



Handy hints, tips and strategies to help you revise successfully for your core subjects!

I  **REVISION**

21 Tips for Revision

1. **Don't spend ages making your notes look pretty**

— This is just wasting time. For diagrams, include all the details you need to learn, but don't try to produce a work of art. Limit yourself to 2 or 3 colours so you don't get carried away colouring things in.

2. **Take short breaks**

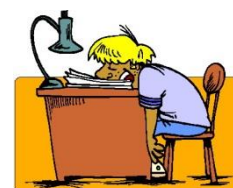
— Every hour, not every 10 minutes.

3. **Use revision guides**

— We've given you loads of revision guides so use them, they're good!

4. **Sleep on your exam notes**

— This will enable you to revise by osmosis. If you are going to do this, it's best not to learn anything until the night before the exam. Stick a revision guide under your pillow and when you wake the next day, you'll find the full contents of the book have been absorbed into your brain.



5. **Stick revision notes all around your house**

— So in the exam you think — "aha, quadratic equations, they were on the fridge..."

6. **Get yourself drinks and snacks**

— So you don't make excuses to stop every 10 minutes...

7. **Try reading difficult bits in funny accents**

— Australian is particularly good...



8. **Sit at a proper desk**

— Don't try to revise in bed — you'll be in the land of pink igloos and elephants before you can say "Captain Birdseye".

9. **Don't put it off**

— "Procrastination" is the long word for it. And it means rearranging stuff on your desk, getting a sudden urge after 16 years to tidy your room, playing the guitar, thinking about the weekend, writing love poems about that girl/boy you fancy, painting your toenails, etc., etc. etc.,... Sit down at your desk and GET ON WITH IT.

10. **Don't just read your notes**

— You have to WRITE STUFF DOWN. This is real basic "how to revise" stuff. For the full details, get yourself a copy of our "How to Revise" book.

11. Don't turn yourself into a revision zombie

— If you stop doing anything else but revision you'll turn into a zombie. It's really important that you keep time to do things you enjoy... like cinema, shopping, sports, frisbee, rock-climbing, making model planes, nose-picking, whatever tickles your ferret... When you're doing these try to relax and totally forget about revision.



12. Do lots of practice exam papers

— This is especially important as you get close to the exams.

13. Read the exam timetable properly

— Double-check so you don't miss an exam and have plenty of time to prepare for it.

14. If really stuck in the exam... play the earthquake game

— Throw all your pens in the air and they'll form the name of a city about to be hit by an earthquake.

15. Find the right environment to revise

— NOT in front of the TV. NOT listening to the radio. Music can sometimes be OK, but you need to find the right kind. It's got to be something that's just there in the background that you're not thinking about at all. Music without singing is better as you won't be tempted to dance around your bedroom like a big fool.

16. Dress as a medieval knight and demand your pass the exam

— This is an old tradition, which states that anyone attending the examination in full knight's costume has the right to demand an immediate pass on the exam. Unfortunately, you need to be carrying a sword and if you try this you'll be arrested and sent to prison.



You may have noticed that 5 of these aren't entirely sensible. A true revision master will spot them all in a jiffy. Have a bash at putting the numbers (in ascending order) in the boxes below (just to check you were paying attention!)

Revision Timetables

Make yourself a revision timetable. We've got 4 weeks to go until the first exam so start planning your revision for after school and the weekend, for the next four weeks. Change your exam timetable as you start the exam period so you can start to prioritise.

Remember: breaks are important, don't overdo it! (Include your Enrichment sessions in the 2:30 slot).

Here's an example revision timetable below.

After School Revision					
	Monday	Tuesday	Wednesday	Thursday	Friday
2:30		Enrichment	Enrichment	Enrichment	Enrichment
3:30					
4:30	Maths	English	Maths	English	Science
5:30					
6:30	Science	Option A	Option B	Option C	Option D
7:30	RE		RE		

Weekend Revision		
	Saturday	Sunday
9:00	Option A – 1hr 30mins	
10:00	RE – 30mins	
11:00		Option C – 1hr 30mins
12:00		Maths – 30mins
1:00	Option B – 1hr 30mins	
2:00	Science – 30mins	
3:00		Option D – 1hr 30mins
4:00		English – 30mins

Below is the table of contents for the rest of the booklet. Your core subject teachers have provided you with revision checklists and we have combined all of them into one booklet. Check below and highlight the subjects you study so you know which to revise.

Table of Contents

<u>Subject</u>	<u>Pages</u>
English	6-26
Maths	17-22
Science	23-55
RE	56-89

English Revision

What types of writing tasks can you expect?

Formal Letter/ Informal Letter/ Report/ Article/ Review/ Leaflet/ Speech

How should you approach these tasks? PACS Purpose, Audience, Content, Style.

Formal Letter

Layout

Your Address...

Postcode...

Date

Their Address

Postcode

Dear.....

Yours ... ,

Things to remember:

- * Explain WHY you are writing in the first paragraph
- * Be POLITE but direct
- * Use PARAGRAPHS, each with its own idea
- * Check your PUNCTUATION. Think about WHO you are writing to
- * Adapt your language for the person you are writing to.

Closing

- * A last paragraph that closes your letter
- * If you used Dear sir or madam, or a job title with no name (e.g. Dear Editor), then use Yours Faithfully
- * If you used a name then it's Yours Sincerely

Informal Letter

Layout

Your Address

Postcode

Miss a line

Date

Greeting (Hi, Hello, then the person's name)

Things to remember

- * Use more INFORMAL language
- * Think about WHO you are writing to. Adapt your language.
- * Think about WHY you are writing.
- * Break the letter into PARAGRAPHS
- * Check your PUNCTUATION

Closing

You use endings such as 'Lots of love...'

Article

Headline or Article Title

Keep it short

Make it catchy

Give an idea of what the rest of the article will be about.

Introductory paragraph

Give a brief outline of the subject.

Keep this section to a few initial ideas and sentences.

Main body of the article

Try to answer all of the reader's questions like **why**, **how** and **what**.

Make each paragraph relevant to the subject or the title of the article.

Add plenty of detail so your reader fully understands you.

Answer the important points in this section.

The conclusion of the article

This should always be at the end.

Give a summary of the article.

Give recommendations/overview linked to introduction.

Review 1. Film

Title

Introduction ... was it what you expected?

Genre ... What type of film

Characters ... Who? Good? Believable?

Camerawork /Animation... CGI

Memorable scenes?

Would you recommend?

Are there any other films you can compare this one to?

Review 2. Film

Remember to ...

Set you work out in PARAGRAPHS.

Take care with SPELLING and PUNCTUATION.

Make the review INTERSETING to read. Choose your language carefully.

Write in the FIRST PERSON.

ADDRESS the reader directly.

Persuasive Speeches

Planning

Plan your speech before you write it.

Plan the main points and use 3–5 points.

How to set it out

OPENING STATEMENT – highlight the issue.

DEVELOPING POINTS – 3–5 points (as paragraphs) to explain what needs to be done and why it is so important.

CLOSING STATEMENT – where you make a final appeal to your audience.

Persuasive Speeches

Things to remember

Create sentences that contain:

* A RHETORICAL QUESTION

* RULE OF THREE

- * METAPHOR
- * ALLITERATION

Leaflet

Heading

What heading will you give your leaflet?

Try to make it: Memorable, direct, interesting, eye-catching.

Try to use techniques like: A question, a direct statement, alliteration etc.

Picture

What picture will you use to support your heading?

Just indicate what the picture will be **DO NOT WASTE TIME DRAWING!**

Features

What are the main features of what you are advertising/arguing for?

Remember:

Summarise the main points.

Keep it brief and direct.

Use sub-headings.

Use descriptive/emotive language.

Use positive descriptions and intensifiers.

Additional Details

What additional details do your audience need to know?

Remember:

Use persuasive language.

Use factual details.

Use other people's opinions to persuade your audience.

Use (suitable) exaggerations to persuade your audience.

Contact Details

How can your audience find/get involved with your product?

Images

What images are you going to use throughout your leaflet?

Think about: Your audience, your product/cause.

AGAIN DO NOT DRAW – JUST WRITE WHAT WILL BE THERE.

Report

Introduction

Introduction: This should summarise:

What the report is about.

Why you have been asked to write it.

How you went about researching it.

What your report intends to do.

Main body

This section should contain the findings of your report.

Think about including:

Statistics to back up your points.

Opinions from people involved in what you are writing about.

Any details on what has been done already to solve the problem you are writing about.

Whether whatever has been done already has been effective or not.

Recommendations

This section should include any suggestions you have for how the problem can be solved and should be based on the findings you included in the main body of your report.

These recommendations should:

Be written in a bullet-pointed list.

Be brief and direct.

Solve the problems you wrote about in the main body of your report.

Explain how each recommendation solves these problems.

Conclusion

This section should summarise your report and its findings.

Try to: Finish on a positive note. You need to be able to convince your readers that the problems can be solved by the recommendations you have made.

Keep your conclusion brief.

Tips for Unit 1

- Read the questions first and use the CORRECT text to answer the question!
- Read the texts line by line, highlighting/underlining points to answer question.
- Recognise the type of question you have been asked and what you need to do (see list). **HIGHLIGHT KEY WORDS IN THE QUESTIONS!**
- Use integrated quotations in your answers where necessary– short quotes.
- **WATCH YOUR TIMING** – realistically speaking, you have 12 minutes to write an answer.
- If you miss out a question you will be throwing away a grade.
- **YOU NEED TO ACCUMULATE TICKS - 5/7 marks for a C/B and 8/10 marks for an A/A*.**
(Higher tier) 7/8 marks for grade C on Foundation tier
- Answer the question you are asked NOT what you think you have been asked!
- Read the questions VERY carefully *and* more than once.
- Keep the questions in front of you and refer to them using key words from them in your answers.

Location/information retrieval question (normally question 1)

This question tests **reading and understanding text and selecting material appropriate to purpose.**

Tips –

- Track the text – work from the beginning to the end
- This type of question will need little in the way of explanation – don't waste time but be specific.

Viewpoint and attitude – (writer's)

This question tests **the ability to develop and sustain interpretations of the writer's ideas and perspectives.**

Tips –

- Track the text
- Add any words for thoughts/ feelings.
- It is important to use key words from the question to make sentence stem i.e. David Beckham thinks...feels... He thinks...feels... Because it says...which suggests that...

Impressions (reader's)

This question **tests the ability to read with insight and engagement, to make appropriate references to texts and to sustain an interpretation.**

Tips –

- Track the text
- Add any words for impressions.
- It is important to use key words from the question to make sentence stem i.e. My first impression is....My next/second impression is...A further impression is...

Writer's craft/persuasion (HOW)

This question tests **the ability to explain and evaluate how writers use linguistic, grammatical structure and presentational features to achieve effects and influence the reader.**

Tips –

- This is a HOW question, the key is on CONTENT and not techniques. What is said forms the majority of the marks on the mark scheme with the techniques only being a handful of the bullet points on the mark scheme.
- The main things to focus on are the ARGUMENTS the writer puts forward.
- Track the text – pick out the writer's points from beginning to end.
- Then comment on HOW he makes those arguments.

Compare/contrast (normally question 4)

To answer this question you will need to look at both texts.

EXAMPLE QUESTION

What **impressions** do these **two texts** give of footballers? **Organise your answer under the following headings:**

- the impressions given by James Lawton;
- the impressions given by Louise Taylor. [10]

You must make it clear in your answer which text you are taking your information from.

This question tests **reading and understanding texts, selecting material appropriate to purpose, collating from different sources and making comparisons and cross-references as appropriate.**

Tips –

- Track the texts
- **MAKE SURE YOU ORGANISE YOUR ANSWER EXACTLY AS IT TELLS YOU TO!** i.e.

You must refer to both texts in each paragraph if you are told to!

- You must also make sure you say which text

Unit 2

You will be asked to complete 2 pieces of writing. The type of writing you are going to be asked to produce could be any of the following:

- A letter – formal OR informal.
- A leaflet.
- An article for a newspaper or a magazine.
- A speech.
- A report.
- A review.

Top Tips for Formal Letter Writing

Top Tips

1. Your audience will usually be someone you do not know or someone you don't know very well. This could be a potential employer, a newspaper editor, a head teacher or a member of the local council.
2. Your purpose could be to make a complaint about something, to apply for a job or to give your point of view in a persuasive way.
3. Your language needs to be formal and polite, with no slang or text language.
4. Your tone needs to be firm, polite and serious. You cannot be chatty or rude here!
5. In the exam you will be expected to set out your letter correctly.

David Smith (Mr)
2 Hemlington Drive
Marske-by-the-Sea
Redcar
TS12 8NP
12/ 05/ 14

Mrs Sweeten
Redcar Academy
Kirkleatham Lane
Redcar
TS10 4AB

Dear Mrs. Sweeten

I would like to apply for the position of the Head of English as I have heard wonderful things about not only your school but your students.

I have been teaching for.....

Thank you for taking the time to read my letter and I look forward to hearing from you.

Yours sincerely

David Smith (signature)

David Smith

Top Tips for Informal Letter Writing

Top Tips

1. Your audience will usually be family, close friends and people you know well.
2. Your purpose is to provide them with information, to entertain them or give them friendly advice.
3. Your language can be informal and relaxed, but don't use text language or slang.
4. Your tone should be friendly.
5. In the exam you will be expected to set out your letter correctly and you will either be given an address or told to use your own.

Deborah Smith (Miss)
23 Wyke Way
Markse-by-the-Sea
Redcar
TS11 4BD
14/ 05/ 14

Dear John

I am writing to let you know we had a wonderful holiday with you and Jane and are really looking forward to spending more time with you and your lovely children at Christmas.

Once you get your available dates...

Take care and lots of love to you both

Debs

Top Tips for Reviews

Top Tips

1. Always read the question carefully and underline the key words to decide on the purpose (why you are writing the review) and the audience (who will read it).
2. Your review should be written in paragraphs and should finish with your opinion/ recommendation of the topic being reviewed.
3. The purpose of writing a review is to pass on information to the reader by giving your opinion of the item you are reviewing, whether it be a film, book, CD or concert.
4. If you are reviewing a film or book, do not retell what happens because this will spoil the ending for the viewer/ reader.
5. Your audience will vary, but the exam paper will always make clear which person, group of people or organisation your review is aimed at. This must influence the tone of your review.
6. A review should be written in organised paragraphs. You should begin by stating the title of the item you are reviewing and using this as a heading. Subheadings may be used.
7. You should always finish with your opinion and a recommendation, and you may include a star rating.

Top Tips for Articles

Top Tips

1. Your audience will usually be teenage magazine readers. Remember, if you are asked to write an article for a newspaper you will have to write in a slightly more formal way. **In the exam you will be told who the audience will be.**
2. Your purpose is generally to give information or put forward an opinion in an entertaining and lively way.
3. Your language will depend on the topic and audience, but generally it should be quite chatty.
4. Your tone will depend on the actual task, but it should usually be quite lively
5. You will be expected to organise your writing in a clear and purposeful way:
 - a heading – as catchy as possible;
 - an introduction – to grab the attention;
 - 3 – 4 paragraphs expanding your ideas and showing your viewpoint;
 - a short conclusion.

Top Tips for Writing Leaflets

Top Tips

1. Always read the question carefully and underline the key words to decide on the purpose (why you are writing the leaflet) and the audience (who will read the leaflet).
2. Select only what is relevant and important.
3. Organise your facts/ ideas clearly so the reader can understand easily. Remember to include a heading and subheadings/ sections to divide our points logically.
4. Write your ideas in a clear and accurate way.
5. You are not expected to design and draw artistic pictures. If you want to show where you think a picture would be helpful, simply draw a box and write inside it what the picture would show.
6. Your audience will vary, but the exam paper will always make it clear which person, group of people or organisation your leaflet should be aimed at. This must influence what you include in your leaflet.

P.A.C.S planning

No matter what the question, the first thing you must do is to identify

P.A.C.S

Purpose – what are you being asked to write FOR?

Audience – who is the piece aimed at?

Content – what are you going to actually *include*?

Style? – HOW are you going to write it?

Plan

No matter what the question, the next thing you must do is

PLAN

Planning only means getting down on paper your IDEAS for answering the question.

You need 4 or 5 ideas for answering the question.

It doesn't matter how you write your ideas, just get them down.

If you don't know which way suits you best, experiment over the next few weeks. Try bullet points, mindmaps/spider diagrams, lists.

Organise

Once you have planned, you **must** get your ideas put into some sort of logical order.

You can also make sure you include paragraphs in your essay by doing this as each point should be developed into a paragraph!

Writing the essay...

Once you have got your basic ideas into a logical order, you now need to build the essay.

TAKE A POINT AT A TIME AND BUILD A PARAGRAPH LIKE THIS:

1. Begin your paragraph with a **TOPIC SENTENCE** (a sentence that sums up the point).
2. Then develop the idea/point/argument by using between 4 and 7 sentences to do with the topic sentence.

How to build your paragraphs

INCLUDE SENTENCES THAT:

- Give a fact or statistic about the main point of the paragraph.
- Give an opinion about the fact or statistic
- Include a personal anecdote.
- Offer an opinion from an expert.
- Include a rhetorical question.
- Include a suggestion.
- Develop a sentence on any of the above.

