Bone Cell

Red Blood Cell

7A Cells

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7A Cells

Q1) Name the three basic features found in all cells?
Q2) Give the function of each of the above three features.
Q3) Name three extra features found only in plant cells.
Q4) Give the function of each of these three extra features.
Q5) What is an organism?
Q6) What is a tissue?
Q7) What is an organ?
Q8) What is an organ system?
Q9) Give the seven characteristics of life.
Q10) Name the lady who helps you to remember the seven characteristics of life.

JAB 03-04-2004

Bone Cell

Red Blood Cell

7A Cells

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7A Cells

Q1) Name the three basic features found in all cells?
Q2) Give the function of each of the above three features.
Q3) Name three extra features found only in plant cells.
Q4) Give the function of each of these three extra features.
Q5) What is an organism?
Q6) What is a tissue?
Q7) What is an organ?
Q8) What is an organ system?
Q9) Give the seven characteristics of life.
Q10) Name the lady who helps you to remember the seven characteristics of life.

JAB 03-04-2004

Bone Cell

7A Cells Answers

Red Blood Cell

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7A Cells

A1) Nucleus; cytoplasm; cell membrane.
A2) Nucleus – contains all the genetic information and controls the activities of the cell. Cytoplasm – like a big soup of chemicals where all the reactions occur. Cell membrane – acts as a barrier and controls the transfer of materials into and out of the cell.
A3) Cell wall; vacuole; chloroplasts.
A4) Cell wall – made of cellulose, gives the cell its shape and strength; vacuole – stores extra water and gives extra support to the cell; chloroplasts – contain chlorophyll which is needed for photosynthesis.
A5) A living plant or animal.
A6) A group of cells of the same type.
A7) Different tissues grouped together,
A8) Different organs working together.
A9) Movement, respiration, sensitivity, growth, reproduction, excretion, nutrition.
A10) MRS GREN (NERG).

JAB 03-04-2004

Bone Cell

7A Cells Answers

Red Blood Cell

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7A Cells

A1) Nucleus; cytoplasm; cell membrane.
A2) Nucleus – contains all the genetic information and controls the activities of the cell. Cytoplasm – like a big soup of chemicals where all the reactions occur. Cell membrane – acts as a barrier and controls the transfer of materials into and out of the cell.
A3) Cell wall; vacuole; chloroplasts.
A4) Cell wall – made of cellulose, gives the cell its shape and strength; vacuole – stores extra water and gives extra support to the cell; chloroplasts – contain chlorophyll which is needed for photosynthesis.
A5) A living plant or animal.
A6) A group of cells of the same type.
A7) Different tissues grouped together,
A8) Different organs working together.
A9) Movement, respiration, sensitivity, growth, reproduction, excretion, nutrition.
A10) MRS GREN (NERG).

JAB 03-04-2004

7B Reproduction

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7B Fertilisation

Q1) What is fertilisation?
Q2) Name the male gamete and the female gamete in animals.
Q3) Where are sperms made?
Q4) Where are eggs made?
Q5) What is the name given to the fertilised egg?
Q6) How many sperms are released in each ejaculation?
Q7) About how many sperms make it to the egg and how many can fertilise the egg?
Q8) When is the zygote renamed an embryo?
Q9) How is the embryo supplied with food, water and oxygen?
Q10) Whose gametes determine the sex of the child?

JAB 03-04-2004

7B Reproduction

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7B Fertilisation

Q1) What is fertilisation?
Q2) Name the male gamete and the female gamete in animals.
Q3) Where are sperms made?
Q4) Where are eggs made?
Q5) What is the name given to the fertilised egg?
Q6) How many sperms are released in each ejaculation?
Q7) About how many sperms make it to the egg and how many can fertilise the egg?
Q8) When is the zygote renamed an embryo?
Q9) How is the embryo supplied with food, water and oxygen?
Q10) Whose gametes determine the sex of the child?

JAB 03-04-2004

7B Reproduction Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7B Fertilisation

A1) The meeting of the male and female gametes.
A2) Male gamete – sperm; female gamete - egg.
A3) In the testes.
A4) In the ovaries.
A5) Zygote.
A6) 500 million.
A7) 100 make it; only 1 fertilises it.
A8) When it has divided a number of times on its way down into the uterus.
A9) Via the umbilical cord.
A10) The male's gametes.

JAB 03-04-2004

7B Reproduction Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7B Fertilisation

A1) The meeting of the male and female gametes.
A2) Male gamete – sperm; female gamete - egg.
A3) In the testes.
A4) In the ovaries.
A5) Zygote.
A6) 500 million.
A7) 100 make it; only 1 fertilises it.
A8) When it has divided a number of times on its way down into the uterus.
A9) Via the umbilical cord.
A10) The male's gametes.

JAB 03-04-2004


7C Environment

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7C Environment

Q1) What does a food chain show?
Q2) What do all food chains start with and what is this called in the food chain?
Q3) What are: 1)herbivores, 2) carnivores, 3) omnivores?
Q4) What is a food web?
Q5) What is a population?
Q6) Name three factors which increase population size.
Q7) Name three factors which decrease population size.
Q8) What does adaptation mean?
Q9) What are decomposers?
Q10) Name two decomposers.

JAB 03-04-2004


7C Environment

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7C Environment

Q1) What does a food chain show?
Q2) What do all food chains start with and what is this called in the food chain?
Q3) What are: 1)herbivores, 2) carnivores, 3) omnivores?
Q4) What is a food web?
Q5) What is a population?
Q6) Name three factors which increase population size.
Q7) Name three factors which decrease population size.
Q8) What does adaptation mean?
Q9) What are decomposers?
Q10) Name two decomposers.

JAB 03-04-2004

7C Environment Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7C Environment

A1) Who eats who.
A2) A green plant; a producer?
A3) 1) Herbivores – animals that eat plants; 2) carnivores – animals that eat other animals/meat; 3) omnivores – animals that eat both plants and animals.
A4) Many interlinked food chains.
A5) A group of animals of the same species living in an area.
A6) Number born; food available; number coming in.
A7) Number dying; competition; number moving elsewhere.
A8) Making changes in what you do or how you do it.
A9) Organisms which help in the decay of plants and animals.
A10) Soil bacteria and fungi.

