How to support pupils in GCSE Science

6 papers

	Combined
Bio 1	Paper 1 combined grade
Bio 2	
Chem 1	
Chem 2	Paper 2 combined grade
Physics 1	
Physics 2	

	Triple
Bio 1	Bio grade
Bio 2	
Chem 1	Chem grade
Chem 2	
Physics 1	Physics grade
Physics 2	

Biology	chemistry	Physics
Unit 1	Unit 1	Unit 1
Unit 2	Unit 2	Unit 2
Unit 3	Unit 3	Unit 3
Unit 4	Unit 4	Unit 4
Unit 5	Unit 5	Unit 5
Unit 6	Unit 6	Unit 6
Unit 7	Unit 7	Unit 7
	Unit 8	Unit 8
	Unit 9	
	Unit 10	

Assessment objectives

- AO1: Demonstrate knowledge and understanding of:

40% 1) scientific ideas

2) scientific techniques and procedures.

- AO2: Apply knowledge and understanding of:

40% 1) scientific ideas

2) scientific enquiry, techniques and procedures.

- AO3: Analyse information and ideas to:

20% 1a) interpret

1b) evaluate

2a) make judgements

2b) draw conclusions

3a) develop experimental procedures

3b) improve experimental procedures

How are the papers made up?

Foundation Tier papers are made up of:

- low demand questions (aimed at grades 1–3)
- standard demand questions (aimed at grades 4–5).

A greater proportion of questions will be low demand.

Higher Tier papers are made up of:

- standard demand questions (aimed at grades 4–5)
- standard/high demand questions (aimed at grades 6–7)
- high demand questions (aimed at grades 8–9)

30% of the marks will be common between foundation and higher tier papers.

What do we offer already?

- Pupils have check lists for each unit which has links to you tube for videos and links to revision guide page numbers.
- Revision guides offer to purchase.
- Revision cards as part of homework/class.
- Front sheets which highlights the substantive and disciplinary knowledge for each unit.
- Exam questions in class and part of homework- with answers corrected
- Revision prep booklets prior to assessment (going live from 23rd Jan for paper 2 yr 11), yr 10s to follow.
- End of unit assessments and feedback lessons to show areas of weakness.
- Past papers.

How to complete a revision session

Phase 1:

Look at just the title of your revision card. 	Write on your whiteboard everything you can remember about that topic. 	Check your whiteboard against the revision card. If you got lots correct, put it in one pile called the green pile. If you missed a lot or made errors, put it in another pile called the red pile. 

Phase 2:

Pick up the pile of cards you couldn't remember accurately (the red pile). Look at one card and read it. Then, turn the card over and write down what you just read on a white board. 	Check what you wrote. If you got lots correct, put it in one pile called the green pile. If you missed a lot or made errors, put it in another pile called the red pile. 	Continue until you have no cards in the red pile.

Phase 3:

Without looking at any of your revision cards, complete the 'test yourself' questions on the links or the questions from your homework booklets. 	Note down the topics where you couldn't answer the questions correctly these are your areas of development. 

Revision/ Flash cards – how to make them and use them. RAG rate your checklists. Red areas are the ones to target

Review B1 Cell Biology

Can you…?	☺	😐	☹
B1.1 Cell Structure			
Name the main organelles of plant and animal cells (eukaryotic cells)			
Recall the relative size of bacterial cells (prokaryotic cells)			
Describe the difference in how the genetic material is found within eukaryotic and prokaryotic cells.			
Explain how the main sub-cellular structures, including the nucleus, cell membranes, mitochondria, cell wall and chloroplasts in plant cells and plasmids in bacterial cells are related to their functions			
Explain how the structure of different types of cell relate to their function in a tissue, an organ or organ system, or the whole organism. Including sperm cells, nerve cells and muscle cells in animals and root hair cells, xylem and phloem cells in plants.			
Describe cell differentiation			
Describe the differences in magnification and resolution between electron and light microscopes			
B1.2 Cell division			
Recall that the nucleus of a cell contains chromosomes made of DNA molecules. Each chromosome carries a large number of genes. In body cells the chromosomes are normally found in pairs			
Give an overview of mitosis			
Understand that Cell division by mitosis is important in the growth and development of multicellular organisms			
Recognise and describe situations where mitosis is occurring.			
Define a stem cell			
Recall that stem cells from human embryos and adult bone marrow can be cloned and made to differentiate into many different types of human cells			
Name some conditions which may be helped by treatment with stem cells			
Discuss the ethical or religious objections and potential risk of stem cell use			
Recall that stem cells from meristems in plants can be used to produce clones of plants quickly and economically and describe possible uses			
B1.3 Transport in cells			
Explain how substances may move into and out of cells across the cell membranes via diffusion			
Describe diffusion			
Recall that some of the substances transported in and out of cells by diffusion are oxygen and carbon dioxide in gas exchange, and of the waste product urea from cells into the blood plasma for excretion in the kidney			
Describe factors the affect the rate of diffusion			

Go to the master checklist on Teams and follow the links or page number to help find the content for your weak areas.

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GCSE Biology Revision Checklist

Unit	Learning Objectives / Topic Title	Learning Outcomes	Foundation Content	Higher Content	Triple Only Content	Learned, Revised and Confident (Tick)	CGP Revision Guide Page (Combined Higher)	CGP Revision Guide Page (Combined Foundation)	CGP Revision Guide Page (Triple)	You tube link	Notes
		Ecosystems	Y	Y			151	141	106		
	4.7.1 Adaptions , interdependence and competition	Abiotic factors	Y	Y			152	142-143	107	GCSE Biology Revision "Biotic and Abiotic Factors" (youtube.com)	
		Biotic factors	Y	Y			153	142-143	107		
		Adaptations of plants and animals	Y	Y			154	144	108	GCSE Biology Revision "Adaptations" (youtube.com)	
		Competition	Y	Y			151	141	106	GCSE Biology Revision "Competition	
	4.7.2 Organisation of an ecosystem	Food chains and webs	Y	Y			155	145	109	GCSE Biology Revision "Food Chains	
		Population cycles	Y	Y			155	145	109		
		Populations and sampling including transects and quadrats	Y	Y			157	147-148	110-111	GCSE Biology Revision "Sampling Organisms" (youtube.com)	
		Investigate factors which impact population sizes (required practical)	Y	Y			158	148	110-111	GCSE Biology Revision "Required Practical 9: Sampling Organisms" (youtube.com)	
		Analyse data including calculate mean, median, mode.	Y	Y			157	147-148	110-111	GCSE Biology Revision "Mean,	
		Water cycle	Y	Y			159	149	112	GCSE Biology Revision "The Water Cycle" (youtube.com)	Common content for paper 1 an paper 2
		Carbon cycle	Y	Y			160	150	113	GCSE Biology Revision "The Carbon Cycle" (youtube.com)	Common content for paper 1 an paper 2
		Decay	Y	Y	Y				114	GCSE Biology Revision "Decomposition" (Triple) (youtube.com)	
		Factors which impact the rate of decay	Y	Y	Y				114		
		Anaerobic decay	Y	Y	Y				114		
		Applying knolwdge of decay e.g. compost bins	Y	Y	Y				114		
		Investigate the effect of temperature on the rate of decay of fresh milk by measuring pH change (required practical)	Y	Y	Y				115	GCSE Biology Revision "Required Practical 10: Decay" (Triple) (youtube.com)	
		Impact of environment change	Y	Y	Y				112	GCSE Biology Revision	
4.7 Ecology											

Use the flash cards/ rev cards (or make them if missing!)

