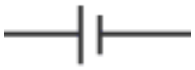
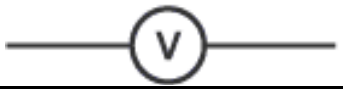
Q&A List - GCSE Combined Since - Physics Paper 1

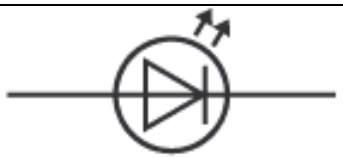
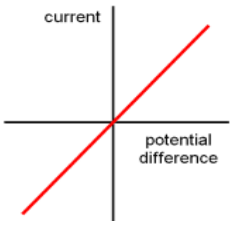
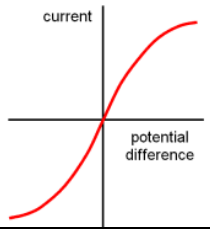
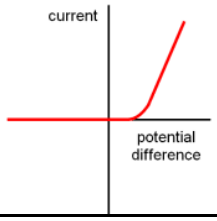
Part 1 - Energy Knowledge Base

No.	Question	Answer
1	Name an energy store	Magnetic, kinetic, thermal, gravitational, electrostatic, chemical, elastic, electrical, nuclear
2	How do you calculate gravitational potential energy?	Gravitational potential energy = mass x gravity x height GPE = m x g x h
3	How do you calculate kinetic energy?	Kinetic energy = 0.5 x mass x $(speed)^2$ KE = 0.5 x m x v^2
4	State the conservation of energy principle.	Energy cannot be created nor destroyed
5	State an equation to calculate power.	P = Energy ÷ time
6	Name a type of renewable energy	Solar Wind Hydroelectric Wave Tidal
7	Name a type of non-renewable energy	Coal Oil Gas Nuclear
8	Give an advantage of wind power	It will not run out
9	Give a disadvantage of wind power	Unreliable (only works if it is windy)
10	Give an advantage of non-renewable energy	Reliable
11	Give a disadvantage of non-renewable energy	Will run out Burning releases greenhouse gases
12	Suggest a way to reduce unwanted energy transfer from a house	Cavity walls Loft insulation Double-glazed windows Draught excluders.
13	What is the unit of energy?	Joules (J)
14	Give an example of something that is a store of chemical energy	Battery Fuel Food
15	What type of energy does an object raised above the ground have?	Gravitational potential energy
16	What type of energy does a moving object have?	Kinetic

17	How many watts are there in 1kilowatt (kW)?	1000W
18	How do you calculate efficiency?	Efficiency = useful output ÷ input
19	_____ is a measure of how good a device is at changing energy (or power) from one form to another	Efficiency
20	The energy stored in a spring when work is done in compressing or stretching it is called _____ potential energy.	Elastic
21	Conduction is energy transfer by heating where _____ particles transfer energy to neighbouring particles.	Vibrating
22	The higher the thermal conductivity of a material, the _____ it will transfer energy by conduction.	Faster
23	Which type of heat transfer is when energetic particles move from hotter regions to cooler regions?	Convection
24	Thick walls with a low thermal conductivity can _____ the rate of cooling of a house.	Slow
25	Give two reasons why electricity use on the UK increased during the 20th century.	Population increase Used more electrical items

Part 2 - Electricity

No.	Question	Answer
1	Draw the circuit symbol for a cell	
2	Draw the circuit symbol for a closed switch.	
3	Draw the circuit symbol for a lamp.	
4	Draw the circuit symbol for an ammeter	
5	Draw the circuit symbol for a voltmeter..	
6	Draw the circuit symbol for a fuse.	

