

Name:

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SCIENCE FUNDAMENTAL KNOWLEDGE QUIZ BOOKLET







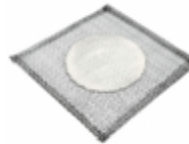

Key Stage 3






United Learning
The best in everyone™

■ Ambition ■ Confidence ■ Creativity ■ Respect ■ Enthusiasm ■ Determination


Homework 1

<p>1. Name this piece of equipment:</p>  <p>Bunsen burner</p>	<p>2. Name this piece of equipment:</p>  <p>Measuring cylinder</p>
<p>3. Name this piece of equipment:</p>  <p>Funnel</p>	<p>4. Name this piece of equipment:</p>  <p>Beaker</p>
<p>5. Name this piece of equipment:</p>  <p>Conical flask</p>	<p>6. Name this piece of equipment:</p>  <p>Tripod</p>
<p>7. Name this piece of equipment:</p>  <p>Gauze</p>	<p>8. Name this piece of equipment:</p>  <p>Crucible/evaporating basin</p>



Homework 2

<p>1. What organ system is being shown by the images below?</p>  <p>Circulatory system</p>	<p>2. Blood is made up of 4 different things, platelets, plasma, red blood cells and</p> <p>White blood cells</p>
<p>3. A is a plant that makes its own food from sunlight. These are always at the start.</p> <p>Producer</p>	<p>4. A carnivore only eats</p> <p>Meat</p>
<p>5. Animals can be split into 2 <u>groups</u>, <u>vertebrates</u> and invertebrates. Vertebrates means they have a</p> <p>Backbone</p>	<p>6. are single-celled organisms. Some can help us, like the ones in our gut that help us digest food. Others can make us sick.</p> <p>Bacteria</p>
 <p>7. The producer in the food chain is</p> <p>Grass</p>	 <p>8. The primary consumer in the food chain is</p> <p>Grasshopper</p>

Homework 3

1. Everything around us is made of matter. There 3 different states of matter are solid, liquid and  Gas	2. Water is a liquid, when it boils it turns into a gas, this process is called Evaporation
3. The point at which a substance melts at (turns from a solid to a liquid) is called its Boiling point	4. When a gas is cooled, it changes from a gas to a liquid. This process is called Condensation
5. The water cycle shows us how moves around our planet. Water	6. Water can fall from clouds, it can be rain, hail or snow. All these can be called Precipitation
7. The heats up water in rivers and lakes, causing it to evaporate. Sun	8. The boiling point of water is 'C. This is when it changes from a liquid to a gas. 100°C

Homework 4

1. What is this a symbol for in an electrical circuit?  Wire	2. What is this a symbol for in an electrical circuit?  Bulb
3. Some materials do not allow electricity to pass through them. These materials are known as electrical Insulators	4. Some materials let electricity pass through them easily. These materials are known as electrical Conductors
5. The pitch of a sound is how quickly the sound wave Travels	6. Pitch is measured in Hertz (Hz) or KiloHertz (KHz)
7. Sound is a type of energy made by Vibrations	8. Which part of your body do you use to hear sound? Ear

Homework 5

1. Name the piece of equipment



Bunsen Burner

2. What is this piece of equipment (in 1) used for?

Heating

3. What should always be worn when using the piece of equipment in 1?

Goggles

4. Name this piece of equipment.



Beaker

5. Name the equipment labelled A below:



Heat
proof
mat

6. In a solid the particles are arranged and all touching.

Ordered

7. In a liquid the particles are arranged and all touching.

Random

8. In a gas the particles are arranged randomly and

Not touching

Homework 6

1. What is a term used to describe the equipment, instruments, tools or devices used in science?

Apparatus

2. Name this piece of equipment.



Thermometer

3. What is the piece of equipment in 2 used to measure?

Temperature

4. Name this piece of equipment.



Gauze

5. Name the equipment below.



Tripod

6. What do we call the variable that we **change** in an investigation?

Independent variable




7. What do we call the variable that we **record** in an investigation?

Dependent variable





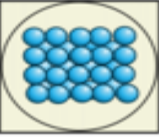

8. What do we call the variable that we **keep the same** in an investigation?

Control variable

Homework 7

1. What is the name of the separation technique shown below? 	2. What is this piece of equipment called? 
Filtration	Spatula
3. What do we use the piece of equipment in 2 for?	4. Name this piece of equipment. 
Mix/stir/transfer substances	Stopwatch/stopclock
5. What does the piece of equipment in 4 <u>measure</u> ?	6. The process of a solid changing to a liquid is called
Time	Melting
7. The process of a liquid changing into a gas is called	8. The process of a gas changing into a liquid is called
Boiling	Condensation





