



Science Core Knowledge

Year 7

This booklet contains the core knowledge that we believe is the foundation of understanding for each of the topics taught in year 7.

Pupils are required to learn a selection of these questions each week for homework. Their teacher will then carry out regular quizzes to check pupil progress.

We suggest that pupils work with each other or with adults at home to memorise a few at a time in much the same way you may have prepared for spelling tests in the past.

Digital copies of these questions, the presentations that teachers use in their lessons, links to other websites, details of test dates and other things you may find useful can be found on our google drive:

bit.ly/aylshamscience

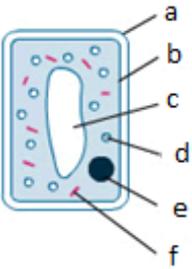
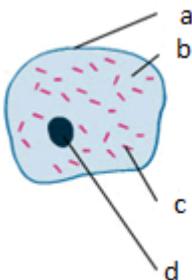
(You will need to type this in to the the address bar exactly as is because the site is hidden from Google.)

We also sell CGP KS3 revision guides from room 10 at lunch or break time at a significantly reduced price.



We've uploaded sets of these core questions onto Quizlet too, so you can use the smartphone app or find the website on a computer. All you have to do is search for AHS_science under users and lookup the topic number and name and quiz yourself.

7B1 Cells and Body Systems Core Questions

Question	Answer
1. What is a cell?	The smallest structural unit of living things.
2. Identify these parts of a typical plant cell: 	a) Cell wall b) Cell membrane c) Vacuole d) Chloroplast e) Nucleus f) Mitochondria
3. Identify these parts of a typical animal cell: 	a) Cell membrane b) Cytoplasm c) Mitochondria d) Nucleus
4. What is the function of the nucleus?	Contains the genetic material, the 'instructions' for running the cell.
5. What is the function of the cytoplasm?	Where the cell's chemical reactions happen.
6. What is the function of the cell membrane?	To control what goes in and out of the cell.
7. What is the function of the cell wall in plants?	To protect the cell and give it shape and rigidity.
8. What is the function of the vacuole in plants?	It is filled with a fluid that contains sugar for the cell and gives the cell shape and rigidity
9. What is the function of the chloroplasts in plants?	To convert light energy into chemical energy by making food.
10. What is a unicellular organism?	An organism that is made of one single cell
11. What is a microscope?	Instrument for viewing very small objects that cannot be seen with the naked eye e.g. cells
12. What is magnification?	How much bigger something appears compared with its actual size
13. How do you calculate the magnification of a microscope?	Total Magnification = magnification of OBJECTIVE lens x magnification of EYEPIECE lens
14. How do you calculate the magnification of a specimen under the microscope?	magnification = measured size / actual size.
15. What is tissue?	A group of cells of the same type working together
16. What is an organ?	Structure made up of a group of tissues, working together to perform specific functions.
17. What is digestion?	Breaking food into smaller and smaller particles so that it can be absorbed by the body
18. What is absorption?	The process by which nutrients move from the intestines into the blood
19. What is an enzyme?	A protein made in cells to help a chemical reaction to happen. There are many types.