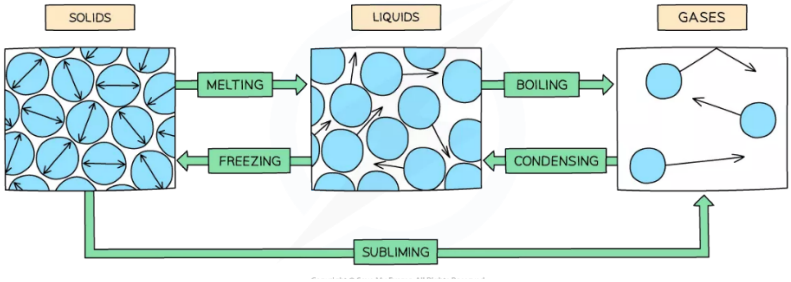
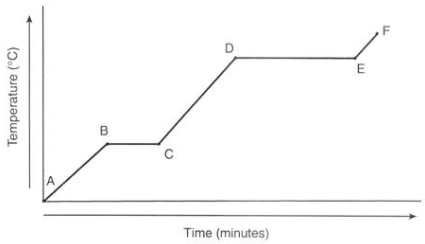
7	Draw the circuit symbol for a LED.	
8	How is a voltmeter connected into a circuit.	In parallel/around
9	How is an ammeter connected into a circuit.	In series/in the loop
10	Current is a flow of electric…	Charge
11	The size of the current is the _____ of flow of the _____.	Rate, charge
12	The equation linking charge, current and time is…	Charge = current x time
13	At any point in a series circuit, the _____ has the same value.	Current
14	_____ _____ is the driving force that pushes current around a circuit.	Potential difference
15	What word is used to describe the thing that reduces the flow of current?	Resistance
16	What is the equation that relates the current through, PD across and resistance of a component.	V = I x R
17	What type of conductor has a resistance that remains constant as the current changes.	Ohmic
18	What component is this IV graph  representing?	Ohmic resistor
19	What component is this IV graph representing? 	Filament lamp
20	What component is this IV graph representing? 	Diode
21	What happens to the resistance of an LDR as light intensity increases?	Goes down

22	What happens to the resistance of a thermistor as temperature increases?	Goes down
23	_____ circuits have all components connected in-line on a single loop.	Series
24	The PD of the power supply is _____ between all of the components in a series circuit.	Shared
25	The flow of _____ everywhere in a series circuit is the same.	Current
26	In a series circuit, the total resistance of the circuit is the resistance of all the components _____ together.	Added
27	If you add more resistors in to a series circuit, then the total resistance _____ and the flow of current _____.	Increases, decreases
28	What do the initials, ac and dc stand for?	Alternating current, direct current
29	Which type of electricity constantly changes its direction of flow?	Alternating current
30	Which type of electricity flows in one direction only?	Direct current
31	Is MAINS electricity ac or dc?	AC
32	What is the potential difference in volts and the frequency in Hertz of mains electricity?	230v, 50Hz
33	Which wire is brown?	Live
34	Which wire is green and yellow?	Earth
35	Which wire is blue?	Neutral
36	Which wire carries the current to the device, and provides the alternating potential difference?	Live
37	Which wire completes the circuit and is at around 0V?	Neutral
38	Which wire is a safety wire and only carries current if there is a fault?	Earth
39	Which wire's job is stop the user getting an electric shock from the outer metal case of an appliance if there is a fault?	Earth

40	Touching a _____ wire causes an electric shock due	Live
41	Connections between the live wire and the earth wire are dangerous because of the large _____ that flow through them.	Current
42	Name the type of transformer that is used to increase potential difference.	Step up
43	Name the type of transformer that is used to decrease potential difference.	Step down
44	Which type of transformer is used to make the potential difference lower and safer for our homes?	Step down

Part 3 - Particle Model

No.	Question	Answer
1	Write an equation that defines the density of a material.	Density = mass/ volume
2	What are the standard units for the three parts of the equation?	Density kg/m^3 Mass kg Volume m^3
3	If a material has particles that are packed more closely together than another material, then what can we say about its density?	Higher
4	Name the three states of matter.	Solid, liquid, gas
5	Draw the arrangement of particles for a solid, liquid and a gas in the boxes provided.	
6	Which state of matter has the highest density?	Solid
7	Which state of matter has the lowest density?	Gas
8	What is the can that is used to find the volume or an irregularly shaped object?	Eureka or displacement
9	The water that is collected in the measuring cylinder has the same volume as the…	Object
10	You can find the mass of an object by placing it on what?	Balance