The Flash Card

Key words

E.g. prey

Description or definition of the key word.

e.g. An animal that is a source of food for another animal.

Best used for language, facts, definitions and equations.

Great with lower ability!

The revision card

Revision cards help you to condense and learn information on sections/groups of content, processes or practical.

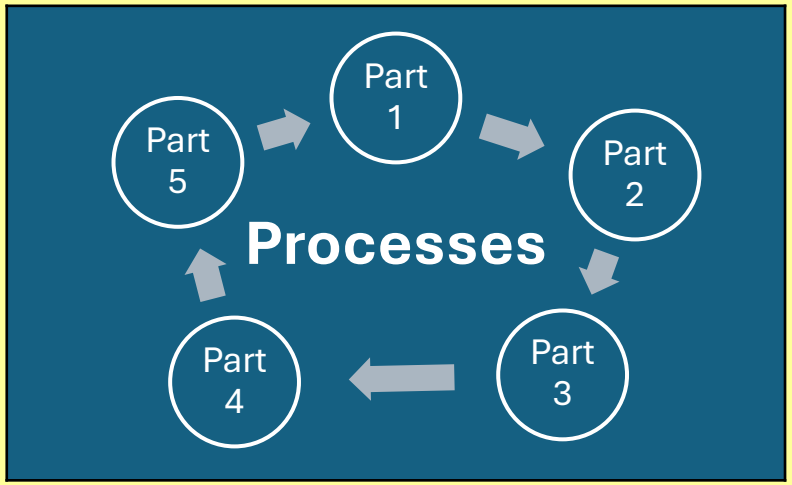
Notes: **Here you place examples or condensed notes on the material**	
Definitions: of key works or principles, including equations.	Questions on this topic: could be filled in from started quizzes, exit tickets or from your teacher.

The revision card

They can look different depending on the content you are focusing on.

Method for a practical	
Equation or content that are important for th practical.	Image/ questions (answers on back)

Comparison	
Part 1	Part 2



Collection of things to learn
Part 1
Part 2
Part 3
Part 4
Part 5

Make the layout fit the topic!

MAKING A REVISION CARD

1. Choose an appropriate amount of material. Should have some detail but not too much. (very maximum would be something like the water or nitrogen cycle)
2. Map out a plan for the card on a whiteboard to make sure you can fit it all in and it has a clean look. (G load)
3. Build revision card, adding information and pictures to the card.
4. Add colour (make sure each colour has a purpose). E.g. pink for key words, yellow for things you keep

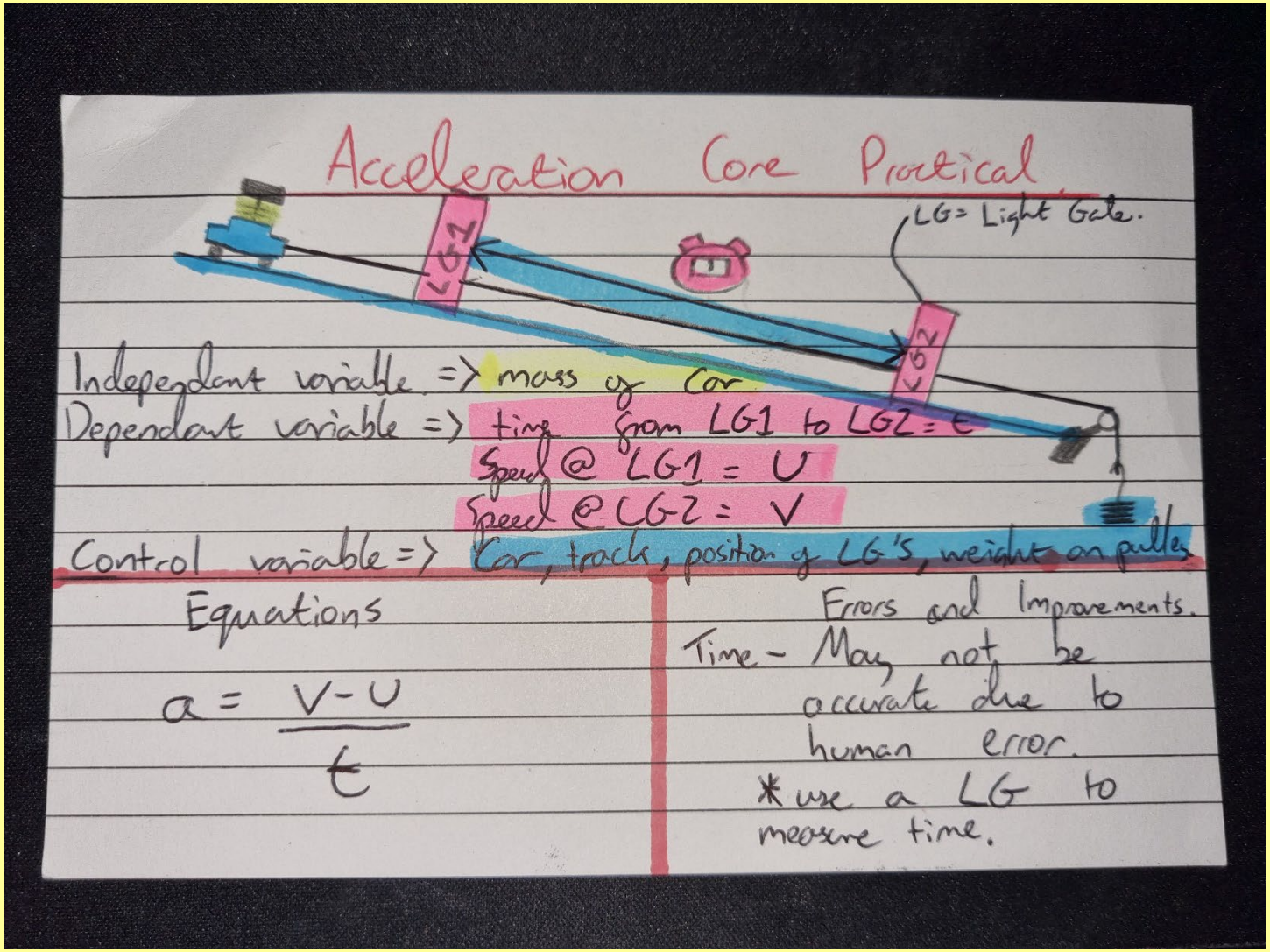
Do

- Make your notes as brief as possible, only key points.
- Definitions, word for word.
- **COLOUR if used properly and with purpose.**
- Write on one side of the paper only (answers to questions can go onto the back).