7B2 Respiration Core Questions

1. What are all living and previously living organisms made of?	Cells
2. What is <u>respiration</u> ?	A cellular process that releases <u>energy</u> from food and <u>oxygen</u>
3. How do molecules move through cytoplasm?	<u>Diffusion</u>
4. Place the following in size order- molecule, cell and atom	Atom- molecule- cell
5. How can we describe the cell membrane?	As a <u>semi-permeable membrane</u> (some molecule are able to diffuse through it)
6. What are the key features of <u>diffusion</u> ?	<ul style="list-style-type: none"> • All <u>particles</u> are in constant motion • <u>Diffusion</u> involves the movement of <u>particles</u> • It results from the random motion/collision of <u>particles</u>
7. What is the relationship between surface area of a membrane and the rate of <u>diffusion</u> ?	As surface area increases the rate of <u>diffusion</u> increases too.
8. Name organs found in the respiratory system	<ul style="list-style-type: none"> • Nose and nasal cavity • Trachea • Bronchi • Lungs • Alveoli
9. What is meant by adaptation?	How something has special features
10. How are the <u>alveoli</u> adapted to maximise rates of diffusion?	<u>Alveoli</u> are adapted to provide a very large surface area for diffusion
11. How do we breathe in (ventilate)?	Our diaphragm is pulled down, and the ribs are lifted up increasing the volume of the chest cavity. Air moves in to equalise the pressure.
12. How do we breathe out?	The muscles pulling on the diaphragm relax and this rises up, the ribs move in and the volume of the chest cavity decreases. Air moves out to balance the pressure.
13. What is the <u>vital lung capacity</u> ?	The maximum amount of air you can breathe in and out
14. What are the components of blood?	<u>Red blood cells</u> , <u>white blood cells</u> , <u>platelets</u> and <u>plasma</u>
15. Why can arterial cuts be more serious than venous ones?	Blood in the arteries is under more pressure so blood loss is more rapid.
16. How do substances move into and out of the blood?	The <u>particles</u> are able to diffuse through the walls of capillaries into and out of the blood stream
17. Name organs found in the circulatory system	<ul style="list-style-type: none"> • Heart • Veins • Arteries • Capillaries

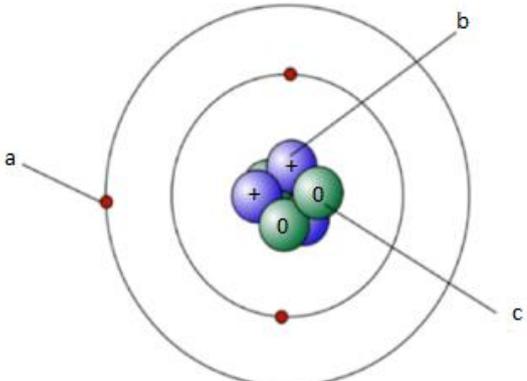
7B3 Genetics Core Questions

Question	Answer
1. What is a genome?	A <u>complete set of chromosomes</u> / full set of DNA
2. Describe the structure of DNA	Two strands in a <u>double helix</u> , joined together by <u>complementary bases</u> with <u>weak hydrogen bonds</u> between each other.
3. How do the bases form complimentary pairs in DNA?	<u>Cytosine- Guanine</u> <u>Adenine- Thymine</u>
4. Which system contains a collection of glands which produce hormones?	The endocrine system
5. Which gland is known as the 'master gland'?	The pituitary gland
6. Which gland produces oestrogen?	Ovaries
7. Which gland produces testosterone?	Testes
8. State some changes that occur during puberty in boys.	Testes start producing sperm and become larger, voice deepens, shoulders become broader, hair grows in pubic area, chest, armpits and face, sweat more, acne, mood swings, etc.
9. State some changes that occur during puberty in girls.	Ovaries begin releasing egg cells/ova, periods start, breasts develop, hips widen, hair grows in pubic area and armpits, sweat more, acne, mood swings etc.
10. What causes the physical changes that take place at puberty?	Hormones
11. Why do these physical changes at puberty occur?	To prepare the body for reproduction/sex
12. What are gametes?	Haploid <u>sex cells</u> (e.g. egg cells ,sperm, pollen)
13. How is a sperm cell adapted to its function?	Tail to swim to egg cell, enzymes in head to break down jelly coat of egg cell, half the normal number of chromosomes, many mitochondria to release energy for long swim
14. How is an egg cell adapted to its function?	Jelly coat to protect and harden after sperm entry to prevent other sperm from getting in, large store of food to provide energy for cell division/growth after fertilisation.
15. Describe the function of the uterus (womb).	Muscular organ in a woman where the foetus/baby develops until it is ready to be born.
16. Describe the function of the testes.	To produce sperm.
17. What is ovulation?	When an egg cell is released from an ovary
18. How often does a woman release an egg cell and when does ovulation usually happen?	Once a month/every 28 days. Day 14
19. What is a period (menstruation) and how often does a woman have a period (on average)?	Shedding of the lining of the uterus that happens if an egg cell is not fertilised. Once per month/every 28 days
20. Describe what happens at fertilisation in humans.	Sperm reaches egg cell, head enters the egg cell, nuclei of sperm and egg cell fuse.
21. What is a zygote?	A fertilized egg produced after the nuclei of sperm and egg cell fuse.
22. How do food water and oxygen reach the growing baby?	Through the placenta.
23. Briefly describe birth.	Waters break (amniotic sac breaks), contractions (of uterus) start. Contractions push the baby out through the vagina.
24. What are percentile growth charts?	Charts that show the pattern of growth that healthy babies and children usually follow
25. What is contraception	A method used to prevent pregnancy