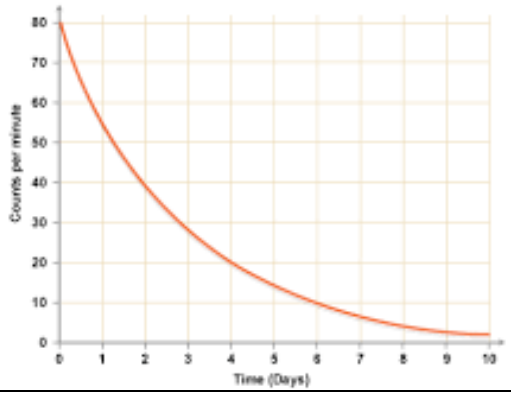
11	Once you have the mass and the volume, how do you find the density of the object?	Density = mass/ volume
12	What is conserved when substances change state?	Mass
13	A change of state can be reversed and the material returns to its original properties. What is this type of change called?	Physical
14	Energy is stored inside a system by its _____.	Particles
15	Internal energy is the total _____ energy and _____ energy of all the particles that make up the system.	Kinetic, potential
16	Heating a system increases the energy of the particles. This can cause the temperature to go up or causes a change of _____.	State
17	The change in a material's temperature depends on three things. What are they?	Mass Energy input Type of material
18	Heating or _____ a substance can lead to a change of state.	Cooling
19	 Label the 5 arrows with the changes of state	
20	During a change a state, the energy transferred to the substance is not used to change its temperature, but instead is used to break or form _____.	Intermolecular bonds
21	What do the flat sections of this graph show? 	Changes of state BC – solid to liquid DE – Liquid to gas
22	The latent heat of a substance is the energy needed to change its _____.	state
23	The specific latent heat of a substance is the amount of energy needed to change (or released when changing) ___kg of a substance from one state to another, without changing its _____.	1kg, temperature
24	The specific latent heat of vaporisation relates to changes between which two states?	Liquid and gas

25	The specific latent heat of fusion relates to changes between which two states?	Solid and liquid
26	What is the equation that relates energy, mass and specific latent heat?	E = mL
27	Particles in a gas are constantly moving with random _____ and a range of _____.	Direction, speed
28	An increase in temperature causes an increase in the average _____ of gas particles.	Kinetic energy
29	What do particles need to do to the walls of a container in order to exert a force and a pressure on the container?	Collide with it
30	An increase in temperature for a gas at constant volume leads to an _____ in pressure.	Increase
31	An increase in volume for a gas at constant temperature leads to a _____ in pressure.	Decrease
32	The pressure of a gas in a sealed container causes a net force at what angle to the walls of the container?	Perpendicular
33	What happens to the temperature of a gas if you do work on the gas?	Increases

Part 4a - Atomic Structure

No.	Question	Answer
1	What can lead to a scientific model being changed or replaced?	New discovery
2	Atoms used to be thought of as tiny spheres which could not be divided. What was first discovered to change this idea?	Electron
3	The _____ _____ model of the atom suggested that the atom is a ball of positive charge with negative electrons stuck in it.	Plum pudding
4	Which particles were scattered in an experiment that led to the idea of the atom having a nucleus?	Alpha
5	This experiment showed that most of the _____ of the atom was in the nucleus and that the nucleus had an electric _____.	Mass, charge
6	Niels Bohr adapted the nuclear model so that the _____ were only able to orbit the nucleus at specific distances.	Electrons
7	Later experiments showed that the positive charge of the nucleus could be split up into smaller particles. What do we call the positive particles in the nucleus?	Protons
8	About 20 years after the idea of the nucleus was accepted, James Chadwick showed the existence of another particle in the nucleus. What is its name and what charge does it have?	Neutron
9	What is the approximate radius of an atom?	$1x10^{-10}$ m
10	How many times smaller is the radius of the nucleus compared to the atom?	10 000