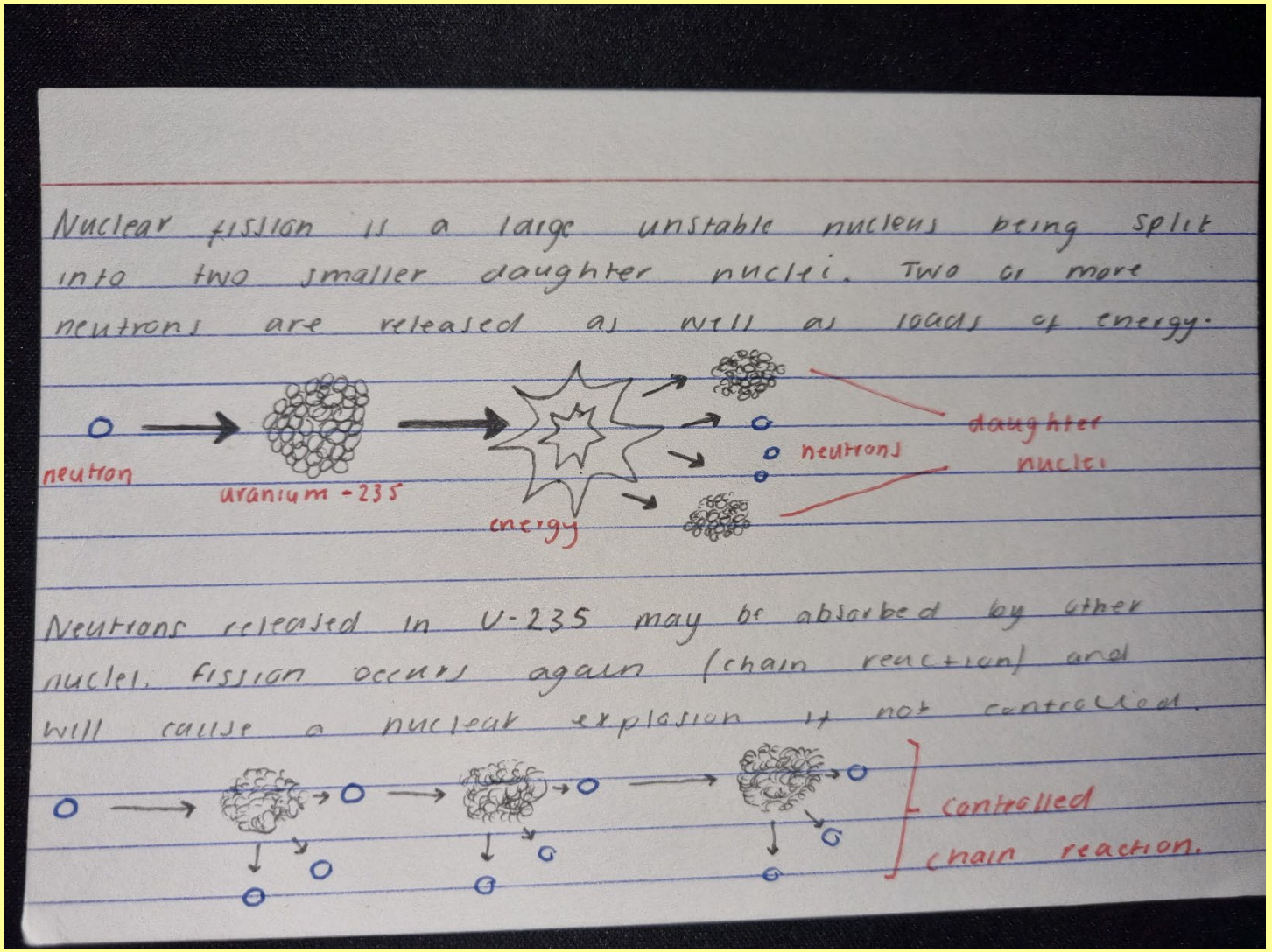
Don’t

- Make a note of everything.
- Rely on handouts to contain all information.
- Rely on your friends notes, or copy theirs.
- Colour things in for the sake of it!