Maths Revision – Foundation Paper (Grade C)

<u>Date</u>	<u>Topic</u>	<u>Page no.</u>	<u>Grade</u>	<u>MW clip</u>	<u>Completed</u>
wb 09.03.15	Addition & subtraction	3	G	16	
	Multiplication & division	4	F	17, 18	
	Decimals	5, 6	F	2, 15, 16, 19	
	Negative numbers	8	F	6, 99	
	BIDMAS	15	E	59	
	Calculator skills	15	C	63	
wb 16.03.15	Reading scales	60	G	4	
	Timetables	61	F	24	
	Conversion	62, 63	F	35, 43	
	Speed, distance, time	64	D	126	
	Substitution	35, 64	D	66	
	Formulae	36, 37	D	30, 65	
	Rearranging formulae	38	C	107	
wb 23.03.15	Place value	1, 5	G	1	
	Rounding	2	G	3	
	Significant figures	2	D	20	
	Estimation	7, 54	D	14, 101	
	Measuring angles	49	F	79	
	Bearings	55	C	131	
	Scale drawings and maps	56	C	64	
	Constructions and loci	76 - 78	C	80, 127 - 130	
wb 30.03.15	Sequences	27, 28	D	29, 65, 112	
	Solving equations	29, 30	C	105a-b	
	Writing equations	31	C	106	
	Trial and improvement	32	C	110	
	Practice Paper 1				
	Inequalities	33, 34	C	108, 109	
wb 06.04.15	Collecting data	89	D	84, 134	
	Two way tables	90	C	85	
	Probability	100 - 102	D	40, 90, 91, 132	
	2D shapes	58	F	36	
	3D shapes	70	G	37, 39	
	Plans and elevations	71	D	81	
	Congruence	59	F	32, 38	
	Similarity	84	E	123	
wb 13.04.15	Pythagoras' theorem	85, 86	C	118, 119	
	Squares, cubes, roots	9	F	9, 45, 46	
	Factors, multiples, primes	10	F	44	
	Factor trees	10, 11	C	95	
	HCF & LCM	11	C	96	
wb 20.04.15	Simplifying expressions	23	C	102	
	Indices	24	C	111	
	Expanding brackets	25	D	103	
	Factorising	26	C	104	
	Symmetry	57	E	83	
	Translation	79, 83	C	77	

Maths Revision – Foundation Paper (Grade C)

<u>Date</u>	<u>Topic</u>	<u>Page no.</u>	<u>Grade</u>	<u>MW clip</u>	<u>Completed</u>
	Reflection	80, 83	C	75	
	Rotation	81, 83	C	74	
	Enlargement	82, 83	C	76	
wb 27.04.15	Pictograms & Bar Charts	91 & 92	G & F	42 & 88	
	Frequency polygons	93	C	88	
	Pie charts	94	D	86	
	Practice Paper 2				
	Scatter graphs	99	D	87	
wb 04.05.15	Equivalent fractions	12	G	47, 48	
	Fractions of amounts	12	F	55	
	Fraction operations	13	D	56a-b, 57	
	Mixed numbers	14	C	56a, 57	
wb 11.05.15	Angle properties	50, 51	E	67, 70	
	Compound angles	52	C	68, 69	
	Angles in polygons	53	C	70	
	Co-ordinates	39	E	28	
	Straight line graphs	40, 41	C	65, 113, 114	
	Interpreting graphs	42 - 44	D	27, 117	
wb 18.05.15	FDP equivalence	16, 18	E	13, 53, 54, 58	
	Percentages of amounts	16, 18	E	51, 52	
	Percentage inc. / dec.	17	C	93	
	Ratio and proportion	19	C	23, 61, 94	
	Number problem solving	20, 21	C	64, 92	
wb 25.05.15	Averages	95	E	41	
	Stem and leaf	96	D	89	
	Averages from tables	97, 98	C	133	
	Area and perimeter	65 - 67	D	33a-d, 126	
	Circumference	68	C	72	
	Area of a circle	69	C	71	
	Volume	72, 73, 75	C	34, 122	
	Surface area	73, 75	D	121	
	Cylinders	74	C	122	

Maths Revision – Higher Paper (Grade B)

<u>Date</u>	<u>Topic</u>	<u>Page no.</u>	<u>Grade</u>	<u>MW clip</u>	<u>Completed</u>
wb 09.03.15	Plans & Elevations	54	C	81	
	Constructions	71	C	127-129	
	Loci	72	C	130	
	Simplifying	19	C	102	
	Expanding brackets	21	C	103	
	Factorising	22	B	104, 140-141	
wb 16.03.15	Ratio	11	C	61, 94	
	Proportion	12	C	62	
	Maps & scale and Bearings	69, 70	C	79, 131	
	Practice Paper 1				
	Angle properties	51, 52	C	67-69	
	Angles in polygons	53	C	70	
	Circle theorems	84, 85	A	150	
wb 23.03.15	Mean, median, mode, range	93	C	133	
	Averages from frequency tables	94	C	133	
	Linear equations	23, 24	C	105	
	Inequalities	32	C	108-109	
	Formulae	29, 30	A	106-107, 164	
	Simultaneous equations	36	A	142	
wb 30.03.15	Perimeter and area	55	C	73	
	Surface area	56, 61	A*	121, 177	
	Circumference and area	57, 58	C	71-72	
	Fractions	3, 8	B	47-49, 55-58, 139	
	Decimals	4	B	60, 100	
wb 06.04.15	Real life & Straight line graphs	28, 25	C	117, 113	
	Equation of a straight line	26	B	114, 143	
	Line segments	76	B	119	
	Inequalities	32	B	144	
	3D co-ordinates	27	B	120	
	Quadratic and cubic graphs	33	A	116, 145-146	
wb 13.04.15	Volume	56, 57	C	122	
	Units of volume	63	C	122	
	Questionnaires	90	C	84, 134	
	Stratified sampling	92	A	183	
	Two way tables	91	C	85	
	Probability	101	B	132, 182	
	Tree diagrams	102	A	154	

Maths Revision – Higher Paper (Grade B)

<u>Date</u>	<u>Topic</u>	<u>Page no.</u>	<u>Grade</u>	<u>MW clip</u>	<u>Completed</u>
wb 20.04.15	Factors, multiples, primes	1	C	44	
	Indices	2, 13	C-A	45-46, 156	
	Standard form	14	A	97, 135	
	Surds	16	B-A*	157-158	
	Scatter graphs	100	C	87	
	Frequency polygons	96	B	88	
	Speed, distance, time	64	C	126	
wb 27.04.15	Trial and improvement	35	C	110	
	Practice Paper 2				
	Simplifying algebraic fractions	47	A*	163a	
	Rounding and estimation	6	C	101	
	Upper and lower bounds	7	A	160	
	Calculator skills	15	C	63	
wb 04.05.15	Converting units	62	C	64	
	Pythagoras' theorem	60	C	118	
	3D Pythagoras	79	A	118, 174	
	Trigonometry	77, 78	B	147	
	Sequences	19	C	65, 112,	
	Proof	48	–	–	
wb 11.05.15	Problem solving	49	–	–	
	Percentage change	8, 9	C	51-54, 92-93, 136	
	Reverse percentages	10	B	138	
	Problem solving	17, 18	–	–	
wb 18.05.15	Vectors	86, 87	A*	180	
	Interquartile range	95	B	151	
	Cumulative frequency	98	B	151	
	Box plots	99	B	152	
wb 25.05.15	Transformations	73 - 75	C	74-77	
	Data Problem solving	103	–	–	
	Problem solving	88, 89	–	–	
	Compound interest	10	B	137	

Maths Revision – Higher Paper (Grade A)

<u>Date</u>	<u>Topic</u>	<u>Page no.</u>	<u>Grade</u>	<u>MW clip</u>	<u>Completed</u>
wb 09.03.15	Plans & Elevations	54	C	81	
	Constructions	71	C	127-129	
	Loci	72	C	130	
	Simplifying	19	C	102	
wb 16.03.15	Expanding brackets	21	C	103	
	Factorising	22	B	104, 140-141	
	Completing the square	38	A*	162	
	Ratio	11	C	61, 94	
	Proportion	12	C	62	
wb 23.03.15	Maps & scale and Bearings	69, 70	C	79, 131	
	Practice Paper 1				
	Angle properties	51, 52	C	67-69	
	Angles in polygons	53	C	70	
	Circle theorems	84, 85	A	150	
	Mean, median, mode, range	93	B	133	
	Averages from frequency tables	94	B	133	
wb 30.03.15	Linear equations	23, 24	C	105	
	Inequalities	32	C	108-109	
	Formulae	29, 30	A	106-107, 164	
	Simultaneous equations	36, 42	A	142, 165	
	Direct proportion	43	A	159	
	Indirect proportion	44	A	159	
wb 06.04.15	Perimeter and area	55	C	73	
	Surface area	56, 61	A*	121, 177	
	Circumference and area	57, 58	C	71-72	
	Fractions	3, 8	B	47-49, 55-58, 139	
	Decimals	4	B	60, 100	
	Recurring decimals	5	A	98, 155	
wb 13.04.15	Real life & Straight line graphs	28, 25	C	117, 113	
	Equation of a straight line	26	B	114, 143	
	Line segments	76	B	119	
	Inequalities	32	B	144	
	3D co-ordinates	27	B	120	
	Volume	56, 57	C	122	
	Volume of cones and spheres	59	A*	177	
	Units of volume	63	C	122	
wb 20.04.15	Questionnaires	90	C	84, 134	
	Stratified sampling	92	B	183	
	Two way tables	91	C	85	
	Probability	101	B	132, 182	
	Tree diagrams	102	A	154	
	Quadratic and cubic graphs	33	A	116, 145-146	
	Inverse and exponential graphs	34	A*	145-146, 170	
	Equation of a circle	41	A*	172	
wb 27.04.15	Congruence	66	A*	179	
	Similarity	67, 68	A	123, 149	

Maths Revision – Higher Paper (Grade A)

<u>Date</u>	<u>Topic</u>	<u>Page no.</u>	<u>Grade</u>	<u>MW clip</u>	<u>Completed</u>
	Factors, multiples, primes	1	C	44	
	Indices	2, 13	A*	45-46, 156	
	Standard form	14	A	97, 135	
	Surds	16	A*	157-158	
wb 04.05.15	Scatter graphs	100	C	87	
	Frequency polygons	96	B	88	
	Histograms	97	A*	181	
	Speed, distance, time	64	C	126	
	Density	65	B	126	
wb 11.05.15	Trial and improvement	35	C	110	
	Quadratic equations and formula	37, 39	A, A*	140, 161	
	Solving algebraic fractions	40	A*	163b	
	Practice Paper 2				
	Simplifying algebraic fractions	47	A*	163a	
	Rounding and estimation	6	C	101	
	Upper and lower bounds	7	A	160	
	Calculator skills	15	C	63	
	Converting units	62	C	64	
wb 18.05.15	Pythagoras' theorem	60	C	118	
	3D Pythagoras	79	A	118, 174	
	Trigonometry	77, 78	B	147	
	3D Trigonometry	80	A*	175	
	Sine rule	82	A*	173	
	Cosine rule	83	A*	173	
	Triangles and segments	81	A*	176, 178	
wb 25.05.15	Sequences	19	C	65, 112,	
	Proof	48	–	–	
	Problem solving	49, 50	–	–	
	Percentage change	8, 9	C	51-54, 92-93, 136	
	Reverse percentages	10	B	138	
	Problem solving	17, 18	–	–	
	Vectors	86, 87	A*	180	
wb 01.06.15	Interquartile range	95	B	151	
	Cumulative frequency	98	B	151	
	Box plots	99	B	152	
	Transformations	73 - 75	C	74-77	
	Transformations of graphs	45, 46	A*	167-169	
	Problem solving	103, 104	–	–	
	Problem solving	88, 89	–	–	
	Compound interest	10	B	137	




Science – Biology Core Sets 3-6




	☺	☹	☹
B1.1 Keeping healthy			
B1.1.1 Diet and exercise <ul style="list-style-type: none"> • Evaluate information about the effect of food on health. • Explain how carbohydrates, fats and proteins are used by the body to release energy and to build cells. • State that mineral ions and vitamins are needed in small amounts for healthy functioning of the body. • Describe factors that affect the metabolic rate, e.g. the rate varies with the amount of activity you do and the proportion of muscle to fat in your body. Explain how inherited factors can also affect our health; these include metabolic rate and cholesterol levels. • Analyse and evaluate claims made by slimming programmes and products. • Evaluate information about the effect of lifestyle on development of diseases. 			
B1.1.2 How our bodies defend themselves against infectious diseases <ul style="list-style-type: none"> • Explain how pathogens cause disease. • Describe aseptic techniques. • Describe the work of Semmelweis and link to results of class investigations. • Describe ways in which the body defends itself against disease. • Explain how microbes make us feel ill and how viruses damage cells. • Describe the actions of white blood cells using terms 'ingest', 'antibodies' and 'antitoxins'. • Explain the processes of natural and acquired immunity. • Evaluate the advantages and disadvantages of being vaccinated against a disease, e.g. the measles, mumps and rubella (MMR) vaccine. • Use aseptic techniques and explain the precautions taken when handling microorganisms. • Explain how antibiotics work. • Explain how the treatment of disease has changed due to understanding the action of antibiotics and immunity. • Explain the difficulty in developing drugs that kill viruses without damaging body tissues. • Evaluate the consequences of mutations of bacteria and viruses in relation to epidemics and pandemics. 			
B1.2 Nerves and hormones			
B1.2.1 The nervous system <ul style="list-style-type: none"> • Describe the functions of the main structures in the nervous system. Match receptors of the eye, ear, tongue and skin with the stimuli they detect. • Label a light receptor cell with a nucleus, cytoplasm and cell membrane. • Explain the importance of being able to respond to environmental changes. • Explain the importance of reflex actions and be able to give examples. • Describe the pathway of a nerve impulse in a reflex response and explain the roles of the structures involved. • Explain the role of chemicals at synapses. • Describe different ways of measuring reaction time. 			
B1.2.2 Control in the human body <ul style="list-style-type: none"> • Describe some conditions that need to be controlled in the body. • Measure body temperature. • Explain why body temperature has to be controlled. • Explain what hormones are. • Give some changes that occur at puberty and link with secretion of hormones. • Name the hormones that control the menstrual cycle and state the glands that produce them. • Evaluate the benefits and problems of using hormones to control fertility. • State the hormones that may be present in oral contraceptives. • Link the hormones used in oral contraceptives to their effects on the body. • Produce a flow diagram to explain the process of In Vitro Fertilisation (IVF). 			
B1.2.3 Control in plants <ul style="list-style-type: none"> • Describe how plant shoots and roots respond to light, gravity and moisture. • Draw diagrams to explain the role of auxin in plant responses in terms of unequal distribution in shoots and roots. • Explain how plant hormones are used as weed killers and rooting hormones. 			




B1.3 The use and abuse of drugs			
B1.3.1 Drugs <ul style="list-style-type: none"> Define the term 'drug'. Give examples of medical drugs. Explain why drugs need to be tested before they can be prescribed. Describe the uses and problems associated with thalidomide. Explain how the drug testing procedure for thalidomide was inappropriate. Describe the main steps in testing a new drug. Explain the terms placebo and double-blind trial. Describe and evaluate the effect of statins in cardiovascular disease. Name some recreational drugs. Describe some effects of caffeine on the body. Evaluate the impact of smoking on health. Evaluate why some people use illegal drugs for recreation. Evaluate claims made about the effect of prescribed and non-prescribed drugs on health. Evaluate the impact of alcohol on health. Evaluate why some people use illegal drugs for recreation. Evaluate claims made about the effect of prescribed and non-prescribed drugs on health. Describe the effects of cannabis on the body. Consider the possible progression from recreational to hard drugs. Describe the effects of heroin/cocaine addiction and withdrawal symptoms. Evaluate the use of drugs to enhance performance in sport. Consider the ethical issues of performance enhancing drugs. Describe some effects and risks of these drugs. 			
B1.4 Interdependence and adaptation			
B1.4.1 Adaptations <ul style="list-style-type: none"> Observe adaptations of a range of organisms. Explain how organisms are adapted to survive in their habitat. Describe and explain adaptations for survival in the Arctic. Describe and explain adaptations for survival in a desert. Define the term extremophile and be able to give general examples. List factors that affect the survival of organisms in their habitat. Give examples of resources that plants and animals compete for in a given habitat. Describe adaptations that some organisms have to avoid being eaten. Interpret population curves. 			
B1.4.2 Environmental change <ul style="list-style-type: none"> Evaluate data on environmental change and the distribution and behaviour of living organisms. Give examples of how an environment can change. Interpret data on lichen distribution and sulphur dioxide levels. Interpret data on invertebrates and water pollution. 			
B1.5 Energy and biomass in food chains			
B1.5.1 Energy in biomass <ul style="list-style-type: none"> Construct and interpret pyramids of biomass. Describe how energy and mass is transferred along a food chain. Explain why energy and biomass is reduced at successive stages in a food chain. 			
B1.6 Waste materials from plants and animals			
B1.6.1 Decay processes <ul style="list-style-type: none"> Describe how plants and animals return materials to the environment. Describe the role of microorganisms in decay. State factors affecting the rate of decay. Explain how decay is useful to plants. Evaluate the necessity and effectiveness of recycling organic kitchen or garden wastes. 			
B1.6.2 The carbon cycle <ul style="list-style-type: none"> Explain the carbon cycle in terms of photosynthesis, respiration, feeding, death and decay, combustion of wood and fossil fuels. Explain the role of microorganisms and detritus feeders in decay. 			
B1.7 Genetic variation and its control			
B1.7.1 Why organisms are different <ul style="list-style-type: none"> Classify characteristics as being due to genetic or environmental causes. Decide the best way to present information about variation in tables and charts. Label diagrams to illustrate the order of size of cell, nucleus, chromosome and gene. 			

<p>B1.7.2 Reproduction</p> <ul style="list-style-type: none"> • Explain why sexual reproduction results in variation, but asexual reproduction doesn't produce variation. • Describe sexual reproduction as the joining of male and female gametes. Define the term 'clone'. • Take plant cuttings and grow new plants. • Interpret information about cloning techniques. • Make informed judgements about the economic, social and ethical issues concerning cloning. • Describe the process of tissue culture in plants. • Explain the importance of cloning to plant growers. • Describe the process of embryo transplants in animals. • Describe the process of adult cell cloning in animals. • Explain advantages and disadvantages of cloning techniques. • Define the term 'genetic engineering'. • Describe the process of genetic engineering to produce bacteria that can produce insulin and crops that have desired characteristics. • Interpret information about genetic engineering techniques. • Make informed judgements about the economic, social and ethical issues concerning genetic engineering. • Explain advantages and disadvantages of genetic engineering. 			
<p>B1.8 Evolution</p>			
<p>B1.8.1 Evolution</p> <ul style="list-style-type: none"> • State the theory of evolution. Describe different theories of evolution. • Identify differences between Darwin's theory of evolution and conflicting theories. • Suggest reasons for the different theories. • Explain the terms 'inherited' and 'acquired' characteristics. • Describe the stages in natural selection. • Define the term 'mutation'. • Explain why mutation may lead to more rapid change in a species. • Suggest reasons why Darwin's theory was only gradually accepted. • Interpret evidence relating to evolutionary theory. • Classify organisms based on their similarities. 			