11	electrons to move further away from the nucleus, they can absorb _____ radiation.	electromagnetic
12	When electrons to move closer to the nucleus, they give out(emit) _____ radiation.	Electromagnetic
13	In an atom the overall electrical charge is zero. What therefore can we say about the number of protons and electrons?	The same
14	All atoms of the same element have the same number of which particle?	Protons
15	The number of protons in an atom of an element is called its _____ number.	Atomic
16	The mass number of an atom is the number of what?	Protons and neutrons
17	Isotopes of an element have the same number of _____ but a different number of _____.	Protons, neutrons
18	What is made if atoms **lose** one or more of their outer electrons.	Ion
19	The nuclei of a radioactive substance are described as _____.	Unstable
20	You cannot predict which nucleus will give out radiation and when, therefore radioactive decay is described as a _____ process.	Random
21	When a nucleus gives out radiation, we say it has _____.	Decayed
22	The rate at which a source of unstable nuclei decays is called its what?	Activity
23	Activity is measured in _____.	Bequerels, Bq
24	The number of decays recorded each second by a detector is called the _____ _____.	Count rate
25	Name a common detector for detecting radiation.	GM tube
26	An alpha particle is made of …	Helium nucleus
27	A beta particle is a high speed …	Electron
28	A beta particle is given out when a _____ turns into a _____ in the nucleus.	Neutron, proton,
29	A gamma ray is …	Electromagnetic wave
30	A fourth type of radiation that can be given out from a nucleus is one of the particles, a _____.	neutron
31	Which type of radiation is moderately ionising and penetrating?	Beta
32	Which type of radiation is highly ionising but weakly penetrating?	Alpha
33	Which type of radiation is weakly ionising but highly penetrating?	Gamma

34	Which type of radiation can be represented by this symbol in a nuclear equation: $^{4}_{2}\mathrm{He}$	Alpha
35	Which type of nuclear radiation can be represented by this symbol in a nuclear equation: $^{0}_{-1}e$	Beta
36	Complete the nuclear equation below by filling in the missing numbers: $^{131}_{53}\mathrm{I} \rightarrow {}^{131}_{54}\mathrm{Xe} + {}^{0}_{-1}e$	131 54
37	Complete the nuclear equation below by filling in the missing numbers: $^{226}_{88}\mathrm{Ra} \rightarrow {}^{222}_{86}\mathrm{Rn} + {}^{4}_{2}\mathrm{He}$	222 86
38	Beta decay does not cause the _____ of the nucleus to change but does cause the _____ of the nucleus to change.	Mass charge
39	The emission of which type of radiation does not cause the mass or charge of the nucleus to change?	gamma
40	The half-life or a radioactive substance is the time it takes for the number of nuclei or the count rate of the sample to fall to _____ of its original value.	half
41	If the activity of a sample falls quickly, then it half-life must be _____.	short
42	If the activity of a sample falls very slowly, then its half-life must be _____.	long
43	Add lines to the graph to show how to find the half-life from the graph.  	
44	The unwanted presence of radioactive material on (or in) an object is known as …	contamination
45	The hazard from contamination is from the _____ of the contaminating atoms.	radiation
46	Which types of radiation are the most dangerous if they are outside the body?	Gamma beta
47	Which types of radiation are the most dangerous if they are inside the body?	alpha

48	Exposure to radiation because an object is near to the radioactive source is known as _____.	irradiation
49	Ways to reduce the risk of radiation to living things are; Keeping the sources in _____-lined boxes, Standing _____ barriers, Using _____-controlled arms.	Lead Behind Robot or long
50	What must scientists do with their findings from their research on radioactive substances?	share
51	What is it called when other scientists check the findings?	Peer review

