Viva Exam – Year 9 Science HT 4

Please keep the below for all students

Your **Viva exam** supports you in developing your confidence, self-expression and curricular understanding.

It does so by improving your **oracy**.

When a University student writes a thesis (their final paper or exam), they have to defend what they have written whilst their Professors ask questions. This is often referred to as a **Viva exam**.

Viva is short for **Viva Voce,** this is the Latin for **'with living voice'**, or in other words **spoken** not written.

Across this Half Term you will prepare for a **Viva exam** on the curricular area we are studying, this will be **instead** of your End of Term exam.

Your teacher will support you in **preparing** by **suggesting** what you may speak about, **providing** materials to support you, **checking** in on your planning and progress and giving you **feedback** after you have spoken so that you know what you have done well and what you will need to improve, next time.

This pack contains the basic materials and guidance you will need, to prepare for your **Viva exam**.

'Viva' Exam – Science – Yr 9 – HT4
Student Name:
Expectations: -To speak unaided and without interruption on the subject of 'Energy Resource for two minutes. -To accept and respond to two unknown questions following your speech and within this two-minute period.
Resources Permitted: -Cue card notes are permitted, however, higher marks will be received for speaking without aides. **Marking and Grading:** As with your End of Term, your Viva will be given a 0-9 grade, students should always aim to meet or exceed their target grade. However, there is no need to feel bad if you don't, all this means is that you are learning and making progress!

Your total marks will be multiplied by five to produce a percentage, just like you get in your other End of Term exams, the teacher will then convert this percentage so that your termly report can show a grade in this area.

Viva exams are marked in four categories, please see the mark scheme below:

Preparation **Mark:**	**Level 3 – Award 4-5 Marks** Complete and exemplary evidence of written preparation.
	Level 2 – Award 2-4 Marks Purposeful but incomplete evidence of written preparation.
	Level 1 – Award 0-2 Marks Limited or no written evidence of preparation.
Timing and Content **Mark:**	**Level 3 – Award 4-5 Marks** Speaks for the full allocated time, without pause or interruption. Speaks exclusively on the subject selected, is precise, concise and purposeful. Speaks without the use of any written or visual aids.
	Level 2 – Award 2-4 Marks Speaks for more than half of the allocated time, with limited pause or interruption. Speaks exclusively on the subject selected, but lacks precision and focus at times.
	Level 1 – Award 0-2 Marks Speaks for less than half of the allocated time and or fails to focus on the subject and lacks purpose.
Manner and Presentation **Mark:**	**Level 3 – Award 4-5 Marks** Projects and modulates consistently, uses rhetorical skill, body language and positioning throughout and with exemplary effect.
	Level 2– Award 2-4 Marks Projects well but modulates and uses body language inconsistently, increasing evidence of rhetorical skill.
	Level 1 – Award 0-2 Marks Fails to project or modulate voice, use of body language is limited, rhetorical skill is largely unevidenced.
Response to questioning **Mark:**	**Level 3 – Award 4-5 Marks** Responds convincingly and thoughtfully to both questions, in line with the Level 3 criteria for Timing and Content and Manner and Presentation.
	Level 2 – Award 2-4 Marks Responds convincingly to elements of both questions or to just one question but not the other.
	Level 1 – Award 0-2 Marks Is unable to respond at all or convincingly enough, to either question.

Overview:

During this Viva you will need to plan and prepare to speak on one of the characters from Shakespeare's Much Ado About Nothing. You will also need to answer two questions (which you won't know in advance) from the audience, in other words, your peers and teacher.

1. **Stage 1 – Decide which character you will speak on.**
2. **Stage 2 – Plan your speech and condense this plan into notes.**
3. **Stage 3 – Practice your speech, learn to do it without notes and with greater confidence.**
4. **Stage 4 – Share your speech with parents, peers and your teacher, for feedback.**
5. **Stage 5 – Deliver your speech to the class and your teacher.**

Stage 1

When deciding on the subject of your speech you should:

- Research the variety of different energy resources that are used to generate electricity and how each method works
- Research the advantages and disadvantages of your chosen resource
- Look into any limitations your energy resource may have e.g location, costs, transport
- Check that you're confident in your existing knowledge and willing to build on it.

Stage 2

When planning your speech you should consider:

- Create a clear structure with an introduction, main points and conclusion.
- Include an explanation of your chosen energy resource and describe how it is used to generate electricity
- Include the useful and wasted energy transfers and how this could impact efficiency.
- Give the advantages and disadvantages of your chosen resource including any limitations that your chosen resource has.
- At this stage, you will map out the flow of your speech. You should plan how to open with a hook, organise your key ideas on separating mixtures and draw a clear conclusion. Think about rhetorical techniques like repetition, rhetorical questions, or analogy to persuade your audience. Keep it within the two-minute time limit.

