. Break the clock face into 10 minute sections. Add notes from the knowledge organiser in each section. Cover the clock face and recite the information aloud.
3. Cover up one section of the knowledge organiser and try and write out as much as you can from memory (**Look, Cover, Write, Check**).
4. **Draw a mind map**, jotting down everything that you can remember from the knowledge organiser
5. Make up **mnemonics** to help you remember key facts, then write these out from memory i.e. **Never, Eat, Shredded, Wheat** - to remember cardinal directions.

Homework Expectations

How should I present my work?

Please remember that the same rules apply to the presentation of your homework as apply for your class work: dates and titles (which should be the name of the subject) need to be underlined with a ruler and you should present your work as neatly as you are able to. We do not expect you to just copy work. If you are self-quizzing correctly, there should be evidence of purple pen on your page. Here are some examples of how to set out your work:



Homework Schedule

You will be expected to have completed the homework on the day shown and your tutor will check it the following week. For example: On Mondays, you will be expected to show your completed English homework **from the previous week** in tutor time. Science will only be checked once a week, on a Wednesday.

Week A/B	Subject 1	Subject 2	Subject 3
Monday	English		
Tuesday	Option A	RE	Science (Tassomai)
Wednesday	Option B	English Revision	Science (Tassomai)
Thursday	Option C		Science (Tassomai)
Friday	Mathematics - Sparx Week A / Assessed Week B		

How much work is expected?

- We expect you to spend between **20-30 minutes per subject** or **1 hour** on English and Maths.
- We expect you to complete at least **1 A4 page per subject, per night**. If however, you have spent the allotted time and not completed one page or if you have learnt the content in a different way (i.e. you have made flashcards), we would ask that you write a reflective sentence about what you have learnt and then get your parent / carer to sign the homework booklet so that your tutor knows that the work has been completed.
- In addition your teacher may set you further tasks to complete at home as your prepare for GCSE.**

English

Week 1	Week 2
<p><u>Exposure</u></p> <p><u>Task 1:</u> Look, Cover, Write, Check the following premise.</p> <p>Influenced by his own experiences of war on the Western Front, Owen skilfully exposes the harsh realities of life for soldiers fighting in the trenches in order to effectively challenge British propaganda of the time.</p> <p><u>Task 2:</u> Revise the key vocabulary for Exposure by using look, cover, write, check <i>at least</i> 3 times:</p> <ul style="list-style-type: none">● Incessant - continuing without pause or interruption● Futile – pointless● Poignant - evoking a keen sense of sadness or regret <p><u>Task 3:</u> Write out and learn these quotes:</p> <ul style="list-style-type: none">● “Our brains ache in the merciless iced east winds that knive us”● “Slowly our ghosts drag home”● “But nothing happens.”● “all their eyes are ice” <p><u>Task 4:</u> Answer the following questions:</p> <ol style="list-style-type: none">a) Which of the above quotes best shows the soldiers hopelessness? Explain your choice.b) Which of the above quotes best portrays the power of nature? Explain your choice.c) What is the effect of the repetition in the poem?	<p><u>Remains</u></p> <p><u>Task 1:</u> Look, Cover, Write, Check the following premise.</p> <p>Influenced by a series of interviews with returning British soldiers, Armitage skilfully highlights the brutal effects of conflict and invites us to empathise with those who fight and what they are forced to live with.</p> <p><u>Task 2:</u> Write out and learn these quotes:</p> <ul style="list-style-type: none">● “his bloody life in my bloody hands”● “Dug in behind enemy lines”● “his blood-shadow stays on the street”● “he’s here in my head when I close my eyes”● “probably armed, possibly not” <p><u>Task 3:</u> Answer the following questions:</p> <ol style="list-style-type: none">a) Which of the above quotes best shows the speaker feels guilt? Explain your choice.b) Which of the above quotes best shows the speaker feels haunted by his memories? Explain your choice.c) Which of the above quotes best shows the memory he wants to forget, is the very memory that is inescapable for him? Explain your choice.d) Write out this line from the poem: “end of story, expect not really”. Why has Armitage used caesura here?

English

Week 3	Week 4
<p data-bbox="185 323 338 352"><u>Kamikaze</u></p> <p data-bbox="185 395 920 424"><u>Task 1:</u> Look, Cover, Write, Check the following premise.</p> <p data-bbox="185 459 1043 552">Influenced by her interest in the Kamikaze pilots of imperial Japan, Garland skilfully critiques the subversion of venerable traditions for the purposes of government propaganda.</p> <p data-bbox="282 587 1077 647"><u>Task 2:</u> Revise the key vocabulary for Kamikaze by using look, cover, write, check at least 3 times:</p> <ul data-bbox="237 655 1088 810" style="list-style-type: none">● Patriotism - devotion to and vigorous support for one's country● Honour - high respect; great esteem● Shame - a painful feeling of humiliation or distress caused by the consciousness of wrong or foolish behaviour.● Ostracise - exclude from a society or group <p data-bbox="185 847 831 876"><u>Task 3:</u> write out these quotes and learn them:</p> <ul data-bbox="237 884 1048 970" style="list-style-type: none">● “shaved head/ full of powerful incantations”● “He must have wondered/which had been the better way to die.”	<p data-bbox="1128 323 1509 352"><u>Checking Out Me History</u></p> <p data-bbox="1128 395 1863 424"><u>Task 1:</u> Look, Cover, Write, Check the following premise.</p> <p data-bbox="1128 459 2024 552">Influenced by his hostility towards British colonial rule, Agard skilfully highlights how his cultural identity has been threatened by the wilful ignorance of his own cultural domination.</p> <p data-bbox="1128 587 2051 647"><u>Task 2:</u> Revise the key vocabulary for Checking Out Me History by using look, cover, writer check at least 3 times:</p> <ul data-bbox="1178 655 1912 700" style="list-style-type: none">● Eurocentric - a worldview that is centred on Western civilization <p data-bbox="1128 735 2033 764"><u>Task 3:</u> write these quotes in to your Knowledge Organiser book:</p> <ul data-bbox="1178 772 1738 817" style="list-style-type: none">● “Dem tell me/ Wha dem want to tell me”● “I carving out me identity.” <p data-bbox="1128 852 1854 880"><u>Task 4:</u> answer the following questions in full sentence:</p> <ol data-bbox="1227 888 2047 1177" style="list-style-type: none">a) Which quote best shows the speaker’s determination to find his own identity. Explain your answer.b) What does the verb ‘carving’ have connotations of? List at least 3 things in full sentences.c) What impact does the lack of punctuation, the stanzas in free verse, the irregular rhyme scheme and the use of Creole have on the reader?d) Why do you think Agard chose the First person perspective?