Science – Biology Additional Set 2 & 3a




<i>Can you...?</i>			
B2.1.1 Cells and cell structure			
State that all living things are made up of cells			
Identify, and describe the functions of, the following parts of human and animal cells: nucleus, cytoplasm, cell membrane, mitochondria and ribosomes.			
Identify, and describe the functions of, the following parts of plant and algal cells: chloroplasts and a permanent vacuole.			
Describe the main features of a bacterial cell, including the cytoplasm, cell membrane, cell wall and genes.			
Describe the main feature of a yeast cell, including the nucleus, cytoplasm, membrane and cell wall, and state that yeast is a single-celled fungus.			
Explain that cells may be specialised to carry out a particular function			
Relate the structure of different types of cell to their function			
B2.1.2 Dissolved substances			
Describe how dissolved substances can move in and out of cells			
Describe diffusion in terms of net movement of particles in gas or solution from an area of high concentration to an area of low concentration			
Relate the difference in concentration to the rate of diffusion			
State that dissolved substances must cross cell membranes to get into or out of cells			
Explain how oxygen required for respiration passes through cell membranes			

<i>Can you...?</i>			
B2.2.1 Animal organs			
Recognise that large multicellular organisms need to exchange materials with their environment, and develop systems to do so			
Describe the process of cell differentiation			
Define the term 'tissue'			
Identify, and describe the functions of, some animal tissues including: muscular tissue, glandular tissue and epithelial tissue			
Identify, and describe the functions of, and the tissues that may be contained in an organ such as the stomach			
Define the term 'organ system'			
Identify, and describe the functions of, the key organs of the digestive system: glands, the stomach, the liver, the small intestine, the large intestine			
B2.2.2 Plant organs			
Identify, and describe the functions of, the main organs of a plant: stems, roots and leaves			
Identify, and describe the functions of, the following plant tissues: epidermal tissue, mesophyll, xylem, phloem			

<i>Can you...?</i>			
B2.3.1 Photosynthesis			
Write the word equation for photosynthesis (including 'light energy' on the arrow)			
Explain the role of chlorophyll in photosynthesis, and state which types of cells contain chlorophyll			
Describe where the carbon dioxide and water used come from			
Give three examples of factors that may limit photosynthesis			
Interpret data showing how factors affect the rate of photosynthesis			
Evaluate the economic benefits of changing conditions in a greenhouse, using the principle of limiting factors			
Describe how the glucose produced in photosynthesis may be used in respiration, stored as starch, used to make fat or oil, used to make cellulose to strengthen cell walls, and used to make proteins			
State that nitrate ions absorbed from the soil are also needed by plants in order to make proteins			

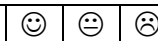
<i>Can you...?</i>	😊	😐	😞
B2.4.1 Distribution of organisms			
State that living organisms form communities and understand the relationships within and between these communities			
Identify six physical factors that may affect organisms			
Suggest reasons for the distribution of living organisms in a particular habitat			
Evaluate methods used to collect environmental data			
Consider the validity of the method used to collect the data, and the reproducibility of the data			
Relate sample size to both validity and reproducibility			
Recognise and terms 'mean' 'median' and 'mode'			

<i>Can you...?</i>	😊	😐	😞
B2.5.1 Proteins			
Describe the structure of proteins as a chain of amino acids folded into a specific shape			
Identify four types of proteins			
Define the term 'catalyst'			
Describe enzymes as biological catalysts			
B2.5.2 Enzymes			
Relate the shape of an enzyme to its function			
Describe how high temperatures affect enzymes			
Describe how enzymes work at different pH values			
Describe examples of enzymes that work outside of body cells, such as digestive enzymes, including details of where they are produced, where they go, and what reactions they catalyse			
Describe the function and sites of production of amylase, protease enzymes and lipase enzymes			
Relate the acidic conditions in the stomach to the enzymes produced there			
Outline the role of bile, produced by the liver, in digestion of food			
Relate the pH of bile to the action of enzymes in the small intestine			
Describe two examples of enzymes that are produced by microorganisms that can be used in products found in the home			
Describe three examples of enzymes produced by microorganisms that are used in the manufacture of foods and food additives			
Evaluate the advantages and disadvantages of using enzymes in the home and industry, in terms of reaction conditions, rates of reaction and costs			

<i>Can you...?</i>			
B2.6.1 Aerobic respiration			
State that the chemical reactions inside cells are controlled by enzymes			
State the reactants needed for the reactions involved in aerobic respiration			
State that aerobic respiration takes place continuously in plants and animals			
Identify where, in cells, most of the reactions in aerobic respiration happen			
Write the word equation that sums up aerobic respiration			
Describe three ways that energy from respiration may be used in animals, and one way in which it may be used in plants			
Describe the changes to heart rate and breathing that take place during exercise			
Explain why these changes take place, in terms of blood flow, sugar and oxygen supply, and removal of carbon dioxide			
Describe how muscles store glucose for future use			
B2.6.2 Anaerobic respiration			
Identify when anaerobic respiration would be used in muscles			
Describe anaerobic respiration as the incomplete breakdown of glucose to produce lactic acid			
(HT) Relate the incomplete breakdown of glucose to the relatively low energy yield from anaerobic respiration			
(HT) Explain how anaerobic respiration can lead to an oxygen debt, and state the two reasons why this oxygen must be 'repaid'			
Describe muscle fatigue and relate it to the build up of lactic acid from anaerobic respiration			
State that blood flowing through muscles removes lactic acid			
Interpret data relating to the effects of exercise on the human body			

<i>Can you...?</i>	😊	😐	😞
B2.7.1 Cell division			
Identify where pairs of chromosomes (which contain genetic information) are normally found in body cells			
Describe how body cells divide by mitosis, including copying of the genetic material and division to form two identical body cells			
State that mitosis occurs during growth or to produce replacement cells			
Compare the number of chromosomes in body cells and sex cells (gametes)			
Identify the reproductive organs as testes and ovaries			
State that meiosis is the type of cell division that forms gametes			
(HT) Describe meiosis in terms of copying of genetic material, followed by the cell dividing twice to form four different gametes			
Describe the process of fertilisation			
Interpret genetic diagrams, including family trees			
Define the term 'differentiation'			
Describe when differentiation occurs in plants and animals			
Identify human embryo and bone marrow cells as stem cells, and describe how they can be used			
Give an example of a condition that could be treated using stem cells			
Describe how asexual reproduction leads to the production of offspring with the same alleles as the parents			
B2.7.2 Genetic variation			
Define the term 'allele'			
Explain how sexual reproduction leads to variation, in terms of alleles			
Describe how a single pair of chromosomes in humans determines sex, and identify the chromosome pairings in males and females			
Define the term 'dominant allele'			
Define the term 'recessive allele'			
Describe the shape of the DNA molecule as a double helix			
(HT) Explain how genes code for combinations of amino acids in proteins			
Explain why DNA fingerprinting can be used to identify individuals, using the idea of unique DNA			
(HT) Construct genetic diagrams and predict the outcomes of crosses, using the terms 'homozygous' 'heterozygous' 'phenotype' and 'genotype'			
Predict or explain the outcome of crosses between individuals for any combination of dominant and recessive alleles			
Make informed judgements about the social and ethical issues concerning the use of stem cells from embryos in medical research and treatments			
B2.7.3 Genetic disorders			
Identify some disorders as inherited			
Describe how polydactyly – caused by a dominant allele – is inherited			
Describe how cystic fibrosis – caused by a recessive allele – is inherited, and explain why an individual may be a 'carrier' without having the disorder themselves			
Evaluate the economic, social and ethical issues surrounding embryo screening to test for alleles that cause genetic disorders			

Can you...?



B2.8.1 Old and new species

Identify the main source of evidence for early forms of life			
Describe three ways in which fossils may be formed			
Explain why soft-bodied forms of life have left few traces behind			
Describe how fossil evidence can tell us how much or how little different organisms have changed as life developed on Earth			
Identify at least six possible causes for the extinction of a species			
Describe how new species arise, in terms of isolation of populations			
(HT) Further describe how new species arise, in terms of genetic variation within populations, natural selection in those populations and speciation			
Suggest reasons why scientists cannot be certain about how life began on Earth, in terms of valid evidence			

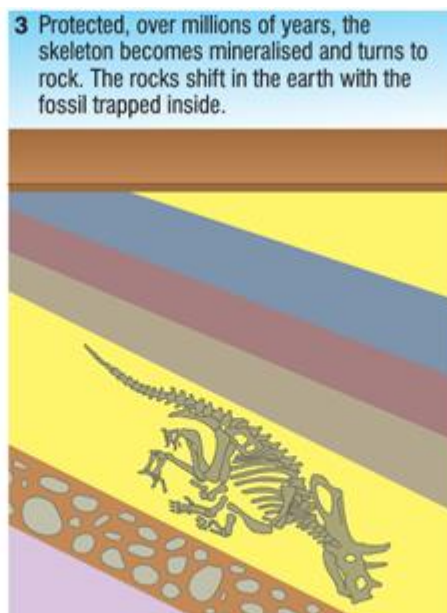


Figure 3 It takes a very long time for fossils to form, but they provide us with invaluable evidence of how life on Earth has developed

Science – Set I only

B7: Further Biology

Revision questions

7.1 Peak performance – movement and exercise

1. What is the purpose of an internal skeleton?
2. What are antagonistic muscle pairs? Why do muscles need to be antagonistic?
3. Can you draw the following on a joint and state their function:
 - a. Cartilage
 - b. Synovial fluid
 - c. Ligaments
 - d. Tendons
4. Why do doctors want to know your medical and lifestyle history before an exercise regime is started?
5. How would you expect heart rate and blood pressure to change during exercise?
6. What is BMI? How is it calculated?
7. Why is accuracy of equipment important when you are monitoring the progress of an exercise regime?
8. What happens during the following injuries?
 - a. Sprain
 - b. Dislocation
 - c. Torn ligament/tendon.
9. What is the procedure for treating a sprain?
10. What is a physiotherapist and how do they treat skeletal-muscular injuries?

7.2 Peak Performance – circulation

11. What is meant by a double circulatory system?
12. What substances get transported in the blood to and from muscles?
13. What are the four components of blood and what are their functions?
14. How is a red blood cell adapted to its function?
15. Can you label the four chambers of the heart and the blood vessels that enter and leave them?
16. What is the function of valves?
17. What is tissue fluid? How is it formed and what function does it have?

7.3 Peak Performance – energy balance

18. To maintain a constant body temperature what must heat gain equal?
19. Where are the receptors in the body that detect external temperature found?
20. Where are the receptors in the body that detect blood temperature?

21. The hypothalamus acts as a 'processing centre'. What does this mean?
22. What are the effectors in temperature regulation?
23. Why does sweat cool you down?
24. What is vasodilation and vasoconstriction and how do these affect your temperature?
25. Why does shivering warm you up?
26. Give an example of antagonistic action in temperature control.
27. What type of food gives a rapid rise in blood sugar levels?
28. What are the two types of diabetes? Describe what causes each type.
29. How are the two types of diabetes controlled?
30. What are complex carbohydrates and why is a diet containing these better for controlling blood sugar levels?
31. Name four illnesses/ diseases that can be caused by an unhealthy lifestyle.

7.4 What can we learn from ecosystems?

32. What is a closed loop system?
33. What waste products are produced in natural ecosystems?
34. What happens to the waste products formed in natural ecosystems?
35. Why are ecosystems not an example of a perfect closed loop system?
36. Use rainforests to show how in a stable ecosystem losses are balanced by gains.
37. Why is the production of lots of reproductive structures (such as pollen and sperm) not wasteful?
38. How does vegetation in rainforests prevent soil erosion?
39. What benefits do humans get from natural ecosystems?
40. Why are human systems not closed loop systems?
41. What is bioaccumulation? What are its effects?
42. What is eutrophication? How does it occur?
43. How does excessive removal of timber and overfishing affect those ecosystems?
44. How is biodiversity affected when trees are cut down to establish agriculture?
45. Name two sustainable solutions to overfishing and overharvesting of trees.
46. What is sustainability? How can humans be sustainable in their exploitation of ecosystems?
47. How does crude oil form?
48. Why can crude oil be described as 'fossilised sunlight energy'?
49. Why is sunlight a sustainable source of energy in natural ecosystems and sustainable agriculture?
50. Why might there be tension between people who want to conserve natural ecosystems and local human communities?

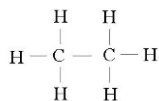
7.5 New technologies

51. List five features that make bacteria ideal for industrial and genetic processes.
52. How are bacteria and fungi used to produce:
 - a. Antibiotics?

- b. Single-cell protein (e.g. Quorn)?
 - c. Enzymes for cheese?
 - d. Biological washing powders?
 - e. Biofuels?
53. What is genetic modification? List the four steps of genetically modifying a bacterium to make it produce insulin.
54. How is genetic modification used to produce herbicide resistant crops?
55. What is a labelled gene probe? Describe how it is made and how it is used to identify specific alleles in a DNA sample.
56. What is nanotechnology? Give one example of how it can be used in the food industry.
57. How can stem cell technology be used to treat:
- a. Leukaemia?
 - b. Spinal cord injuries?
58. How does a heart pacemaker work?
59. Why do some people need replacement heart valves? What problems can these replacement valves cause?

Science – Chemistry (CI) Revision Checklist Sets 3-6

	☺	☹	☹
C1.1.Fundamental Ideas in Chemistry			
C1.1.1 Atoms <ul style="list-style-type: none"> • Understand where metals and non-metals appear on the periodic table. • Know the structure of an atom. • Know the charges on sub-atomic particles. • Use the periodic table to calculate the number of each sub-atomic particle in an atom from its atomic number and mass number. • Describe and represent the electron arrangements for elements up to number 20. 			
C1.1.2 The periodic table <ul style="list-style-type: none"> • Know the reactions of Group 1 elements with water and oxygen. • Know what the noble gases are their similarities in their structure. 			
C1.1.3 Chemical reactions <ul style="list-style-type: none"> • Write word equations to represent reactions. • Know how to represent a chemical reaction by using a word equation. • Describe the electron arrangements of sodium and chlorine. • Describe how an electron is transferred to chlorine from sodium to form two charged particles called ions that attract each other. • Calculate the amount of a product or reactant from masses of other products and reactants. • Know how to balance symbol equations. • Describe how covalent and ionic bonding takes place. 			
C1.2 Limestone and Building Materials			
C1.2.1 Calcium carbonate <ul style="list-style-type: none"> • Consider and evaluate the environmental, social and economic effects of exploiting limestone and producing building materials from it. • Evaluate the developments in using limestone, cement and concrete as building materials, and their advantages and disadvantages over other materials. • Evaluate aspects of quarrying for limestone. • To know the limestone cycle. • To know what happens in the reaction with carbonates and acid. • To be able to describe what happens when limewater is used to test for carbon dioxide. • To know the different materials that can be made from limestone. 			
C1.3 Metals			
C1.3.1 Extracting metals <ul style="list-style-type: none"> • Explain how an ore is different from a rock. • To know the reduction of oxides using carbon. • To know what reduction is. • To know how to get copper from Phytomining and bioleaching. • To know the different methods of getting copper. • Evaluate the methods of getting copper. • Evaluate benefits of recycling metals in terms of economic and environmental benefits. • To know how heating metal oxides with carbon can compare their reactivity. • To know how copper is obtained by heating copper carbonate with charcoal. • To know how displacement can be used to obtain copper 			
C1.3.2 Alloys <ul style="list-style-type: none"> • Know the difference between iron from the blast furnace and steel in terms of less carbon in steel than iron from the blast furnace. • To know the uses of blast furnace iron. • To know the types of steel and their properties. • Evaluate the uses of specific steel types using information about their composition. 			
C1.3.3 Properties and uses of metals <ul style="list-style-type: none"> • To know the physical properties of metals and alloys. • To know the properties of copper • To know what the transition metals are in the periodic table and some of their properties. • To know how you compare less reactive metals with more reactive metals using acid. 			
C1.4 Crude Oil and Fuels			
C1.4.1 Crude oil <ul style="list-style-type: none"> • To know what a mixture is in terms of elements and compounds. • Describe fractional distillation as based on each compound having a different boiling point. • Describe the relationship between molecule size and boiling point, viscosity, ease of ignition, and flammability. • Recognise alkanes from their formulae in any of the forms: • C₂H₆ 			



<ul style="list-style-type: none"> Describe what the structural formula shows. Know the general formula for alkanes. 			
C1.4.2 Hydrocarbons <ul style="list-style-type: none"> Know how fractional distillation works 			
C1.4.3 Hydrocarbon fuels. <ul style="list-style-type: none"> Describe the use of ethanol and hydrogen as alternative fuels in terms of the use of renewable sources, storage and use of fuels and their products of combustion. Describe advantages and disadvantages of each fuel. Know how to measure simply the amount of energy produced by a burning fuel. Know about different types of error, and how to deal with them. Understand how secondary sources can help confirm a hypothesis/ theory. 			
C1.5 Other useful substances from crude oil.			
C1.5.1 Obtaining useful substances from crude oil <ul style="list-style-type: none"> Recall the process of cracking hydrocarbons. Name the type of reaction that occurs during cracking. To state what the products of cracking are. To know the general formula for alkenes. Recognise alkenes from their formulae in any of the forms: $ \text{C}_3\text{H}_6 $ $ \begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \\ \quad \quad \\ \text{H}-\text{C}-\text{C}=\text{C} \\ \quad \quad \\ \text{H} \quad \quad \text{H} \end{array} $ <ul style="list-style-type: none"> Know the different forms that unsaturated molecules can be represented as. To know what happens to bromine water when alkenes and alkanes react with it. Know what some of the products of cracking can be used as. 			
C1.5.2 Polymers <ul style="list-style-type: none"> Represent polymerisation of ethane. To consider the ways in which new materials are being developed and used. Identify from properties relevant uses for a polymer. Realise that polymers are often hard to dispose of, and that biodegradable ones offer some solutions to these problems. Be aware of the problems that are caused by landfill sites and by litter. Evaluate information about the ways in which crude oil and its products are used. 			
1.5.3 Ethanol <ul style="list-style-type: none"> Know that ethanol can be made from ethane and steam, or by yeast: sugar \longrightarrow carbon dioxide + ethanol Compare the environmental impact of producing ethanol from renewable and non-renewable sources. (hydration and fermentation) To know the different methods that is used to produce ethanol. 			
C1.6 Plant oils and their uses			
C1.6.1 Vegetable oils <ul style="list-style-type: none"> Know two ways in which vegetable oils are obtained. To know the importance of vegetable oils in terms of energy and nutrients. To know why cooking food with vegetable oils are better than boiling them with water. 			
C1.6.2 Emulsions <ul style="list-style-type: none"> Understand the role of emulsifiers in producing emulsions that are more stable. To know how emulsions are made. To draw a simple model of the structure of emulsifier molecules. Give two uses of emulsions. 			
C1.6.3 Saturated and unsaturated oils <ul style="list-style-type: none"> Know how to determine the relative amounts of saturation in an oil/fat by using bromine water. To know how and why vegetable oils are hardened for use in foods. To make comparisons using further information. 			
C1.7 Changes in the Earth and its atmosphere			
C1.7.1 The Earth's crust <ul style="list-style-type: none"> Know the three parts of the Earth, and the atmosphere, and their relative sizes. Know key features of Wegener's theory, and evidence to support it. Explain why no one believed the theory at first. To know the changes that occurs at plate boundaries. (earthquakes and volcanic eruptions) explain why scientists cannot accurately predict when earthquakes and volcanic eruptions will occur 			
C1.7.2 The Earth's atmosphere <ul style="list-style-type: none"> To know the different proportions of gases in the atmosphere. Describe why we do not know how life was first formed. 			