JAB 03-04-2004

7C Environment Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7C Environment

A1) Who eats who.
A2) A green plant; a producer?
A3) 1) Herbivores – animals that eat plants; 2) carnivores – animals that eat other animals/meat; 3) omnivores – animals that eat both plants and animals.
A4) Many interlinked food chains.
A5) A group of animals of the same species living in an area.
A6) Number born; food available; number coming in.
A7) Number dying; competition; number moving elsewhere.
A8) Making changes in what you do or how you do it.
A9) Organisms which help in the decay of plants and animals.
A10) Soil bacteria and fungi.

JAB 03-04-2004

7D Variation

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7D Variation; Classification

Q1) What are characteristic features?
Q2) Name five inherited characteristics.
Q3) Group the following four characteristics as either Environmental or Inherited: stamina; speed; natural ability; correct swimming.
Q4) Identify the following characteristics as Inherited, Environmental or Both: height; strength; attached earlobes; intelligence; writing neatly.
Q5) What do we mean by selective breading?
Q6) Which two breeds of cow would a farmer breed together to produce a cow giving both creamy milk and a lot of it and say what each breed contributes?
Q7) What is a species?
Q8) Name the two main groups animals are divided into, and say what each group means.
Q9) To which of these two main groups does “man” belong and list the five subgroups of this main group.
Q10) List the characteristics of each of the above five subgroups.

JAB 03-04-2004

7D Variation

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7D Variation; Classification

Q1) What are characteristic features?
Q2) Name five inherited characteristics.
Q3) Group the following four characteristics as either Environmental or Inherited: stamina; speed; natural ability; correct swimming.
Q4) Identify the following characteristics as Inherited, Environmental or Both: height; strength; attached earlobes; intelligence; writing neatly.
Q5) What do we mean by selective breading?
Q6) Which two breeds of cow would a farmer breed together to produce a cow giving both creamy milk and a lot of it and say what each breed contributes?
Q7) What is a species?
Q8) Name the two main groups animals are divided into, and say what each group means.
Q9) To which of these two main groups does “man” belong and list the five subgroups of this main group.
Q10) List the characteristics of each of the above five subgroups.

JAB 03-04-2004

7D Variation Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7D Variation; Classification

A1) Variations within a particular species.
A2) Finger prints; attached earlobes; eye colour; tongue rolling; blood group.
A3) Environmental - stamina; speed; correct swimming. Inherited – natural ability.
A4) Inherited – attached earlobes. Environmental – height; strength. Both – intelligence; writing neatly.
A5) Carefully choosing animals with desired characteristics for breeding.
A6) Friesian (for a lot of milk) and Jersey (for creamy milk).
A7) A group of individuals that can reproduce with each other, share a common ancestor and that are similar in body structure, function and habitat.
A8) Vertebrates – have a backbone; invertebrates – do not have a backbone.
A9) Vertebrates; fishes, amphibians, reptiles, birds, mammals.
A10)

FISHES	AMPHIBIANS	REPTILES	BIRDS	MAMMALS
Live in water	Have four limbs	Live on land	Lays eggs	Young born live
Streamlined bodies	Smooth, moist skin	Lay eggs on land	Have wings + beak	Suckled by mother
Covered in scales	Lay eggs in water	No milk to young	No milk to young	Produce milk 4 yng
Cold-blooded	Cold-blooded	Cold-blooded	Warm-blooded	Warm-blooded
Breathe with gills	Breathe with lungs and moist skin	Dry skin covered with scales	Body covered with feathers	Bodies covered by hair or fur

JAB 03-04-2004

7D Variation Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7D Variation; Classification

A1) Variations within a particular species.
A2) Finger prints; attached earlobes; eye colour; tongue rolling; blood group.
A3) Environmental - stamina; speed; correct swimming. Inherited – natural ability.
A4) Inherited – attached earlobes. Environmental – height; strength. Both – intelligence; writing neatly.
A5) Carefully choosing animals with desired characteristics for breeding.
A6) Friesian (for a lot of milk) and Jersey (for creamy milk).
A7) A group of individuals that can reproduce with each other, share a common ancestor and that are similar in body structure, function and habitat.
A8) Vertebrates – have a backbone; invertebrates – do not have a backbone.
A9) Vertebrates; fishes, amphibians, reptiles, birds, mammals.
A10)

FISHES	AMPHIBIANS	REPTILES	BIRDS	MAMMALS
Live in water	Have four limbs	Live on land	Lays eggs	Young born live
Streamlined bodies	Smooth, moist skin	Lay eggs on land	Have wings + beak	Suckled by mother
Covered in scales	Lay eggs in water	No milk to young	No milk to young	Produce milk 4 yng
Cold-blooded	Cold-blooded	Cold-blooded	Warm-blooded	Warm-blooded
Breathe with gills	Breathe with lungs and moist skin	Dry skin covered with scales	Body covered with feathers	Bodies covered by hair or fur

JAB 03-04-2004

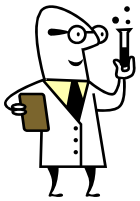
7E Acids and Alkalis

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7E Acids and Alkalis

Q1) Give an easy test for an acid.
Q2) Give the colour change of universal indicator when a strong acid is added to it.
Q3) The pH of an acid is always what?
Q4) Give two examples of acids found in the home, together with their chemical names.
Q5) What gas is usually produced when an acid reacts with a metal?
Q6) Give an easy test for an alkali.
Q7) What does the pH scale show?
Q8) Complete the following sentence: the lower the pH below 7 the _____ the acid and the higher the pH above 7 the _____ the alkali.
Q9) What is always produced during neutralisation?
Q10) If an alkali is added to an acid, the pH of the acid can be increased to pH 7. As this is the pH of a neutral solution we say the acid has been neutralised. Give four uses of neutralisation.

JAB 03-04-2004



7E Acids and Alkalis

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7E Acids and Alkalis

Q1) Give an easy test for an acid.
Q2) Give the colour change of universal indicator when a strong acid is added to it.
Q3) The pH of an acid is always what?
Q4) Give two examples of acids found in the home, together with their chemical names.
Q5) What gas is usually produced when an acid reacts with a metal?
Q6) Give an easy test for an alkali.
Q7) What does the pH scale show?
Q8) Complete the following sentence: the lower the pH below 7 the _____ the acid and the higher the pH above 7 the _____ the alkali.
Q9) What is always produced during neutralisation?
Q10) If an alkali is added to an acid, the pH of the acid can be increased to pH 7. As this is the pH of a neutral solution we say the acid has been neutralised. Give four uses of neutralisation.