English

Week 5	Week 6
<p><u>London</u></p> <p><u>Task 1:</u> Look, Cover, Write, Check the following premise.</p> <p>Influenced by his righteous fury at the corruption of Georgian London, Blake skillfully expresses his disgust for the power he held responsible for the mistreatment of ordinary Londoners.</p> <p><u>Task 2:</u> Revise the key vocabulary for Checking Out Me History by using look, cover, writer check at least 3 times:</p> <ul style="list-style-type: none">● Chartered- to lease, rent or own● ardent- enthusiastic or passionate● fervent- zealous <p><u>Task 3:</u> Look, Cover, Write, Check the following quotes:</p> <ul style="list-style-type: none">● “Chartered Thames”● “Mind-forged manacles” / “Blackening church appalls”● “runs in blood down palace walls” <p><u>Task 4:</u> answer these questions in full sentences:</p> <ol style="list-style-type: none">a) What impact does the rigid rhyme scheme have on our impression of London?b) How does the first person/dramatic monologue help us to experience these horrors with Blake and understand his true feelings about the city?c) What are the connotations of ‘manacles’? List at least 3 things in full sentences.d) Why might Blake have chosen to repeat the word ‘mark’ in the poem?	<p><u>Premise</u></p> <p><u>Task 1:</u> Look, Cover, Write, Check the following premises.</p> <p>Influenced by his own experiences of war on the Western Front, Owen skillfully exposes the harsh realities of life for soldiers fighting in the trenches in order to effectively challenge British propaganda of the time.</p> <p>Influenced by a series of interviews with returning British soldiers, Armitage skillfully highlights the brutal effects of conflict and invites us to empathise with those who fight and what they are forced to live with.</p> <p>Influenced by her interest in the Kamikaze pilots of imperial Japan, Garland skillfully critiques the subversion of venerable traditions for the purposes of government propaganda.</p> <p>Influenced by his hostility towards British colonial rule, Agard skillfully highlights how his cultural identity has been threatened by the wilful ignorance of his own cultural domination.</p> <p>Influenced by his righteous fury at the corruption of Georgian London, Blake skillfully expresses his disgust for the power he held responsible for the mistreatment of ordinary Londoners.</p>

Geography

These pages will again feature revision card questions. Bear in mind that you may not get all 12 “weeks”. Look at your revision cards for “prompt” words and model answers on the back. Highlighted have been previously assessed (2019, 2018). They could come up again. But non-highlighted ones are a good place

Week 1	Week 2
<p>Theme 1:1 = Changing Places - Changing Economies (Global Cities)</p> <ul style="list-style-type: none"> • What is urbanisation? • Describe how urbanisation has affected a global city (LIC). • Describe how urbanisation has affected a global city (HIC). • How can life in Mumbai be improved? • Strategies to manage the impacts of urbanisation in HIC global cities?  	<p>Theme 1:2 = Changing Places - Changing Economies (Urban and Rural)</p> <ul style="list-style-type: none"> • Describe the changes to urban areas in the UK. • Describe changes to rural areas in the UK. • What are the distinctive features of urban areas in the UK? • Describe how a UK city has developed distinctive urban features. • What factors help to drive urban and rural change across the UK? • What are the causes and effects of change in retail in the UK? • What issues associated with leisure use in urban areas in the UK? • Describe UK’s housing problems and explain possible solutions. • What are the retail concepts of range, threshold and catchment? • Issues associated with leisure use in rural areas in the UK. • How is leisure managed in rural areas? (Shropshire Hills AONB).    
Week 3	Week 4
<p>Theme 1:3 = Changing Places - Changing Economies (Development)</p> <ul style="list-style-type: none"> • What are global patterns of development? • What are the processes that connect countries at different levels of development? • What are the advantages and disadvantages of MNCs (for the MNC) and for the host country? • Why do MNCs locate in countries at different levels of development? • How do NICs benefit from globalisation? • What terms are used to group countries of similar levels of development? • How was short term aid used in the 2014 Ebola outbreak? • What are the advantages of long-term aid for Malawi?   	<p>Theme 1:3 = Changing Places - Changing Economies (Development)</p> <ul style="list-style-type: none"> • Why have NICs emerged as economic powerhouses? • What are the benefits for NICs? • What is the impact of trade between countries at different levels of development? • Does trade cause global inequality? • How can Fairtrade reduce global inequality? • What are the positive and negative impacts of globalisation? • What are the impacts of globalisation on the UK? • What are the advantages to donors of long-term aid?   