<ul style="list-style-type: none"> • To know the theory about how the atmosphere was formed. • To be aware of the Miller Urey experiment and the 'primordial soup' theory. • To explain and evaluate theories of the changes those has occurred and are occurring in the Earth's atmosphere. • Describe the atmosphere today. • Describe how carbon cycles round the earth and atmosphere. • To know the role of plants and algae to make the atmosphere. • Explain and evaluate the effects of human activities on the atmosphere. • Explain what earthquakes are and why we cannot predict them. • Describe how human activity has affected the proportions in each part of the cycle. • To know what air is a mixture of and what it provides. 			
---	--	--	--

Science – Chemistry (C2) Revision Checklists Sets 2 & 3a

C2.1 Structure and Bonding. Can you...?	Happy	OK	Need to revise
Write formula for ionic compounds from given symbols and ionic charges			
Represent the electronic structure of ions in NaCl, MgO and CaCl ₂			
Represent covalent bonds as dot and cross diagrams in molecules like water, ammonia, hydrogen chloride, methane, oxygen AND giant structures like diamond and SiO ₂			
Represent covalent bonds as single lines in molecules like water, ammonia, hydrogen chloride, methane, oxygen AND giant structures like diamond and SiO ₂			
[HT] Draw a diagram to represent bonding in metals.			
Define a compound			
Describe the process of making ions to allow ionic bonding to happen			
Draw the ions made from Group 1 metals			
Draw the ions made from Group 7 elements			
Explain why ionic compounds can form giant ionic structures			
Explain why covalent compounds are often simple molecules			
Describe and explain the properties of giant covalent structures like diamond and SiO ₂			
[HT] Explain how delocalised electrons occur in metals			

C2.1 Structure and Properties Can you...?	Happy	OK	Need to revise
Explain why simple molecules are gases, liquids or solids with low melting and boiling points.			
Understand that the intermolecular forces are overcome when a simple molecular substance melts or boils – NOT the covalent bond!			
Explain why simple molecules do not conduct electricity.			
Explain why ionic compounds have high melting and boiling points.			
Explain how ionic compounds conduct electricity when molten or dissolved in water.			
Explain why giant covalent structures like diamond/graphite have very high melting points.			
Explain why the bonding in diamond allows it to be very hard.			
Explain why the bonding in graphite allows it to be soft and slippery.			
[HT] Explain how delocalised electrons allow graphite to conduct heat and electricity.			
[HT] Describe the uses of fullerenes			
[HT] Explain why the structure of metals allow them to conduct heat and electricity			
Explain why metals can be bent and shaped.			
State what an alloy is and explain why alloys are harder than pure metals (different sizes atoms)			
State what is unique about shape memory alloys that allows them to be used in dental braces			
Describe how properties of polymers depend on what they are made from and the conditions they were made under			
Explain why thermosetting polymers don't melt when heated, but thermosoftening do.			
Describe the sizes of nanoparticles in nm.			
List uses of nanoparticles due to the high surface area to volume ratio.			

C2.3 Atomic structure, analysis and quantitative chem. Can you...?	Happy	OK	Need to revise
Recall the masses and charges of protons, neutrons and electrons			
Remember that protons + neutrons = mass number			
Define the word isotope.			
Recall that the relative atomic mass of an element (A_r) compares the mass of atoms of the element with the ^{12}C isotope. It is an average value for the isotopes of the element.			
The relative formula mass (M_r) of a compound is the sum of the relative atomic masses of the atoms in the numbers shown in the formula.			
State that the relative formula mass of a substance, in grams, is known as one mole of that substance			
Describe the benefits of using instrumental methods to detect and ID elements and compounds			
Describe how chemical analysis like paper chromatography allows us to ID additives in food – like artificial colours.			
Describe how gas chromatography linked to mass spectroscopy (GC-MS) works and how it IDs the M_r of substances			
Calculate the percentage of an element within a compound			
[HT] Calculate the empirical formula of a compound from its mass or percentages.			
[HT] Calculate the masses of reactants or products from balanced symbol equations			
Calculate the percentage yield from a chemical reaction			
Calculate the atom economy of a reaction			
Represent a reversible reaction using a word equation			

C2.5 Endothermic and Exothermic reactions Can you...?	Happy	OK	Need to revise
State that when chemical reactions occur, energy is transferred to or from the surroundings.			
State what an exothermic reaction is in terms of energy and give examples.			
Define an endothermic reaction in terms of energy and give examples.			
Recall that if a reversible reaction is exothermic in one direction, it is endothermic in the opposite direction.			

C2.6 Acids, bases and salts	Happy	OK	Need to revise
Can you...?			
Use the state symbols in equations - (s), (l), (g) and (aq).			
Describe how soluble salts can be made by reacting acids with metals, insoluble bases and alkalis			
Describe how salt solutions can be crystallised to produce solid salts.			
Insoluble salts can be made by mixing certain salts in solution (precipitate formed)			
Describe how precipitation can be used to remove unwanted ions from solutions, e.g. in treating water for drinking.			
Describe the difference between a base (metal oxides) and an alkali (metal hydroxides)			
Name the salts that HCl, HNO ₃ , H ₂ SO ₄ produce			
State that ammonia dissolves in water to produce an alkaline solution. It is used to produce ammonium salts, which are important as fertilisers.			
Recall that the pH scale is a measure of the acidity or alkalinity of a solution.			
Describe an acid as releasing H ⁺ ions in solution.			
Describe an alkali as releasing OH ⁻ ions in solution.			
In neutralisation reactions, hydrogen ions react with hydroxide ions to produce water. Represent this reaction with the equation: H ⁺ (aq) + OH ⁻ (aq) → H ₂ O(l)			

C2.7 Electrolysis Can you...?	Happy	OK	Need to revise
Describe what electrolysis is and what it does.			
State the type of compound that can be used as an electrolyte			
Explain why the electrolyte must be molten or in solution for electrolysis to work			
Describe which ions move to which electrode.			
Explain what then happens to ions at that electrode, in terms of electrons.			
Describe how electrolysis is used to electroplate objects with copper or silver plating.			
Remember OIL RIG and describe what it means in terms of electrons			
Recall that if there's a mix of ions, the products formed depend on the reactivity of elements involved.			
[HT] Represent reactions at electrodes using half equations. For example: $2\text{Cl}^- \rightarrow \text{Cl}_2 + 2\text{e}^-$ or $2\text{Cl}^- - 2\text{e}^- \rightarrow \text{Cl}_2$			
Describe how aluminium is manufactured by electrolysis			
Explain why cryolite is needed in the electrolysis of aluminium oxide.			
Explain why the carbon electrodes in the electrolysis of aluminium must be replaced often.			
Describe the details of the electrolysis of sodium chloride solution (brine)			
Explain why the products of brine electrolysis are useful reagents in the chemical industry – particularly soap, bleach and plastics.			

Science – Chemistry (C7) Revision Checklists Set I only

C7 – Further Chemistry

Revision Questions

C7.1 Green Chemistry

1. What are 'bulk' and 'fine' chemicals?
2. Name three examples of bulk chemicals and three examples of fine chemicals.
3. Give reasons why government regulations are important in the chemical industry.
4. Define 'green chemistry'.
5. What does 'chemical feedstock' mean?
6. What does 'chemical purity' mean, and why is it important to monitor this?
7. What is 'atom economy' and how is it calculated?
8. What is 'activation energy'?
9. How does a catalyst lower the activation energy?
10. Some industries use enzyme catalysts. Why does using enzymes as catalysts place restrictions on their use?
11. How is relative atomic formula calculated?
12. Show how to calculate masses of reactants and products from balanced equations.

C7.2 Alcohols, carboxylic acids and esters

13. What are alkanes?
14. What are the names and molecular formulae of the four smallest alkanes?
15. Write the molecular formula of methane, then draw a ball and stick model to show the shape of this molecule.
16. What are the products formed when alkanes burn in air?
17. Why don't alkanes react with water?
18. What are alkenes?
19. Define 'saturated' and 'unsaturated' in terms of molecular structure.
20. Write a balanced symbol equation for the combustion of ethene.
21. Give the molecular and structural formula of methanol.
22. Give two uses each for methanol and ethanol.
23. What is a 'functional group'?
24. How do the physics properties of ethanol compare to ethane and water?
25. Why do alcohols burn in air?
26. Compare the reactions of sodium with alcohols, alkanes and water.
27. Why is there a limit to the concentration of ethanol that can be made by fermentation?
28. How can ethanol concentration be increased to 30-40%. What products are made in this way?
29. Why does the fermentation of ethanol have an optimum temperature and optimum pH?

30. Describe how ethane converted into ethanol (via ethane)
31. What is the functional group of carboxylic acids?
32. Draw the structural formula of methanoic and ethanoic acid.
33. Describe the smell of carboxylic acids?
34. What are the products of the reactions of carboxylic acids with:
 - a. Metals
 - b. Alkalis
 - c. Carbonates
35. Which carboxylic acid is vinegar?
36. What is a weak acid? Why are carboxylic acids weak acids?
37. What are strong acids? Name two strong acids.
38. How are esters made?
39. What do esters smell like?
40. How are esters used commercially?
41. Show how an ester is made from a carboxylic acid and an alcohol.
42. Describe the four steps in the process of making a liquid ester (beginning with heating under reflux).
43. Fats are esters. What are the acids and alcohols used to make them?
44. What is the molecular difference between vegetable oils and animal fats?

C7.3 Energy changes in chemistry

45. What do the terms 'exothermic' and 'endothermic' mean?
46. Show exothermic and endothermic reactions using energy level diagrams.
47. What is produced when chemical bonds are broken? What is required to form new chemical bonds?
48. How can activation energy be found using an energy level diagram?

C7.4 Reversible reactions and equilibria

49. What does \rightleftharpoons mean?
50. What is a dynamic equilibrium?
51. Why is the Haber process for fixing nitrogen so important?
52. What is the formula of ammonia?
53. Where are the feedstocks for the Haber process sourced?
54. How is the yield of ammonia increased?
55. What does increasing the temperature and pressure do to the yield?
56. Why is a catalyst used in the Haber process?
57. How is nitrogen fixed in nature?
58. Why are scientists so interested in studying enzymes in nature?

C7.5 Analysis

59. What is the difference between a qualitative and quantitative analysis?
60. Why are 'standard procedures' so important when collecting samples for analysis?
61. Describe the method of paper chromatography.
62. In chromatography what is a 'mobile phase' and what is a 'stationary phase'?
63. What are 'aqueous' and 'non aqueous' solvents?
64. Describe why different substances move different distances in chromatography using the concept of dynamic equilibrium between the mobile and stationary phases.
65. Why are 'standard reference materials' needed in chromatography?
66. What is the difference between paper and thin layer (TLC) chromatography?
67. What is an R_f value and how is it calculated?
68. Why are 'locating agents' sometimes used in paper and thin layer chromatography?
69. Describe the process of gas chromatography.
70. What does the term 'retention time' mean in the context of gas chromatography?
71. What are the six stages of a quantitative analysis?
72. Concentrations of solutions are measured in g/dm^3 . What does this mean? How many cm^3 are there in a dm^3 ?
73. What is the procedure for carrying out an acid-base titration?
74. What are systematic and random errors?
75. What is the difference between accurate and precise data?

Science – Physics (PI) Revision Checklists Sets 3-6




Topic	I can	😊	☹	😞
P1.1.2 Kinetic theory	Draw simple diagrams to model the difference between solids, liquids and gases			
	Describe the states of matter in terms of the energy of their particle.			
P1.2.1 Energy transfers and efficiency	Describe the energy transfers and the main energy wastages that occur in a range of situations or appliances.			
	Interpret and draw a Sankey diagram.			
	Explain the concept of efficiency and why efficiency can never be greater than 100%.			
	Use the efficiency equation to calculate efficiency as a decimal or percentage.			
P1.1.3 Energy transfer by heating	Describe in simple terms how the arrangement and movement of particles determine whether a material is a conductor or an insulator.			
	Explain the role of free electrons in conduction through a metal.			
	Use the idea of particles moving apart to make a fluid less dense			

	Describe simple applications of convection			
	Explain evaporation and the cooling effect this causes using the kinetic theory.			
	List the factors that affect the rate at which a hot object transfers energy			
	Explain the design of devices such as cooling fins in car radiator or bike engine in terms of energy transfer			
	Explain why animals that live in hot countries have bigger ears			
P1.1.1 Infrared radiation	Describe what infrared radiation is.			
	List the factors which affect the rate at which an object <u>radiates</u> infrared radiation			
	Explain the difference between emitting radiation and absorption of infrared radiation			
	List the factors which affect the rate at which an object <u>absorbs</u> infrared radiation.			
Topic	I can	☺	☹	☹
P1.1.4 Heating and insulating buildings	Describe what the meaning of specific heat capacity is			
	Evaluate different materials according to their specific heat capacities			
	State what a U-value is and what it tells us about the material as an insulator.			
	Evaluate the effectiveness of different types of material used for insulation, including U-values and economic factors including payback time.			
	Evaluate the efficiency and cost effectiveness of methods used to reduce 'energy consumption'.			
P1.3.1 Transferring electrical energy	Describe the energy transfers that occur in electrical appliances.			
	Use the equation to calculate the energy transferred from the mains to an electrical appliance, either in joules or kilowatt-hours.			
	Calculate the cost of using individual appliances and also to interpret electricity meter readings to calculate total cost over a period of time.			
P1.4.1 Generating electricity	Describe the purpose of the main parts of a power station.			
	List different energy sources which heat the water in a power			

	station			
	Describe what a start-up time is and which of the fossil fuels has the shortest start-up time.			
	State the advantages of pumped storage systems in order to meet peak demand, and as a means of storing energy for later use			
	Explain the basic principles by which wind turbines operate			
	List different ways water can be used to drive turbines			
	Describe the basic principles of how geothermal energy is used			
	Describe the advantages and disadvantages of the use of solar cells in generating electricity.			
	List some of the issues with the different ways of generating electricity			
	Evaluate different methods of generating electricity given data including start-up times, costs of electricity generation and the total cost of generating			
P1.4.2 The National Grid	Identify and label the essential parts of the National Grid.			
	Explain why transformers are an essential part of the National Grid			
Topic	I can	😊	😐	😞
P1.5.2 Reflection	Draw diagrams showing rays of light being reflected from a plane mirror, labelling incident and reflected rays, angles of incidence and reflection, and the normal.			
	Describe how an image is formed by a plane mirror, and why it is virtual.			
P1.5.1 General properties of waves	Describe how oscillations occur in a transverse wave			
	Describe how oscillations occur in a longitudinal wave			
	Label 'compression' and 'rarefaction' on a wave and explain how they are formed.			
	Know what 'frequency', 'wavelength' and 'amplitude' are and label a diagram to show these terms.			
	List electromagnetic waves within the spectrum in order, in terms of energy, frequency and wavelength			
	List situations where a wave is reflected, refracted or diffracted.			

