GLOUCESTER ACADEMY

GREENSHAW LEARNING TRUST

Gloucester Academy

Unit 2

Year 11

Knowledge Organiser

CORE SUBJECTS

Knowledge is power. Information is liberating.

Logins:

School email

Gmail

Username: _____@gloucesteracademy.co.uk

Password: _____

School computer



Username: _____

Password: _____

sparx.co.uk

sparx

Username: _____

Password: _____

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Homework Guidance:

Knowledge Organiser homework is based on self-quizzing. It is expected that you complete one page of self-quizzing, every day. This should take around 30 minutes. You should not leave blank lines on the page, including in between pieces of information (if you are self-quizzing diagrams, you can use more than one line to copy the diagram into your practice book). The information you self-quiz should be numbered in your practice book with the same numbers used on the Subject Knowledge Organiser. Tutors will check your practice book. They will be looking for a full page of self-quizzing on the correct numbers of the Subject Knowledge Organiser, as well as for purple pen ticks/corrections and good presentation (including your H/W, Title and Date underlined with a ruler). Your writing needs to be neat and legible. If we feel that any of these elements are not up to standard, you will be issued with a same day detention.

A demonstrational video can be found here:
https://www.gloucesteracademy.com/students/homework-and-revision-guidance/knowledge-organisers

These are the steps you should follow to complete effective self-quizzing:

look repeatedly say aloud cover write check

1. **Identify** the Subject Knowledge Organiser segment for the day from your homework timetable.

2. **Open up your practice book** and on the top line, write 'H/W' in the margin. On the other side of the margin line, write the Title (the subject you are completing) the Week (which week you are completing). Write the Date on the right hand side. Underline everything with a ruler.

3. **Place your Subject Knowledge Organiser segment in front of you.** Start with the first numbered piece of information within the weekly segment. Read and memorise the information - we recommend saying it aloud. Repeat the process several times, until you are confident to write the knowledge point down.

4. **Close your Subject Knowledge Organiser** or cover up the piece of information, and try to recall the knowledge. On the line directly beneath your H/W, Title and Date, write the correct number from the Subject Knowledge Organiser and the piece of information from memory, ensuring there are no blank lines.

5. **Check it and correct any mistakes**. Open up your Subject Knowledge Organiser and look at the piece of information – using a purple pen tick the piece of information in your practice book if you have recalled it correctly (word for word, correctly spelled). If you have incorrectly recalled or missed any part of the information, use your purple pen to put a cross next to that knowledge point.

6. **If you recalled the piece of information incorrectly**, go back to step 3 and **in purple pen**, repeat the process again for the same piece of information (cover up previous attempts in your practice book as well as the piece of information in your Subject Knowledge Organiser). When you have recalled the information correctly, tick the attempt and move on to the next piece of information within the weekly segment.

7. **Repeat the steps above** until you have recalled and written down all pieces of information within the weekly segment. If this has not filled one full page of your practice book, go back to the first piece of information within the weekly segment and repeat the process again, until you have filled an entire page.

Example page:

H/W Science week 3 21 September 2020

1. A cell. This is the simplest unit of a living organism. ✓
2. Cell membrane. This is a ~~pt~~ partaly premamble barrier and controls what goes in and out of the cell. X
2. Cell membrane. This is a partially permeable barrier and controls what goes in and out of the cell. ✓
3. Cytoplasm. This is a jelly-like substance in cells where chemical reactions occur. ✓
4. Nucleus. This contains DNA and controls the cell. ✓
5. Mitocondrion. A sub-cellular structure where respiration takes place to make energy. X
5 Mitochondrion. A sub-cellular structure where respiration takes place to make energy. ✓
6. Hypothesis. An idea that explains how or why something happens. ✓
7. Prediction. A statement suggesting what you think will happen in an experiment / investigation. ✓
8. Control variable. The variable that must be kept constant so that it doesn't affect the outcome of the investigation. (variable = something that can change in an experiment). ✓
9. Independent variable. The variable that is changed in an experiment / investigation. (variable = something that can change in an experiment) ✓
10. Dependent variable. The variable that is recorded and measured for each change of the independent variable. (Variable = something that can change in an experiment) X
10 Dependent variable. The variable that is measured

Homework Timetable:

You are expected to complete at least 30 minutes of homework in your practice book every day. You are expected to complete Sparx Maths homework which we recommend you split into three sessions, per week. Each of these are expected to take up to 1 hour.