Reviewing some rev cards



Reviewing some rev cards



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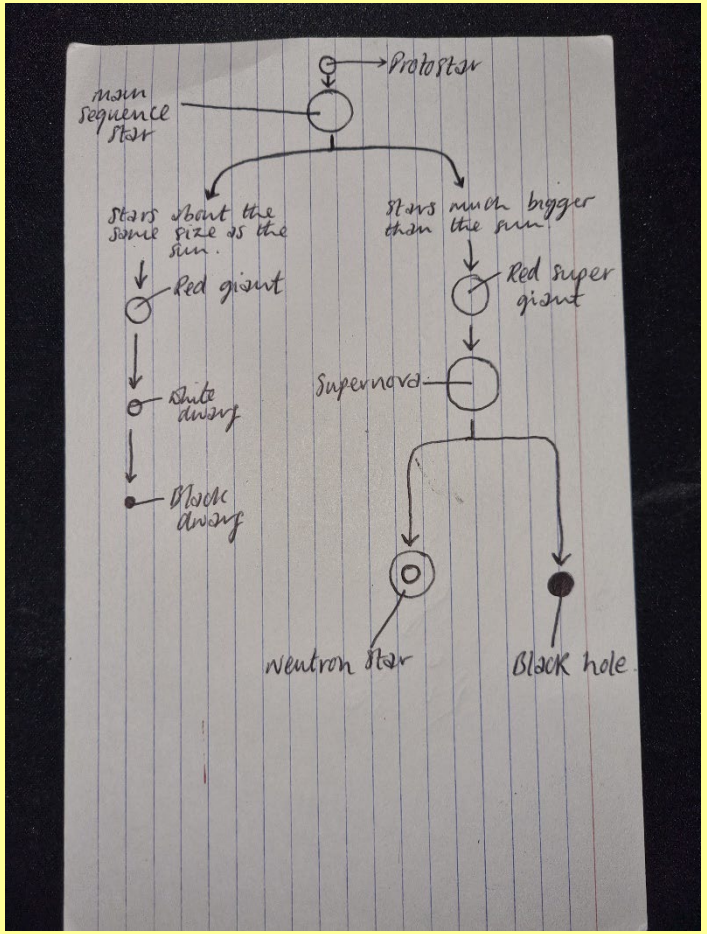
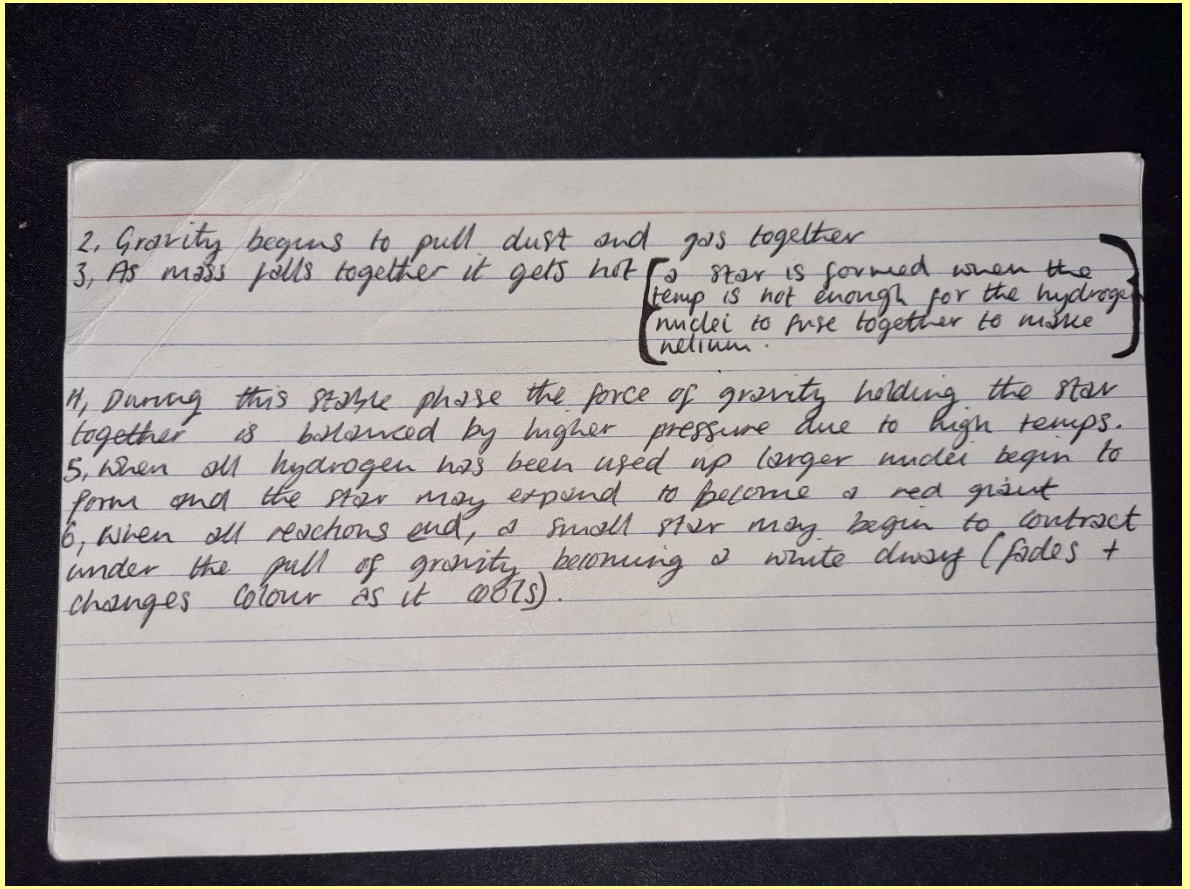




Using them- help from home

- Testing pupils on the cards, they contain all the info- no prior knowledge needed.

- Get them to recall them and then sort into piles.

Phase 2:

Pick up the pile of cards you couldn't remember accurately (the red pile). Look at one card and read it. Then, turn the card over and write down what you just read on a white board. 	Check what you wrote. If you got lots correct, put it in one pile called the green pile. If you missed a lot or made errors, put it in another pile called the red pile. 	Continue until you have no cards in the red pile.

Next- exam questions.

Phase 3:

Without looking at any of your revision cards, complete the 'test yourself' questions on the links or the questions from your homework booklets. 	Note down the topics where you couldn't answer the questions correctly these are your areas of development. 

- Past exam questions and past papers. With or without the revision cards- any practice is good.

- Do not forget mark schemes. Mark schemes can be good to highlight key info they need without the waffle- help to refine or highlight key info from a revision card.

Where to find them

- Go to teams:
- →checklists
- → EOU assessment

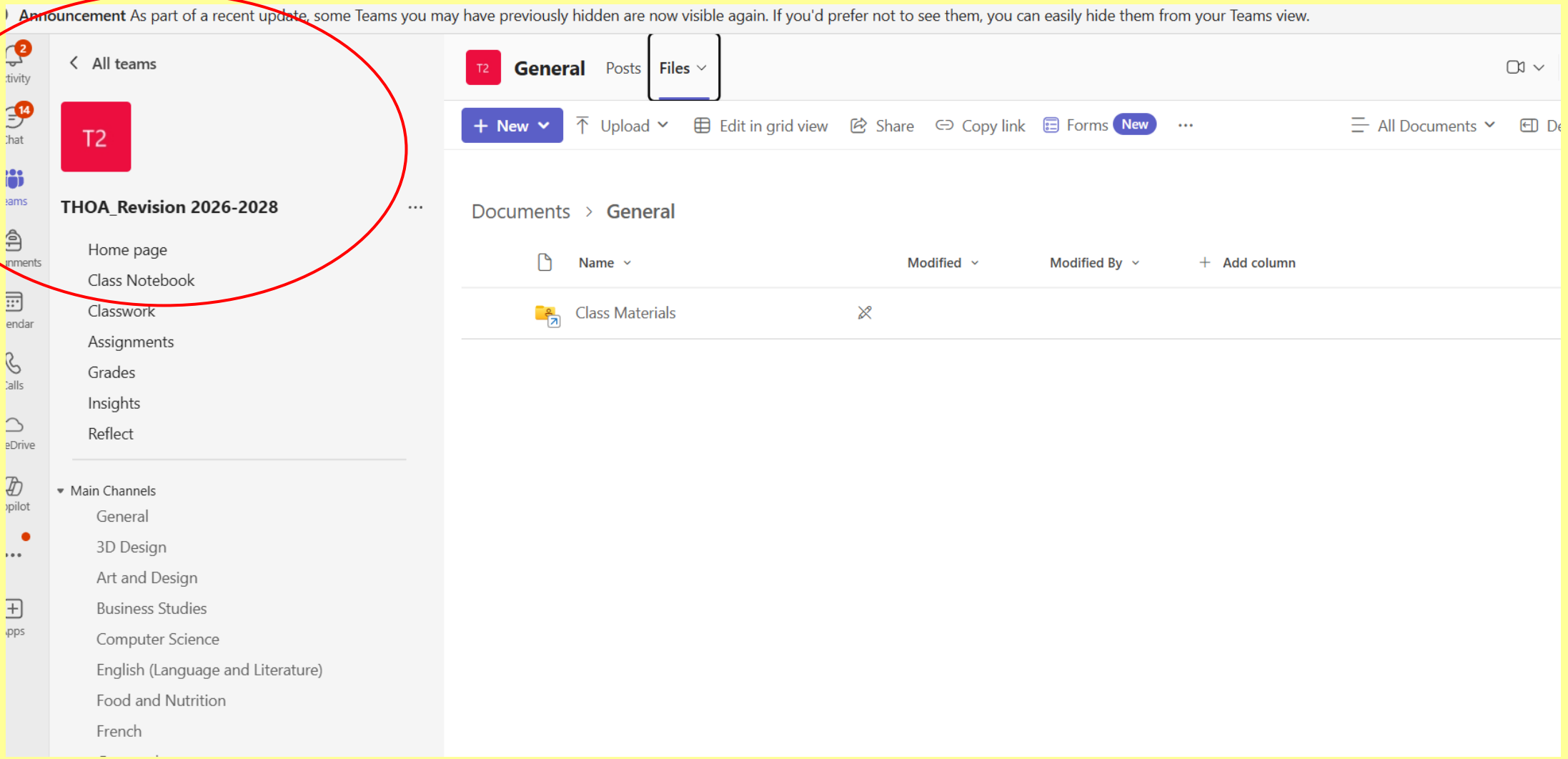
Do not forget the demand and AO of questions.