	Complete wavefront diagrams for reflection, refraction and diffraction.			
	Know that waves are not refracted if travelling along the normal.			
	Use the wave equation $v = f \times \lambda$, including the units			
	Describe situations in which radio, microwave, infrared and visible light waves are used for communication			
P1.5.3 Sound	Describe how sound waves are produced.			
	Describe the relationship between the pitch of a sound and the frequency of the sound wave.			
	Describe how echoes are formed.			
P1.5.4 Red-shift	Explain the Doppler effect.			
	Describe what happens to the wavelength of a source as it moves away from you			
	Explain the term 'red- shift'.			
	Describe what happens to the movement and wavelength of galaxies, the further away they are			
	Explain how 'red-shift' provides evidence that the universe is expanding.			
	Describe what the 'Big Bang' theory indicates about the universe			
	Explain what CMBR is			

Science – Physics (P2) Revision Checklists Sets 2 & 3a

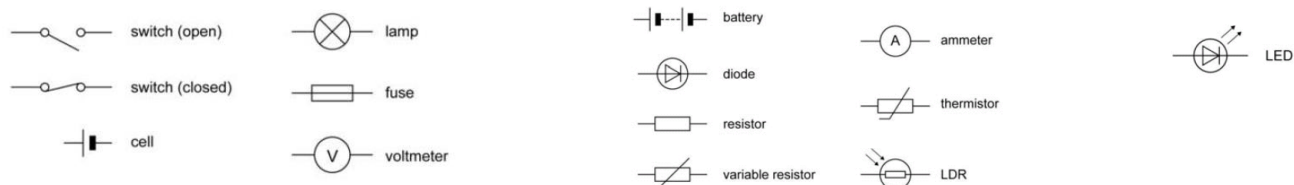
<i>Can you...?</i>			
P2.1.1 Resultant forces			
Describe equal and opposite pairs of forces			
Describe and calculate resultant forces			
Predict how resultant forces (zero or not zero) will affect the motion of stationary and moving objects			
P2.1.2 Forces and motion			
Calculate acceleration (a) using force (F) and mass (m), or calculate force using mass and acceleration			
Remember what the gradient of a distance-time graph represents			
(HT) Calculate speed of an object from gradient of a distance-time graph			

Define 'velocity'			
Calculate acceleration (a) from final velocity (v), initial velocity (u) and time taken (t)			
Remember what the gradient of a velocity-time graph represents			
(HT) Calculate the acceleration of an object from the gradient of a velocity-time graph			
P2.1.3 Forces and braking			
Describe the forces acting on a car travelling at a steady speed			
Explain the relationship between the speed of a vehicle and the braking force needed to stop it in a certain distance			
Describe the stopping distance as the sum of the thinking distance and the braking distance			
Evaluate the effects of alcohol and drugs on stopping distances			
Explain how work is done by friction to reduce the kinetic energy of the vehicle and heat up the brakes			
P2.1.4 Forces and terminal velocity			
Describe the relationship between the speed of an object (in a fluid) affects the frictional force (drag) acting on it			
Describe how the forces change on falling objects, and why a parachute reduces a skydiver's terminal velocity			
Draw and interpret velocity-time graphs for falling objects, and consider the forces acting on them			
Calculate the weight (W) of an object using mass (m) and gravitational field strength (g)			
P2.1.5 Forces and elasticity			
Describe how forces applied to elastic objects like springs will result in the objects stretching and storing elastic potential energy			
Describe how elastic potential energy is stored when work is done on objects that return to their original shapes			
Calculate the force (F) acting on a spring from the spring constant (k) and its extension (e)			

Can you...?	😊	😐	☹️
P2.2.1 Forces and energy			
Describe 'work done' in terms of forces causing objects to move			
Explain how the kinetic energy of an object increases or decreases when its speed changes			
Calculate work done (W) from force (F) and distance moved in a direction (d)			
State that energy is transferred when work is done, for example against			

frictional forces			
Evaluate the benefits of different types of braking system, such as regenerative braking			
Calculate Power (P) from work done or energy transferred (E) and time (t)			
Calculate gravitational potential energy (E_p) from mass (m), gravitational field strength (g) and change in height (h)			
Calculate kinetic energy of an object (E_k) from its mass (m) and speed (v)			
P2.2.2 Momentum			
Calculate the momentum of an object (p) from its mass (m) and velocity (v)			
Explain that, in a 'closed system', the total momentum before an event (such as a collision or explosion) is equal to the total momentum after the event			
Evaluate the benefits of air bags, crumple zones, seat belts and side impact bars using ideas of energy and momentum			

Can you...?	😊	😐	😞
P2.3.1 Static electricity			
Describe how some insulating materials can become electrically charged			



Explain how this charge (positive or negative) depends on the material losing or gaining electrons			
Describe the forces exerted by electrically charged objects on each other			
State that electrical charges can move easily through some substances (e.g. electrons moving through metals, or ions moving through a solution)			
P2.3.2 Electrical circuits			
Describe an electric current as flow of electric charge			
Calculate the size of an electric current (I) from charge (Q) and time (t)			
Describe potential difference (voltage) as the work done per coulomb of charge as it passes between two points			
Calculate the potential difference (V) from work done (W) and charge (Q)			
Recognise circuit symbols (see P2.2 checklist)			
Describe how thermistors are use in circuits (e.g. in thermostats)			
Describe how LDRs are used in circuits (e.g. switching lights on in the dark)			
Recognise and sketch the current-potential difference graph for a resistor at a constant temperature			

Recognise and sketch the current-potential difference graph for a filament bulb			
(HT) Explain how the resistance changes in terms of ions and electrons			
Recognise and sketch the current-potential difference graph for a diode			
Describe how to find the resistance of a component by measuring the current through, and the potential difference across, the component			
Describe the relationship between the current through and potential difference across a resistor (at a constant temperature) as directly proportional			
Calculate potential difference (V) using current (I) and resistance (R)			
Calculate the potential difference of a number of cells connected in series			
Calculate the resistance of a number of components connected in series			
Describe and predict the current through and potential difference across components connected in series and parallel circuits			
Explain why light emitting diodes (LEDs) are increasingly popular			
Describe how the resistance of an LDR changes as light intensity changes			
Describe how the resistance of a thermistor changes as the temperature changes			
Apply the principles of basic electrical circuits to practical situations			
Evaluate the use of different forms of lighting, in terms of cost and energy efficiency (e.g. filament bulbs, fluorescent bulbs and LEDs)			

<i>Can you...?</i>	😊	😐	😞
P2.4.1 Household electricity			
Understand the principles of safe practice and recognise dangerous practice in the use of mains electricity			
Explain the difference between direct current (d.c.) and alternating current (a.c.)			
Compare and calculate the potential differences of d.c. supplies and the peak potential difference of a.c. supplies from diagrams of oscilloscope traces			
(HT) Determine the period and therefore the frequency of a supply from diagrams of oscilloscope traces			
Remember the frequency and peak potential difference of the UK mains electricity supply			
Describe the structure of two-core and three-core electrical cable			
Evaluate and explain the need to use different cables for different appliances			
Describe the structure and materials used in a three-pin plug and explain how to wire one safely			
Describe the role of fuses or circuit breakers in disconnecting circuits if an electrical fault causes the current to become too great			
Explain how a fuse disconnects a circuit if the current exceeds the rating of the fuse			
Compare the uses of fuses and circuit breakers			
Remember that residual current circuit breakers (RCCBs) work by detecting a difference in the current between the live and neutral wires			
Describe how the earth wire and fuse together protect the wiring of the circuit in appliances with metal cases (unless they are double insulated)			
P2.4.2 Current, charge and power			
Describe the effect of electrical charge flowing through a resistor, and use this idea to explain why filament bulbs waste so much energy			
Consider the factors involved when making a choice of electrical appliances, including efficiency and power			
Explain that the power of an electrical appliance is the rate at which it transforms energy			
Calculate the rate of energy transfer, or power (P) from the energy transferred (E) and time (t)			
Calculate power (P) from current flowing through (I) and potential difference across (V) an appliance			
(HT) Calculate energy transferred (E) from potential difference (V) and charge (Q)			

<i>Can you...?</i>	😊	😐	😞
P2.5.1 Atomic structure			
Describe, recognise and draw the basic structure of an atom			
Explain how results from the Rutherford and Marsden scattering experiments led to the 'plum pudding' model being replaced by the nuclear model			
Appreciate that new evidence can cause theories to be re-evaluated			
Appreciate that, according to the nuclear model, most of the atom (and therefore most of any form of matter) is empty space			
Compare the relative masses and relative electric charges of protons, neutrons and electrons			
Describe the numbers of protons and electrons in atoms, and explain why they have no overall electrical charge			
Describe how atoms may lose or gain electrons to become ions			
Define 'isotope'			
Define 'atomic number'			
Define 'mass number'			
P2.5.2 Atoms and radiation			
Describe how radioactive substances randomly give out radiation from the nuclei of their atoms all of the time, whatever happens to them.			
Describe the origins of background radiation from rocks, cosmic rays, nuclear weapons tests and nuclear accidents			
Evaluate the effect of different jobs and/or locations on the level of background radiation and radiation dose			
Evaluate measures that can be taken to reduce exposure to nuclear radiations			
Identify an alpha particle, a beta particle and a gamma ray			
(HT) Write nuclear equations to show single alpha and beta decay			
Compare the properties of alpha, beta and gamma radiations in terms of their ionising power, penetration through materials, and their range in air			
Compare how alpha, beta and gamma radiations are affected by electric and magnetic fields (HT) and explain in terms of their relative mass and charge			
Describe the uses and evaluate the dangers associated with each type			
Define 'half-life' for a radioactive isotope, in terms of the number of nuclei of the isotope in a sample, or in terms of the count rate from a sample			
Evaluate how appropriate different radioactive sources are for different users, including tracers, in terms of the type of radiation and half life			

Can you...?

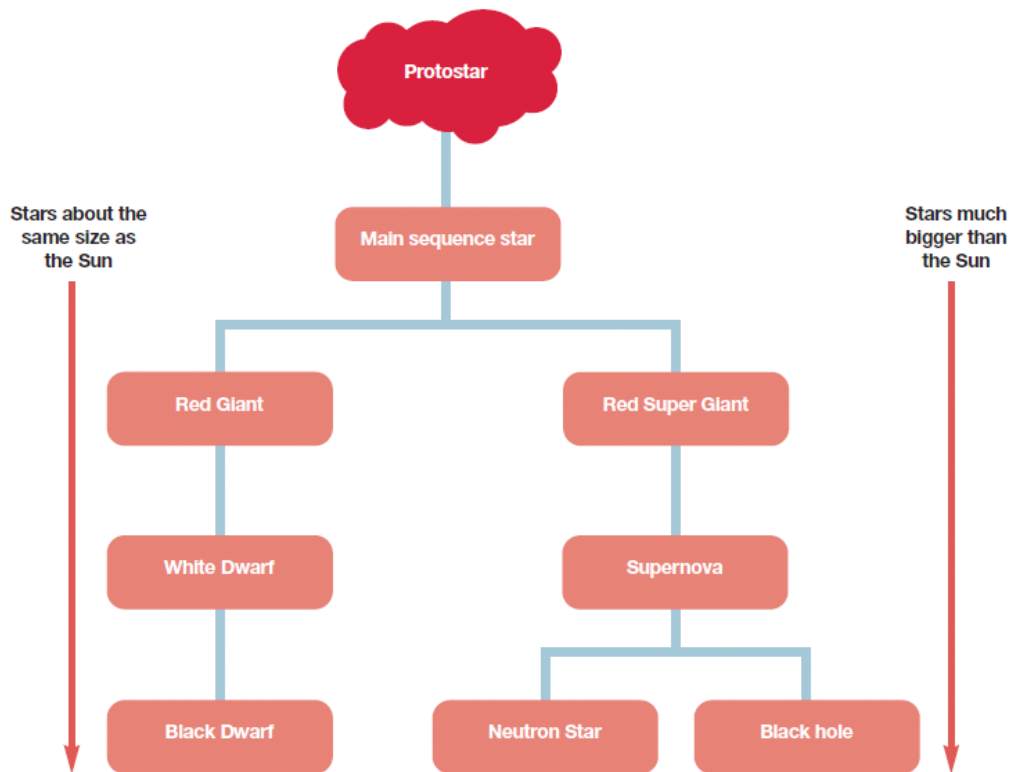


P2.6.1 Nuclear fission



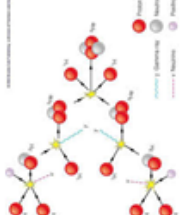
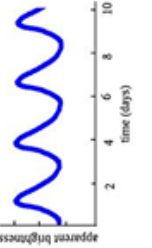
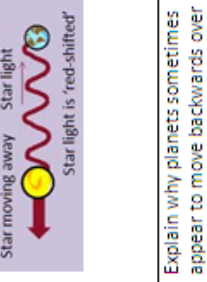

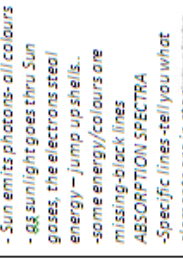
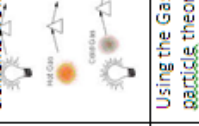



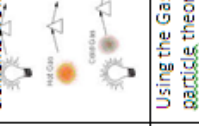


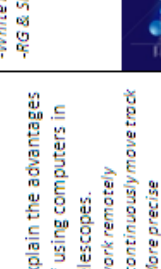
Identify the two main fissionable substances commonly used in nuclear reactors			
Define 'nuclear fission' and describe what must first happen to the nucleus of an atom for fission to occur			
Describe what happens when a nucleus undergoes fission			
Describe or sketch a diagram to show how a chain reaction can happen			
Outline how nuclear fission can be used to generate electricity in a nuclear power station			

P2.6.1 Nuclear fusion

Define 'nuclear fusion' and identify it as the process that releases energy in stars			
Explain why the early universe contained only hydrogen but now contains a large variety of different elements (but still mainly hydrogen)			
Describe the formation of stars and planets			
Explain why stars are stable during the 'main sequence' periods of their life cycles, in terms of the forces within them			
Describe the life cycle of stars of different sizes (see below)			
Describe how fusion processes produce all of the elements heavier than hydrogen, and how they can be distributed throughout the universe			
Recognise which elements can be formed in stars, and which elements are formed in supernovae			
Compare the uses of nuclear fusion and nuclear fission in generating electricity			



Science – Physics (P7) Revision Checklists Set I only

<p>Explain how parallax can be used to measure distance to stars.</p> <ul style="list-style-type: none"> - look at star against backdrop - from 2 locations - Measure parallax angle - half the angle - do big SOHCAH TOA - distance to stars is the HYPO 	<p>Describe the main issues in the Curtis Shapley debate.</p> <ul style="list-style-type: none"> - debate about nebulae - Curtis – “gas clouds INSIDE Milky way” - Shapley “NO, you idiot, they’re galaxies OUTSIDE MW” - Hubble “Look, it’s a CEPHEID. The NEBULA is another GALAXY. Mr Shapley – you win” 	<p>What is nuclear fusion – describe the particles involved and where the energy comes from.</p> <ul style="list-style-type: none"> - Hydrogen nuclei fuse to form Helium - energy released = $4mc^2$ - 2 positrons released - $4H \rightarrow He + 2\text{positrons} + 4\text{gamma}$ - FUSION can be done up to masses of Fe- bigger than that you need a SUPER NOVA 	<p>Describe what Cepheid variable stars are, and how they are used to calculate distances to stars.</p> <ul style="list-style-type: none"> - Cepheid stars brightness changes regularly - longer period = more luminous or bigger/hotter - from graph calc period / luminosity - compare actual brightness to luminosity to estimate distance 	<p>Explain why planets sometimes appear to move backwards over a month.</p> <ul style="list-style-type: none"> - looking at planet from Earth - planet closer to sun moves faster - and catches up slower OUTER planet - as it overtakes planet appears to move backward - it's called retrograde motion 	<p>Describe the factor that makes the choice for a telescope.</p> <p>IN CHILE, HAWAII & OZ</p> <ul style="list-style-type: none"> - less cloud - less light pollution - air is drier - less pollution in atmosphere - HIGHER up - PLUS COST, Exp impact, working conditions & - SPACE - no refraction of atmosphere - can use parts of EM spect absorbed by gases - cost high - uncertain space program 	<p>Explain how starlight can tell us how hot a star is and what elements it contains.</p> <ul style="list-style-type: none"> - hot objects emit EM radiation - peak frequency depends on temp - Colour of peak tells you temp of star (ROYGBIV means Red warm, BLUE tasty hot) - Sun emits photons - all colours - \rightarrow sunlight goes thru Sun gases, the electrons steal energy – jump up shells. - some energy/colours are missing - black lines - ABSORPTION SPECTRA - Specific lines - tell you what elements are in star 	<p>Explain what starlight can tell us about the expansion of the universe.</p> <ul style="list-style-type: none"> - looking at stars light is shifted to RED end of spectrum - called RED SHIFT - means galaxies are moving away - in every direction BUT... - furthest stars are REDDER / moving quicker - they must have been together in one place until... - BIG BANG 	<p>Explain why planets sometimes appear to move backwards over a month.</p> <ul style="list-style-type: none"> - looking at planet from Earth - planet closer to sun moves faster - and catches up slower OUTER planet - as it overtakes planet appears to move backward - it's called retrograde motion 	<p>Using the Gas Laws, density theory, explain why fusion in stars occurs.</p> <ul style="list-style-type: none"> - High temp & pressure & density in CORE means particles moving faster likely to collide & fuse - Nucleus + = REPEL - Fusion in CORE - \rightarrow $4mc^2$ energy carried by PHOTONS then CONVECTION - light leaves by PHOTOSPHERE 	<p>Explain what will happen to our sun at the end of their life.</p> <ul style="list-style-type: none"> - BIG nebula / God Cloud... - then as our SUN until... - Core HOT – but outer layers COOL & EXPAND - SUPERRED GIANT – fused Helium to make C & O & N releasing energy then heavier elements up to Fe - CORE = Fe core collapses - SUPERNOVA explosion - elements heavier than Fe made - leaving NEUTRON star - OR a BLACK HOLE is star massive 	<p>Explain what starlight can tell us about the expansion of the universe.</p> <ul style="list-style-type: none"> - looking at stars light is shifted to RED end of spectrum - called RED SHIFT - means galaxies are moving away - in every direction BUT... - furthest stars are REDDER / moving quicker - they must have been together in one place until... - BIG BANG 	<p>Explain why planets sometimes appear to move backwards over a month.</p> <ul style="list-style-type: none"> - looking at planet from Earth - planet closer to sun moves faster - and catches up slower OUTER planet - as it overtakes planet appears to move backward - it's called retrograde motion 	<p>Describe the factor that makes the choice for a telescope.</p> <p>IN CHILE, HAWAII & OZ</p> <ul style="list-style-type: none"> - less cloud - less light pollution - air is drier - less pollution in atmosphere - HIGHER up - PLUS COST, Exp impact, working conditions & - SPACE - no refraction of atmosphere - can use parts of EM spect absorbed by gases - cost high - uncertain space program 	<p>Describe what the Hertzsprung Russell Dig shows</p> <ul style="list-style-type: none"> - plot of luminosity or brightness against temp - Plot different stars - temp goes backward from HOT to COOL - main sequence diagonal - White Dwarf – bottom left - RG & SRG top right 	<p>Explain the advantages of using computers in telescopes.</p> <ul style="list-style-type: none"> - work remotely - continuously move track - More precise - process data easier
---	--	---	--	---	---	---	---	--	---	---	---	--	---	---	---

RE Revision Checklist

Religion and Society (Unit 8)

Christianity and Islam

GCSE RS Revision Guide

BUT others do not think it is overly important because it was written by humans inspired by God

Religion and Social Responsibility

Using the Bible to make moral decisions

Some Christians use only the Bible because...