Part 4b - Radioactivity

No.	Question	Answer
1	What is made if atoms **lose** one or more of their outer electrons.	Ion
2	The nuclei of a radioactive substance are described as _____.	Unstable
3	You cannot predict which nucleus will give out radiation and when, therefore radioactive decay is described as a _____ process.	Random
4	When a nucleus gives out radiation, we say it has _____.	Decayed
5	The rate at which a source of unstable nuclei decays is called its what?	Activity
6	Activity is measured in _____.	Bequerels, Bq
7	The number of decays recorded each second by a detector is called the _____ _____.	Count rate
8	Name a common detector for detecting radiation.	GM tube
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11	A beta particle is given out when a _____ turns into a _____ in the nucleus.	Neutron, proton,
12	A gamma ray is …	Electromagnetic wave
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19	Beta decay does not cause the _____ of the nucleus to change but does cause the _____ of the nucleus to change.	Mass Charge
20	The emission of which type of radiation does not cause the mass or charge of the nucleus to change?	Gamma
21	The half-life or a radioactive substance is the time it takes for the number of nuclei or the count rate of the sample to fall to _____ of its original value.	Half
22	If the activity of a sample falls quickly, then it half-life must be _____.	Short
23	If the activity of a sample falls very slowly, then its half-life must be _____.	Long
24	The unwanted presence of radioactive material on (or in) an object is known as …	Contamination
25	The hazard from contamination is from the _____ of the contaminating atoms.	Radiation
26	Which type of radiation is the most dangerous if they are outside the body?	Gamma
27	Which types of radiation is the most dangerous if they are inside the body?	Alpha
28	Exposure to radiation because an object is near to the radioactive source is known as _____.	Irradiation
29	What must scientists do with their findings from their research on radioactive substances?	Share
30	What is it called when other scientists check the findings?	Peer review

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15	What type of energy does an object raised above the ground have?	
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17	How many watts are there in 1kilowatt (kW)?	
18	How do you calculate efficiency?	
19	_____ is a measure of how good a device is at changing energy (or power) from one form to another	Efficiency
20	The energy stored in a spring when work is done in compressing or stretching it is called _____ potential energy.	

21	Conduction is energy transfer by heating where _____ particles transfer energy to neighbouring particles.	
22	The higher the thermal conductivity of a material, the _____ it will transfer energy by conduction.	
23	Which type of heat transfer is when energetic particles move from hotter regions to cooler regions?	
24	Thick walls with a low thermal conductivity can _____ the rate of cooling of a house.	
25	Give two reasons why electricity use on the UK increased during the 20th century.	

TEST YOURSELF - Part 2 - Electricity

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5	Draw the circuit symbol for a voltmeter..	
6	Draw the circuit symbol for a fuse.	
7	Draw the circuit symbol for a LED.	
8	How is a voltmeter connected into a circuit.	
9	How is an ammeter connected into a circuit.	
10	Current is a flow of electric…	
11	The size of the current is the _____ of flow of the _____.	
12	The equation linking charge, current and time is…	
13	At any point in a series circuit, the _____ has the same value.	