Geography

Week 5

Theme 2:1 = Changing Environments (Coasts)

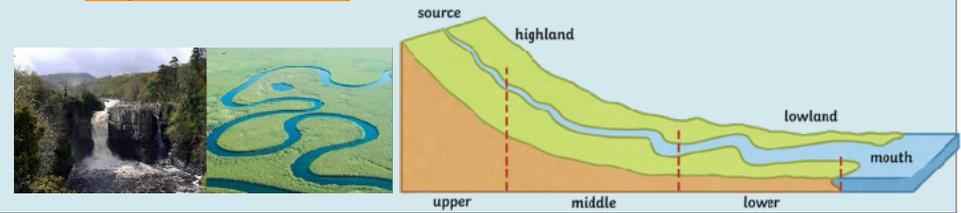
- How are coastlines managed?
- Why can coastal management be controversial? (e.g. Sidmouth)
- How has human activity slowed / accelerated coastal processes?
- How do coastal processes and geology form the distinctive coastal landscapes?
- What are the predicted impacts of climate change on coasts? (Australia- HIC)
- What are the predicted impacts of climate change on coasts? (Maldives - LIC)



Week 6

Theme 2:2 = Changing Environments (Rivers)

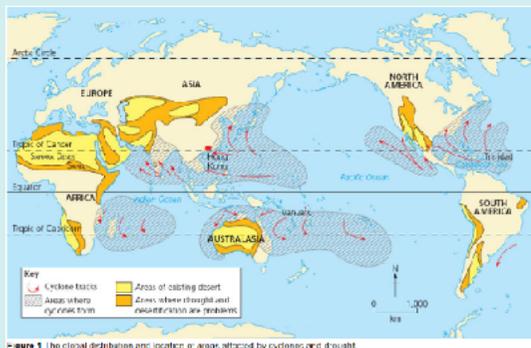
- How has human activity slowed or accelerated river processes?
- How do river processes and geology form the distinctive river landscapes?
- Why is flood management often controversial?
- How can rivers be managed to reduce flood risk?
- What are the social and economic consequences of flooding?
- Why do rivers flood?



Week 7

Theme 2:3 = Changing Environments (Weather and Climate)

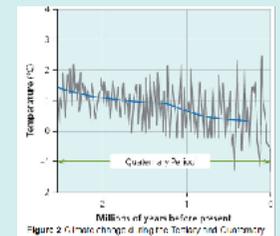
- What are the causes of, impacts of, and responses to drought in the Sahel?
- How are weather hazards distributed globally?
- How does global circulation create different climate zones?
- Why is the UK climate so variable?
- What were the causes of, impacts of, and responses to Hurricane Katrina?



Week 8

Theme 2:4 = Changing Environments (Climate Change)

- Describe the possible consequences of climate change.
- What are the causes of global warming?
- How has climate changed during the Quaternary Period?
- What can the UK government do about climate change?
- What can individuals do about climate change?
- Explain how/why different groups of people have different attitudes to climate change.

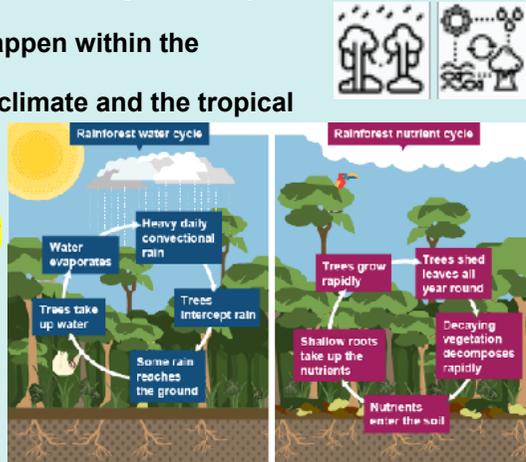


Geography

Week 9

Theme 3:1 = Environmental Challenges (Ecosystem Functions)

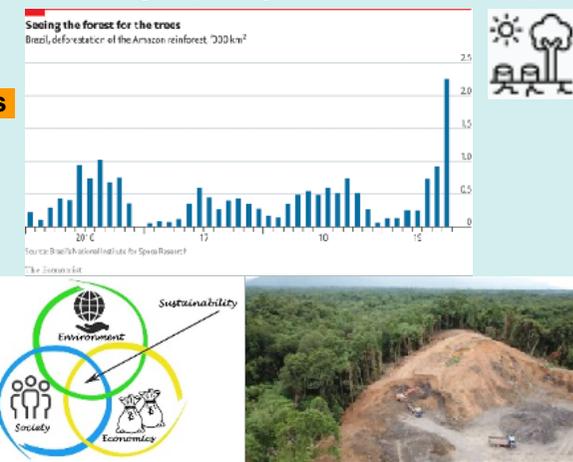
- What physical processes happen within the tropical rainforest biome?
- What are the links between climate and the tropical rainforest biome?
- **What physical processes are happening within the semi-arid grassland biome?**
- **What are the links between climate and the semi-arid grassland biome?**
- Explain how UK sand dune ecosystems are used and managed.