- Could go onto co-pilot and write an instruction:

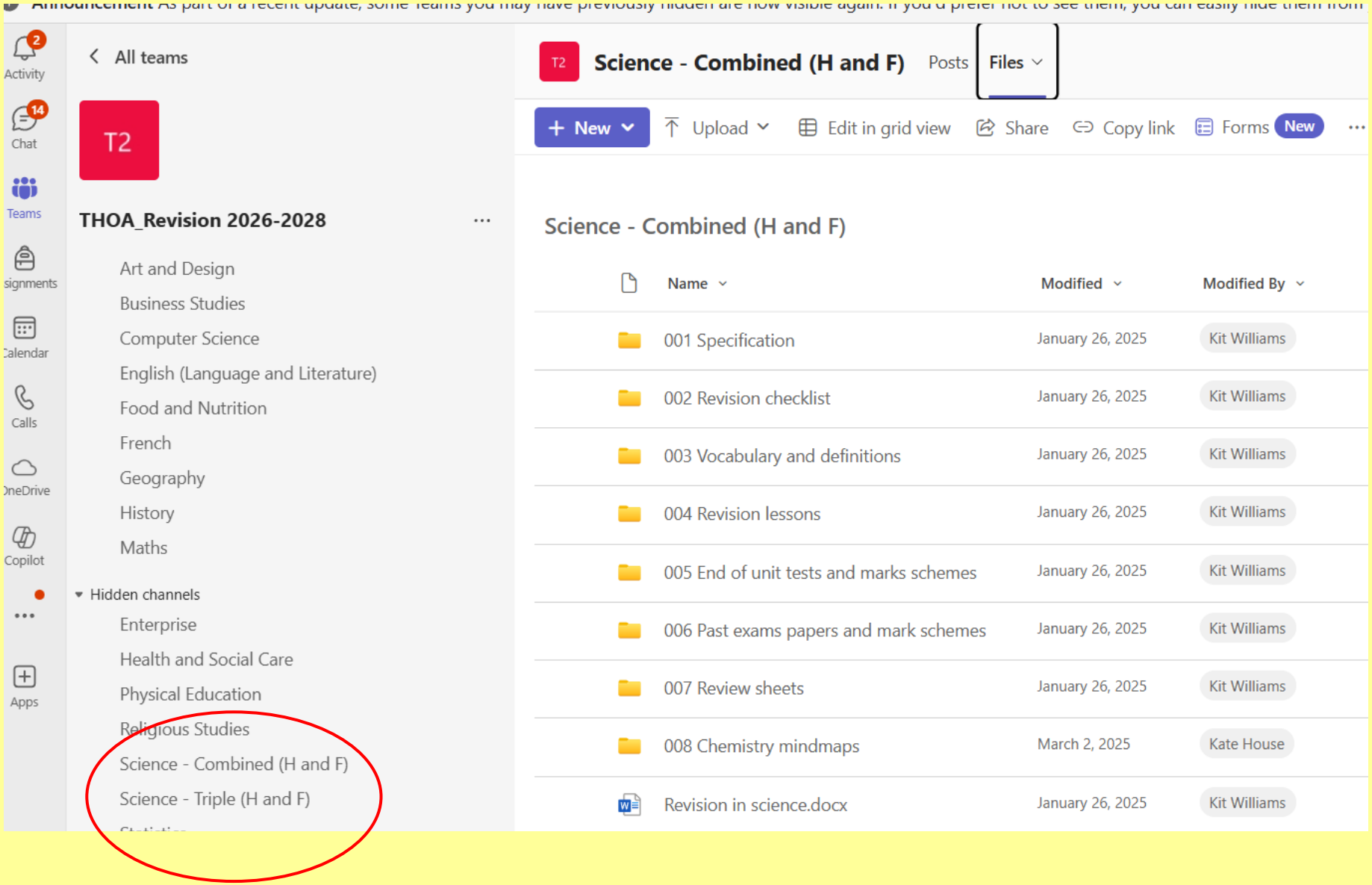
- Provide me with 50 recall questions from AQA GCSE chemistry unit 3.