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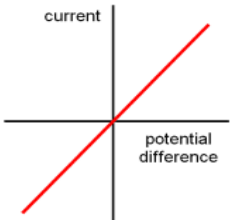
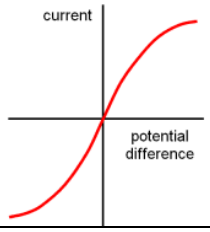
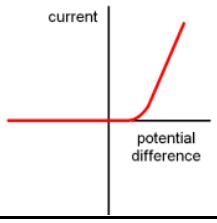
18	What component is this IV graph  representing?	
19	What component is this IV graph representing? 	
20	What component is this IV graph representing? 	
21	What happens to the resistance of an LDR as light intensity increases?	
22	What happens to the resistance of a thermistor as temperature increases?	
23	_____ circuits have all components connected in-line on a single loop.	
24	The PD of the power supply is _____ between all of the components in a series circuit.	
25	The flow of _____ everywhere in a series circuit is the same.	
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28	What do the initials, ac and dc stand for?	
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37	Which wire completes the circuit and is at around 0V?	
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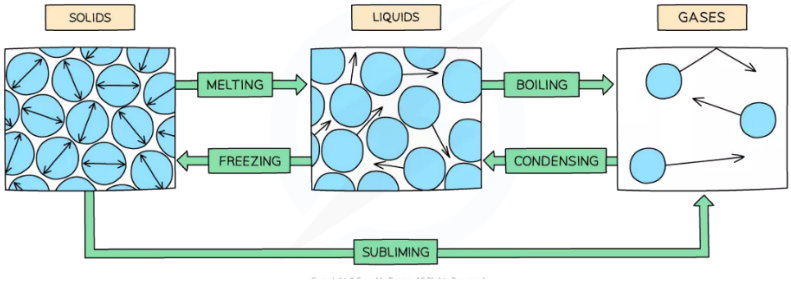
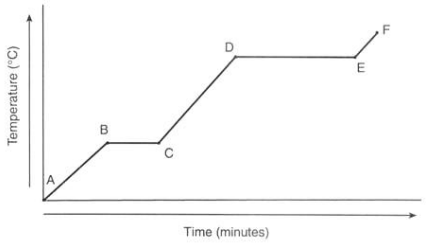
39	Which wire's job is stop the user getting an electric shock from the outer metal case of an appliance if there is a fault?	
40	Touching a _____ wire causes an electric shock due	
41	Connections between the live wire and the earth wire are dangerous because of the large _____ that flow through them.	
42	Name the type of transformer that is used to increase potential difference.	Step up
43	Name the type of transformer that is used to decrease potential difference.	Step down
44	Which type of transformer is used to make the potential difference lower and safer for our homes?	Step down

TEST YOURSELF - Part 3 - Particle Model

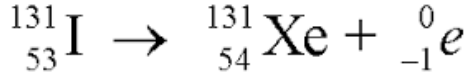
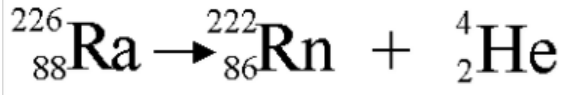
No.	Question	Answer
1	Write an equation that defines the density of a material.	
2	What are the standard units for the three parts of the equation?	
3	If a material has particles that are packed more closely together than another material, then what can we say about its density?	
4	Name the three states of matter.	
5	Draw the arrangement of particles for a solid, liquid and a gas in the boxes provided.	
6	Which state of matter has the highest density?	
7	Which state of matter has the lowest density?	
8	What is the can that is used to find the volume or an irregularly shaped object?	
9	The water that is collected in the measuring cylinder has the same volume as the…	
10	You can find the mass of an object by placing it on what?	
11	Once you have the mass and the volume, how do you find the density of the object?	
12	What is conserved when substances change state?	
13	A change of state can be reversed and the material returns to its original properties. What is this type of change called?	
14	Energy is stored inside a system by its _____.	
15	Internal energy is the total _____ energy and _____ energy of all the particles that make up the system.	Kinetic, potential
16	Heating a system increases the energy of the particles. This can cause the temperature to go up or causes a change of _____.	State
17	The change in a material's temperature depends on three things. What are they?	Mass Energy input