	Monday	Tuesday	Wednesday	Thursday	Friday	Weekend
Knowledge Organiser in your practice book **30 minutes**	Science & Maths	English Language & English Literature	Choice 1 _____	Choice 2 _____	Choice 3 _____	Choice 4 _____
Online session **30 minutes**	Sparx Maths		Sparx Maths		Sparx Maths	

Maths Homework – Sparx Maths

You will get one sparxmaths.com assignment to complete each week. Your homework is made up of personalised questions that will help you develop your learning in maths. This will include topics you have covered within the past week and some older material for you to revise. The homework may include multiple tasks. We suggest you split it into three manageable chunks and complete this every Wednesday, Friday and Monday.

You should be able to complete all of the questions without too much support, however, if there is a question which you are finding hard to complete, we recommend you watch the video. If you are still unable to solve the question, move on to the next one and talk to your teacher before it's due.

Don't forget every lunchtime there is homework support!

For more information and guidance please go to:
https://www.gloucesteracademy.com/students/homework-and-revision-guidance/sparx-maths

Science Knowledge Organiser - Mondays

Week 1	Piece of Information	Answer
1	How many chromosomes are found in a diploid human body cell?	46
2	How many chromosomes are found in a human gamete?	23
3	Describe two ways meiosis differs from mitosis.	Produces four cells rather than two. Cells are genetically different.
4	Describe the structure of DNA.	Two strands twisted into a double helix.
5	What is meant by the term genome?	The entire genetic material of an organism.
6	Give one example of continuous variation.	Height
7	Give one example of discontinuous variation.	Blood group
8	What is a mutation?	A change in the DNA base sequence.
9	Describe how selective breeding is carried out.	Select parents with desired characteristics. Breed and select offspring with those characteristics.
10	What is a transgenic organism?	An organism containing a gene transferred from another organism.

Week 2	Piece of Information	Answer
1	Give one example of a fuel made from biomass.	Wood / bioethanol
2	Name the two elements found in hydrocarbons.	Hydrogen and carbon only
3	Give the general formula for alkanes.	$C\square H_2\square_{+2}$
4	Give the general formula for alkenes.	$C\square H_2\square$
5	Explain how fractional distillation separates crude oil.	Hydrocarbons have different boiling points and condense at different temperatures.
6	What does a high viscosity tell you about a liquid?	It flows slowly.
7	Describe what happens during cracking.	Long-chain hydrocarbons break down into shorter alkanes and alkenes.
8	Name the two products of complete combustion of hydrocarbons.	Carbon dioxide and water
9	Explain why ethene is an unsaturated hydrocarbon.	Contains carbon and hydrogen only and has a carbon–carbon double bond.
10	What type of bond is found between carbon atoms in saturated hydrocarbons?	Single covalent bond

Week 3	Piece of Information	Answer
1	What is meant by sustainable development?	Meeting present needs without preventing future generations meeting their needs.
2	What is meant by a finite resource?	A resource that will eventually run out.
3	What is meant by potable water?	Water that is safe to drink.
4	Describe how filtration is used to treat water.	Water passes through a filter, which removes insoluble solids.
5	Why is water sterilised before it is supplied to homes?	To kill harmful microorganisms.
6	Describe the two changes of state involved in distillation.	Evaporation or boiling followed by condensation.
7	Give two stages involved in treating sewage.	Sedimentation to remove solids and aerobic biological treatment.
8	Describe how bioleaching is used to extract metals. (HT)	Bacteria produce a solution containing metal compounds, from which the metal can be extracted.
9	Describe how phytomining is used to extract metals. (HT)	Plants absorb metal compounds. Plants are harvested and burned, and the metal is extracted from the ash.
10	What is the purpose of a life cycle assessment (LCA)?	To assess the environmental impact of a product throughout its life cycle.