Week 10

Theme 3:2 = Environmental Challenges (Ecosystems Under Threat)

- How are ecosystems used by people?
- **Explain how ecosystems can be damaged by human activity.**
- Explain ways in which the semi-arid grassland biome can be sustainably managed.
- **Explain ways in which the tropical rainforest biome can be sustainably managed.**



Week 11

Theme 3:3 = Environmental Challenges (Water Management)

- **Why does supply and demand for water vary?**
- **What happens when the demand for water exceeds the supply?**
- **What are the challenges of managing water supply in South Africa?**
- Explain how water management can become an international issue.

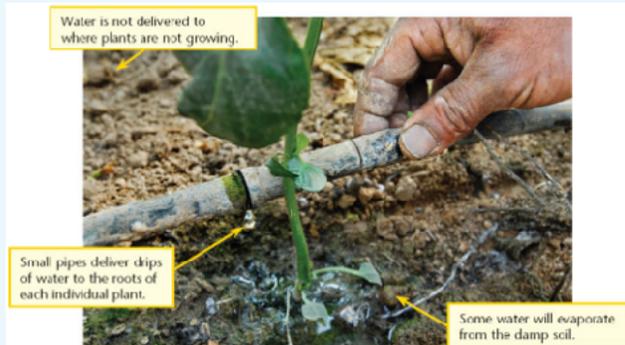


Figure 7 Drip irrigation reduces the amount of water lost by evaporation. The system was invented in Israel where water supply is an issue.

Week 12

Theme 3:4 = Environmental Challenges (Desertification)

- **Explain ways in which the Sahel can be better managed.**
- **Explain how human activity in the Sahel makes desertification worse.**
- **Why is the Sahel vulnerable to desertification? (physical reasons)**



Figure 17 The proposed location of the Great Green Wall.

iLife - PSHE

We would always encourage you to speak to the people you live with or someone in school if you have a worry or a problem. If you can't, or you want to read more about an issue affecting you or someone you know, here are some useful websites and phone numbers. They offer free, confidential advice and support.



General

Childline—www.childline.org
0800 1111

Offers information and advice, 1-2-1 confidential chat (text, email, phone) and support from message boards on a wide range of issues.

This website is one of the most useful you will find and can direct you to help or information about all the other topics mentioned here, and more...

Safety, bullying and abuse

Child Exploitation and Online Protection (CEOP) - www.ceop.police.uk

Report inappropriate online contact, any unlawful misuse of social media, or a child protection concern to a trained police officer. You can also click this button on your platform:



NSPCC—www.nspcc.org.uk 0800 1111
Information and help about on- and offline abuse

National Bullying Helpline—www.nationalbullyinghelpline.co.uk
0845 22 55 787



Health

School nurse—07520 631722
Text only for confidential advice

National Health Service—www.nhs.uk
Research and useful information on health issues

Walk-In Centre, RD&E Hospital—01392 411611
Non-urgent and sexual health needs

Walk-In Centre, 31 Sidwell Street—01392 276892
Sexual health



Healthy relationships

Thinkuknow—www.thinkuknow.co.uk
Age-related help and advice about on- and offline relationships, and consent.



Drugs and alcohol

YSmart—ysmart.org.uk 01271 388162
Information about substance misuse, advice, recovery and treatment

Homeless, skills, advice, getting your voice heard

Young Devon—www.youngdevon.org
01392 331 666

Local support for young people facing a crisis



Health and well-being

Samaritans—www.samaritans.org
Call 116 123 for emergency help
Email jo@samaritans.org (response within 24 hours)

Papyrus—papyrus-uk.org 0800 068 41 41
Urgent help for you or someone you know

YoungMinds—youngminds.org.uk
Text YM to 85258 for urgent help

Happy Maps—www.happymaps.co.uk
Advice on everything from sleep problems to anxiety, bullying, self-harm, coping with divorce, autism, ADHD, gender dysphoria and more

Kooth—www.kooth.com
Mental health advice and support, live chat support



LGBTQ+

X-PLORE—www.lgbtqyouthdevon.org.uk
Local support and groups for LGBTQ+ young people

If someone's life is at risk, you should dial 999

Mathematics



- 1) Go to sparxmaths.uk
- 2) Login using your username and password
- 3) Complete your compulsory homework as follows:
 - Write the bookwork code
 - Write the question, your working and your answer
 - Mark your answer in a different colour
 - If you are struggling, watch the video
 - Your homework is only complete when you have answered **every** question correctly.
 - If you are really struggling with one question, complete the other one and ask your maths teacher for help the next day.