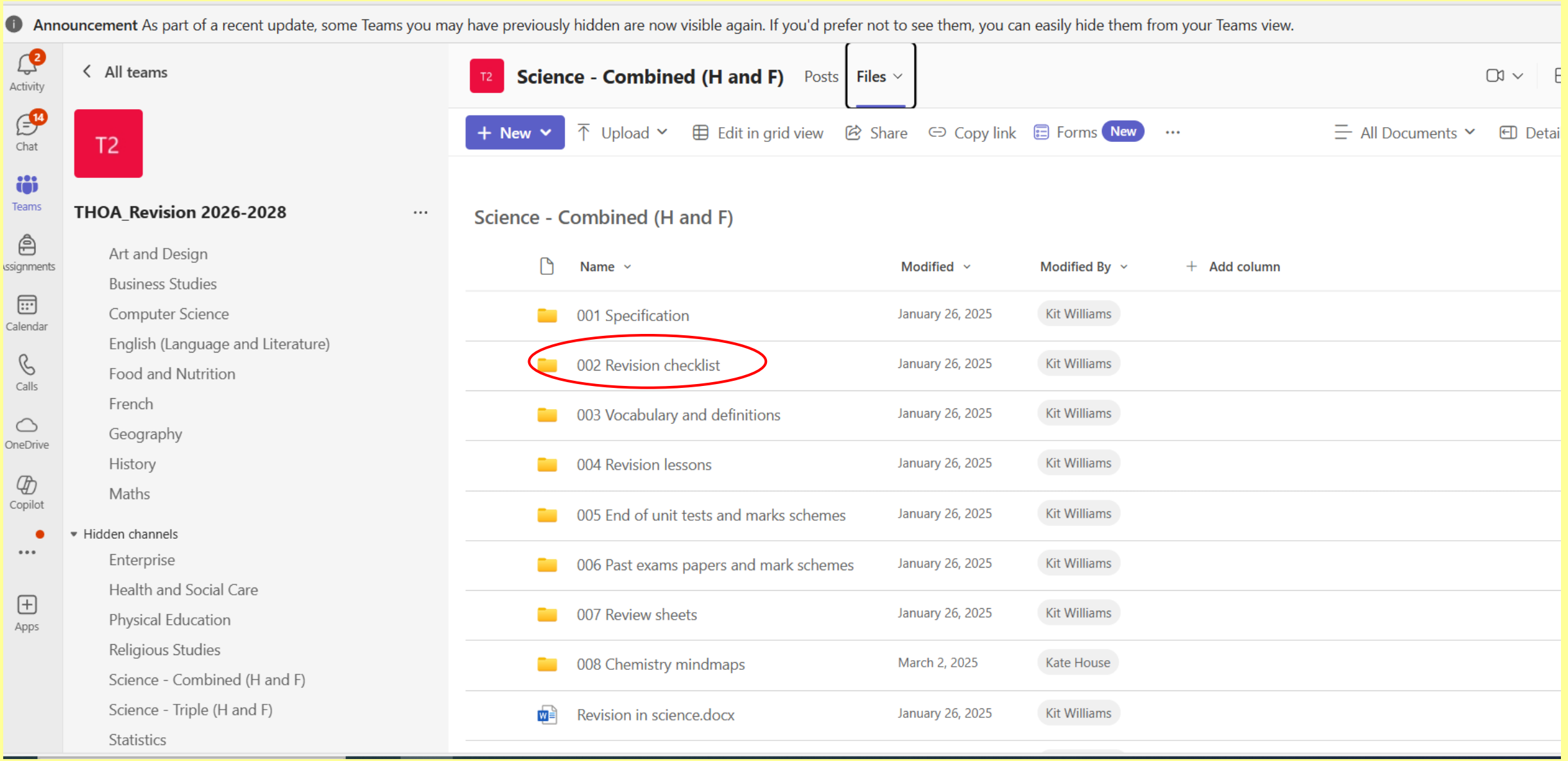
- Create a 6 mark question with a mark scheme on selective breeding.

THOA_Revision 2026-2028



Scroll down to Science (usually in hidden channels)




Announcement As part of a recent update, some Teams you may have previously hidden are now visible again. If you'd prefer not to see them, you can easily hide them from your Teams view.
Activity
Chat
Teams
Calendar
Calls
OneDrive
Copilot
Apps
All teams
T2
THOA_Revision 2026-2028
Art and Design
Business Studies
Computer Science
English (Language and Literature)
Food and Nutrition
French
Geography
History
Maths
Hidden channels
Enterprise
Health and Social Care
Physical Education
Religious Studies
Science - Combined (H and F)
Science - Triple (H and F)
Statistics
T2
Science - Combined (H and F)
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Forms
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Science - Combined (H and F)
Name
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001 Specification
January 26, 2025
Kit Williams
002 Revision checklist
January 26, 2025
Kit Williams
003 Vocabulary and definitions
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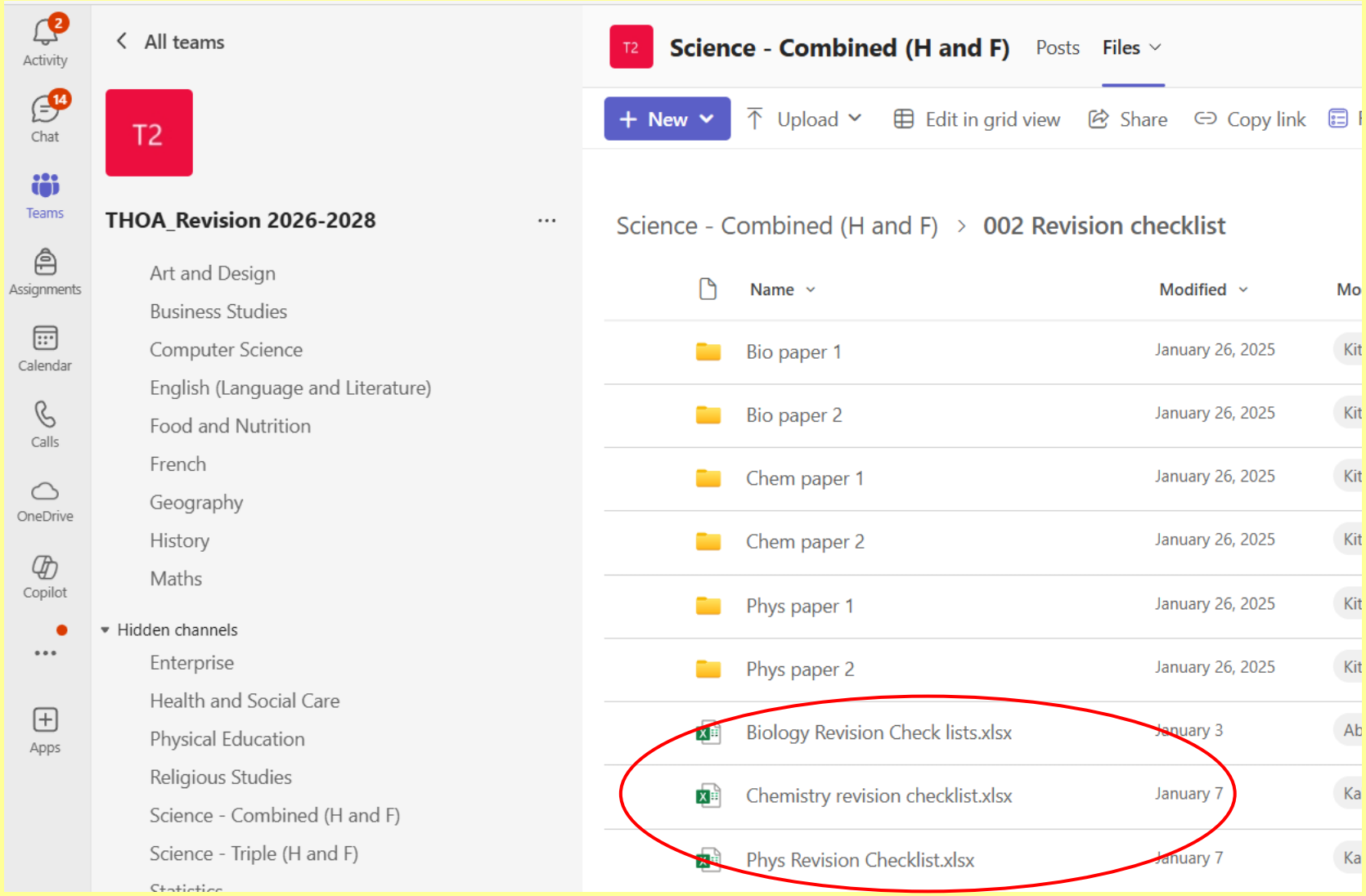
Kit Williams
004 Revision lessons
January 26, 2025
Kit Williams
005 End of unit tests and marks schemes
January 26, 2025
Kit Williams
006 Past exams papers and mark schemes
January 26, 2025
Kit Williams
007 Review sheets
January 26, 2025
Kit Williams
008 Chemistry mindmaps
March 2, 2025
Kate House
Revision in science.docx
January 26, 2025
Kit Williams