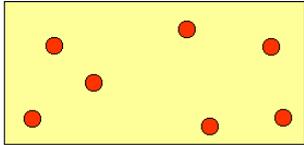
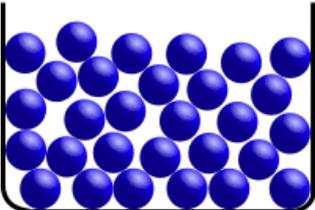
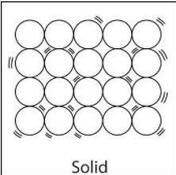
7B4 Year 7 Ecosystems Core Questions

1. What is an ecosystem?	An area in which all the living and non-living factors form a stable relationship.
2. Define community	All the different organisms living and interacting with one another in a particular area.
3. Define population	A group of one species living in the same area.
4. What is biodiversity?	The variety of species in an area
5. State what an abiotic factor is	Non-living factors which can influence where plants or animals live.
6. Give an example of an abiotic factor	Temperature, light, rainfall, pH
7. State what a biotic factor is	Living components in an ecosystem
8. Give an example of a biotic factor	Competition Predation
9. How could we measure the difference in plant distribution from a shaded area to an area in full light?	Use a quadrat and a belt transect
10. What is the name given to plants in a food web?	Producers
11. What do the arrows represent in a food web?	Energy transfer
12. All organisms in an ecosystem depend upon each other. What do we call this?	Interdependence
13. Recall the word equation for photosynthesis	Carbon dioxide + water + energy from light → glucose + oxygen
14. Plants convert light energy into _____ energy	Chemical
15. What cell structure is responsible for photosynthesis?	Chloroplast

7C1 Atoms and the Periodic Table Core Questions

1. In chemistry, what does the word "reactant" mean?	A reactant is a substance which reacts in a reaction
2. In chemistry, what does the word "product" mean?	A product is a new substance made in a chemical reaction
3. What is an atom?	The smallest part of an element, atoms are the building blocks of molecules
4. What is a compound?	A chemical substance that is made from two more different types of atom or elements
5. What is an element?	An element is a substance that is made up of only one type of atom
6. What is kinetic energy?	The energy of movement
7. What is a molecule?	A molecule is a group of atoms that have been chemically joined together
8. What is a particle?	A very small part of a substance, it is sometimes used instead of the word molecule
9. Label the parts of the atom below: 	a) Electron b) Proton c) Neutron
10. What are the sub atomic particles and what are their charges?	Neutron- neutral, proton +1 electron -1
11. Why does an atom have a neutral charge?	Because the number of electrons and protons are equal so the charges balance
12. What is an impure substance?	A substance that contains a mixture of elements and/or compounds
13. What is a pure substance?	A substance made up of only one element or compound
14. Give the formulae for a) oxygen b) carbon dioxide c) water d) carbon monoxide e) nitrogen f) chlorine	a) O ₂ b) CO ₂ c) H ₂ O d) CO e) N ₂ f) Cl ₂
15. What do the following prefixes mean? a) mon b) di c) tri	a) There is one of something b) There is two of something c) There is three of something
16. What do the following suffixes mean? a) ide b) ate	a) A compound that is made of only 2 different types of atom b) A compound that is made of more than 2 types of atom and one of the atoms is oxygen
17. What is a diatomic molecule?	A molecule that consists of two atoms, often the same
18. What is a mixture?	A substance that contains two or more elements and/or compounds that are not chemically joined together