1x	2x	3x	4x	5x
1 x 1 = 1	2 x 1 = 2	3 x 1 = 3	4 x 1 = 4	5 x 1 = 5
1 x 2 = 2	2 x 2 = 4	3 x 2 = 6	4 x 2 = 8	5 x 2 = 10
1 x 3 = 3	2 x 3 = 6	3 x 3 = 9	4 x 3 = 12	5 x 3 = 15
1 x 4 = 4	2 x 4 = 8	3 x 4 = 12	4 x 4 = 16	5 x 4 = 20
1 x 5 = 5	2 x 5 = 10	3 x 5 = 15	4 x 5 = 20	5 x 5 = 25
1 x 6 = 6	2 x 6 = 12	3 x 6 = 18	4 x 6 = 24	5 x 6 = 30
1 x 7 = 7	2 x 7 = 14	3 x 7 = 21	4 x 7 = 28	5 x 7 = 35
1 x 8 = 8	2 x 8 = 16	3 x 8 = 24	4 x 8 = 32	5 x 8 = 40
1 x 9 = 9	2 x 9 = 18	3 x 9 = 27	4 x 9 = 36	5 x 9 = 45
1 x 10 = 10	2 x 10 = 20	3 x 10 = 30	4 x 10 = 40	5 x 10 = 50

6x	7x	8x	9x	10x
6 x 1 = 6	7 x 1 = 7	8 x 1 = 8	9 x 1 = 9	10 x 1 = 10
6 x 2 = 12	7 x 2 = 14	8 x 2 = 16	9 x 2 = 18	10 x 2 = 20
6 x 3 = 18	7 x 3 = 21	8 x 3 = 24	9 x 3 = 27	10 x 3 = 30
6 x 4 = 24	7 x 4 = 28	8 x 4 = 32	9 x 4 = 36	10 x 4 = 40
6 x 5 = 30	7 x 5 = 35	8 x 5 = 40	9 x 5 = 45	10 x 5 = 50
6 x 6 = 36	7 x 6 = 42	8 x 6 = 48	9 x 6 = 54	10 x 6 = 60
6 x 7 = 42	7 x 7 = 49	8 x 7 = 56	9 x 7 = 63	10 x 7 = 70
6 x 8 = 48	7 x 8 = 56	8 x 8 = 64	9 x 8 = 72	10 x 8 = 80
6 x 9 = 54	7 x 9 = 63	8 x 9 = 72	9 x 9 = 81	10 x 9 = 90
6 x 10 = 60	7 x 10 = 70	8 x 10 = 80	9 x 10 = 90	10 x 10 = 100

Homework Thursday 1st June 2017

Task 1

D40 $12 + 13 = \underline{25}$ ✓

E50 $4 \times 3 + 2 \times 5 =$
 $12 + 10 = \underline{22}$ ✓

F60 $\begin{pmatrix} 12 & : & 18 \\ -6 & & \\ \hline 2 & : & 3 \end{pmatrix} \div 6$ ✓

H70 $\frac{1}{14} + \frac{1}{7} = \frac{1}{\underline{14}}$ ✗

J90 $\frac{1}{8} + \frac{1}{4} = \frac{1}{8} + \frac{2}{8}$
 $= \frac{3}{8}$ ✓

A01 $\begin{array}{r} + 493 \\ 162 \\ \hline 655 \end{array}$ ✓

B11 Area = 3×14
 $\times 14$
 $\quad 3$
 $\hline 42$
 $\quad 1$
 \hline Area = 42 cm^2 ✓

C21 $\frac{1}{33} + \frac{1}{11} = \frac{1}{33} + \frac{3}{33}$
 $= \frac{4}{33}$ ✓

D31 $3^2 = 3 \times 3$
 $= \underline{9}$ ✓

E41 $P(\text{yellow}) = \frac{3}{6}$ ✗

F51 $P(\text{black}) = \frac{4}{8}$
 $= \frac{1}{2}$ ✓

Task 2

G61 All the marbles are green
 The probability of choosing a purple marble is impossible ✓

H71 $P(\text{odd}) = \frac{3}{5}$ ✓

Task 3

J22 Even ✓

K32 Unlikely ✗

L42 B, A, C ✓

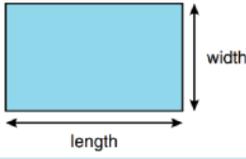
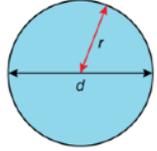
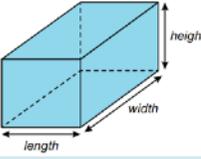
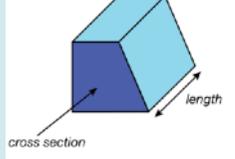
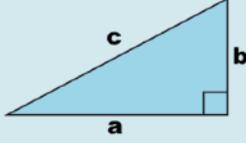
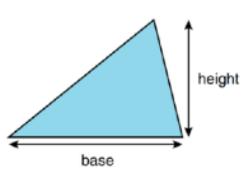
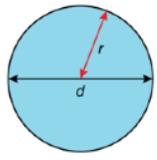
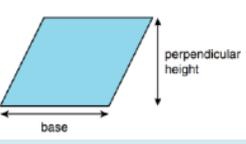
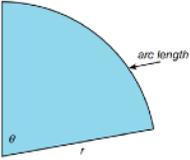
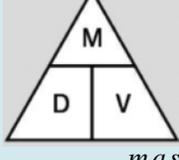
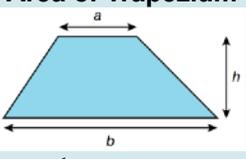
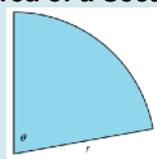
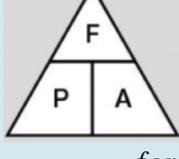
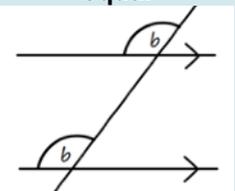
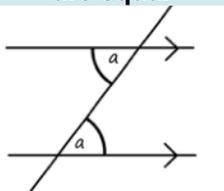
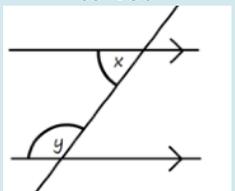
C03 4 more blue balls ✓