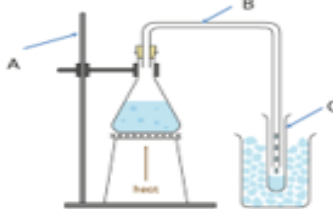
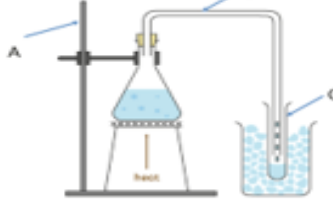
Homework 8

1. Name this piece of equipment. 	2. What is this piece of equipment called? 
Top pan balance	Weighing boat
3. Name the equipment below: 	4. What volume of liquid is shown below? 
Measuring cylinder	24 ml/cm³
5. Which state of matter is being shown: 	6. What process is being shown below: 
High	Diffusion
7. Diffusion is the movement of particles from a concentration to a low concentration. High	8. is the temperature that a solid turns into a liquid. Melting point



Homework 9

1. Which side of the results table does the independent variable go on?	2. Which side of the results table does the dependent variable go on?
Left side	Right side
3. Boiling point is the temperature that a liquid turns into a	4. The melting point is the same as the
Gas	Freezing point
5. A pure substance is made of only Type of substance.	6. A contains 2 or more different substances that are not chemically joined, they can be separated.
One	Mixture
7. A is a substance that is dissolved in a solvent	8. A is the liquid that a solute dissolves into.
Solute	Solvent

Homework 10

1. Name this piece of equipment. 	2. Name this piece of equipment. 
Conical Flask	Filter Funnel
3. Name this piece of equipment. 	4. Name this piece of equipment. 
Filter Paper	Evaporating Basin
5. Name the piece of equipment labelled B. 	6. Name the piece of equipment labelled C. 
Delivery Tube	Test tube
7. Conservation of mass states that mass can not be created or Destroyed	8. The separation technique used to separate a mixture of 2 liquids is called Distillation

Homework 11

1. What are the standard units for length?	2. What are the standard units for mass?
Meters (m)	Kilograms (Kg)
3. What are the standard units for time?	4. What are the standard units for force?
Seconds (s)	Newtons (N)
5. Read the length off the ruler below:	6. Name the piece of equipment
	
4.5 cm	Force meter
7. What is the force acting upwards on an object in a gas or liquid called?	8. What is the force acting downwards due to gravity called?
Upthrust	Weight

Homework 12

1. What do we call an object or situation that may be harmful?	2. There are 3 things included in a risk assessment, hazards, risks and
Hazard	Safety precautions (control measure)
3. A statement about a research question that suggests the result of the investigation is called the	4. When results are compared for the same group, using the same method, giving the same results, the data is
Hypothesis	Repeatable
5. The force pushing back against a falling object is called	6. The force pushing something forwards is called
Air resistance	Thrust
7. What is the name of the force, when pushing upwards when 2 solids are in contact?	8. Forces always act in
Normal contact	Pairs

Homework 13

1. When results are compared to a different group, or using a different method the data is called	2. There are 3 things included in a risk assessment, hazards, risks and Safety precautions (control measure)
Reproducible	
3. The process of scientists reviewing other scientists work to avoid bias is called	4. We show forces acting on an object using Arrows
Peer review	
5. If the arrow is larger in one <u>direction</u> then the other the forces are Unbalanced	6. If the arrows are the same size in both directions the forces are Balanced
Resultant	
7. The force, is the sum of the forces acting on an object.	8. The word deform, means to change Shape

Homework 14

1. Which part of the microscope do we place the object/sample/slide on?	2. What is the lens at the top of the microscope that we look through called?
Stage	Eye piece lens
3. What is the part of the microscope called that is above the stage and there are 3 of them, x4, x10 and x40.	4. What is the name given to the large focussing wheel, used for rough adjustments to focus?
Objective lens	Coarse focus
5. We always start with the lowest magnification when using a microscope, to give the widest field of View	6. Friction is an example of a force. Contact
7. Friction is a force caused by interaction of objects. Solid	8. Air resistance and resistance are another 2 types of frictional forces. Water

Homework 15

<p>1. What should be adjusted if the image under a microscope is blurry?</p> <p>Fine focus</p>	<p>2. What do we add to a sample being looked at under a microscope to make the cells and organelles more visible?</p> <p>A stain (iodine)</p>
<p>3. When preparing a <u>slide</u> we use a thin layer of tissue to allow to pass through.</p> <p>Light</p>	<p>4. can not be created or destroyed. It is only transferred.</p> <p>Energy</p>
<p>5. Energy is the ability to do<u>work</u></p> <p>Work</p>	<p>6. A battery has a Store of energy.</p> <p>Chemical</p>
<p>7. A moving object has a store of energy</p> <p>Kinetic</p>	<p>8. An object that is high up has a store of<u>energy</u>..... energy.</p> <p>Gravitational potential energy</p>