JAB 03-04-2004

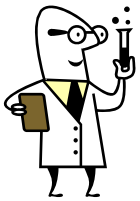
7E Acids and Alkalis Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7E Acids and Alkalis

A1) Add blue litmus, it turns red is acid is present.
A2) From green to red.
A3) Less than 7.
A4) Vinegar – ethanoic acid; lemon juice – citric acid.
A5) Hydrogen gas.
A6) Add red litmus, it turns blue if alkali is present.
A7) The strength of an acid or alkali.
A8) Complete the following sentence: the lower the pH below 7 the **stronger** the acid and the higher the pH above 7 the **stronger** the alkali.
A9) Asalt.
A10) 1) soil treatment – farming; 2) indigestion; 3) insect stings; waste from factories.

JAB 03-04-2004

7E Acids and Alkalis Answers



Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7E Acids and Alkalis

A1) Add blue litmus, it turns red is acid is present.
A2) From green to red.
A3) Less than 7.
A4) Vinegar – ethanoic acid; lemon juice – citric acid.
A5) Hydrogen gas.
A6) Add red litmus, it turns blue if alkali is present.
A7) The strength of an acid or alkali.
A8) Complete the following sentence: the lower the pH below 7 the **stronger** the acid and the higher the pH above 7 the **stronger** the alkali.
A9) Asalt.
A10) 1) soil treatment – farming; 2) indigestion; 3) insect stings; waste from factories.

JAB 03-04-2004

7F Chemical Reactions

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7F Big Crossword

Q1) The class of salt formed when a metal reacts with hydrochloric acid, 8 letters?
Q2) A colourless liquid formed from burning fuels, 5 letters?
Q3) The gas formed on completely burning hydrocarbon fuels, 6,7 letters?
Q4) What type of element reacts with acids to make hydrogen gas, 5 letters?
Q5) What gas in the air reacts with fuel molecules during combustion, 6 letters?
Q6) Statues made from this may fizz in very acid rain, 6 letters?
Q7) Given out with light in combustion reactions, 4 letters?
Q8) Everyday word for combustion, 7 letters?
Q9) Something that is burned to produce heat/thermal energy, 4 letters?
Q10) Readily reacts with many metals, 4 letters?

JAB 03-04-2004

7F Chemical Reactions

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7F Big Crossword

Q1) The class of salt formed when a metal reacts with hydrochloric acid, 8 letters?
Q2) A colourless liquid formed from burning fuels, 5 letters?
Q3) The gas formed on completely burning hydrocarbon fuels, 6,7 letters?
Q4) What type of element reacts with acids to make hydrogen gas, 5 letters?
Q5) What gas in the air reacts with fuel molecules during combustion, 6 letters?
Q6) Statues made from this may fizz in very acid rain, 6 letters?
Q7) Given out with light in combustion reactions, 4 letters?
Q8) Everyday word for combustion, 7 letters?
Q9) Something that is burned to produce heat/thermal energy, 4 letters?
Q10) Readily reacts with many metals, 4 letters?

JAB 03-04-2004

7F Chemical Reactions Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7F Big Crossword

A1) Chloride.
A2) Water.
A3) Carbon dioxide.
A4) Metal.
A5) Oxygen.
A6) Marble.
A7) Heat.
A8) Burning.
A9) Fuel.
A10) Acid.

JAB 03-04-2004

7F Chemical Reactions Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7F Big Crossword

A1) Chloride.
A2) Water.
A3) Carbon dioxide.
A4) Metal.
A5) Oxygen.
A6) Marble.
A7) Heat.
A8) Burning.
A9) Fuel.
A10) Acid.

JAB 03-04-2004

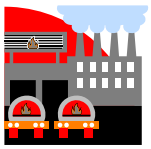
7G Solids, Liquids and Gases

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7G Atomic Structure

Q1) What is everything made up of?
Q2) Name the three states of matter.
Q3) Which of the three states of matter has a regular shape?
Q4) Which state of matter can be easily compressed?
Q5) Explain your answer to question 4 above.
Q6) Complete this sentence: the less dense (lighter) a gas, the _____ it moves.
Q7) As the temperature of a fixed mass of gas is increased, what happens to its pressure?
Q8) If a fixed mass of gas is put into a larger container, what happens to its pressure?
Q9) If the temperature of a fixed mass of gas is increased, what happens to the volume of the gas?
Q10) Explain the meaning of 1) melting; 2) condensing; 3) solidifying.

JAB 03-04-2004



7G Solids, Liquids and Gases

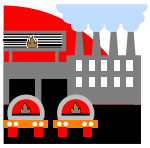
Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7G Atomic Structure

Q1) What is everything made up of?
Q2) Name the three states of matter.
Q3) Which of the three states of matter has a regular shape?
Q4) Which state of matter can be easily compressed?
Q5) Explain your answer to question 4 above.
Q6) Complete this sentence: the less dense (lighter) a gas, the _____ it moves.
Q7) As the temperature of a fixed mass of gas is increased, what happens to its pressure?
Q8) If a fixed mass of gas is put into a larger container, what happens to its pressure?
Q9) If the temperature of a fixed mass of gas is increased, what happens to the volume of the gas?
Q10) Explain the meaning of 1) melting; 2) condensing; 3) solidifying.

JAB 03-04-2004

7G Solids, Liquids and Gases Answers

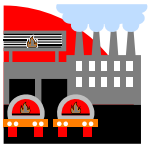


Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7G Atomic Structure

A1) Particles.
A2) Solid, liquid, gas.
A3) Solid.
A4) Gas.
A5) Large spaces between the particles in gases so they can easily be pushed together (compressed).
A6) Complete this sentence: the less dense (lighter) a gas is, the **faster** it moves.
A7) It increases.
A8) It decreases.
A9) It increases.
A10) 1) Melting – solid to liquid; 2) condensing – gas to liquid; 3) solidifying – liquid to solid.

JAB 03-04-2004

7G Solids, Liquids and Gases Answers



Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7G Atomic Structure
A1) Particles.
A2) Solid, liquid, gas.
A3) Solid.
A4) Gas.
A5) Large spaces between the particles in gases so they can easily be pushed together (compressed).
A6) Complete this sentence: the less dense (lighter) a gas is, the **faster** it moves.
A7) It increases.
A8) It decreases.
A9) It increases.
A10) 1) Melting – solid to liquid; 2) condensing – gas to liquid; 3) solidifying – liquid to solid.