D13 4 black, 2 red, 2 blue
 The probability of picking black is even: Bag B ✓

E23 B ✓

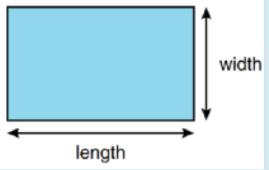
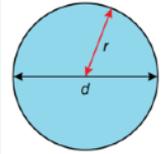
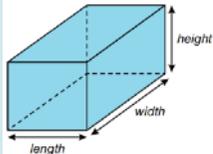
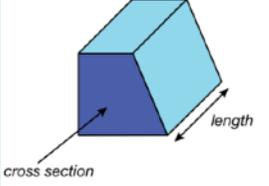
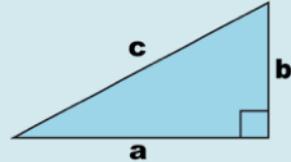
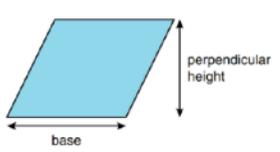
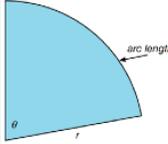
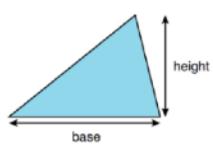
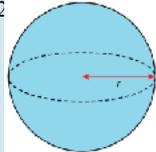
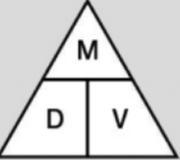
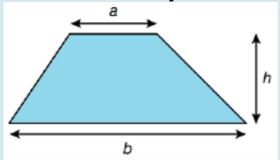
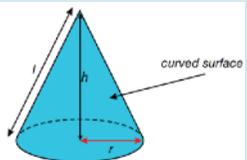
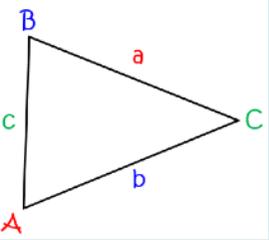
Mathematics – Core

Your Maths Teacher will specify which formulae you must learn.

<p>Area of a Rectangle</p>  <p>$length \times width = l \times w$</p>	<p>Circumference of a circle</p>  <p>$C = \pi \times d$</p>	<p>Volume of a Cuboid</p>  <p>$Length \times width \times height$ $V = l \times w \times h$</p>	<p>Volume of a Prism</p>  <p>$Area\ of\ a\ cross\ section \times length$</p>	<p>Pythagoras Theorem</p>  <p>$a^2 + b^2 = c^2$</p>																								
<p>Area of a Triangle</p>  <p>$\frac{1}{2} \times base \times height = \frac{bh}{2}$</p>	<p>Area of a circle</p>  <p>$A = \pi \times r^2$</p>	<p>Speed</p>  <p>$speed = \frac{distance}{time}$</p>	<p>Compound Interest</p> <p>P = principal amount r = Interest rate n = number of years/months/day</p> <p>$Total\ Accrued = P \left(1 + \frac{r}{100}\right)^n$</p>	<p>Trigonometric Formulae</p> <p>$\sin x = \frac{opp}{hyp}$ $\cos x = \frac{adj}{hyp}$ $\tan x = \frac{opp}{adj}$</p>																								
<p>Area of Parallelogram</p>  <p>$base \times perp.\ height$</p>	<p>Arc Length</p>  <p>$\frac{\theta}{360} \times \pi \times d$</p>	<p>Density</p>  <p>$density = \frac{mass}{volume}$</p>	<p>Index Laws</p> <p>$a^n \times a^m = a^{n+m}$ $a^n \div a^m = a^{n-m}$ $(a^n)^m = a^{n \times m}$</p>	<p>Exact Values of Trigonometry Functions</p> <table border="1"> <thead> <tr> <th></th> <th>0°</th> <th>30°</th> <th>45°</th> <th>60°</th> <th>90°</th> </tr> </thead> <tbody> <tr> <td>$\sin \theta$</td> <td>0</td> <td>$\frac{1}{2}$</td> <td>$\frac{\sqrt{2}}{2}$</td> <td>$\frac{\sqrt{3}}{2}$</td> <td>1</td> </tr> <tr> <td>$\cos \theta$</td> <td>1</td> <td>$\frac{\sqrt{3}}{2}$</td> <td>$\frac{\sqrt{2}}{2}$</td> <td>$\frac{1}{2}$</td> <td>0</td> </tr> <tr> <td>$\tan \theta$</td> <td>0</td> <td>$\frac{\sqrt{3}}{3}$</td> <td>1</td> <td>$\sqrt{3}$</td> <td>Not defined</td> </tr> </tbody> </table>		0°	30°	45°	60°	90°	$\sin \theta$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\cos \theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$\tan \theta$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	Not defined
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<p>Area of Trapezium</p>  <p>$\frac{1}{2}(a + b)h$</p>	<p>Area of a Sector</p>  <p>$\frac{\theta}{360} \times \pi \times r^2$</p>	<p>Pressure</p>  <p>$pressure = \frac{force}{area}$</p>	<p>Corresponding angles are equal</p> 	<p>Alternate Angles are equal</p>  <p>Co-interior angles add to 180</p> 																								

Mathematics – Higher

Your Maths Teacher will specify which formulae you must learn.