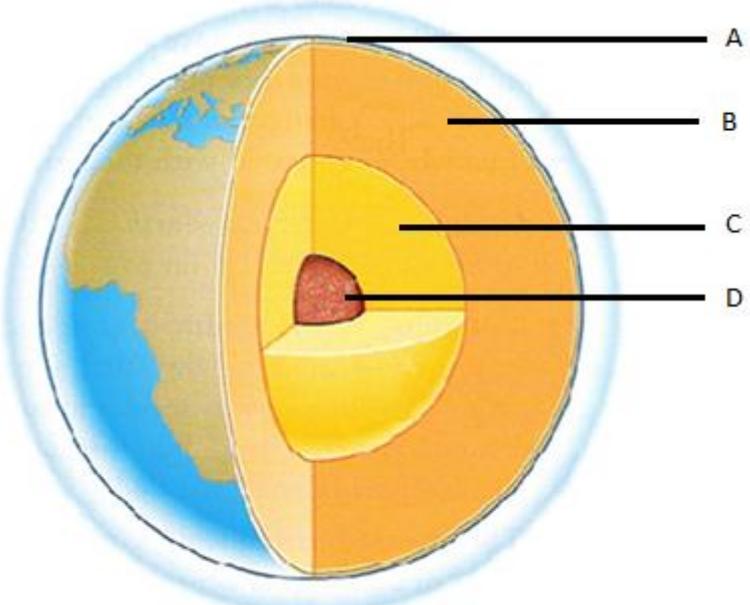
7C2 Particles Theory Core Questions

1. What is an atom?	The smallest part of an element, atoms are the building blocks of molecules
2. What is diffusion?	The movement of one substance through another substance.
3. How are the particles arranged in a gas?	They are very far apart, moving very fast, they have lots of energy and are arranged randomly. 
4. What is kinetic energy?	The energy of movement.
5. How are the particles arranged in a liquid?	They are close together and touching, they can move past one another and are arranged in an irregular fashion. 
6. What is a molecule?	A molecule is a group of atoms that have been chemically joined together.
7. What is a particle?	A very small part of a substance, it is sometimes used instead of the word molecule.
8. How are the particles arranged in a solid?	They are close together and touching, they cannot move past one another and are arranged in a regular orderly fashion. 
9. Describe the Dalton model of the atom	Atoms are the smallest part of an element
10. What are the three states of matter	Solids, liquids and gases
11. Use a simple kinetic theory model to explain solids in terms of movement and arrangement of particles	<ul style="list-style-type: none"> • Particles vibrate • Forces of attraction between particles are strong • Which is why particles do not flow • Solids keep their shape • Solids cannot be compressed
12. Use a simple kinetic theory model to explain liquids in terms of movement and arrangement of particles	<ul style="list-style-type: none"> • Particles flow • Particles have moderate forces of attraction • Liquids take shape of container • Liquids flow • Liquids cannot be compressed
13. Use a simple kinetic theory model to explain gases in terms of movement and arrangement of particles	<ul style="list-style-type: none"> • Particles move fast • Particles are far apart • Gases expand to fill container • Gases can be compressed
14. Describe Brownian motion in gases	The random motion of large particles due to the collisions with smaller particles
15. Describe diffusion of particles in gases and liquids	Particles diffuse from high concentration to low concentration
16. Explain why gases and liquids can diffuse	Forces of attraction between particles are weak enough to allow particles to flow