- It is the word of God (absolute authority)
- Has God's teachings on how to behave e.g. the Decalogue
- Has Jesus' teachings on how to live e.g. Sermon on the Mount
- Records Jesus' actions which Christians want to follow

Using the Church to make moral decisions

The Church explains the Bible for today. It can do this because...

- The Church is the 'Body of Christ'
- God speaks to the world today through the Church
- By following the Church all believe the same thing
- Church authority for RCs comes from the **Magisterium**

Using the Conscience to make moral decisions

- Believe it is God speaking to them
- Church says they should follow their conscience
- St Paul the conscience should be the last part of the decision making process

Some do not use it because...

- Could be mistaken e.g. **Yorkshire Ripper**
- Follow the **Church** or the **Bible** means all do the same
- Life would be chaotic if everyone did their own thing and not what the Law said

Using Situation Ethics to make moral decisions

Founded by Joseph Fletcher. Should do most loving thing in any situation. Some use it because...

- Jesus acted in a similar way
- Should only do things that lead to good results
- Jesus' said 'love thy neighbour'
- Christianity is a religion based on love

Some do not use it because...

- Bible is the word of God which should not over ruled
- Christians should all do the same thing
- Church knows what is best
- Can never know all of the facts

Why use a variety of sources to make decisions?

Protestants might use the Bible for things like adultery. Hard to do this with modern issues like contraception. May then turn to the Church or their own conscience.

Human Rights in the UK

Examples are 'Freedom from slavery', 'Freedom from torture', 'The right to life' and the 'Right to a fair trial'.

Why human rights are important to Christians

- Right to life is covered by teaching of sanctity of life
- All humans made in God's image and are equal
- Christians are protected by these laws and so should help protect others
- Human rights ban discrimination

Can cause problems for Christians because...

- Some are against civil partnerships which are legal in the UK
- Some against marrying outside their religion
- Against homosexuals having a family (adoption)
- RC do not allow women priests, which is a form of discrimination

Democratic and electoral processes

We should take part in democratic and electoral processes because...

- Government decides on taxes and voting gives you some control
- They make new laws which you could influence
- You get a say in things like schools and the NHS
- People fought for the right to vote and this should be respected

Christian teachings on moral duties and responsibilities

- 1) The Golden Rule – *'Do to others as you would have them do to you.'* When voting Christians should look at policies and see how they would affect others living in this country e.g. not vote for a party that wanted to send asylum seekers home.
- 2) Parable of the sheep and the goats – States that you will be judged on how you have treated others. Christians would not vote for a party who wanted to cut benefits for the disabled or those in need.

- 3) Am I my brother's keeper – This refers to when Cain killed his brother Abel. Christians have a duty to look after everyone who is in need. This is the main principle behind human rights.

Nature of Genetic Engineering and Cloning

Non-religious arguments FOR

- Could lead to cures for usually incurable diseases
- Using 'cybrids' does not involve the loss of human life
- Genetic research is monitored closely by the law
- Some countries already do it

Non-religious arguments AGAINST

- No information on the long term consequences
- Effects are irreversible
- Gives too much power to scientists
- Treats the human body simply as a commodity

Different Christians attitudes to GE

- 1) Liberal Protestants like it if it is to help cure diseases because...
 - Jesus was a healer e.g. paralysed man, blind man
 - Creating cells is not the same as creating people
- 2) Catholics will it for curing diseases but do not want it to use human embryos because...
 - Killing an embryo is same as killing a human (murder)
 - Life begins at conception whether in a womb or in a dish
- 3) Some are completely against it because...
 - Humans should not interfere with God's will
 - It is wrong to try and make the Earth perfect

Key words

Bible – the holy book of Christians with 66 books split into the Old Testament and the New Testament

Decalogue – the Ten Commandments

Church – the community of Christians (with small 'c' it is a place of worship)

Conscience – an inner feeling of rightness or wrongness of an action

Situation ethics – the idea that Christians should base moral decisions on what is the most loving thing to do in a situation

Human Rights – the rights and freedoms to which everyone is entitled

Democratic processes – the ways in which all citizens can take part in government (usually through elections)

Electoral processes – the ways in which voting is organised

Political party – a group which tries to get elected into power on its policies e.g. Labour, Conservative

Pressure Group – a group formed to influence government policy on a particular issue

Golden Rule – the teaching of Jesus that people should treat others as they would like to be treated

Social Change – the way in which society has changed and is changing (and also the possibilities for future change)

Religion and the Environment

Causes of Global Warming

- 1) **Greenhouse effect**
 - Burning fossil fuels (gas, oil coal) produces carbon dioxide which forms a barrier that stops heat escaping earth. Causes temperatures to rise. Polar ice caps will melt, rain will increase and many places will be flooded.
- 2) **Natural climate change**
 - Warmest times in the last 10,000 years have come before humans were burning fossil fuels. Nature produces more CO₂ than we do e.g. volcanoes and animals.
- 3) **Solar activity**
 - Radiation from the sun is warming the Earth. Burning fossil fuels does not seem to fit with the theory because the earth got cooler after WW2 when lots of CO₂ was produced.

Possible solutions

- Make electricity without producing CO₂ e.g. wind, solar
- Cars can be powered using biodiesel and electric batteries
- Make things more efficient
- Use public transport

Forms of Pollution and possible solutions

1) Acid rain

Burning fossil fuels releases sulphuric and nitric acid. In the atmosphere this changes the pH of the rain water acidic.

This destroys buildings and forests. **Use other energy sources instead of fossil fuels.**

2) Human Waste

Sewage and rubbish. Leads to the spread of diseases and attracts rats. **Recycle more, use sewage to make**

electricity in power stations.

3) Eutrophication

Excess nitrates and phosphates in rivers lead to a lack of oxygen and more plants in the water. These kill fish and

poison the water supply. Caused by fertilisers and sewage. Can cause septicaemia in humans. **Have better**

sewage treatments. Use less nitrates in farming fertilisers.

4) Radioactive pollution

Nuclear power stations produced nuclear waste. It takes thousands of years to become safe. We bury it. It causes

cancer. **Reprocess nuclear waste e.g. at Sellafield. Means 97% of waste can be re-used.**

Problem Of scarce Natural Resources

Types of Natural Resources

- 1) **Renewable** – can use over and over again. Renew themselves e.g. wind and solar power. Using them causes no problems but expensive to produce electricity using them.
- 2) **Non-renewable** – (finite) Disappear once used e.g. coal and oil. Become rare when used and can't be used as much.

Oil used to create petrol and diesel for cars, plastics, road surfaces, candles...If we don't stop using them then it can run out = no more cars, TVs etc.

Possible solutions

- Can now make electricity using renewable energy sources
- Cars being developed to run on water, sugar cane etc.
- Recycling will extend the life of finite resources
- Chemicals from plants now being used to make plastics

Stewardship

Christian Teachings on Stewardship

Believe God made everything and the Earth is perfectly suited for human life. Genesis 1 and 2 states how God made everything. All was made by God the way he wanted it to be. **'God saw what he had made and it was very good.'** Rest of Bible says humans need to be responsible with the world e.g. Sermon on the Mount, Jesus says the earth's resources must be shared fairly. Christians believe God will judge them on how they have acted as Stewards.

How beliefs on stewardship affect Christian attitudes to the environment

- Try to reduce pollution and leave it in a better state than they found it
- Try to help people in LEDCs as this means things are shared fairly
- Support conservation groups as they know God will judge them
- Only by being a good steward that a Christian becomes a good Christian

Islam and Stewardship

God created Adam as his khalifah (someone who looks after something for you). Muslims believe they follow on from Adam and should keep the balance of creation and look after the earth for God. Believe they will be judged by God when they die on how they have looked after the earth. Polluters will not get into heaven.

How Islamic teachings affect attitudes to the environment

- Being God's khalifah they should try to reduce pollution
- Help people in LEDCs as Shariah says they should share the Earth's resources fairly
- Judgement Day means they will help to conserve resources, as they want to get to heaven
- Teachings on the unity and balance of creation means they will try to preserve the environment

BUT human concerns must be considered e.g. shutting down a factory means people will suffer

Nature and importance of medical treatments for infertility

Use key word list to know what IVF, Artificial Insemination, egg donation, embryo donation and surrogacy are.

Why infertility treatments are important

- 12.5% of UK couples have fertility problems
- 1.5 million UK men have fertility problems

- It is human nature to want to have children
- Can suffer from depression if can't have children

Attitudes to infertility treatments among Christians

- 1) Catholics – life is given by God. No one has the right to children/ Only allow natural sex acts. Therefore all fertility treatments involving medical technology are banned because...
 - IVF uses a number of eggs. Some are thrown away. Catholics view this as an abortion.
 - Surrogacy involves male masturbation which is a sin.
- 2) Other Christians allow IVF and AIH(using husband's sperm) because...
 - Technology allows a couple to have children which is the purpose of a Christian marriage
 - Egg and sperm are from the husband and wife, so baby is biologically theirs

Islam and Infertility treatments

Most accept IVF and AIH because...

- It is a form of medicine that allows a family, which Muslims are expected to have
- Husband and wife give egg and sperm so baby is theirs

Other types of embryo technology are banned because...

- Deny a child the right to know its parents. Essential in Islam.
- Egg or sperm donation is seen as adultery

Nature and importance of transplant surgery

Two main types 1) uses organs from a dead person 2) uses organs from a living donor. The person is able to survive without what they are donating e.g. one kidney

Why transplant surgery is important

- Cures life threatening diseases
- Could save over 4000 extra lives each year if enough donors were found
- People needing transplants rises by 8% each year
- Lets people help others even after they die

Christian attitudes to transplant surgery

- 1) Most agree but object to rich people being able to buy them from the poor because...
 - Believe in the immortality of the soul. Body parts not needed after death
 - Jesus said 'love thy neighbour'
- 2) Against organs from dead people but allow donated organs from living relatives because...
 - The heart is central to who a person is and that is who God created
 - Taking things from the dead could be seen as playing God
- 3) Some do not agree with transplants at all because...

- Takes away from the idea of the 'sanctity of life'
- Seen as playing God

Islam and transplant surgery

Most are against it because...

- Shariah says nothing should be taken from a body after death
- Quran sees it as acting like God which is 'shirk' (most serious sin in Islam)

Some allow the use of organs from a living donor because...

- Some Muslim lawyers have said that it is allowed
- Islam aims to do good and does not want to burden people

Key words

Global Warming – the increase in the temperature of the earth's atmosphere

Natural resources – naturally occurring materials, such as oil and fertile land, which can be used by humans

Conservation – protecting and preserving natural resources and the environment

Creation – the act of creating the universe, or the universe which has been created

Environment – protecting and preserving natural resources and the environment

Stewardship – looking after something so that it can be passed on to the next generation

Artificial Insemination – injecting semen into the uterus by artificial means

Embryo – a fertilised egg in the first 8 weeks after conception

Infertility – not being able to have children

In-vitro fertilisation (IVF) – the method of fertilising a human egg in a test tube

Surrogacy – an arrangement whereby a woman bears a child on behalf of another woman OR where an egg is donated and fertilised by the husband through IVF and then implanted into the wife's uterus

Organ donation – giving organs to be used in transplant surgery

Religion: Peace and Conflict

The United Nations and World Peace

Set up in 1945. Has 5 permanent members (USA, UK, Russia, China and France)

Why the UN is important for World Peace

- Impose sanctions on those threatening world peace
- Authorise use of force against those threatening world peace
- Send in peace keeping force to a)keep opposing sides apart b)enforce peace agreements

UNs work for peace – Kosovo

1980s Kosovo becomes part of Serbia. Kosovo tried, peacefully, to gain independence. Majority of Kosovans were Albanians and formed the KLA to forcefully gain independence. Serbian army began ethnic cleansing. Led to thousands of deaths and refugees. NATO bombed Serbia until its' forces withdrew. The UN then took over.

How the UN dealt with the situation

- Sent peacekeeping force in to keep Serbian army out
- Protected Kosovan independence
- Allowed Kosovan democracy to develop
- Helped the European Union to aid Kosovo to develop into an independent democratic state

War and Peace

How religious organisations promote world peace

Use either Pax Christi or Muslim Peace Fellowship as examples

- Organise public debates about the horrors of war
- Organise anti-war protests
- Attend inter-faith conferences
- Work for economic fairness

Why wars occur

- 1) **Religion** – one country (e.g. Christian) sees another country treating its' Christians unfairly and want to protect them.
- 2) **Nationalism** – thinking that all minorities should be removed from your country e.g. Hitler and his treatment of the Jews
- 3) **Economics** – invade a country to take its' resources e.g. first Gulf War
- 4) **Ideological/political differences** – in 1949 Communist North Korea invaded South Korea in order to unite the whole country under Communism

Just War Theory

Idea associated with St Thomas Aquinas. A war is Just if...

- Cause of the war is just e.g. to remove a form of injustice
- If fought in an attempt to restore peace
- Begun as a last resort
- Must avoid killing civilians

Christian attitudes to war

- 1) Pacifism – refusing to fight on a war e.g. Pax Christi, Quakers. They believe this because...
 - Jesus said 'turn the other cheek'
 - Jesus said 'love your enemies'
 - Jesus said 'those who live by the sword die by the sword'
 - 5th Commandment states 'Do not kill'
- 2) Can fight in just wars – realise it is not always possible to avoid war. They will fight because...
 - All Churches say they can fight in a just war
 - St Paul said you should follow orders of your government
 - Jesus never condemned the soldiers that he met
 - Jesus said 'Give to Caesar what is Caesar's'

Islamic attitudes to war

Do not believe in pacifism or the idea of 'turn the other cheek'. Greater jihad = make yourself a good Muslim, Lesser jihad = struggle with others through war. Believe they should fight in a just war because...

- Quran says Muslims must fight if attacked
- Muhammed fought in wars
- Muhammed said that Muslims must fight in just wars
- If you Muslims die in a just war then they go straight to heaven

Bullying

Christian attitudes to bullying

They are all against it because...

- Violence with cause is sinful
- It is mistreating God's creation
- The Golden Rule
- Parable of the Good Samaritan

Muslim attitudes to bullying

Against it because...

- Islamic society is based on the idea of mutual respect
- Violence without cause is sinful

- Muslims should protect the weak and the innocent (Quran)
- Mistreating God's creation

Religious conflicts within families

Religion can cause conflicts in families when...

- 1) Children no longer want to be part of their parent's religion
 - Parents worry children will not be with them in the after life
 - Worry their children will become immoral without religion
- 2) Children want to marry outside of the faith
 - Which religion will their children be raised in?
 - Where will the couple be buried?
- 3) Children become more religious than their parents
 - May become a priest, so the family will have no grandchildren
 - Child might criticise the life of a parent e.g. a Muslim parent who drinks alcohol or sells it
- 4) Disagreements over moral issues
 - A catholic who decides to get divorced
 - A couple that decides to live together before getting married

Forgiveness and Reconciliation

Christian teachings on forgiveness and reconciliation

Christians believe in this because...

- Jesus dies to bring about forgiveness of man's sins and to reconcile humans with God
- God forgives those that ask, so should we
- St Paul said Christians should try to live in peace with one another, these concepts will help that to happen
- All Churches teach Christians that they should follow these ideas

Muslim teachings on forgiveness and reconciliation

Muslims should follow these because...

- God is compassionate to sinners, so they should be.
- Quran tells Muslims to forgive. They should obey the Quran because it is the word of God.
- Hadith (sayings of Muhammed) show him forgiving people and reconciling after battles. Muslims should follow his example.
- Can only ask God for forgiveness if you have been so on Earth

Should not forgive those that work against Islam

Key Words

Conflict Resolution – bringing a fight or struggle to a peaceful conclusion

The United Nations – an international body set up to promote world peace and cooperation

World peace – the basic aim of the United Nations by removing the causes of war

Aggression – attacking without being provoked

Exploitation – taking advantage of a weaker group

Just War – a war that is fought for the right reasons and in the right way

Pacifism – refusing to fight in wars

Weapons of mass destruction – non-nuclear weapons that can destroy large areas and/or large numbers of people, for example chemical weapons

Respect – treating a person or their feelings with consideration

Bullying – intimidating/frightening people weaker than yourself

Forgiveness – the act of stopping the blaming of someone and/or pardoning them for what they have done wrong

Reconciliation – bringing together people who were opposed to each other

Religion: Crime and Punishment

Need for Law and Justice

Why are laws needed?

- All groups need rules that its' members must follow
- Laws in business make sure we are paid and treated fairly
- Protect the weak from the strong
- Keeps things organised in advanced societies such as the UK

Must be a connection between law and justice

St Aquinas said an unjust law is not a proper law because...

- 1) If a law is unjust people will feel that it is right to break the law.
- 2) If some are unjust people may think all laws are unjust
- 3) If laws don't give justice people will take law into their own hands
- 4) If think the legal system is not working it may lead to a civil war e.g. Kosovo

Theories of Punishment

1)Retribution – punished in proportion to the crime e.g. kill those that kill. Believe criminals should suffer for what they have done wrong.

2)Deterrence – if cut someone's head off for stealing then they will not steal again.

3)Reform – include educating criminals so they gain qualifications and don't have to turn to crime

4)Protection – keep criminals in prison for so long that when released they are no longer a danger

Most forms of punishment are a mixture of these

Christian Attitudes to Justice

Justice is important to Christians. God is just and rewards the good whilst punishing the bad. Christians churches began the Jubilee 2000 campaign where they tried to end 3rd world debt as a way of sharing the Earth's resources more fairly. Chapel dedicated to justice at Exeter Cathedral.

Believe in justice because...