Week 7	Piece of Information	Answer
1	Name one magnetic material.	Iron / nickel / cobalt
2	What is a magnetic field?	A region where a magnetic material or magnet experiences a force.
3	State two properties of a permanent magnet.	Produces its own magnetic field. Has north and south poles.
4	Explain how an induced magnet differs from a permanent magnet.	Becomes magnetic in a magnetic field and loses magnetism when removed.
5	Describe the structure of a solenoid.	A coil of wire with many turns.
6	What does a high magnetic flux density indicate?	A strong magnetic field.
7	Describe the motor effect.	A current-carrying conductor in a magnetic field experiences a force.
8	In which direction does the north-seeking pole of a freely suspended magnet point?	North
9	In which direction does the south-seeking pole of a freely suspended magnet point?	South
10	Describe how the right-hand grip rule is used.	Thumb points in the direction of conventional current. Fingers curl in the direction of the magnetic field.

Week 8	Piece of Information	Answer
1	Describe the test for oxygen gas and the positive result.	Insert a glowing splint. The splint relights.
2	Describe the test for hydrogen gas and the positive result.	Apply a lit splint. A squeaky pop is heard.
3	What happens when carbon dioxide is bubbled through limewater?	Limewater turns cloudy.
4	Describe the test for chlorine gas and the positive result.	Use damp litmus paper. The paper is bleached white.
5	Explain why scientists use peer review before research is published.	To check the validity of conclusions and identify errors or bias.
6	What is meant by a pure substance in chemistry?	A single element or compound, not mixed with anything else.
7	Give two uses of chromatography.	To separate substances in a mixture and identify substances.
8	What is meant by a mixture?	Two or more substances that are not chemically bonded.
9	What is meant by a formulation?	A mixture designed as a useful product with components in carefully measured quantities.
10	Write the equation used to calculate an Rf value in chromatography.	Rf = distance moved by substance ÷ distance moved by solvent front.

Week 9	Piece of Information	Answer
1	What is meant by the independent variable in an investigation?	The variable that is deliberately changed.
2	What is meant by the dependent variable?	The variable that is measured.
3	Explain why control variables should be kept constant.	To ensure a fair test, so only the independent variable affects the dependent variable.
4	Why should measurements be repeated during an investigation?	To identify anomalies and calculate a mean.
5	What is meant by an anomalous result?	A result that does not fit the pattern or trend.
6	Describe how a student could improve the accuracy of a measurement.	Use equipment with suitable resolution and read the scale at eye level to avoid parallax error.
7	What is meant by the resolution of a measuring instrument?	The smallest change the instrument can detect or display.
8	Explain the difference between random and systematic errors.	Random errors cause unpredictable variation in readings. Systematic errors cause readings to be consistently too high or too low.
9	What is meant by a valid conclusion?	A conclusion supported by the evidence collected.
10	Explain why a student should plot a graph of their results.	To identify a relationship or trend and spot anomalous results.

English Literature Knowledge Organiser - Tuesday

Week 1	Piece of Information	Answer
1	What is the simile used to describe Scrooge as fixed and emotionless in stave 1? 	“Hard and sharp as flint”
2	What is the simile used to describe Scrooge as having a barrier in stave 1? 	“Solitary as an oyster”
3	What is the semantic field from stave 1 to highlight Scrooge’s icy personality? 	“cold” “froze” “blue” “frosty”
4	What is the rhetorical question Scrooge asks the charity collectors in stave 1? 	“Are there no prisons?”
5	What is the blunt statement Scrooge makes about wanting the poor to die? 	“Decrease the surplus population”
6	What is Marley’s description of what Scrooge will carry in death? 	“ponderous chain”
7	What is Marley’s metaphor of what his work should have been when he was alive? 	“Mankind was my business”
8	What is the Ghost of Christmas Past’s question to Scrooge in stave 2? 	“Would you so soon put out, with worldly hands, the light I give?”
9	What are the ghost ***and*** the narrator’s descriptions of Scrooge at school? 	“A solitary child, neglected” “A lonely boy [...] near a feeble fire”
10	What is the juxtaposing metaphor giving Scrooge’s realisation of what family could offer him? 	“a spring-time in the haggard winter of his life”