JAB 03-04-2004

7H Solutions

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7H Big Crossword; Keywords

Q1) What is the method for separating the colours from different sweets, 14 letters?
Q2) Means just one substance, nothing extra, 4 letters?
Q3) A word meaning how much of solid X dissolves in liquid Y, 10 letters?
Q4) What is formed when a solid dissolves in a liquid, 8 letters?
Q5) This can be separated into useful fractions by distillation, 5,3 letters)?
Q6) One way to remove an insoluble solid from a liquid without heating the mixture, 6 letters?
Q7) What is the word for the substance that dissolves to make a solution?
Q8) What does insoluble mean?
Q9) What is the general name given to a liquid that dissolves things?
Q10) How do we describe a solution when no more will dissolve in it?

JAB 03-04-2004

7H Solutions

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7H Big Crossword; Keywords

Q1) What is the method for separating the colours from different sweets, 14 letters?
Q2) Means just one substance, nothing extra, 4 letters?
Q3) A word meaning how much of solid X dissolves in liquid Y, 10 letters?
Q4) What is formed when a solid dissolves in a liquid, 8 letters?
Q5) This can be separated into useful fractions by distillation, 5,3 letters)?
Q6) One way to remove an insoluble solid from a liquid without heating the mixture, 6 letters?
Q7) What is the word for the substance that dissolves to make a solution?
Q8) What does insoluble mean?
Q9) What is the general name given to a liquid that dissolves things?
Q10) How do we describe a solution when no more will dissolve in it?

JAB 03-04-2004

7H Solutions Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7H Big Crossword; Keywords

A1) Chromatography.
A2) Pure.
A3) Solubility.
A4) Solution.
A5) Crude Oil.
A6) Filter.
A7) Solute.
A8) The substance will not dissolve.
A9) Solvent.
A10) Saturated.

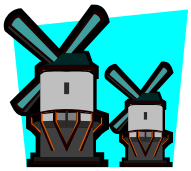
JAB 03-04-2004

7H Solutions Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7H Big Crossword; Keywords

A1) Chromatography.
A2) Pure.
A3) Solubility.
A4) Solution.
A5) Crude Oil.
A6) Filter.
A7) Solute.
A8) The substance will not dissolve.
A9) Solvent.
A10) Saturated.

JAB 03-04-2004



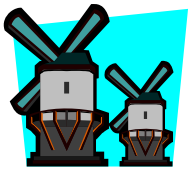
7I Energy

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7I Energy Resources and Transfer

Q1) Where does most of the energy around us come from?
Q2) What do solar cells do?
Q3) What do solar panels do?
Q4) What do solar furnaces use?
Q5) Name three energy resources that do not come from the sun.
Q6) Briefly explain how electricity is generated at a power station.
Q7) Name the three main fossil fuels.
Q8) Why is it important to conserve crude oil?
Q9) What do we need to use to save energy?
Q10) Name five renewable energy resources.

JAB 03-04-2004



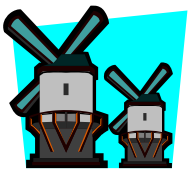
7I Energy

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7I Energy Resources and Transfer

Q1) Where does most of the energy around us come from?
Q2) What do solar cells do?
Q3) What do solar panels do?
Q4) What do solar furnaces use?
Q5) Name three energy resources that do not come from the sun.
Q6) Briefly explain how electricity is generated at a power station.
Q7) Name the three main fossil fuels.
Q8) Why is it important to conserve crude oil?
Q9) What do we need to use to save energy?
Q10) Name five renewable energy resources.

JAB 03-04-2004

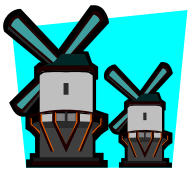


7I Energy Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7I Energy Resources and Transfer

A1) The Sun.
A2) They produce electricity from chemicals when light shines on them.
A3) They produce hot water.
A4) Many mirrors.
A5) Nuclear energy; geothermal energy; tidal energy.
A6) 1) Fuels are burned to release heat energy. 2) This heat energy changes water to high pressure steam. 3) This high pressure steam drives turbines. 4) These turbines drive generators which spin and make electricity.
A7) Coal, oil and gas.
A8) It is important for making plastics and medicines.
A9) Use more renewable energy resources.
A10) Wind; plants; waves; solar cells; solar panels.

JAB 03-04-2004



7I Energy Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7I Energy Resources and Transfer

A1) The Sun.
A2) They produce electricity from chemicals when light shines on them.
A3) They produce hot water.
A4) Many mirrors.
A5) Nuclear energy; geothermal energy; tidal energy.
A6) 1) Fuels are burned to release heat energy. 2) This heat energy changes water to high pressure steam. 3) This high pressure steam drives turbines. 4) These turbines drive generators which spin and make electricity.
A7) Coal, oil and gas.
A8) It is important for making plastics and medicines.
A9) Use more renewable energy resources.
A10) Wind; plants; waves; solar cells; solar panels.

JAB 03-04-2004

7J Circuits

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7J Electric Currents and Circuits

Q1) What does a current need to flow?
Q2) What do we call it when there is a break in the circuit?
Q3) Fill in the gaps in the following sentences. Electric current is the _____ of electric charge. _____ in the metal (the conductor) are responsible for the flow of charge.
Q4) Which way does the conventional current flow in an electric circuit?
Q5) What is current measured with, and how is this meter connected?
Q6) What part of a central heating system can a battery be compared with?
Q7) In a series circuit, what happens to the current strength if 1)more cells are added; 2) more bulbs are added?
Q8) In a parallel circuit which path will most of the current choose?
Q9) Is your house connected in series or parallel?
Q10) Briefly explain why your house is connected as you have said in Q9?

JAB 03-04-2004

7J Circuits

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7J Electric Currents and Circuits

Q1) What does a current need to flow?
Q2) What do we call it when there is a break in the circuit?
Q3) Fill in the gaps in the following sentences. Electric current is the _____ of electric charge. _____ in the metal (the conductor) are responsible for the flow of charge.
Q4) Which way does the conventional current flow in an electric circuit?
Q5) What is current measured with, and how is this meter connected?
Q6) What part of a central heating system can a battery be compared with?
Q7) In a series circuit, what happens to the current strength if 1)more cells are added; 2) more bulbs are added?
Q8) In a parallel circuit which path will most of the current choose?
Q9) Is your house connected in series or parallel?
Q10) Briefly explain why your house is connected as you have said in Q9?