- Bible says God is a God of justice
- Jesus said the rich should share with the poor
- New Testament has lots of statements about how Christians should treat people fairly

Islam and Justice

- Quran says God is just
- Last Day is concerned with justice
- As khalifahs they must share the Earth's resources equally
- Islam teaches all people should have equal rights (Zakah)

Capital Punishment

A crime punished by death is called a 'capital offence'. Abolished in the UK in 1970.

Non-religious arguments in favour

- Will deter crimes like murder and terrorism
- Murderers are a threat to society. This threat should be permanently removed.

- The only retribution/compensation for murder is death

Non-religious arguments against

- Could be wrongly convicted
- Countries without death penalty have lower murder rates, so doesn't work
- Executed terrorists become martyrs and inspire others to become terrorists

Christian Attitudes to Capital Punishment

1)Against it because...

- Jesus came to save (reform) sinners. Can't reform the dead
- Jesus banned the Old Testament law of 'an eye for an eye' (retribution)
- Human life is sacred and only God can take it away
- Jesus said 'turn the other cheek'

2)Some see it as a good way to keep order in society because...

- Bible mentions it as a punishment for certain crimes and the Bible comes from God
- Catholic and CofE churches have not condemned the use of capital punishment
- Church used it for crimes like heresy
- Aquinas said peace in society was more important than reforming sinners

Islamic Attitudes to Capital Punishment

Allowed for 3 crimes; murder, adultery and apostasy (someone working against Islam).Must be clearly proven. Agree with capital punishment because...

- Is a punishment set down by God in the Quran. Do what God wants.
- Muhammed himself sentenced people to death
- Shariah law lays down the crimes to be prescribed death and all Muslims try to follow this

Some Muslims are against it because they believe the Quran recommends capital punishment. Shariah law allows victims families to be paid blood money for murder in place of the death penalty.

Drugs, tobacco and alcohol

UK laws on tobacco

- Can't sell to under 18s
- Adverts for tobacco products are banned

UK laws on alcohol

- Supervised under 16s can go anywhere in a pub
- Over 16s can have an alcoholic drink with a meal if accompanied by an adult

UK laws on drugs

Class	Examples	Maximum sentence for:	
		possession	supplying
Class A drugs	Crack Cocaine, Cocaine, Ecstasy, Heroin, LSD, Magic Mushrooms (prepared for use) and Methadone. Any Class B drug that is prepared for injection.	7 years in prison and/or unlimited fine.	life in prison and/or unlimited fine.
Class B drugs	Amphetamines, codeine in concentrations above 2.5%, ritalin and barbiturates.	5 years in prison and/or unlimited fine.	14 years in prison and/or unlimited fine.
Class C drugs	Cannabis*, Anabolic steroids, tranquillisers which includes Valium and Rohypnol.	2 years in prison and/or unlimited fine.	5 years in prison and/or unlimited fine.

Social and health problems caused by drugs and alcohol

	TOBACCO	DRUGS	ALCOHOL
HEALTH PROBLEMS	-Increases risk of getting over 50 medical conditions -Can cause impotence in men	-Death through overdose -Major cause of mental illness	-Causes liver and stomach problems -Mental health problems
SOCIAL PROBLEMS	-Watching loved ones die -Makes people smell	-Dealers are criminals -Major cause of gang crime	-Causes 41% of all deaths through falls -65% of murder victims have been drinking

Christian attitudes to drugs and alcohol

All against illegal drugs because...

- St Paul taught a Christian's body is a temple and should not be abused
- Drugs have mental effects which make it hard to worship God correctly

They have two attitudes to tobacco and alcohol

- 1) OK if used in moderation because...
 - Jesus' first miracle was turning water into wine
 - St Paul said Christians could drink in moderation
 - Jesus drank wine at the Last Supper

- 2) Some practise abstinence because...
- Bible warns against drunkenness e.g. Noah's drunkenness brought shame on the family
 - Bible notes alcohol 'impairs judgement, inflames passions and invites violence.'

Muslim attitudes to drugs and alcohol

Both prohibited as 'haram' because...

- Quran says Satan uses them to keep people from God
- Muhammed calls them 'khamr' (forbidden)
- Seen as suicide by Muslim lawyers which is banned
- Muhammed says a number of times that Muslims should have nothing to do with alcohol

Tobacco not mentioned in the Quran so declared 'makruh' which means extremely disliked but not 'haram'.

Key words

Sin – an against the will of God

Crime – an act against the law

Judgement – act of judging people and their actions

Law – rules made by Parliament and enforceable by the courts

Justice – due allocation of reward and punishment, the maintenance of what is right

Capital punishment – the death penalty for a crime or offence

Deterrence – the idea that punishments should be of such a nature that they will put people off (deter them from) committing crimes

Rehabilitation – restore to normal life

Retribution – the idea that punishments should make criminals pay for what they have done wrong

Reform – the idea that punishments should try to change criminals so they will not commit crimes again

Addiction – a recurring compulsion to engage in an activity regardless of its bad effects

Responsibility – being responsible for one's actions

Religion and Life- EDEXCEL (Unit 1)

Christianity and Islam: GCSE Revision Guide

Believing in God

Arguments FOR God's Existence

Religious Upbringing

- Some Christians baptise their children at a young age
- The child is usually taught to pray and they go to church.
- Families usually celebrate Christmas and Easter (and the meaning of those festivals and stories around them)
- Some Christian parents arrange for their children to attend a 'Sunday School' where there is encouragement to be a good Christian and lead a Christian life.

How would this support a person's belief in God?

- Being born into a Christian family might support someone's belief in God because they are surrounded by others who are convinced of the existence of God.
- If the religion has been handed down through generations it may seem perfectly natural to members of that family to believe in God.
- Learning about God at home, school and in the church could lead some people to decide that God must exist.

Religious Experiences

Sometimes religious experiences can convince people that God exists without a religious upbringing.

- For some this is the 'wow' factor and they see something that takes their breath away and gives feelings of awe and wonder. This is called **numinous** and could be felt by looking up at a starry sky or a wonderful sunset and convinced that God is behind it all.
- **Prayer** is an important and personal way for some people to communicate with God. If a prayer is answered then it can strengthen a person's faith in God.
- **Miracles** can also convince people that God exists e.g. surviving a plane crash, Jairus' daughter
- **Conversion** happens after an event where people believe they have experienced God and want to commit their life to God e.g. St Paul on the road to Damascus

DESIGN ARGUMENT

Several hundred years ago **WILLIAM PALEY** put forward the design argument. He said that if somebody happened to find a watch and had never ever seen one before, they would be astounded. The fact that finding something so tiny with lots of mechanisms inside it had been made by someone very clever (a designer) and it could **NOT** have been made by accident. Paley said that the same argument could be said about the universe which is even more complicated than a watch! **The universe must have been designed by an extremely clever being, not by accident.** The only possible **designer of the universe must be God – therefore God exists.** E.g.s of design = DNA, evolution...

CAUSATION ARGUMENT

Things do not happen by themselves; for example, if we drop an egg it may smash (the **cause** would be us dropping it – the **effect** would be the smashing of the egg) the causation argument says that the existence of the universe proves that God exists. **If the universe has a beginning then something must have caused it, it did not happen by accident so something caused it and brought it into existence** – this is God, and so this proves that God exists.

Arguments AGAINST God's Existence

Scientific Explanations of the world

Science can explain how the universe began without the need for God e.g. the **Big Bang** says how the universe began and **Evolution** explains where animals and humans came from. Christians respond in 3 ways;

1. Science is true but God controlled the process e.g. not strictly due to chance.
2. Science and the Bible are correct. Main points fit e.g. 7 days of creation could be 7 periods of time.
3. Science is wrong! God made world look older **Apparent Age Theory**

Unanswered Prayers

God not answering 'good' prayers e.g. end poverty, cure cancer...

Problem of Evil

Moral evil- actions done by humans which cause suffering

Natural evil- things which cause suffering but have nothing to do with humans, e.g. earthquakes

Christians believe God is all-powerful, all-loving and all-knowing so evil should not exist. Because evil does exist it leads to a number of possibilities 1) God is simply not powerful enough to stop evil; 2) God does not know that it is happening; 3) God simply does not love us enough to want to stop the evil. Christians tell us that he can do all of these things **SO** God does not exist otherwise he would stop evil!

How Christians Respond to Evil and Suffering

Christians have different viewpoints about the causes of evil and suffering:

- **God created people with free will** and because people are not programmed like computers, they can choose whether to do good or evil. When they choose evil, suffering happens.
- **To some Christian's life is a test.** The way people react to suffering and evil determines whether they go to heaven or hell in the afterlife. E.g. Job
- **Others say that 'God works in mysterious ways'** and He has reasons for letting evil and suffering happen, but humans will never be able to understand the mind of God.

How do Christians respond to evil and suffering?

In responding to the problems of evil and suffering, Christians follow the teachings and actions of Jesus, who taught his followers to:

- **PRAYER:** (asking God to help those who are suffering - this type of prayer is called intercession and is found in nearly all types of Christian worship).
- **SERVICE:** (Actively helping those who suffer) many Christians help in hospitals and hospices, organise food and clothing for homeless in the UK, raise money to help less developed countries, etc. Some set up charities such as the 'Children's Society' to help children from broken homes.

The Media

Remember that for this section you need to know about **TWO** programmes and how they affect a person's attitude to believing in God.

Bruce Almighty

- **Summary** – Bruce feels that life is not fair and bad mouths God. So God gives Bruce his powers. Bruce sorts out his own life but things start to go wrong. Eventually he can no longer cope as the town falls apart due to him giving everyone what they want. In the end he realises that his life was not that bad.
- **Supports God's existence**
 1. Even with God's powers Bruce messes up e.g. the town riots as everyone wins \$17 on the lottery. As such it shows how hard God's 'job' is and says that we can't all get what we want.
 2. God's existence is never questioned. It acknowledges from the start that God is real.
 3. Shows the problems with free will. God exists and bad things happen because humans make bad decisions and choose to do evil things.
 4. Shows that God hears all prayers and responds to some. Shows why God does not answer all prayers (which is a major reason for doubting his existence).
- **God does not exist**
 1. Ultimately he answers Bruce's prayer but throughout the film he is rude to God. If he is helped then why not help others.
 2. Mocks a lot of the miracles in the Bible e.g. turning water to wine, walking on water.
 3. Shows God in human form. But Christians believe that God is everywhere. This is not possible if God is human.
 4. Christians believe God is all powerful, but Bruce is given his powers. According to Christianity this is not possible as God can have no equal.
- **Effect on your own attitude to God** – for the exam you need to comment on how watching the film made you feel. Did it make you appreciate how hard God's 'job' is and so you now believe OR did it make you realise how silly it is to believe in a being that controls everything?

Red Dwarf

- **Summary** – In this episode Lister learns that he is the 'god' of the cat people. It focuses on how many things in religion could have been misinterpreted over the years e.g. the Cat's 'god's' name had become Cloister not Lister.
- **Supports God's existence**
 1. Religious wars are caused by people and not by God. The Cats argued over what colour the hat they wore was meant to be when it was completely different to what Lister wanted it to be. God still exists.
- **God does not exist**
 1. Miracles are people misinterpreting an event. The Cat priest asks Cat to destroy his hat as he no longer believes that Cloister exists. However, he is blind and Lister stops Cat from destroying the hat. He gives it back and the priest thinks it is a miracle.

2. The 'holy' writings for the Cats are really Listers' laundry list that they have misinterpreted.
 3. Whether the Cats made mistakes or not if God existed he would have stopped the wars.
- **Effect on your own attitude to God** – for the exam you need to comment on how watching the TV show made you feel. Did it make you see that many problems e.g. holy wars are man made or does it seem that religion is based on lies and misinterpretations

Key words:

Agnosticism- not being sure whether God exists

Atheism- believing that God does not exist

Theism- believing that God does exist

Prayer- an attempt to contact God, usually through words

Omnibenevolent- the belief that God is good or kind

Omnipotent- the belief that God is all powerful

Omniscient- the belief that God knows everything that has happened and everything that is going to happen

Conversion- when your life is changed by giving yourself to God

Miracle- something which seems to break the law of science and makes you think that only God could have done it

Numinous- the feeling of presence of something greater than you, e.g. in a Church or looking up at the stars

Religious Experience – an event where people feel that they have had direct contact with God

Free Will – the idea that human beings are free to make their own choices

Moral Evil – actions done by humans which cause suffering

Natural Evil – things that cause suffering but have nothing to do with humans

Matters of Life and Death

Life after Death

Why Christians believe in life after death

- The **resurrection** of Jesus for Christians proves that there is life after death.
- Jesus tells Christians they will be brought back to life in John 11:25.
- Jesus teaches that he is the key to eternal life. (John 3:16-17)
- St.Paul teaches about life after death and how the body will be transformed from a physical body to a spiritual one when it is raised. (1 Corinthians 15:20, 35-8, 42-4)

How these beliefs affect Christians

- Some Christians believe in the **Resurrection**, that after death the body stays in the grave till the **Day of Judgement**. When everyone will be raised from the dead and be judged by God. As such they want to lead good lives so they can get to heaven

Why Muslims believe in life after death

- The **Quran and Muhammed** state that it exists.
- It is one of the '**6 Fundamental beliefs**' of Islam
- **Life is a test** reward/punishment can only come in the next life

How these beliefs affect Muslims

- To get to **heaven** they will lead a good life – following the **5 Pillars** is a way to do this – also follow **Shari'ah law** – all this gives **meaning and purpose** to their life and so they would be less likely to commit suicide.

Non-Religious reasons for believing in life after death

- **Near-death experiences**- people who have had these say that they were travelling through a tunnel or toward a light e.g. research of Dr S Parnia
- Existence of the **spirit world/ghosts** - who are thought to be the spirits of the dead that are sometimes visible to the living. Use mediums and ouija boards.
- **Reincarnation** – people claim they can remember previous lives e.g. case of Taranjit Singh

The case against life after death

- Scientific evidence shows that when the body dies, everything decays.
- No one has returned from the dead to tell us.
- The end of life means exactly that, it is illogical to speak about life after death.
- Life-support machines prove the brain dies before the body

Abortion

The Law (1967 Abortion Act)

- 2 doctors agree that mother's life at risk OR risk to health of already living children OR baby is severely disabled.
- Can't take place after 24 weeks of pregnancy (**1990 Abortion Act**)

Non-religious arguments in favour

- A woman has the right to chose.
- A child's quality of life is important.
- A mother's health and welfare are more important than that of her unborn child.
- There are too many people on the planet.

Non-religious arguments against

- Its a form of murder.

- Everyone has the right to be born so they can reach their full potential.
- All life has value,

Christian Teaching

- **Roman Catholics** and some **Evangelical** Christians believe that life begins at conception so abortion is murder and a serious sin.
- Christian teachings on the **Sanctity of life** means every human has the right to a life (even a foetus).
- **Some** Christians, such as Liberal Christians, believe that abortion in certain circumstances may be the kindest and most loving action. They refer to **Jesus'** teaching that love is the most important thing.

Muslim Teaching

- Some allow it up to **120 days**. Hadith says the baby gets its soul at this point.
- Some say it is always **wrong**. Quran condemns **murder**.
- Some say it is OK if the **mother's life is at risk**. **Shari'ah** says that the mother's life takes precedence over the child's.

Euthanasia

Non- religious arguments in favour

- Suicide is legal, so why not help someone who cannot commit suicide themselves,
- If animal were suffering, we have it put down as its the most humane thing to do.
- It is their life they have should have the right to end it if they want to.
- It's not fair for the relatives to have to watch their loved one dying painfully.

Non- religious arguments against

- Drugs can be used for pain control.
- **Euthanasia** is just a fancy word for murder.
- Doctor's take an oath to save life, it is wrong to ask them to kill people.
- People can better or medical science might find a cure for them.

Christian teachings

- 1. Wrong but do not want people to suffer.**
 - Christians believe that God created everything and that humans were created in his image. So life is holy, this is known as the **Sanctity of Life**. Only God should end life.
 - Jesus accepted his suffering and death and never tried to escape from it, so Christians believe that this teaches them to preserve and cherish life.
 - God tells us not to kill in the **Ten Commandments**.
- 2. Evangelical Protestants believe it is wrong in every circumstance**
 - Bible condemns suicide and they follow it literally
 - God tells us not to kill in the **Ten Commandments**.

3. Liberal Protestants allow limited use of euthanasia

- Jesus said 'love thy neighbour'. Helping someone to die might be the most loving thing to do.

Muslim Teachings

All are against euthanasia but 2 attitudes exist.

1. **Switching off a life support machine is NOT euthanasia.**
 - If they are 'brain dead' then God has already taken that person.
2. **Others see turning the life support machine off as BEING euthanasia. Against it because...**
 - See it as suicide which is condemned in the Quran
 - View voluntary euthanasia as suicide as well
 - See life as a test. Only God can decide when we die.

Life and Death in the Media

Media should NOT criticise religious beliefs on life after death because...

- Might stir up religious hatred
- Might be offensive to religious believers
- Criticising what the Pope says could be seen as blasphemy
- Religious attitude based on God's teachings. God is beyond human criticism

Media SHOULD be allowed to criticise religious attitudes because...

- A free media is a key part of democracy
- If religions want to be free to say what they want then the media should also have that right.
- Life and death is such an important topic all people should be made aware of the arguments
- Freedom of expression is essential for society to make progress (Karl Popper)

Keywords:

Paranormal- unexplained things which are thought to have spiritual causes, e.g. ghosts and mediums

Heaven- a place of paradise where God rules

Hell- a place of horrors where Satan rules

Immortality of the soul- the idea that the soul lives on after the death of the body

Resurrection- the belief that, after death, the body stays in the grave until the end of the world when it is raised

Abortion- the removal of a foetus from the womb before it can survive

Assisted suicide- providing a seriously ill person with the means to commit suicide

Euthanasia- an easy and gentle death

Non-voluntary euthanasia- ending someone's life painlessly when they are unable to ask, but you have good reason for thinking they would want you to do so, e.g. switching of a life support machine

Voluntary euthanasia- when someone dying in pain asks a doctor to end his/her life personally

Sanctity of life- the belief that life is holy and belongs to God

Purgatory – a place Catholics believe you go to so as to work of sins before going to heaven

Quality of Life – the idea that life must have some benefits for it to be worth living

Reincarnation – the belief that after death souls are reborn in a new body

Near death Experience (NDE) – when someone about to die has an out of body experience

Marriage and Family

Changing attitudes to marriage, divorce...