Activity
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Science - Combined (H and F)
Science - Triple (H and F)
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Science - Combined (H and F)
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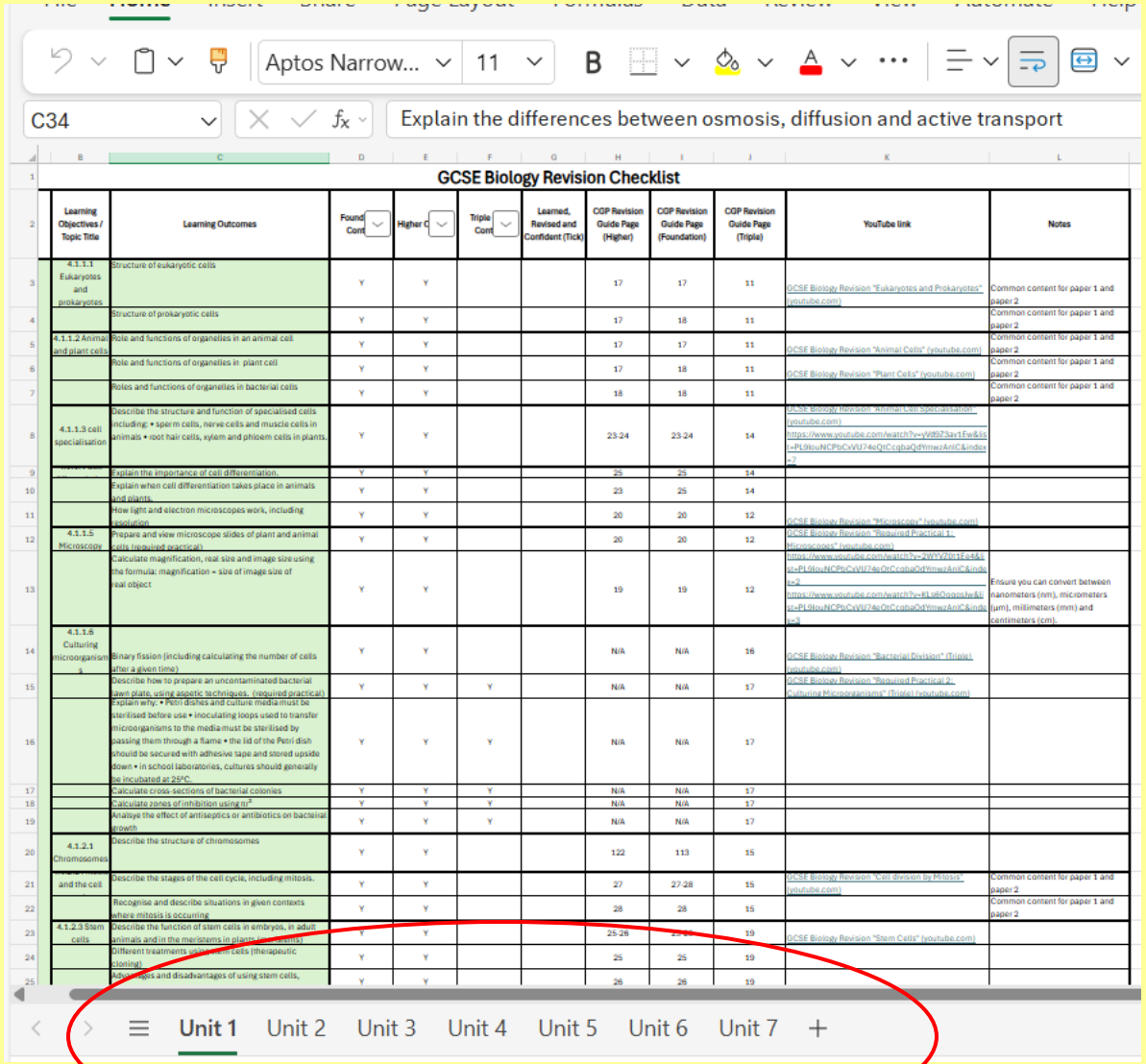
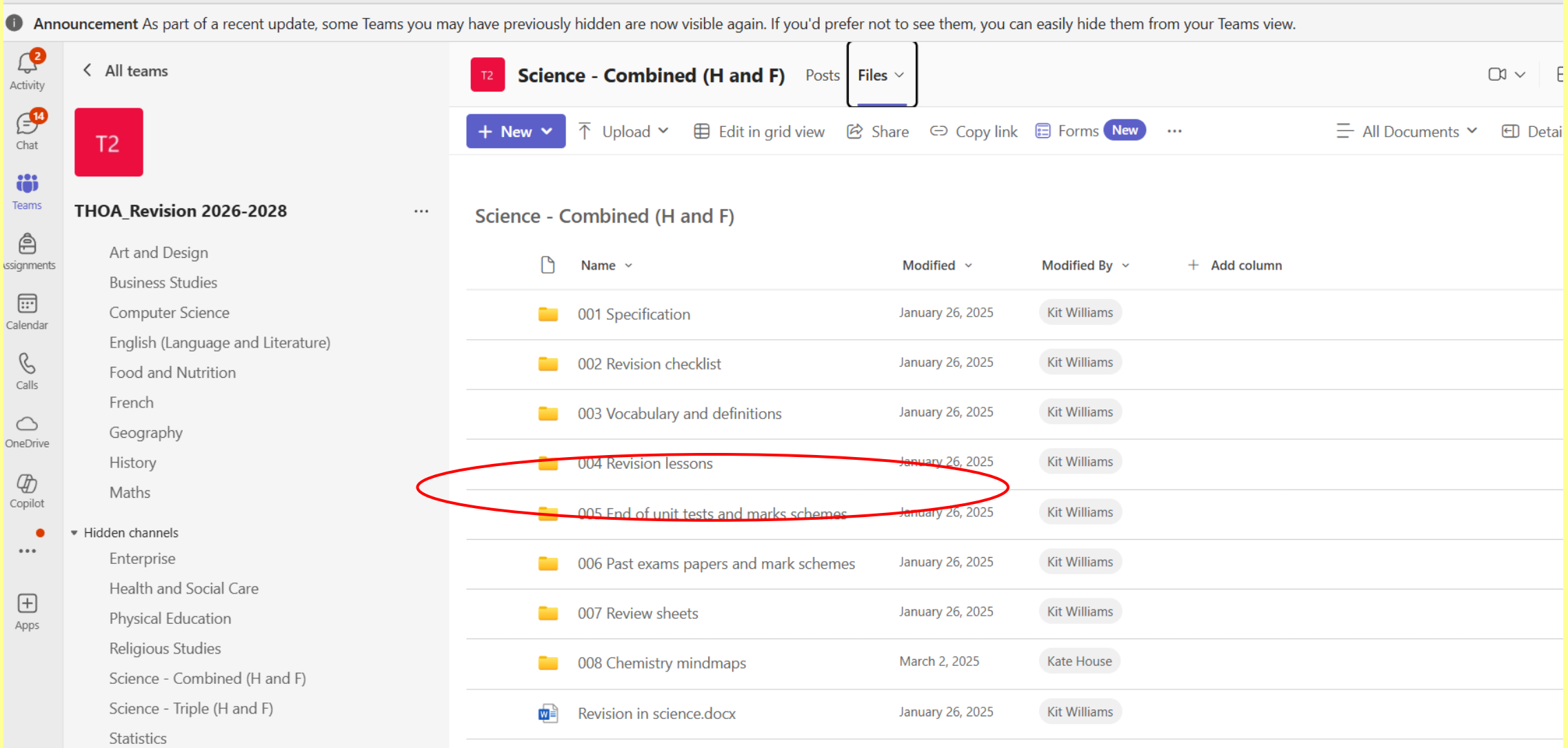
Science - Combined (H and F) > 002 Revision checklist
Name
Modified
Bio paper 1
January 26, 2025
Bio paper 2
January 26, 2025
Chem paper 1
January 26, 2025
Chem paper 2
January 26, 2025
Phys paper 1
January 26, 2025
Phys paper 2
January 26, 2025
Biology Revision Check lists.xlsx
January 3
Chemistry revision checklist.xlsx
January 7
Phys Revision Checklist.xlsx
January 7