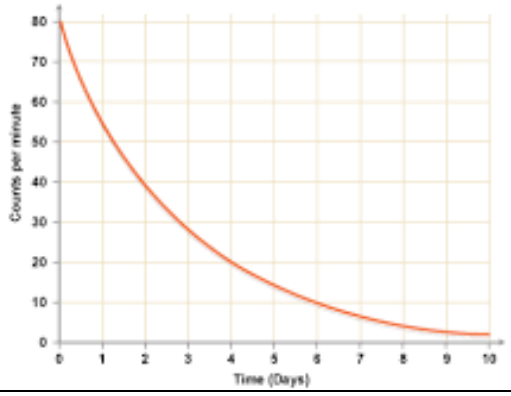
		Type of material
18	Heating or _____ a substance can lead to a change of state.	Cooling
19	 Label the 5 arrows with the changes of state	
20	During a change a state, the energy transferred to the substance is not used to change its temperature, but instead is used to break or form _____.	Intermolecular bonds
21	What do the flat sections of this graph show? 	Changes of state BC – solid to liquid DE – Liquid to gas
22	The latent heat of a substance is the energy needed to change its _____.	
23	The specific latent heat of a substance is the amount of energy needed to change (or released when changing) ___kg of a substance from one state to another, without changing its _____.	
24	The specific latent heat of vaporisation relates to changes between which two states?	
25	The specific latent heat of fusion relates to changes between which two states?	
26	What is the equation that relates energy, mass and specific latent heat?	
27	Particles in a gas are constantly moving with random _____ and a range of _____.	
28	An increase in temperature causes an increase in the average _____ of gas particles.	
29	What do particles need to do to the walls of a container in order to exert a force and a pressure on the container?	
30	An increase in temperature for a gas at constant volume leads to an _____ in pressure.	
31	An increase in volume for a gas at constant temperature leads to a _____ in pressure.	
32	The pressure of a gas in a sealed container causes a net force at what angle to the walls of the container?	

33	What happens to the temperature of a gas if you do work on the gas?	

TEST YOURSELF - Part 4a - Atomic Structure

No.	Question	Answer
1	What can lead to a scientific model being changed or replaced?	
2	Atoms used to be thought of as tiny spheres which could not be divided. What was first discovered to change this idea?	
3	The _____ _____ model of the atom suggested that the atom is a ball of positive charge with negative electrons stuck in it.	
4	Which particles were scattered in an experiment that led to the idea of the atom having a nucleus?	
5	This experiment showed that most of the _____ of the atom was in the nucleus and that the nucleus had an electric _____.	
6	Niels Bohr adapted the nuclear model so that the _____ were only able to orbit the nucleus at specific distances.	
7	Later experiments showed that the positive charge of the nucleus could be split up into smaller particles. What do we call the positive particles in the nucleus?	
8	About 20 years after the idea of the nucleus was accepted, James Chadwick showed the existence of another particle in the nucleus. What is its name and what charge does it have?	
9	What is the approximate radius of an atom?	
10	How many times smaller is the radius of the nucleus compared to the atom?	
11	electrons to move further away from the nucleus, they can absorb _____ radiation.	
12	When electrons to move closer to the nucleus, they give out(emit) _____ radiation.	
13	In an atom the overall electrical charge is zero. What therefore can we say about the number of protons and electrons?	
14	All atoms of the same element have the same number of which particle?	
15	The number of protons in an atom of an element is called its _____ number.	
16	The mass number of an atom is the number of what?	
17	Isotopes of an element have the same number of _____ but a different number of _____.	

18	What is made if atoms **lose** one or more of their outer electrons.	
19	The nuclei of a radioactive substance are described as _____.	
20	You cannot predict which nucleus will give out radiation and when, therefore radioactive decay is described as a _____ process.	
21	When a nucleus gives out radiation, we say it has _____.	
22	The rate at which a source of unstable nuclei decays is called its what?	
23	Activity is measured in _____.	
24	The number of decays recorded each second by a detector is called the _____ _____.	
25	Name a common detector for detecting radiation.	
26	An alpha particle is made of …	
27	A beta particle is a high speed …	
28	A beta particle is given out when a _____ turns into a _____ in the nucleus.	
29	A gamma ray is …	
30	A fourth type of radiation that can be given out from a nucleus is one of the particles, a _____.	
31	Which type of radiation is moderately ionising and penetrating?	
32	Which type of radiation is highly ionising but weakly penetrating?	
33	Which type of radiation is weakly ionising but highly penetrating?	
34	Which type of radiation can be represented by this symbol in a nuclear equation: 	
35	Which type of nuclear radiation can be represented by this symbol in a nuclear equation: 	
36	Complete the nuclear equation below by filling in the missing numbers: 	
37	Complete the nuclear equation below by filling in the missing numbers: 	