- a. Most have sex before marriage. Socially acceptable for people to live together unmarried.
- b. Age to get married has increased and not many get married in church.
- c. Increase in reconstituted families. Civil partnerships introduced (2004)
- d. Divorce now accepted as part of normal life

Reasons for the changes

1. **Cohabitation and Marriage**
 - Contraception made sex safer from pregnancy
 - Christianity lost its influence
2. **Divorce**
 - Law made it easier and cheaper to get divorced (1969)
 - More equal rights. Women can now afford to support themselves
3. **Family Life**
 - More divorce means more remarriage
 - Social acceptance of unmarried mothers = more single parent families
4. **Homosexuality**
 - Changes in the law make it easier to be openly homosexual
 - Scientists have shown that homosexuality is probably genetic = not a choice

Pre-marital sex, adultery and Cohabitation (sex outside marriage)

.What do the Churches say?

- Adultery is banned in the 10 Commandments
- For Christians, sex (procreation) is an act of love and commitment and should take place within marriage.
- Many Christians believe that restricting sex within marriage is in the best interests of society, children and the individual.
- **The Roman Catholic** church forbids **pre-marital sex** and sees it as a grave sin. So for a Roman Catholic couple considering marriage cohabitation is not an option. Bible forbids pre-marital sex.
- **Some Christian** groups e.g. Protestants, recognise that times have changed and are prepared to accept **Cohabitation** if the couple intend to marry.

Islam and sex outside marriage

It is wrong because...

- Quran condemns it.
- Shari'ah law says sex is only for married couples
- Sex is to have children who should be raised by a married couple
- Adultery is condemned in the Quran

Divorce

Christian beliefs

- Christians recognise that not all marriages work and that some people will want to end their marriages. (Jesus allows it for divorce so he recognises some situations are severe enough for divorce)
- Some orthodox Christians and liberal Protestants will permit divorce if they think it is the most loving thing to do. (Choose the **lesser of two evils**, better to divorce than live in hatred)

Roman Catholic Church

- Does not accept divorce. (Jesus said it was wrong in Mark's Gospel)
- If a marriage has broken down, the couple can live apart but they must remain celibate and never into a sexual relationship with anyone else. That would be **adultery** (banned in 10 Cs)
- In few cases they are permitted to have an **annulment**.

Muslim attitudes

1. AGAINST
 - 'The most hated of all lawful things.' Muhammed
 - Lots of family pressure due to many marriages being arranged
 - On the Last Day Muslims judged on how they treated their children (divorce harms children)
2. FOR
 - Quran and Shari'ah law allows divorce
 - It is the 'lesser of two evils'
 - Marriage is a contract with clauses outlining what happens in divorce

Family Life

Christian teachings

- **Family** was created by God as the best environment in which a couple can live and raise children.
- The Old Testament refers to the importance of family.
- The Gospels show Jesus was a member of a family, cared for his mother and father.
- Having Children is one of the purposes of Christian marriage.
- Salvation army believes family life based on marriage is 'the bedrock of a stable society'

Muslim teachings

- Muhammed had a family and Muslims want to follow his example
- The family is where children learn right from wrong
- Children are seen as a gift from God
- Quran states that the family is created by God

Homosexuality

Christian teachings

1. **Catholic attitude** – only homosexual RELATIONSHIPS are a sin. Homosexuals should be celibate. Condemns homophobia.
 - The **Bible** forbids same sex relationships. (Leviticus 18:22)
 - Everyone is a child of God.
2. **Evangelical Protestants** – Homosexuality is a SIN. Hold prayer meetings to **cure** homosexuals.
 - Romans 1:26-8 says that those who do unnatural things with someone of the same sex will be punished.
 - Believe that Christ can remove all sins including homosexuality
3. **Liberal Protestant attitude** – Lifelong homosexual relationships are acceptable and welcomed. Priests can be homosexual but must be celibate.
 - Jesus' teachings focused on love, so should be accepted
 - Bible needs to be reinterpreted for today's society

Muslim teachings

1. AGAINST
 - Condemned in the Quran and by Muhammed
 - Only form of lawful sex is between a married man and woman
 - Sex is to reproduce. Can't happen in a homosexual relationship
2. FOR
 - Islam is a religion of tolerance
 - All God's creation.
 - People are born homosexual. God obviously wanted them to be this way.

Contraception

1. **Natural methods** – couple need to be in a long term relationship. Do not prevent STIs
 - Natural Family Planning (NFP) – monitor woman's fertility cycle so she knows when she is most fertile and so does not have sex on those days.
2. **Artificial methods** – many types. Do not need to be in a long term relationship. Some prevent STIs from spreading.
 - Barrier methods e.g. condoms. Stop sperm meeting the egg.
 - Hormonal e.g. the Pill. Stops women from producing an egg.
 - Others e.g. coil or morning after pill prevent fertilised egg attaching to the womb

Different Christian Attitudes

1. **Catholic Attitude** - do not accept the use of **artificial contraception** because it would prevent the act of sexual love being open to new life. Allow NFP.
 - Casti Connubii (1930) banned Catholics from using artificial contraception
 - 1951 – Pope Pius XII says Catholics can use natural contraception
2. **Non-Catholic Christians** – Allow all contraceptives as long as they are to limit the family size.
 - Christian's who accept the use of **contraception** in marriage argue that there is nothing written in the Bible forbidding it.
 - The **Church of England** accepts the use of all forms of contraception by a married couple and it allows the couple the chance to enjoy sexual love but choose the best timing, and size, of their family.

Muslim attitudes

1. AGAINST
 - 'Do not kill your children for fear of want.' Quran
 - Sex is for procreation (contraception stops this from happening)
 - Some contraceptives abort the foetus (seen as murder and not allowed)
 - Muslim duty is to have a large family
2. FOR
 - Teaching of 'coitus interruptus' Muhammed
 - God would not want his followers burdened (a large family would be one)
 - If woman knows she will die if she gets pregnant then it could be classed as suicide
 - Muslim lawyers state that abortion is different to contraception

Key words:

Adultery- an act of sexual intercourse between a married person and someone other than their marriage partner

Cohabitation- living together without being married

Faithfulness- staying with your marriage partner and having sex only with them

Marriage- the condition of a man and woman legally united for the purpose of living together and, usually, having children

Pre-marital sex- sex before marriage

Promiscuity- having sex with a number of partner without commitment

Homosexuality- sexual attraction to people of the same gender

Annulment- a declaration by the Church that a marriage never lawfully existed

Re-marriage- marrying again after being divorced from a previous marriage

Extended family- children, parents and grandparents/aunts/ uncles living as a unit in close proximity

Nuclear family- mother, father and children living as a unit

Re-constituted family- where two sets of Children (step-brothers and sisters) become one family when their divorced parents marry each other

Celibate life- one without sex

Annulment- this means the marriage is invalid and never truly existed

Civil Partnership = a legal ceremony giving homosexual couples the same legal rights as a husband and wife

Contraception – intentionally preventing pregnancy from occurring

Procreation – making a new life

Community Cohesion

Women

HOW attitudes in the UK have changed to roles of men and women

- Women could own property but when they married it passed to the husband. Very few women worked 15% in 1900.
- Lots of changes in 19th and 20th centuries. Could keep own property when married (1882)
- Equal Pay Act (1970) and Sex Discrimination Act (1975) gave women full rights.

WHY attitudes have changed

- During the War women had to take on roles men usually did. Showed they did them just as well. More women need to work for homes to afford things.
- The Suffragettes showed women no longer wanted to be treated badly.

Catholic attitudes - Men and women should have equal roles and rights in society. Do not think this is the case in Church leadership. They point to the fact that Jesus personally nominated Peter to be lead the Church. Only men can be priests.

- Men and women created on same day (Genesis). Made in God's image, so equal.
- Jesus' closest followers (apostles) were all men and priests follow on from them.

Traditional Protestant – Evangelicals see men and women as having different roles so they can't be equal in religion. Women bring up children and men provide for the family. Only men are church leaders.

- St Paul teaches that women should not speak or teach in church
- Men made before women (Genesis) so they have more rights

Modern Protestants – Men and women fully equal and now have women ministers and priests

- Jesus treated women as his equal e.g. the Samaritan woman in John.4
- St Paul said women and men were equal in the eyes of God

Muslim attitudes

1. **Traditional Muslim attitudes** – men and women are seen as having different roles in religion and daily life. So they should have different rights. Believe this because...
 - Quran states men must support women as they are stronger
 - Quran states that women were designed to give birth
 - Traditionally only men become Imams
 - Women inherit ½ what men do as pressure is on men to provide for their families

2. **Modern Muslim attitude** – Men and women are completely equal in religion and education. Believe this because...
- Quran teaches both are equal
 - Muhammed allowed women into the mosque to worship
 - Early Islam had women religious leaders
 - Women want rights that women have earned in other parts of the world

Multi-ethnic society

Racial harmony – benefits of a multi ethnic society

- The UK has a wide variety of music, culture, food and clothes from different cultures.
- It can make for a more peaceful world as people of different races and nationalities learn to live and work alongside each other.
- It is good for religions to see members of different ethnic groups following their religion

Problems of discrimination and racism

- Prejudiced employers will not give jobs to certain religious groups
- Prejudiced teachers might get ethnic children expelled or put them in lower sets
- Prejudiced police officers might stop black people more often or not treat them seriously.

Effects of discrimination and racism

- If treated unfairly some groups might work against society
- If people feel won't get a good job due to prejudice some will turn to crime or terrorism
- Can lead to extremist groups coming about e.g. the BNP (British National Party)

Community Cohesion

HOW the government promotes it

- Schools have to promote community cohesion
- Race Relations Act = illegal to discriminate against people due to race, colour etc.
- Appointing MPs from ethnic backgrounds
- Fund research into the best ways of achieving community cohesion

WHY is community cohesion important

- Without it different groups have their own agendas which can lead to violence
- E.g. Oldham, Burnley and Bradford riots

Why Christians promote racial harmony

- The Bible opens with a description about God creating everyone in his own image. so **prejudice** and **discrimination** are wrong.
- In parable of the good Samaritan Jesus tells people to help whoever is in need regardless of race or religion.

- There are Christian leaders of every colour and race so silly for them to be racist
- St Paul said everyone is equal in the eyes of God

Why Muslims promote racial harmony

- Muhammed's first prayer caller was a black African
- All humans are made by God
- Muhammed said all Muslims were brothers with each other
- Islam is a world wide religion made up of all races

The UK as a multi faith society

- In 2001 the UK had 1,500,000 Muslims, 500,000 Hindus, 300,000 Sikhs, and 250,000 Jews.
- 36% of people in Tower Hamlets were Muslims
- 14% of people in Birmingham were Muslims
- Leicester was 14% Hindu

Benefits of living in a multi-faith society

- Learn what other religions are about from friends and neighbours
- Seeing others who are committed to their religion may make others think about their own faith more
- People are likely to become a lot more understanding
- Cause more religious tolerance which will limit conflict

Issues for religion in a multi faith society

1. **Conversion** – teachings of religions can be in conflict with each other. Some see it as their duty to convert others. This causes problems because this could be seen as a type of prejudice. This could lead to arguments and violence.
2. **Bringing up children** – in the UK children come into contact with lots of other religions and they may go against their parents. Some religions say parents must keep children in their faith in order to see them when they die. Could cause friction between parents and children.
3. **Inter faith marriage** – people of different meet and fall in love. Causes problems e.g. where will they marry, and which religion will their children grow up in? If these are not worked out then they can lead to hatred and violence.

How religions promote community cohesion in UK

1. Work with other religions to see what they have in common. E.g. Christianity, Islam and Judaism all believe in Abraham and Moses. Try to find ways to live together.
2. Develop ways of having interfaith marriages e.g. Protestant churches and liberal Jewish synagogues have special wedding services for mixed couples.
3. Respond to how children should be brought up e.g. Some Protestant Churches and liberal Jewish synagogues encourage mixed couples to raise children in both faiths and let the child decide when they are older.
4. Join together in special groups to explore ways of helping community cohesion e.g. the Inter Faith Network has members from lots of religions working together to promote good relations between religions.

The Media

You need to study how **ONE** issue in this section has been presented by the media.

The Vicar of Dibley

- **Summary / issue** – The issue this programme deals with is **Equal Rights for Women**. We see a new vicar arrive and the locals are shocked to find that it is a woman. The episode sees 'Geraldine' struggling to be accepted into the community.
- **Why an important issue** – Christianity is split today with different groups having various attitudes to the roles of men and women. Catholics and Evangelical Protestants do not allow women to be priests/vicars. But CofE do.
- **FAIR to religious beliefs/people** –
 1. Geraldine, the vicar, is very normal with a good sense of humour. Shows Christians in a positive light.
 2. Presents basic arguments 'for' and 'against' women as vicars in a fair and balanced way. A clear attempt not to upset Christians.
- **UNFAIR to religious beliefs/people** –
 1. Many of those against the female vicar are shown to be posh, rude and sexist. This is not a fair view of Christians and could offend.
 2. At the time female vicars was a topical debate and many objected to it happening. Some even left the church. As such is it right for a comedy programme to be focusing on this topic?

Key words:

Equality- the state of everyone having equal rights regardless of gender/race/class

Sexism- discriminating against people because of their gender (being male or female)

Multi-ethnic society- many different races and cultures living together in one society

Prejudice- believing some people are inferior or superior without even knowing them

Discrimination-putting prejudice into practice and treating people less favourably because of their race/gender/colour/class

Racism- the belief that some races are superior to others

Racial harmony-different races/colours living together happily

Multi-faith society- many different religions living together in one society

Religious pluralism -accepting all religions as having an equal right to coexist

Religious freedom- the right to practise your religion and change your religion

Community Cohesion – a common vision and shared sense of belonging for all groups in society

Interfaith marriage – marriage where the husband and wife are from different religions

Ethnic Minority – a member of an ethnic group (race) which is much smaller than the majority group

How to Answer Exam Questions

(a) DEFINITION QUESTIONS – 2 marks

Write a complete sentence or two – give a brief example if needed.

Do not write any more than this.

(b) DESCRIBE/OUTLINE/STATE – 4 marks

This question will have a question in it e.g. Do you think Christians should use contraception?

Do not explain or debate. Give your opinion, (I agree/disagree because...). Support your opinion with **two** reasons (a religious teaching e.g. something Jesus or the Pope said, a quote from the Bible)

(c) EXPLANATION QUESTIONS – 8 marks

You must go beyond describing and explain your answer. Tell the examiner **WHO** you are talking about (e.g. Methodists, Roman Catholics), **WHAT** they believe or do (e.g. against abortion) and **WHY** they believe that (e.g. give a Bible quote to back up their beliefs). Do not include your own opinion. If the question asks why Christians have different opinions – start your answer with 'There are different opinions because Christians/Muslims interpret the Bible/Quran differently'. This will gain you marks even if you know nothing else!

For **8** marks give **4** different reasons.

Your Quality of Written Communication will be assessed in all of these questions. **DO NOT** make spelling mistakes in this section. **USE** paragraphs, full stops, commas, capital letters etc.

(d) EVALUATION QUESTIONS – 3 + 3 marks

This question will have a statement e.g. 'Abortion is always wrong.' It will ask for your opinion. You then have to give 3 reasons to support your view and 3 reasons why people might disagree.

Part 1 – I agree/disagree because...

Give 3 reasons to support your opinion.

Part 2 – I can see why some people might disagree with my opinion because...

Give 3 reasons to support this side of the argument,

In all cases make sure you remember to use appropriate religious vocabulary (key words) wherever possible.

REMEMBER

- Read the question
- Think about what you are going to write
- Write for **no more than** 1 minute per mark
- Never generalise. REMEMBER NOT ALL CHRISTIANS BELIEVE THE SAME THING ALL OF THE TIME! Use phrases like 'some Christians' or 'Catholics believe'

How to Answer Exam Questions

(a) DEFINITION QUESTIONS – 2 marks

Write a complete sentence or two – give a brief example if needed.

Do not write any more than this.

(b) DESCRIBE/OUTLINE/STATE – 4 marks

This question will have a question in it e.g. Do you think Christians should use contraception?

Do not explain or debate. Give your opinion, (I agree/disagree because...). Support your opinion with **two** reasons (a religious teaching e.g. something Jesus or the Pope said, a quote from the Bible)

(c) EXPLANATION QUESTIONS – 8 marks

You must go beyond describing and explain your answer. Tell the examiner **WHO** you are talking about (e.g. Methodists, Roman Catholics), **WHAT** they believe or do (e.g. against abortion) and **WHY** they believe that (e.g. give a Bible quote to back up their beliefs). Do not include your own opinion. If the question asks why Christians have different opinions – start your answer with 'There are different opinions because Christians/Muslims interpret the Bible/Quran differently'. This will gain you marks even if you know nothing else!

For **8** marks give **4** different reasons.

Your Quality of Written Communication will be assessed in all of these questions. **DO NOT** make spelling mistakes in this section. **USE** paragraphs, full stops, commas, capital letters etc.

(d) EVALUATION QUESTIONS – 3 + 3 marks

This question will have a statement e.g. 'Abortion is always wrong.' It will ask for your opinion. You then have to give 3 reasons to support your view and 3 reasons why people might disagree.

Part 1 – I agree/disagree because...

Give 3 reasons to support your opinion.

Part 2 – I can see why some people might disagree with my opinion because...

Give 3 reasons to support this side of the argument,

In all cases make sure you remember to use appropriate religious vocabulary (key words) wherever possible.

REMEMBER

- Read the question
- Think about what you are going to write
- Write for **no more than** 1 minute per mark
- Never generalise. **REMEMBER NOT ALL CHRISTIANS BELIEVE THE SAME THING ALL OF THE TIME!** Use phrases like 'some Christians' or 'Catholics believe'