GCSE Biology Revision Checklist

Learning Objectives / Topic Title	Learning Outcomes	Foundation Content	Higher Content	Triple Content	Learned, Revised and Confident (Tick)	CGP Revision Guide Page (Higher)	CGP Revision Guide Page (Foundation)	CGP Revision Guide Page (Triple)	YouTube link	Notes
4.1.1.1 Eukaryotes and prokaryotes	Structure of eukaryotic cells	Y	Y			17	17	11	GCSE Biology Revision "Eukaryotes and Prokaryotes" (youtube.com)	Common content for paper 1 and paper 2
	Structure of prokaryotic cells	Y	Y			17	18	11		Common content for paper 1 and paper 2
4.1.1.2 Animal and plant cells	Role and functions of organelles in an animal cell	Y	Y			17	17	11	GCSE Biology Revision "Animal Cells" (youtube.com)	Common content for paper 1 and paper 2
	Role and functions of organelles in plant cell	Y	Y			17	18	11	GCSE Biology Revision "Plant Cells" (youtube.com)	Common content for paper 1 and paper 2
	Roles and functions of organelles in bacterial cells	Y	Y			18	18	11		Common content for paper 1 and paper 2
4.1.1.3 cell specialisation	Describe the structure and function of specialised cells including: • sperm cells, nerve cells and muscle cells in animals • root hair cells, xylem and phloem cells in plants.	Y	Y			23-24	23-24	14	GCSE Biology Revision "Animal Cell Specialisation" (youtube.com) https://www.youtube.com/watch?v=yVd9Z3av1Ew&list=PL9IouNCPbCxVU74eQtCcqbaQdYmwzAnIC&index=2	
	Explain the importance of cell differentiation.	Y	Y			25	25	14		
	Explain when cell differentiation takes place in animals and plants.	Y	Y			23	25	14		
	How light and electron microscopes work, including resolution	Y	Y			20	20	12	GCSE Biology Revision "Microscopy" (youtube.com)	
4.1.1.5 Microscopy	Prepare and view microscope slides of plant and animal cells (required practical)	Y	Y			20	20	12	GCSE Biology Revision "Required Practical 1: Microscopes" (youtube.com)	
	Calculate magnification, real size and image size using the formula: magnification = size of image size of real object	Y	Y			19	19	12	https://www.youtube.com/watch?v=2WYV9Ot1Ee4&list=PL9IouNCPbCxVU74eQtCcqbaQdYmwzAnIC&index=2 https://www.youtube.com/watch?v=KLs6Cqqosfw&list=PL9IouNCPbCxVU74eQtCcqbaQdYmwzAnIC&index=3	Ensure you can convert between nanometers (nm), micrometers (µm), millimeters (mm) and centimeters (cm).
4.1.1.6 Culturing microorganisms	Binary fission (including calculating the number of cells after a given time)	Y	Y			N/A	N/A	16	GCSE Biology Revision "Bacterial Division" (Triple) (youtube.com)	
	Describe how to prepare an uncontaminated bacterial lawn plate, using aseptic techniques. (required practical)	Y	Y	Y		N/A	N/A	17	GCSE Biology Revision "Required Practical 2: Culturing Microorganisms" (Triple) (youtube.com)	
	Explain why: • Petri dishes and culture media must be sterilised before use • inoculating loops used to transfer microorganisms to the media must be sterilised by passing them through a flame • the lid of the Petri dish should be secured with adhesive tape and stored upside down • in school laboratories, cultures should generally be incubated at 25°C.	Y	Y	Y		N/A	N/A	17		
	Calculate cross-sections of bacterial colonies	Y	Y	Y		N/A	N/A	17		
	Calculate zones of inhibition using πr^2	Y	Y	Y		N/A	N/A	17		
	Analyse the effect of antiseptics or antibiotics on bacterial growth	Y	Y	Y		N/A	N/A	17		
4.1.2.1 Chromosomes	Describe the structure of chromosomes	Y	Y			122	113	15		
and the cell	Describe the stages of the cell cycle, including mitosis.	Y	Y			27	27-28	15	GCSE Biology Revision "Cell division by Mitosis" (youtube.com)	Common content for paper 1 and paper 2
	Recognise and describe situations in given contexts where mitosis is occurring	Y	Y			28	28	15		Common content for paper 1 and paper 2
4.1.2.3 Stem cells	Describe the function of stem cells in embryos, in adult animals and in the meristems in plants (meristems)	Y	Y			25-26	25-26	19	GCSE Biology Revision "Stem Cells" (youtube.com)	
	Different treatments using stem cells (therapeutic cloning)	Y	Y			25	25	19		
	Advantages and disadvantages of using stem cells,	Y	Y			26	26	19		

End of Units. Split into Bio, Chem, Phys and by Foundation or Higher.



Don't forget disciplinary skills.

- Command terms:

Explain – statement and depth

Compare- similarities, differences

Evaluate – pros, cons, justified conclusion