38	Beta decay does not cause the _____ of the nucleus to change but does cause the _____ of the nucleus to change.	
39	The emission of which type of radiation does not cause the mass or charge of the nucleus to change?	
40	The half-life or a radioactive substance is the time it takes for the number of nuclei or the count rate of the sample to fall to _____ of its original value.	
41	If the activity of a sample falls quickly, then it half-life must be _____.	
42	If the activity of a sample falls very slowly, then its half-life must be _____.	
43	Add lines to the graph to show how to find the half-life from the graph.  	
44	The unwanted presence of radioactive material on (or in) an object is known as …	
45	The hazard from contamination is from the _____ of the contaminating atoms.	
46	Which types of radiation are the most dangerous if they are outside the body?	
47	Which types of radiation are the most dangerous if they are inside the body?	
48	Exposure to radiation because an object is near to the radioactive source is known as _____.	
49	Ways to reduce the risk of radiation to living things are; Keeping the sources in _____-lined boxes, Standing _____ barriers, Using _____-controlled arms.	
50	What must scientists do with their findings from their research on radioactive substances?	
51	What is it called when other scientists check the findings?	

TEST YOURSELF - Part 4b - Radioactivity

No.	Question	Answer
1	What is made if atoms **lose** one or more of their outer electrons.	

2	The nuclei of a radioactive substance are described as _____.	
3	You cannot predict which nucleus will give out radiation and when, therefore radioactive decay is described as a _____ process.	
4	When a nucleus gives out radiation, we say it has _____.	
5	The rate at which a source of unstable nuclei decays is called its what?	
6	Activity is measured in _____.	
7	The number of decays recorded each second by a detector is called the _____ _____.	
8	Name a common detector for detecting radiation.	
9	An alpha particle is made of …	
10	A beta particle is a high speed …	
11	A beta particle is given out when a _____ turns into a _____ in the nucleus.	
12	A gamma ray is …	
13	A fourth type of radiation that can be given out from a nucleus is one of the particles, a _____.	
14	Which type of radiation is moderately ionising and penetrating?	
15	Which type of radiation is highly ionising but weakly penetrating?	
16	Which type of radiation is weakly ionising but highly penetrating?	
17	Which type of radiation can be represented by this symbol in a nuclear equation: $^{4}_{2}\mathrm{He}$	
18	Which type of nuclear radiation can be represented by this symbol in a nuclear equation: $^{0}_{-1}e$	
19	Beta decay does not cause the _____ of the nucleus to change but does cause the _____ of the nucleus to change.	
20	The emission of which type of radiation does not cause the mass or charge of the nucleus to change?	
21	The half-life or a radioactive substance is the time it takes for the number of nuclei or the count rate of the sample to fall to _____ of its original value.	
22	If the activity of a sample falls quickly, then it half-life must be _____.	

23	If the activity of a sample falls very slowly, then its half-life must be _____.	
24	The unwanted presence of radioactive material on (or in) an object is known as …	
25	The hazard from contamination is from the _____ of the contaminating atoms.	
26	Which type of radiation is the most dangerous if they are outside the body?	
27	Which types of radiation is the most dangerous if they are inside the body?	
28	Exposure to radiation because an object is near to the radioactive source is known as _____.	
29	What must scientists do with their findings from their research on radioactive substances?	
30	What is it called when other scientists check the findings?	