Week 2	Piece of Information	Answer
1	What are three short descriptions of the Ghost of Christmas Present to create a semantic field? 	“open hand” “jolly giant” “glowing torch”
2	What is the simile from Bob ***and*** the description of Tim’s crutch from the Ghost of Christmas Present? 	“as good as gold” “carefully preserved”
3	What is the simile from stave 3 ***and*** the metaphor from stave 5 about Scrooge’s connection to Fred? 	“he begged like a boy to be allowed to stay” “at home in five minutes”
4	What is the list used to present Ignorance and Want as dehumanised and with animal features? 	“yellow, meagre, ragged, scowling, wolfish”
5	What is the tricolon used to describe the appearance of the Ghost of Christmas Yet to Come in stave 4? 	“The phantom slowly, gravely, silently approached”
6	What are the two juxtaposing descriptions of the Scrooge’s death ***and*** Tiny Tim’s death? 	“unwatched, unwept, uncared for” “lighted cheerfully”
7	What is the imperative demand from Scrooge to the final ghost when he sees his grave? 	“Oh tell me I may sponge away the writing on this stone”
8	What is the simile used by Scrooge to describe feeling like a child again at the start of stave 5? 	“as merry as a schoolboy”
9	What is the simile used by Scrooge to describe a sense of freedom at the start of stave 5? 	“as light as a feather”
10	What is the description from stave 1 ***and*** the imperative from stave 5 to highlight Scrooge’s change in warmth? 	“like one coal” “make up the fires”

Week 3	Piece of Information	Answer
1	What is the opening personification of nature from ‘The Prelude’? 	“One summer evening (led by her)
2	What is the oxymoron to describe the speaker’s mixed emotions in ‘The Prelude’? 	“an act of stealth and troubled pleasure”
3	What is the repetition of simple vocabulary to offer the speaker’s fear at the size of nature in ‘The Prelude’? 	“a huge peak, black and huge [...] upreared its head”
4	What is the opening line of ‘Storm on the Island’ including a plural pronoun? 	“We are prepared”
5	What is the simile with juxtaposition which highlights the quick change in nature? 	“spits like a tame cat turned savage”
6	The closing line from ‘Storm on the Island’ which uses an oxymoron to show nature’s power? 	“It is a huge nothing that we fear”
7	What is repetition in ‘Ozymandias’ to exaggerate the power he believes he has as a leader? 	“King of kings, look on my works”
8	What is the semantic field of destruction used across ‘Ozymandias’ to describe nature and time’s impact? 	“shattered” “decay” “colossal wreck”
9	What is the final line of ‘Ozymandias’ which symbolises how human power cannot outlast nature? 	“The lone and level sands stretch far away”
10	What is the name of the poem where a child rows across the lake and gets scared of nature’s power	Extract from ‘The Prelude’

Week 7	Piece of Information	Answer
1	How does the duke interrupt himself in ‘My Last Duchess’ with the repetition of first person pronouns? 	“(since none puts by/ The curtain I have drawn for you, but I)”
2	What is the metaphor used by the duke to indicate the power and status his name offers? 	“My gift of a nine-hundred-year-old name”
3	What is the final line of ‘My Last Duchess’ where the Duke’s artwork symbolises how he sees himself? 	“Notice Neptune, though, taming a seahorse”
4	What is the metaphor to represent the trapped state of the people in ‘London’? 	“mind-forged manacles I hear”
5	What is the metaphor in ‘London’ which reveals the corruption of religion and the establishment? 	“every black’ning church appalls”
6	What is the metaphor in ‘London’ from the final line which highlights how infected all stages of life are? 	“And blights with plagues the marriage hearse”
7	In which poem does a community prepares for a storm then realise nature’s power?	‘Storm on the Island’
8	In which poem does a traveller see a broken statue of a once powerful leader?	‘Ozymandias’
9	In which poem does a duke shows a visitor the painting of his dead wife, who he killed?	‘My Last Duchess’
10	A man wanders and hears the suffering of London’s people (poem)	‘London’