Stage 3

When practicing your speech you should:

- Practice repeatedly those parts you are weakest in, do not waste time practicing again and again, what you already know.
- Watch and listen to yourself, for instance speak out loud, use a mirror, record yourself, you will need to be comfortable with the sound of your own voice and the value your opinion carries.
- Focus on pace, rhythm, modulation and tone, as much as the content of your speaking, become comfortable pausing throughout your speech, rather than saying 'um'.

Stage 4

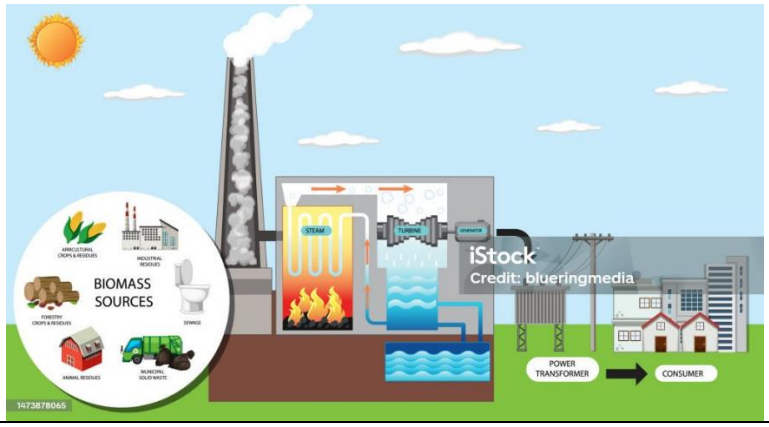
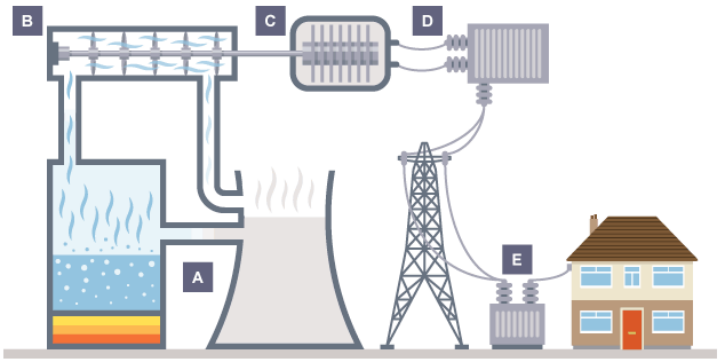
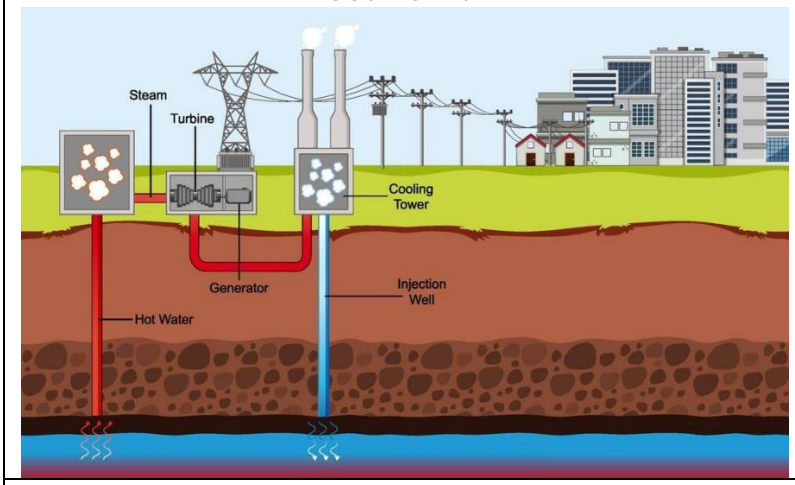
When sharing your speech you should consider:

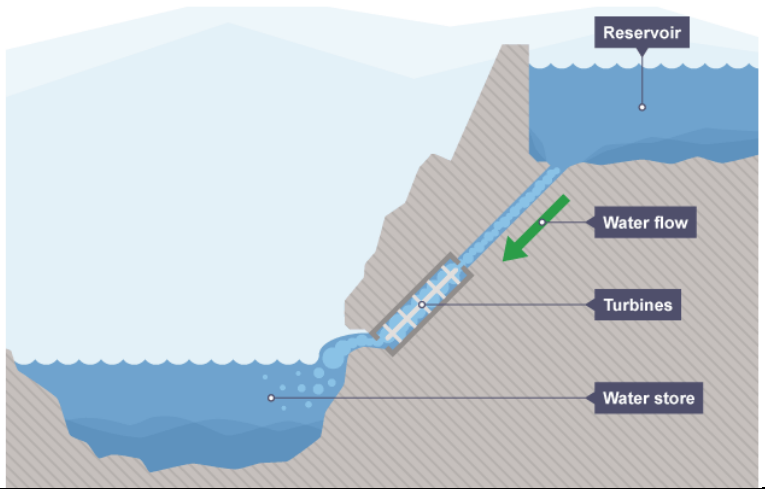
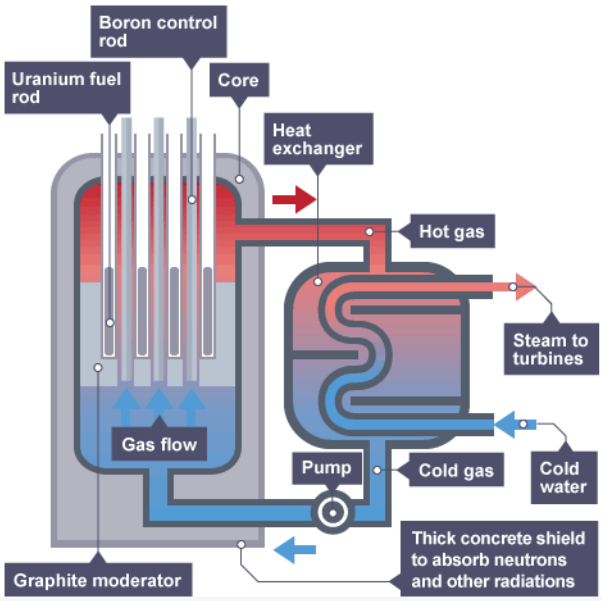
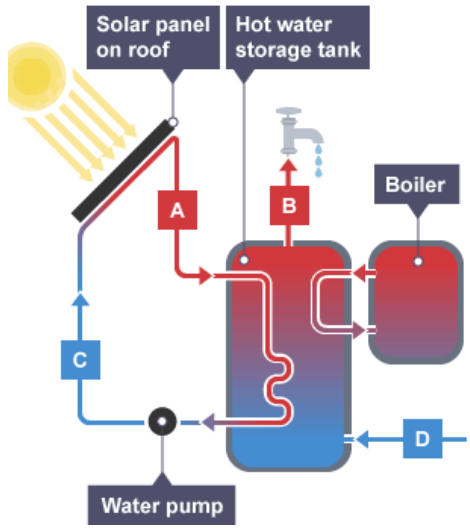
- What are the initial reactions of others, do they seem more interested in some parts of the speech that others?
- What questions are people asking you afterwards, could these be questions that are likely to be asked of you on the day?
- What feedback do your audience give you on the use of your voice, your body language and communication style, are you confident and present enough?

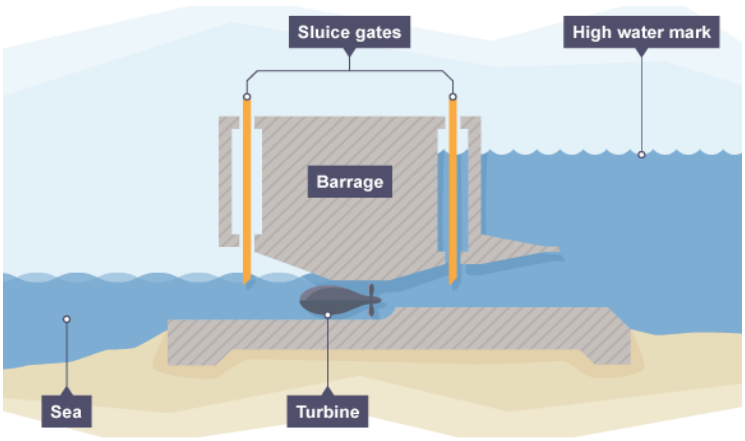
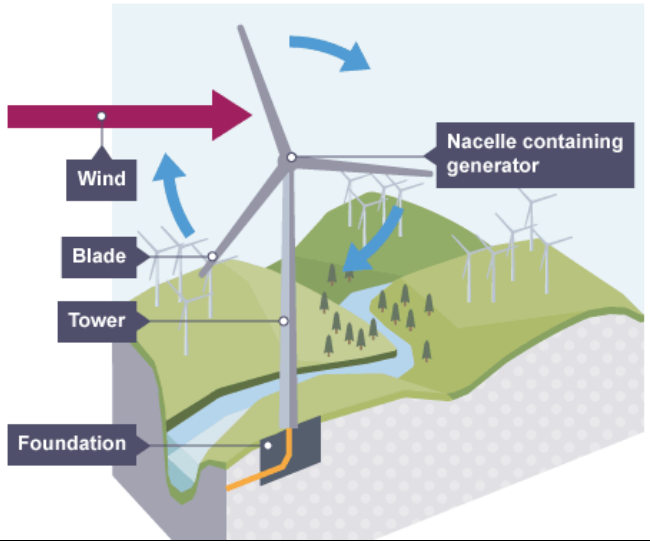
Stage 5