7C3 Chemical Reactions Core Questions

Question	Answer												
1. State the test for hydrogen	Produces a squeaky pop with a lit splint												
2. State the test for oxygen	Relights a glowing splint												
3. State the test for carbon dioxide	Turns limewater cloudy												
4. Identify these hazard symbols: <div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center; margin: 5px;">  a) </div> <div style="text-align: center; margin: 5px;">  b) </div> <div style="text-align: center; margin: 5px;">  c) </div> <div style="text-align: center; margin: 5px;">  d) </div> <div style="text-align: center; margin: 5px;">  e) </div> <div style="text-align: center; margin: 5px;">  f) </div> <div style="text-align: center; margin: 5px;">  g) </div> <div style="text-align: center; margin: 5px;">  h) </div> </div>	a) Harmful b) Flammable c) Dangerous to the environment d) Corrosive e) Toxic f) Explosive g) Oxidising agent h) Carcinogenic												
5. Recall pH of: a) Strong acids b) Weak acids c) Neutral substances d) Weak alkalis e) Strong alkalis	a) 1-3 b) 4-6 c) 7 d) 8-10 e) 11-14												
6. Give the formulae for these common laboratory substances: 7. Hydrochloric acid 8. Sulphuric acid 9. Nitric acid 10. Sodium hydroxide	a) HCl b) H ₂ SO ₄ c) HNO ₃ d) NaOH												
11. State the colour of substances in universal indicator or phenolphthalein	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th>Universal indicator</th> <th>Phenolphthalein</th> </tr> </thead> <tbody> <tr> <td>Acid</td> <td>Red/Orange/Yellow</td> <td>Colourless</td> </tr> <tr> <td>Water</td> <td>Green</td> <td>Colourless</td> </tr> <tr> <td>Alkali</td> <td>Dark green/Blue/Purple</td> <td>Pink</td> </tr> </tbody> </table>		Universal indicator	Phenolphthalein	Acid	Red/Orange/Yellow	Colourless	Water	Green	Colourless	Alkali	Dark green/Blue/Purple	Pink
	Universal indicator	Phenolphthalein											
Acid	Red/Orange/Yellow	Colourless											
Water	Green	Colourless											
Alkali	Dark green/Blue/Purple	Pink											
12. State the word equation for neutralisation	Acid + Alkali → Salt + Water												
13. Define a) solute b) solution c) soluble d) insoluble 14. e) solvent	a) a substance that dissolves b) a liquid mixture c) a substance which can dissolve d) a substance which cannot dissolve e) the substance which dissolves a solvent												
15. State the law of conservation of mass	Mass is never created or destroyed during chemical reactions, so all mass in the reactants is the same as the mass in the products												
16. Suggest why our investigations may not support the law of conservation of mass	Some reactants or products can be lost by: <ul style="list-style-type: none"> - Transferring substances from one container to the next - Gas is produced and escapes the container, so the mass decreases - Other reactions are taking place 												

7C4 Earth Science Core Questions

Question	Answer
<p>1. State the composition and structure of Earth</p> 	<p>A) Crust B) Mantle C) Outer core D) Inner core</p>
2. State the components of the Earth's atmosphere	Nitrogen 78%, oxygen 21%, 1% other gases (argon, carbon dioxide and water vapour).
3. State the word equation for complete combustion	Fuel + oxygen → carbon dioxide + water
4. State products of incomplete combustion	Carbon monoxide Soot/ Carbon
5. Describe how to test for carbon dioxide	Bubble the gas through limewater, if carbon dioxide is present the limewater turns milky
6. Describe the test for water	Blue cobalt chloride paper turns pink
7. Describe the advantages of burning fossil fuels	Generate large amounts of energy
8. Describe the disadvantages of burning fossil fuels	Carbon dioxide is produced This causes climate change
9. State the dangers of incomplete combustion	Carbon monoxide is poisonous and can kill Soot can cause lung damage
10. Explain why carbon monoxide is dangerous	Carbon monoxide replaces oxygen on red blood cells, preventing oxygen from being delivered to cells