<p>Area of a Rectangle</p>  <p>$length \times width = l \times w$</p>	<p>Circles</p>  <p>Circumference: $C = \pi \times d$ Area: $A = \pi \times r^2$</p>	<p>Volume of a Cuboid</p>  <p>$Length \times width \times height$ $V = l \times w \times h$</p>	<p>Volume of a Prism</p>  <p>$Area\ of\ a\ cross\ section \times length$</p>	<p>Pythagoras Theorem</p>  <p>$a^2 + b^2 = c^2$</p>																								
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<p>Area of a Triangle</p>  <p>$\frac{1}{2} \times base \times height = \frac{bh}{2}$</p>	<p>Sphere</p> <p>$S.A. = 4\pi r^2$ $V = \frac{4}{3}\pi r^3$</p> 	<p>Density</p>  <p>$density = \frac{mass}{volume}$</p>	<p>Quadratic Formula</p> <p>For: $ax^2 + bx + c = 0$</p> <p>$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$</p>	<p>Exact Values of Trigonometry Functions</p> <table border="1" data-bbox="1612 965 1982 1173"> <thead> <tr> <th></th> <th>0°</th> <th>30°</th> <th>45°</th> <th>60°</th> <th>90°</th> </tr> </thead> <tbody> <tr> <td>$\sin \theta$</td> <td>0</td> <td>$\frac{1}{2}$</td> <td>$\frac{\sqrt{2}}{2}$</td> <td>$\frac{\sqrt{3}}{2}$</td> <td>1</td> </tr> <tr> <td>$\cos \theta$</td> <td>1</td> <td>$\frac{\sqrt{3}}{2}$</td> <td>$\frac{\sqrt{2}}{2}$</td> <td>$\frac{1}{2}$</td> <td>0</td> </tr> <tr> <td>$\tan \theta$</td> <td>0</td> <td>$\frac{\sqrt{3}}{3}$</td> <td>1</td> <td>$\sqrt{3}$</td> <td>Not defined</td> </tr> </tbody> </table>		0°	30°	45°	60°	90°	$\sin \theta$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\cos \theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$\tan \theta$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	Not defined
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Religious Education

<p style="text-align: center;">Theme B (Religion and Life)</p> <ul style="list-style-type: none"> • Some Christians accept the big bang theory, which teaches that there was a massive expansion of space that set the creation of the universe in motion. • Literal Christians believe that the Bible is word for word accurate and therefore God made the world in 6 actual days. • Liberal Christians believe that the Bible is more symbolic and metaphorical. • Buddhists believe in a cyclical view of the world, so there is no beginning or end. • Christians were given stewardship and dominion over the world. Buddhists believe we should look after the environment for future generations. • Some Christians believe that animals can be tested on. Some Buddhists believe that animals should not be tested on. • Abortion and Euthanasia is generally rejected by Christians and Buddhists alike. • Christians believe we either go to heaven or hell. Buddhists believe that when we die we are reborn. 	<p style="text-align: center;">Theme B (Religion and Life)</p> <ol style="list-style-type: none"> 1. Which one of the following means human life is precious [1]: <ul style="list-style-type: none"> • Quality of Life • Meaning of Life • Length of Life • Sanctity of Life 2. Give two reasons why some religious people don't eat meat? [2]. 3. Explain two contrasting beliefs about Euthanasia [4]. 4. Explain two religious beliefs about how a person's actions in this life will affect what happens to them in the afterlife [5]. 5. 'Abuse of the environment is impossible to stop' [12]. 	<p style="text-align: center;">Theme D (Religion, Peace and Conflict)</p> <ul style="list-style-type: none"> • Some Christians believe that war is always wrong, but some accept it under certain conditions. • Buddhism teaches that there are no justifiable reasons for war, and people cannot relieve their own suffering by making others suffer. • Most Christians are against terrorism and prefer peaceful ways of resolving issues. Buddhists condemn terrorism because it expresses hatred. • No religion supports the use of nuclear weapons. • A Just war is a war that meets internationally accepted criteria for fairness. A holy war is fought for a religious cause of God. • Pacifism is the belief of people who refuse to take part in war and any other forms of violence. • Peacemaking is the action of trying to establish peace. • Victims of war may include those directly involved in fighting, their families or dependants.
<p style="text-align: center;">Theme D (Religion, Peace and Conflict)</p> <ol style="list-style-type: none"> 1. Which one of the following means that we should live in peace and harmony [1]: <ul style="list-style-type: none"> • To reform • To be reconciled • To have justice • To retaliate 2. Give two reasons why many religious believers are against violence [2]. 3. Explain two contrasting religious beliefs about nuclear weapons [4]. 4. Explain two religious beliefs which show all acts of terrorism is wrong [5]. 5. 'War is the best way to solve issues between countries' [12] 	<p style="text-align: center;">Theme E (Religion, Crime and Punishment)</p> <ul style="list-style-type: none"> • Christians are against law breaking such as hate crime 'love your neighbour'. • Buddhists say hatred is one of the 3 poisons. • The aims of punishment are retribution, deterrence and reformation. • Suffering is ok in Christianity as it can be seen as a test or to replicate Jesus' suffering. A Buddhist's main goal is to overcome suffering to achieve enlightenment. • Prison, corporal punishment and community services are ways of punishment. • Christians believe in forgiveness: 'father forgive them for they know not what they have done'. • Buddhists believe we shouldn't harbour hatred so we should forgive and forget. • Most Christians are against the death penalty as 'thou shall not kill'. Buddhists agree as it goes against the 5 moral precepts. 	<p style="text-align: center;">Theme E (Religion, Crime and Punishment)</p> <ol style="list-style-type: none"> 1. Which is not an aim of punishment [1]: <ul style="list-style-type: none"> • Forgiveness • Retribution • Reformation • Deterrence 2. Give two causes of crime [2]. 3. Explain two similar religious beliefs about the use of community service as a punishment [4]. 4. Explain two religious beliefs that suggest all hate crimes are wrong [5]. 5. 'The death penalty should never be used' [12].