Week 8	Piece of Information	Answer
1	What is a juxtaposing repetition by the witches to create confusion in 1.1? 	“Fair is foul and foul is fair”
2	What is a semantic field of heroism from Duncan and the Captain describing Macbeth in 1.2? 	“brave” “noble” “worthy” “valiant”
3	What is the imperative verb from Macbeth to the witches in 1.3? 	“Stay, you imperfect speakers”
4	What is a metaphor from Banquo to describe the witches in 1.3? 	“instruments of darkness”
5	What is a metaphorical plea from Macbeth to ensure that his evil intentions are not exposed in 1.4? 	“Let not light see my black and deep desires”
6	What is Lady Macbeth’s metaphor to describe Macbeth in 1.5? 	“milk of human kindness”
7	What is Lady Macbeth’s imperative demand to the spirits in 1.5? 	“Take my milk for gall”
8	What is Lady Macbeth’s imperative command to Macbeth about how he should behave in 1.5? 	“Look like the innocent flower but be the serpent under’t”
9	What is the metaphor Macbeth uses to understand why he wants to kill Duncan from his soliloquy in 1.7? 	“vaulting ambition which o’erleaps itself and falls”
10	What is Lady Macbeth’s comment challenging Macbeth’s masculinity in 1.7 when he changes? 	“when you durst do it, then you were a man”

Week 9	Piece of Information	Answer
1	What is Lady Macbeth’s imperative demand during the murder in 2.2? 	“Give me the daggers”
2	What is Macbeth’s hyperbolic question during the soliloquy in 2.2 when he questions if he can ever get the blood from his hands? 	“Will all great Neptune’s ocean wash this blood clean from my hands?”
3	What is Macduff’s repetition reacting to Duncan’s death in 2.3? 	“Oh horror, horror, horror”
4	What is Donalbain’s juxtaposing metaphor about how people are hiding their true, evil intentions in 2.3? 	“There’s daggers in men’s smiles”
5	What are the two oxymoronic metaphors which Macbeth uses to express his empty power? 	“fruitless crown” “barren sceptre”
6	What is Lady Macbeth’s rhetorical question about masculinity in 3.4? 	“Are you a man?”
7	What is the semantic field of evil from 4.3 and Macduff’s imperative demand in 5.8? 	“devil” “black” “hell” “tyrant” “Turn, hell-hound, turn”
8	What is Lady Macbeth’s hyperbolic comment about blood from 5.1 as she sleepwalks? 	“All the perfumes of Arabia will not sweeten this little hand”
9	What are the two repeated phrases from Lady Macbeth about the regicide, firstly in 3.2 but then changed in 5.1 to reflect her fragility? 	“What’s done is done” “What’s done cannot be undone”
10	What is the metaphor for Macbeth said by Malcolm in the final speech of the play in 5.8? 	“dead butcher and his fiend-like queen”

Character Education

Our vision

Character Education will help you to develop your confidence, compassion, and enable you to contribute effectively to society, be a successful learner and a responsible citizen. By focusing on these character challenges you will also develop self esteem and a better understanding and respect for others, as well as an awareness of wider spiritual and cultural issues. The challenges and experiences listed below will ensure you are able to climb your own personal mountain to the very best universities and professions.

How to earn and record your badges

- For each badge you complete you will need to have them signed off by a member of staff.
- Remember for some of your badges you will need to provide evidence.
- Miss Exton and Miss Blick will then present you with your badge on completion.
- You will update your main Character booklet each week in tutor time.
- You will need to achieve each badge before being awarded the next, for example; you cannot achieve gold if you have not completed the bronze or silver in that badge category.