When delivering your speech you should:

- Have notes with you in case you get stuck but attempt to go by memory as much as possible.
- Position yourself in the room, standing, at the front, use the space and consider walking around it as you speak.
- Focus on the faces of your audience, look for signs as to whether they are engaged or excited, consider whether you need to modulate your tone, increase volume, or lean move heavily on a rhetorical device.
- During the final stage, focus on being calm, confident and engaging. You may use brief notes but rely on memory as much as you can. Make eye contact, speak clearly, and try to connect with your audience. Once your speech ends, be prepared to answer one unseen question from your teacher, using what you know from class.

Energy resource	Information
Biomass 	Biomass power stations use living material such as trees or plants to produce heat energy which then turns the turbines to transfer energy to electricity. Any material which will burn to produce heat could be used but it is better to use material that is renewable and plants will grow back again.
Coal 	Coal power stations use coal that is taken out of the ground and this is burnt to give off lots of heat which is then used to turn a turbine. This movement generates electricity which can then be used to power all kinds of devices. In this process, lots of noise is made and some heat is lost to the atmosphere.
Geothermal 	Geothermal power stations involve digging deep into the ground and sending water down in pipes so it can be heated up by the natural heat of the Earth. The water returns as steam and can cause turbines to spin thus producing electricity. The main form of wasted energy is heat as so much of this is lost as the water/steam is travelling in the pipes but sound is another form of wasted energy.

Hydroelectric  	Hydroelectric power stations produce electrical power through the use of falling or flowing water. 16% of global electricity generation is achieved this way and it is the most widely used form of renewable energy.
Nuclear  	Nuclear power stations use a technique called nuclear fission which means they split larger atoms into smaller ones. The energy released by splitting the atom is called nuclear energy and can be used to heat water which then causes turbines to spin and this leads to electricity production. Splitting the atom does however lead to some products being formed which are radioactive meaning they give off harmful radiation and the products have to be stored deep underground until all the radiation has been released and this takes many hundreds of years in some cases.
Solar  	Solar power transfers light into electricity using special panels. Solar power is also transferred to heat energy which is generally not useful as the cells can convert light directly to electricity.

Wave/ Tidal 	Wave/tidal power stations use the energy in oceans or lakes as the level of water changes sometimes due to waves and sometimes due to tides. The movement of water directly spins turbines producing electricity.
Wind 	Wind power stations transfer the movement of the wind (kinetic energy) to electrical energy though they do make a noise as they spin round so there is some wasted sound energy.

The typical output of a power station may be:

Energy source	Approximate output per station (GW)
Coal power station	≈ 1.5
Gas power station	≈ 0.5
Nuclear power station	≈ 1.3
Wind turbine	≈ 0.004
Tidal barrage	≈ 2
Solar farm	≈ 0.1

1 GW = 1,000 MW = 1,000,000 kW = 1,000,000,000 W

Useful websites:

www.kerboodle.com

Types of energy resource - Energy resources - AQA Synergy - GCSE Combined Science Revision - AQA Synergy - BBC Bitesize

Power stations KS3 | Y8 Science Lesson Resources | Oak National Academy

Useful videos (YouTube):

Energy resources: https://youtu.be/N5mHKqcit9I

Wind and Solar: https://youtu.be/patAsiGEfGc

Geothermal: https://youtu.be/Q5CqN-vbetM

Biofuels: https://youtu.be/pL_lR-VcDT8

Hydroelectric and Tidal: https://youtu.be/mIxhW8JfRrQ

Nuclear power: https://youtu.be/rcOFV4y5z8c