JAB 03-04-2004

7J Circuits Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7J Electric Currents and Circuits

A1) A closed circuit.
A2) An open circuit.
A3) Fill in the gaps in the following sentences. Electric current is the **flow** of electric charge. **Electrons** in the metal (the conductor) are responsible for the flow of charge.
A4) From the positive terminal of the battery to the negative terminal in the external circuit.
A5) An ammeter; connected in series.
A6) The pump.
A7) 1) It increases; 2) it decreases.
A8) The path of least resistance.
A9) In parallel.
A10) If it were connected in series instead, all lights would have to be either on or off.

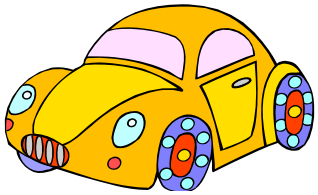
JAB 03-04-2004

7J Circuits Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7J Electric Currents and Circuits

A1) A closed circuit.
A2) An open circuit.
A3) Fill in the gaps in the following sentences. Electric current is the **flow** of electric charge. **Electrons** in the metal (the conductor) are responsible for the flow of charge.
A4) From the positive terminal of the battery to the negative terminal in the external circuit.
A5) An ammeter; connected in series.
A6) The pump.
A7) 1) It increases; 2) it decreases.
A8) The path of least resistance.
A9) In parallel.
A10) If it were connected in series instead, all lights would have to be either on or off.

JAB 03-04-2004



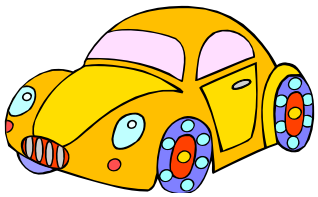
7K Forces and Motion

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7K Forces and Motion

Q1) What do balanced forces produce?
Q2) What is the force pulling an object to the centre of the Earth?
Q3) What do unbalanced forces change?
Q4) What is a force?
Q5) What are forces measured in and what is the symbol for this unit?
Q6) Forces themselves cannot be seen, but what can be seen about them?
Q7) Give five ways in which forces can affect objects..
Q8) If your mass is 50kg on Earth, what is your weight?
Q9) What is the thrust force?
Q10) What causes drag?

JAB 03-04-2004



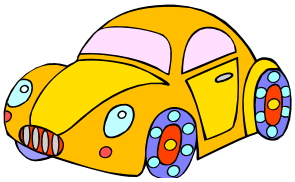
7K Forces and Motion

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7K Forces and Motion

Q1) What do balanced forces produce?
Q2) What is the force pulling an object to the centre of the Earth?
Q3) What do unbalanced forces change?
Q4) What is a force?
Q5) What are forces measured in and what is the symbol for this unit?
Q6) Forces themselves cannot be seen, but what can be seen about them?
Q7) Give five ways in which forces can affect objects..
Q8) If your mass is 50kg on Earth, what is your weight?
Q9) What is the thrust force?
Q10) What causes drag?

JAB 03-04-2004

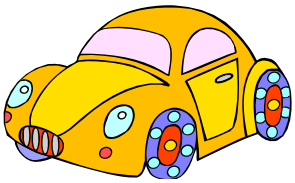


7K Forces and Motion Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7K Forces and Motion

A1) No change in movement.
A2) Gravity.
A3) Speed and/or direction.
A4) A push or a pull.
A5) Newton's, symbol N.
A6) Their effects.
A7) Speed up; slow down; change direction; turn; change shape.
A8) 500N.
A9) The force that makes you move.
A10) The force that makes you move..

JAB 03-04-2004

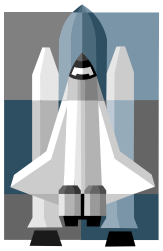


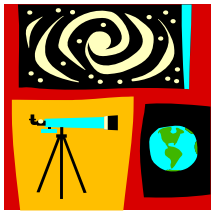
7K Forces and Motion Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7K Forces and Motion

A1) No change in movement.
A2) Gravity.
A3) Speed and/or direction.
A4) A push or a pull.
A5) Newton's, symbol N.
A6) Their effects.
A7) Speed up; slow down; change direction; turn; change shape.
A8) 500N.
A9) The force that makes you move.
A10) Air resistance.

JAB 03-04-2004





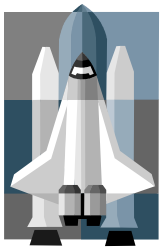
7L Solar System

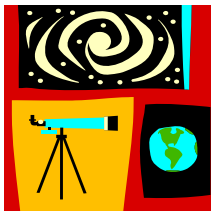
Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7L The Earth and Beyond; Space

Q1) What causes day and night?
Q2) Which way does the Earth rotate on its axis?
Q3) How long does it take the Earth to orbit once around the Sun?
Q4) In the UK, when is the spring equinox and the autumn equinox? What are the same on these two dates?
Q5) What is the highest point reached by the Sun called?
Q6) Why is the Sun a star?
Q7) To which galaxy does our solar system belong?
Q8) Where is the asteroid belt?
Q9) What is the hottest planet in the solar system?
Q10) Name the two main types of satellites.

JAB 03-04-2004





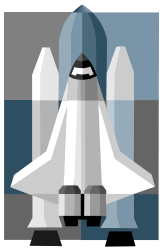
7L Solar System

Answer in **Full** Sentences.

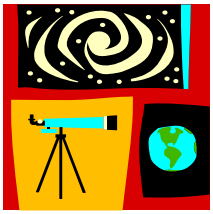
Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 7, 7L The Earth and Beyond; Space

Q1) What causes day and night?
Q2) Which way does the Earth rotate on its axis?
Q3) How long does it take the Earth to orbit once around the Sun?
Q4) In the UK, when is the spring equinox and the autumn equinox? What are the same on these two dates?
Q5) What is the highest point reached by the Sun called?
Q6) Why is the Sun a star?
Q7) To which galaxy does our solar system belong?
Q8) Where is the asteroid belt?
Q9) What is the hottest planet in the solar system?
Q10) Name the two main types of satellites.

JAB 03-04-2004



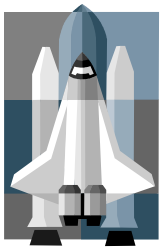
7L Solar System Answers



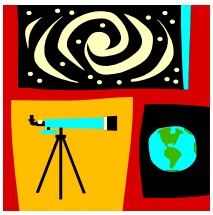
Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > _Yr 7, 7L The Earth and Beyond; Space

A1) The rotation of the Earth on its own axis once every 24 hours.
A2) From west to east (anticlockwise).
A3) 365 days (one year).
A4) Spring equinox – 21 march; autumn equinox – 22 september. The length of daylight and night are equal.
A5) Its zenith.
A6) It produces its own light.
A7) The milky way.
A8) Between mars and Jupiter.
A9) Venus.
A10) Geo-stationary orbit satellites and polar orbit satellites.