7C5 Metals Core Questions

Question	Answer
1. Describe characteristics of metals	Shiny, hard, conductors of heat and electricity, malleable and ductile
2. Describe what makes metals good conductors of electricity	Metals contain free electrons which are able to move/flow
3. Describe where metals come from	Metals are found in compounds inside rocks in the Earth's crust
4. Define ore	A rock from which a metal can be extracted profitably
5. Define native metal	Is found pure in its metallic form in nature
6. Suggest a very reactive metal	Potassium, sodium, magnesium
7. Suggest a unreactive metal	Copper, gold, silver, platinum
8. State the general word equation of metals reacting with oxygen	Metal + oxygen \rightarrow metal oxide
9. State the general word equation of metal oxides reacting with acids	Metal oxide + acid \rightarrow alkali + hydrogen
10. Are the following alkaline or acidic solutions: a) Metal oxides b) Non-metal oxides	a) alkaline b) Acidic

7P1 Forces Core Questions

Question	Answer
1. Name the unit and symbol for force	Newton, N
2. What causes forces?	The interaction of objects
3. What 2 features do all forces have?	1) size 2) Direction
4. What could the motion of the object be if forces are unbalanced?	Accelerating
5. What could the motion of the object be if forces are balanced?	Stationary Constant speed & direction
6. Define resultant force	The left-over force when you consider all forces acting on an object
7. If all of the opposing forces acting on the object are the same size, what is the resultant force?	0N
8. Describe how objects can interact at a distance	Gravity Magnetic fields / magnets Static electricity

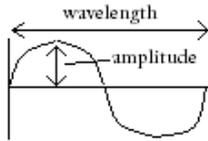
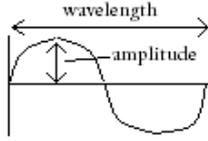
7P2 Motion Core Questions

Question	Answer
1. Name three common speeds	1. <u>sound in air 330m/s</u> 2. walking pace 1.4m/s 3. car in built up area 10.5m/s 4. car on motorway 31m/s 5. an aeroplane 250 m/s 6. <u>light in a vacuum 300,000,000m/s.</u>
2. What is the equation to calculate speed?	Speed = $\frac{\text{distance}}{\text{time}}$
3. What are the SI units of distance?	Metres (m)
4. What are the SI units of time?	Seconds (s)
5. What are the SI units of speed?	Metres per second (m/s)
6. Draw the equation triangle for speed	
7. Rearrange the speed equation to make distance the subject (d= ?)	$d = s \times t$
8. Rearrange the speed equation to make time the subject (t = ?)	$t = \frac{d}{s}$
9. What is a scalar quantity? Give an example	a quantity that has a magnitude only e.g. speed, mass, temperature
10. What is a vector quantity? Give an example	a quantity that has both a magnitude and a direction e.g. velocity, acceleration, force