Religious Education

Theme F (Human Rights and Social Justice)	Theme F (Human Rights and Social Justice)	Christianity (Beliefs)
<ul style="list-style-type: none"> • Human rights are the basic entitlement of all humans. • Social Justice means ensuring society is fair and equal. • There are many teachings in the Bible about the importance of social justice 'let justice roll on like a river'. • Buddhism teaches we should try to relieve the suffering of others. • In early Christianity 'women should remain silent in Churches'. • Despite the Buddha ordaining nuns, he was reluctant to do so. • Christianity encourages tolerance and harmony 'if possible...live at peace with everyone'. • The Buddha encouraged respect 'every person on this earth has the freedom to practise or not practise religion'. • Positive discrimination means treating people favourably because they have been discriminated against in the past. • Christians believe 'money is the root of all evil'. Buddhists believe it's your attitude to money that matters. • Exploitation of the poor involves fair pay, loan interest and people trafficking. 	<ol style="list-style-type: none"> 1. Which one of the following aims to reduce poverty [1]: <ul style="list-style-type: none"> • Fair pay • Excessive loan interest • Exploitation • Idleness 2. Give two religious beliefs on social justice [2]. 3. Explain two similar religious beliefs about the responsibilities of having wealth [4]. 4. Explain two religious beliefs that show why racial discrimination is wrong [5]. 5. 'If everyone followed religious teachings the laws about human rights would not be needed' [12]. 	<ul style="list-style-type: none"> • God is omnipotent, omnibenevolent and omniscient. • The Trinity is God the son, father and holy spirit. • Christians believe God created the world 'in the beginning God created the heavens and the earth'. • Jesus was the messiah, he died on the cross to save our sins due to Adam and Eve and original sin. • Jesus resurrected on Easter Sunday, and then ascended to heaven 40 days later to be reunited with God. • Jesus' resurrection proves there is an afterlife. • We will be judged by God on the day of judgement and either go to heaven, hell or purgatory (catholic idea). • Sin is a thought or action that separates us from God. • Jesus died to achieve salvation as he atoned for our sins. <p>'A loving God wouldn't send anyone to hell' [12]</p>
Christianity (Practices)	Buddhism (Beliefs)	Buddhism (Practices)
<ul style="list-style-type: none"> • Christians have liturgical, informal and private worship. • Prayer is important as it is a way to communicate with God. The Lord's prayer is an example of a 'set prayer'. • Holy communion and baptism are the most important sacraments. • Christians go on a pilgrimage to Lodes and Iona. • The Church helps in the local community such as through the trussell trust and the oasis project. • Street pastors are volunteers who help with anti social behaviour and those who need help late at night. • Evangelicals spread the mission of Christianity as Jesus said 'go out and make disciples of all nations'. • The Church expects new Christians to help spread the faith as part of their commitment to Jesus. • 'Christ of all nations' is an example of a Christian organisation that promotes evangelism. • The worldwide Church has a mission to restore people's relationships with God and one another. • Christians have faced persecution (hostility / ill treatment). • Christian Aid, Tearfund and CAFOD all help others. <p>'Infant baptism isn't as important as believers' [12]</p>	<ul style="list-style-type: none"> • The Buddha was born 2500 years ago in a rich family. • 4 sights: old age, illness, death and a holy man. • Siddhartha lived as an ascetic for 6 years. • Enlightenment = spiritual wisdom that arises from understanding the true nature of reality. • Dhamma = Buddha's teachings. • Dependent arising = everything arises in dependence upon conditions. • Dukkah = Suffering. • Anicca = Impermanence. • Anatta = People don't have a fixed self / soul. • The four noble truths taught the Buddha about suffering: why / how it exists and how to stop it. • Theravada Buddhism is the oldest school. • Mahayana Buddhism is a term used to describe a number of different Buddhist traditions that share some overlapping characteristics e.g. pure land. <p>'The four noble truths are the most important teachings [12]</p>	<ul style="list-style-type: none"> • A temple is the Buddhist place of Worship. • A shrine is an area with a statue or image of a Buddha or Bodhisattva. It provides a focal point. • A monastery (vihara or gompa) is where a community of Buddhist monks or nuns live. • A stupa is a tiered tower which contains the remains or relics of an important Buddhist. • Buddhists chant, have mantras and meditate. • There is samatha and vipassana meditation. • Buddhist tradition teaches that when a Buddhist died, their kammic energy leaves their body and is reborn into a new one. • Buddhists celebrate wesak and parinirvana day. • Karma = cause and effect / Compassion = Karuna / Loving - kindness = metta • The 5 moral precepts form an ethical code. The 6 perfections are virtues Mahayana Buddhists try to develop. <p>'It is impossible to always act with karuna' [12]</p>



ISCA ACADEMY

INSPIRATION FOR LIFE