JAB 03-04-2004



7L Solar System Answers



Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > _Yr 7, 7L The Earth and Beyond; Space

A1) The rotation of the Earth on its own axis once every 24 hours.
A2) From west to east (anticlockwise).
A3) 365 days (one year).
A4) Spring equinox – 21 march; autumn equinox – 22 september. The length of daylight and night are equal.
A5) Its zenith.
A6) It produces its own light.
A7) The milky way.
A8) Between mars and Jupiter.
A9) Venus.
A10) Geo-stationary orbit satellites and polar orbit satellites.

JAB 03-04-2004

8A Food and Digestion 1

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8A Food and Digestion.

Q1) Name the three main food types.
Q2) Give a use of each of these food types.
Q3) Name the other four food types.
Q4) Give a use of each of these other four food types.
Q5) Which disease is caused by a deficiency of vitamin C?
Q6) Which disease is caused by a deficiency of vitamin D?
Q7) Which disease is caused by a deficiency of iron?
Q8) Which test is used to detect protein?
Q9) Which test is used to detect starch?
Q10) Which test is used to detect fat?

JAB 03-04-2004

8A Food and Digestion 1

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8A Food and Digestion.

Q1) Name the three main food types.
Q2) Give a use of each of these food types.
Q3) Name the other four food types.
Q4) Give a use of each of these other four food types.
Q5) Which disease is caused by a deficiency of vitamin C?
Q6) Which disease is caused by a deficiency of vitamin D?
Q7) Which disease is caused by a deficiency of iron?
Q8) Which test is used to detect protein?
Q9) Which test is used to detect starch?
Q10) Which test is used to detect fat?

JAB 03-04-2004

8A Food and Digestion 2

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8A Food and Digestion.

Q1) What is digestion?
Q2) Draw a table of the three main food groups, the enzymes which break them down and the products made.
Q3) What happens to start the breakdown of the food?
Q4) What does the saliva do to the food?
Q5) What happens to the food in the stomach?
Q6) What happens in the small intestine (duodenum)?
Q7) Where is bile produced?
Q8) What does the pancreas do?
Q9) Draw a flow diagram for the passage of the food through the body.
Q10) What is the first part of the large intestine called?

JAB 03-04-2004

8A Food and Digestion 2

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8A Food and Digestion.

Q1) What is digestion?
Q2) Draw a table of the three main food groups, the enzymes which break them down and the products made.
Q3) What happens to start the breakdown of the food?
Q4) What does the saliva do to the food?
Q5) What happens to the food in the stomach?
Q6) What happens in the small intestine (duodenum)?
Q7) Where is bile produced?
Q8) What does the pancreas do?
Q9) Draw a flow diagram for the passage of the food through the body.
Q10) What is the first part of the large intestine called?

JAB 03-04-2004

8A Food and Digestion 1 Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8A Food and Digestion.

A1) Carbohydrates, proteins, fats.
A2) Carbohydrates – give us energy
Proteins – builds up muscles and cells
Fats – give us energy.
A3) Minerals, vitamins, roughage, water.
A4) Minerals – calcium for healthy bones.
Iron for blood.
Vitamins – used to make enzymes in small amounts.
Roughage – adds bulk to food to help digestion.
Water – fills cells up and dissolves chemicals.
A5) Scurvy.
A6) Rickets.
A7) Anaemia
A8) Biuret test.
A9) Add iodine – goes blue/black if starch is present.
A10) Alcohol emulsion test – mix food with water and ethanol, a white emulsion is made if fat present.

JAB 03-04-2004

8A Food and Digestion 2 Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8A Food and Digestion.

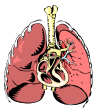
A1) Breaking down food from large to small molecules that cells can use for respiration.
A2)

Starting Food	Type of Enzyme Used	Products Made
Carbohydrates (starch)	Carbohydrase	Simple sugars like glucose
Proteins	Protease	Amino Acids
Fats	Lipase	Fatty Acids – glycerol.

A3) It is mechanically broken down.
A4) Moistens it and adds the enzyme salivary amylase.
A5) It is mixed with hydrochloric acid which moistens it, softening it further and killing any nasty bugs. The acid conditions also allow a protease enzyme (pepsin) to start to act on any proteins in the food.
A6) The food is mixed with bile – this emulsifies any fats in the food and allows lipase enzymes to attack them.
A7) In the liver.
A8) It secretes alkali, protease, carbohydrase and lipase enzymes into the duodenum. These further digest all food types into their smaller molecules.

A9) Mouth – oesophagus – small intestine (duodenum, ileum) – large intestine – rectum – anus.
A10) Colon

JAB 03-04-2004

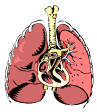
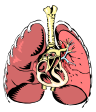
8B Respiration

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8B Respiration.

Q1) Give an equation to represent respiration.
Q2) Which two organs can use glucose as a fuel?
Q3) Name the two types of respiration.
Q4) What is the difference between these two types of respiration?
Q5) What is breathing?
Q6) How do we breathe in?
Q7) How do we breathe out?
Q8) Give a flow diagram to show the passage of air into the lungs.
Q9) How do oxygen molecules get into the blood stream from the alveoli?
Q10) How are the alveoli adapted for the above process to happen?

JAB 03-04-2004

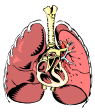
8B Respiration

Answer in **Full** Sentences.

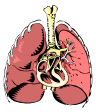
Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8B Respiration.

Q1) Give an equation to represent respiration.
Q2) Which two organs can use glucose as a fuel?
Q3) Name the two types of respiration.
Q4) What is the difference between these two types of respiration?
Q5) What is breathing?
Q6) How do we breathe in?
Q7) How do we breathe out?
Q8) Give a flow diagram to show the passage of air into the lungs.
Q9) How do oxygen molecules get into the blood stream from the alveoli?
Q10) How are the alveoli adapted for the above process to happen?

JAB 03-04-2004



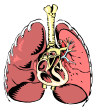
8B Respiration Answers



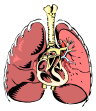
Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8B Respiration.

A1) Glucose + Oxygen ⟶ Carbon Dioxide + Water + Energy
A2) Heart and Brain.
A3) Aerobic and Anaerobic.
A4) Aerobic – with oxygen; anaerobic – without oxygen.
A5) Taking air into lungs and expelling air from the lungs.
A6) Diaphragm down, rib cage up and out.
A7) Diaphragm up, rib cage down and in.
A8) Trachea (windpipe) → bronchi → bronchioles → alveoli (air sacs).
A9) By diffusion.
A10) Have very thin walls.