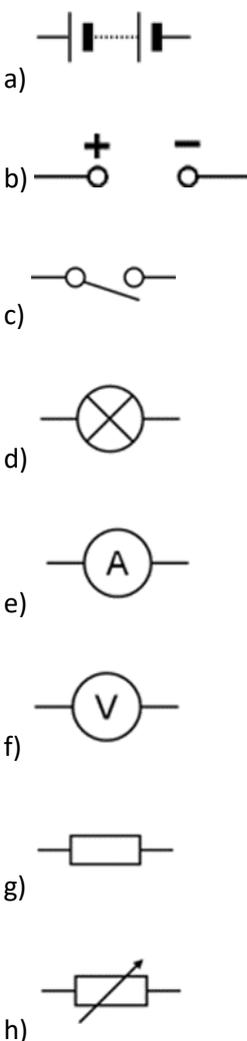
7P3 Energy Core Questions

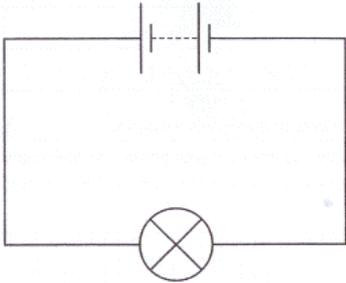
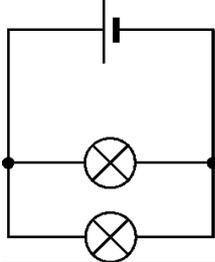
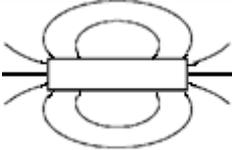
Question	Answer
1. What is the symbol and unit for energy?	Joule, J
2. Name 9 forms of energy	Gravitational potential energy Chemical Sound Electrical Nuclear Light Thermal Elastic Kinetic
3. Describe what is meant by a system	An observed object or environment. This could be as big as the universe, a room, a car, a beaker or a petri dish.
4. Describe what is meant by conservation of energy	The total energy in a closed system remains the same when an energy transfer takes place
5. Draw an energy transfer diagram for a car speeding up	<pre> graph LR A["(energy stored in fuel) Chemical"] -- "Speeding up" --> B["Kinetic energy"] B -- "Energy transferred due to friction" --> C["Thermal and sound energy"] </pre>
6. Draw an energy transfer diagram for when a ball falls and lands on the ground	<pre> graph LR A["Gravitational Potential Energy"] -- "Ball falls" --> B["Kinetic energy"] B -- "Energy transferred due to friction with floor" --> C["Thermal and sound energy"] </pre>
7. Draw an energy transfer diagram for stretching a spring	<pre> graph LR A["(Person stretches spring) Kinetic energy"] -- "Spring stretches" --> B["Elastic energy"] B -- "Person releases spring" --> C["Kinetic, thermal and sound energy"] </pre>
8. Draw an energy transfer diagram for when food is used in our bodies	<pre> graph LR A["(energy stored in food) Chemical"] -- "Person eats food" --> B["(Food is used for respiration) Thermal and kinetic"] B -- "If person talks" --> C["Sound energy"] </pre>
9. State 2 common waste energies	Thermal and sound
10. Describe what happens to waste energy	It is dissipated to the surroundings

7P4 Waves Core Questions

Question	Answer
1. Define frequency and state its unit	The number of waves in 1 second and the unit is Hertz (Hz)
2. Define amplitude and state its unit	The distance from the centre of a wave to the top of the wave.  <p>The diagram shows a transverse wave on a horizontal equilibrium line. A horizontal double-headed arrow above the wave is labeled 'wavelength', spanning one full cycle. A vertical double-headed arrow from the equilibrium line to the peak of the wave is labeled 'amplitude'.</p>
3. Define wavelength and state its unit	The length of 1 complete wave cycle. It is measured in meters (m).  <p>The diagram shows a transverse wave on a horizontal equilibrium line. A horizontal double-headed arrow above the wave is labeled 'wavelength', spanning one full cycle. A vertical double-headed arrow from the equilibrium line to the peak of the wave is labeled 'amplitude'.</p>
4. State an example of a longitudinal wave	Sound waves, primary seismic waves
5. State examples of a transverse wave	<ul style="list-style-type: none"> - Radio waves, microwaves, infra-red radiation, visible light, ultra violet, x-rays, gamma rays (any part of the electromagnetic spectrum) - ocean waves - secondary seismic waves
6. Describe a longitudinal wave	The direction of the vibration is parallel to the direction of the energy travel
7. Describe a transverse wave	The direction of the vibration is perpendicular to the direction of the energy travel
8. Describe how sound is produced	Vibrations cause sound waves
9. Compare and explain how sound travels through solid, liquids and gases	<p>Sound waves travel through solids faster because the <u>particles are touching</u> in solids, and so the <u>energy is transferred on much quicker</u>.</p> <p>Sound waves travel slowest in gases as <u>particles are not touching</u>, so <u>passing on the energy takes longer</u>.</p>
10. Describe how water waves can be reflected	A barrier in water causes waves to reflect
11. Compare how sound waves interact with soft materials and shiny, hard materials	Soft materials absorb sound waves Hard, shiny materials reflect sound waves
12. Define echo	An echo is a reflection of sound
13. State the speed of light	300,000,000 m/s
14. State the speed of sound	330 m/s
15. Define transparent	A material that allows all light to pass through it
16. Define translucent	A material which scatters and absorbs some light, as well as allowing some light to pass through
17. Define opaque	A material that allows no light to pass through it
18. Define vacuum	A space where there are no particles

