Name: Form:

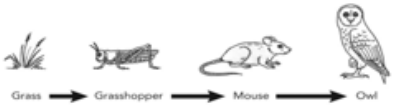
SCIENCE FUNDAMENTAL KNOWLEDGE QUIZ BOOKLET

Key Stage 3

Homework 1

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

Homework 2

1. What organ system is being shown by the images below?  Circulatory system	2. Blood is made up of 4 different things, platelets, plasma, red blood cells and …… White blood cells
3. A …… is a plant that makes its own food from sunlight. These are always at the start. Producer	4. A carnivore only eats …… Meat
5. Animals can be split into 2 groups, vertebrates and invertebrates. Vertebrates means they have a …… Backbone	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. Bacteria
 7. The producer in the food chain is …… Grass	 8. The primary consumer in the food chain is …… Grasshopper

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

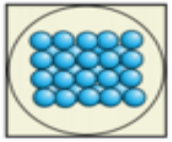
Homework 6

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

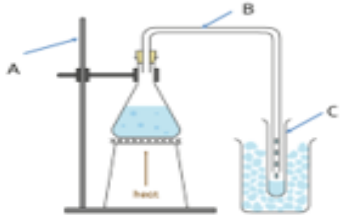
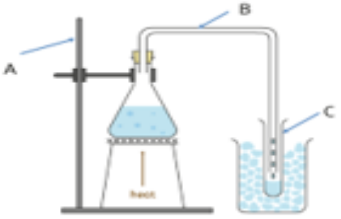
Homework 8

1. Name this piece of equipment.  Top pan balance	2.What is this piece of equipment called?  Weighing boat
3. Name the equipment below:  Measuring cylinder	4. What volume of liquid is shown below?  24 ml/cm³
5. Which state of matter is being shown:  High	6. What process is being shown below:  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? Left side	2.Which side of the results table does the dependent variable go on? Right side
3. Boiling point is the temperature that a liquid turns into a …… Gas	4. The melting point is the same as the …… Freezing point
5. A pure substance is made of only ……. Type of substance. One	6. A …… contains 2 or more different substances that are not chemically joined, they can be separated. Mixture
7. A …… is a substance that is dissolved in a solvent Solute	8. A …… is the liquid that a solute dissolves into. Solvent

Homework 10

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

Homework 12

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

Homework 13

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

Homework 14

1. Which part of the microscope do we place the object/sample/slide on? Stage	2.What is the lens at the top of the microscope that we look through called? 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 an x40. Objective lens	4. What is the name given to the large focussing wheel, used for rough adjustments to focus? 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

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