Ambition - Excellence - Pride

Ambition

Badge	Badge Level	You must…	Achieved?	Staff Signature
Culture *This is a demonstration of ambition because you are working outside of your comfort zone.*	Bronze	Perform your creative talent at school.		
	Silver	Take part in three different events within the following: school drama performance, dance performance, art exhibition, orchestra/ band or a sporting tournament.		
	Gold	Take part in ten or more different events listed above.		
Academia *This is a demonstration of ambition because you are exploring opportunities available to you after Gloucester Academy.*	Bronze	Attend 3 external Higher Academic Events (careers lectures/college/sixth form/university visit).		
	Silver	Visit a Russell Group University.		
	Gold	Successfully secure an offer at a sixth form or college to complete A-Levels / Apprenticeship.		
Futures *This is a demonstration of ambition because you are climbing your own personal mountain to the very best universities and professions.*	Bronze	Take part in a one-to-one interview with a career's advisor.		
	Silver	To produce a high-quality CV checked by SLT/Careers adviser.		
	Gold	To secure a professional work experience placement.		
Literacy *This is a demonstration of ambition because you are expanding your vocabulary.*	Bronze	To read 25 books and complete book reviews.		
	Silver	To read 50 books and complete book reviews.		
	Gold	To read 150 books and complete book reviews.		

Ambition - Excellence - Pride

Excellence

Badge	Badge Level	You must…	Achieved?	Staff Signature
Sport *This is a demonstration of excellence because you are representing your school.*	Bronze	Play in 10 competitive sports matches or competitions for the school team.		
	Silver	Play in 25 competitive sports matches or competitions for the school team.		
	Gold	Play in a competitive sports match or competition regionally or nationally.		
Community *This is a demonstration of excellence because you are helping others.*	Bronze	Be an active member of an in-school community for one unit; GA prep, an enrichment activity or homework support.		
	Silver	Write and propose a new community project to key stakeholders.		
	Gold	Organise and deliver a community project event.		
Leadership *This is a demonstration of excellence because you are being a role model to others.*	Bronze	Be on the student leadership team (sports captain, Character representative, mentor or ambassador).		
	Silver	Have impacted change or improvement as a leader (provide evidence of what you have achieved).		
	Gold	Create and lead your own leadership event.		
Adventure *This is a demonstration of excellence because you have challenged yourself.*	Bronze	Complete a school residential / Outdoor Adventure Activity.		
	Silver	Complete the Duke of Edinburgh BRONZE Award.		
	Gold	Complete the Duke of Edinburgh SILVER Award or Ten Tors challenge.		

Ambition - Excellence - Pride

Pride

Badge	Badge Level	You must…	Achieved?	Staff Signature
Charity *This is a demonstration of pride because you have helped others.*	Bronze	Volunteer 10 hours to the local community or charity.		
	Silver	Organise a charity event and raise more than £100.		
	Gold	Organise a charity event and raise more than £500.		
Commitment *This is a demonstration of pride because you have dedicated time and effort to something you enjoy.*	Bronze	Visit one of the following; art gallery, theatre, museum, concert, ballet, or similar. Or have 100% attendance at an enrichment activity for a unit.		
	Silver	Visit two different places from the above list. Or have 100% attendance at two different enrichment activities for two units.		
	Gold	Visit five of the following; art gallery, theatre, museum, concert, ballet, or similar.Or have 100% attendance at three different enrichment activities for three units.		
Environment *This is a demonstration of pride because you are making the world more eco friendly.*	Bronze	Take part in an event which improves your school environment.		
	Silver	Organise an event which improves your local environment.		
	Gold	Contribute to a national event, or movement which aims to improve the environment.		
Diversity *This is a demonstration of pride because you have celebrated all things that make us unique.*	Bronze	Take part in one event; assembly or festival which celebrates diversity (race, religion, LGBTQI+).		
	Silver	Take part in two events that celebrate two different types of diversity.		
	Gold	Organise an event, festival or assembly which celebrates diversity.		