7P5 Electricity Core Questions

1. Describe the structure of an atom	<u>Electrons</u> orbiting A <u>nucleus</u>
2. What subatomic particles are found in the nucleus?	Protons and neutrons
3. What is the charge and mass of the three subatomic particles?	Protons are positive with a mass of 1 Neutrons are neutral with a mass of 1 Electrons are negative with a mass of 0 or $1/1837$
4. Describe the structure of metals	<u>Positive ions</u> surrounded by A sea of <u>free electrons</u>
5. How do like charges interact?	Repel
6. How do unlike charges interact?	Attract
7. Describe how static electricity is generated	<u>Friction</u> between 2 insulated materials causes electrons to transfer and <u>build up</u> .
8. Define current	Flow of electrons
9. Identify the following circuit symbols a) Unknown number of cells b) Power pack c) Switch d) Bulb e) Ammeter f) Voltmeter g) Resistor h) Variable resistor	 <p>a) </p> <p>b) </p> <p>c) </p> <p>d) </p> <p>e) </p> <p>f) </p> <p>g) </p> <p>h) </p>
10. What is the function of an ammeter?	Measure the current
11. What is the function of a voltmeter?	Measure the potential difference across a component

12. Draw a basic series circuit	
13. Draw a basic parallel circuit	
14. Describe how to place an ammeter in a circuit	In series (within the circuit)
15. What is the unit for current?	Amps (A)
16. Describe how to place a voltmeter in a circuit	Across a component/ parallel to a component
17. What is the unit for potential difference?	Volts (V)
18. Describe what happens to current in a series circuit	The current is the same everywhere
19. Describe what happens to current in a parallel circuit	Current splits and recombines at junctions
20. State three magnetic metals	Nickel, Iron and Cobalt (Stainless steel)
21. State how like poles interact	Repel
22. State how unlike poles interact	Attract
23. Describe what makes a material magnetic	Magnetic metals contain domains, which are groups of atoms that behave like tiny atoms
24. Draw a basic magnetic field around a bar magnet	
25. State the difference between a permanent and induced magnet	A permanent magnet is always magnetic An induced magnet is only magnetic when it is within the magnetic field of another magnet

7P6 Astronomy Core Questions

1. What is the sun an example of?	A star
2. Define the term solar system	The <u>collection of planets and their moons in orbit round a star</u> , together with smaller bodies in the form of asteroids, meteoroids, and comets.
3. Define the term galaxy	Millions or billions of stars, held together with gas and dust, by <u>gravitational attraction</u>
4. Define the term universe	All existing matter and space considered as a whole
5. What causes seasons?	The <u>tilt of the Earth's axis changes</u> the length of the day, the <u>amount of daily sunlight</u> and the <u>concentration of the Sun's rays</u> on the Earth's surface.
6. State these objects from largest to smallest: Earth Moon The Universe Solar System Galaxy Our sun	The universe Galaxy Solar system Our sun Earth Moon
7. Define weight	Weight is a force due to gravity
8. Define mass	Mass is the amount of matter
9. How is weight calculated?	Weight (N) = Mass (kg) x g (N/kg)
10. How is weight affected by the gravitational field strength?	<u>Weight will change depending on the gravitational field strength of the planet, moon etc that the object is on.</u> The <u>stronger the gravitational field strength</u> , the <u>heavier the weight</u> . (For example a 1kg mass bag of sugar will weigh 9.8N on earth, and only 1.6N on the moon).
11. Describe what would happen to your mass if you were to visit the moon	The mass would stay the same
12. Describe what would happen to your weight if you were to visit the moon	The weight would decrease because the moon's gravitational field strength is weaker as the moon has itself, a smaller mass
13. Describe what would happen to your weight if you were on Jupiter	The weight would increase because Jupiter's gravitational field strength is stronger as this planet has a larger mass