JAB 03-04-2004



8B Respiration Answers



Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8B Respiration.

A1) Glucose + Oxygen ⟶ Carbon Dioxide + Water + Energy
A2) Heart and Brain.
A3) Aerobic and Anaerobic.
A4) Aerobic – with oxygen; anaerobic – without oxygen.
A5) Taking air into lungs and expelling air from the lungs.
A6) Diaphragm down, rib cage up and out.
A7) Diaphragm up, rib cage down and in.
A8) Trachea (windpipe) → bronchi → bronchioles → alveoli (air sacs).
A9) By diffusion.
A10) Have very thin walls.

JAB 03-04-2004

8C Microbes and Disease

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8C Microbes and Disease.

Q1) Name three types of microbes.
Q2) Give three shapes of bacteria together with their names.
Q3) How does a bacterial cell differ from a normal cell?
Q4) How do bacteria make us ill?
Q5) Give three common features of a virus.
Q6) Name the five areas via which invaders try to get inside our bodies.
Q7) Give the passive defences used by each of the above five areas.
Q8) What are vectors?
Q9) Give the three ways the immune system cells (white cells) act.
Q10) Give two ways, developed in modern times, to treat and prevent disease.

JAB 03-04-2004

8C Microbes and Disease

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8C Microbes and Disease.

Q1) Name three types of microbes.
Q2) Give three shapes of bacteria together with their names.
Q3) How does a bacterial cell differ from a normal cell?
Q4) How do bacteria make us ill?
Q5) Give three common features of a virus.
Q6) Name the five areas via which invaders try to get inside our bodies.
Q7) Give the passive defences used by each of the above five areas.
Q8) What are vectors?
Q9) Give the three ways the immune system cells (white cells) act.
Q10) Give two ways, developed in modern times, to treat and prevent disease.

JAB 03-04-2004

8C Microbes and Disease Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8C Microbes and Disease.

A1) Bacteria, viruses, fungi.
A2) Spheres – cocci; rods – bacilli; spirals – spirilli.
A3) It has no nucleus.
A4) Either by damaging our cells of producing poisonous toxins.
A5) 1) has a string of DNA; 2) inside a protein coat; 3) no nucleus
A6) Skin; eyes; respiratory system; reproductive system; digestive system.
A7) Skin – thick layer of skin, blood clots block open wounds; eyes – enzyme in tears kills bacteria; respiratory system – cilia and mucus trap and remove bacteria; reproductive system – thin skin covering, poor protection from infection; digestive system – acids and enzymes kill bacteria.
A8) Organisms which carry bacteria into our bodies.
A9) 1) consume the invaders; 2) produce antibodies; 3) produce antitoxins.
A10) Immunisation and antibiotics.

JAB 03-04-2004

8C Microbes and Disease Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8C Microbes and Disease.

A1) Bacteria, viruses, fungi.
A2) Spheres – cocci; rods – bacilli; spirals – spirilli.
A3) It has no nucleus.
A4) Either by damaging our cells of producing poisonous toxins.
A5) 1) has a string of DNA; 2) inside a protein coat; 3) no nucleus
A6) Skin; eyes; respiratory system; reproductive system; digestive system.
A7) Skin – thick layer of skin, blood clots block open wounds; eyes – enzyme in tears kills bacteria; respiratory system – cilia and mucus trap and remove bacteria; reproductive system – thin skin covering, poor protection from infection; digestive system – acids and enzymes kill bacteria.
A8) Organisms which carry bacteria into our bodies.
A9) 1) consume the invaders; 2) produce antibodies; 3) produce antitoxins.
A10) Immunisation and antibiotics.

JAB 03-04-2004

8D Ecology

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8D Classification; Competition

Q1) What is a species?
Q2) Name the two main groups animals are divided into, and say what each group means.
Q3) To which of these two main groups does “man” belong and list the five subgroups of this main group.
Q4) List the characteristics of each of the above five subgroups.
Q5) What is an ecosystem?
Q6) What is a population?
Q7) What is a producer?
Q8) What is a predator?
Q9) Give three techniques predators use to catch their prey.
Q10) Give the three main ways animals have adapted to protect themselves from predators.

JAB 03-04-2004

8D Ecology

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8D Classification; Competition

Q1) What is a species?
Q2) Name the two main groups animals are divided into, and say what each group means.
Q3) To which of these two main groups does “man” belong and list the five subgroups of this main group.
Q4) List the characteristics of each of the above five subgroups.
Q5) What is an ecosystem?
Q6) What is a population?
Q7) What is a producer?
Q8) What is a predator?
Q9) Give three techniques predators use to catch their prey.
Q10) Give the three main ways animals have adapted to protect themselves from predators.

JAB 03-04-2004

8D Ecology Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8D Classification; Competition

A1) A group of individuals that can reproduce with each other, share a common ancestor and that are similar in body structure, function and habitat.
A2) Vertebrates – have a backbone; invertebrates – do not have a backbone.
A3) Vertebrates; fishes, amphibians, reptiles, birds, mammals.
A4)

FISHES	AMPHIBIANS	REPTILES	BIRDS	MAMMALS
Live in water	Have four limbs	Live on land	Lays eggs	Young born live
Streamlined bodies	Smooth, moist skin	Lay eggs on land	Have wings + beak	Suckled by mother
Covered in scales	Lay eggs in water	No milk to young	No milk to young	Produce milk 4 yng
Cold-blooded	Cold-blooded	Cold-blooded	Warm-blooded	Warm-blooded
Breathe with gills	Breathe with lungs and moist skin	Dry skin covered with scales	Body covered with feathers	Bodies covered by hair or fur

A5) A place in nature where living organisms interact with each other and with the non-living environment.
A6) All the individuals of one species that inhabit a definite area/region.
A7) A green plant making its own food by photosynthesis.
A8) An animal preying on another for food.
A9) Chasing their victim; ambushing their prey; hunting in packs.
A10) Protective colouring; camouflage; mimicry.

JAB 03-04-2004

8D Ecology Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8D Classification; Competition

A1) A group of individuals that can reproduce with each other, share a common ancestor and that are similar in body structure, function and habitat.
A2) Vertebrates – have a backbone; invertebrates – do not have a backbone.
A3) Vertebrates; fishes, amphibians, reptiles, birds, mammals.
A4)

FISHES	AMPHIBIANS	REPTILES	BIRDS	MAMMALS
Live in water	Have four limbs	Live on land	Lays eggs	Young born live
Streamlined bodies	Smooth, moist skin	Lay eggs on land	Have wings + beak	Suckled by mother
Covered in scales	Lay eggs in water	No milk to young	No milk to young	Produce milk 4 yng
Cold-blooded	Cold-blooded	Cold-blooded	Warm-blooded	Warm-blooded
Breathe with gills	Breathe with lungs and moist skin	Dry skin covered with scales	Body covered with feathers	Bodies covered by hair or fur

A5) A place in nature where living organisms interact with each other and with the non-living environment.
A6) All the individuals of one species that inhabit a definite area/region.
A7) A green plant making its own food by photosynthesis.
A8) An animal preying on another for food.
A9) Chasing their victim; ambushing their prey; hunting in packs.
A10) Protective colouring; camouflage; mimicry.

JAB 03-04-2004

8E Atoms and Elements

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8E Big Crossword

Q1) A very reactive metal with water, 6 letters?
Q2) This type of element usually has a low melting point and is a poor heat conductor, 8 letters?
Q3) This type of compound is usually formed when you burn an element in oxygen, 5 letters?
Q4) This element glows very nicely when you put a high voltage through it, 4 letters?
Q5) Only two elements are in this state at room temperature, 6 letters?
Q6) Iron is this but aluminium is not, 8 letters?
Q7) The main element in fossil fuels, 6 letters?
Q8) A nasty green gas, 8 letters?
Q9) This type of element usually has a high boiling point and is a good electrical conductor, 5 letters?
Q10) Summarises all the atoms in a molecule, 7 letters?

JAB 03-04-2004

8E Atoms and Elements

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8E Big Crossword

Q1) A very reactive metal with water, 6 letters?
Q2) This type of element usually has a low melting point and is a poor heat conductor, 8 letters?
Q3) This type of compound is usually formed when you burn an element in oxygen, 5 letters?
Q4) This element glows very nicely when you put a high voltage through it, 4 letters?
Q5) Only two elements are in this state at room temperature, 6 letters?
Q6) Iron is this but aluminium is not, 8 letters?
Q7) The main element in fossil fuels, 6 letters?
Q8) A nasty green gas, 8 letters?
Q9) This type of element usually has a high boiling point and is a good electrical conductor, 5 letters?
Q10) Summarises all the atoms in a molecule, 7 letters?

JAB 03-04-2004

8E Atoms and Elements Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8E Big Crossword

A1) Sodium.
A2) Non-metal.
A3) Oxide.
A4) Neon.
A5) Liquid.
A6) Magnetic.
A7) Carbon.
A8) Chlorine.
A9) Metal.
A10) Formula.

JAB 03-04-2004

8E Atoms and Elements Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8E Big Crossword

A1) Sodium.
A2) Non-metal.
A3) Oxide.
A4) Neon.
A5) Liquid.
A6) Magnetic.
A7) Carbon.
A8) Chlorine.
A9) Metal.
A10) Formula.

JAB 03-04-2004

8F Compounds and Mixtures

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8F Elements, Compounds and Mixtures

Q1) What is an element?
Q2) What is an atom?
Q3) What is the same about all atoms of an element?
Q4) What is a compound?
Q5) Give the correct formulae for the following: 1) magnesium Oxide; 2) water; 3) carbon dioxide; 4) sodium chloride.
Q6) What is a mixture?
Q7) Give the technique used to separate the following: 1) sea water to obtain pure drinking water; 2) different pigments in a dye: 3) sand and water; 4) sea water to obtain the salt.
Q8) Is air a mixture or compound?
Q9) Is copper sulphate a mixture or compound?
Q10) Is river water a mixture or compound?

JAB 03-04-2004

8F Compounds and Mixtures

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8F Elements, Compounds and Mixtures

Q1) What is an element?
Q2) What is an atom?
Q3) What is the same about all atoms of an element?
Q4) What is a compound?
Q5) Give the correct formulae for the following: 1) magnesium Oxide; 2) water; 3) carbon dioxide; 4) sodium chloride.
Q6) What is a mixture?
Q7) Give the technique used to separate the following: 1) sea water to obtain pure drinking water; 2) different pigments in a dye: 3) sand and water; 4) sea water to obtain the salt.
Q8) Is air a mixture or compound?
Q9) Is copper sulphate a mixture or compound?
Q10) Is river water a mixture or compound?

JAB 03-04-2004

8F Compounds and Mixtures Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8F Elements, Compounds and Mixtures

A1) An element is a pure substance, it cannot be broken down into simpler substances by chemical means.
A2) An atom is the simplest stable part of the element.
A3) They all have the same number of protons.
A4) A substance made of two or more different elements chemically joined.
A5) 1) MgO; 2) H_2O; 3) CO_2; 4) NaCl
A6) A mixture consists of two or more constituents (elements or compounds) not chemically joined together.
A7) 1) distillation; 2) chromatography; 3) filtration; 4) evaporation.
A8) Mixture.
A9) Compound.
A10) Mixture.

JAB 03-04-2004

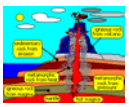
8F Compounds and Mixtures Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8F Elements, Compounds and Mixtures

A1) An element is a pure substance, it cannot be broken down into simpler substances by chemical means.
A2) An atom is the simplest stable part of the element.
A3) They all have the same number of protons.
A4) A substance made of two or more different elements chemically joined.
A5) 1) MgO; 2) H_2O; 3) CO_2; 4) NaCl
A6) A mixture consists of two or more constituents (elements or compounds) not chemically joined together.
A7) 1) distillation; 2) chromatography; 3) filtration; 4) evaporation.
A8) Mixture.
A9) Compound.
A10) Mixture.

JAB 03-04-2004

8G Rocks and Weathering/8H Rock Cycle



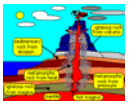
Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8G Geological Changes

Q1) What is weathering?
Q2) Name the two main types of weathering.
Q3) Give the names for two kinds of one of these types of weathering.
Q4) How many types of rock are there?
Q5) Where does the glue that cements the layers together in sedimentary rocks come from?
Q6) How do igneous rocks form?
Q7) What is the difference between magma and lava?
Q8) Intrusive igneous rocks are formed by the _____ cooling of magma which results in _____ crystals. An example of an intrusive igneous rock is _____. Extrusive igneous rocks are formed by the _____ cooling of lava which results in _____ crystals. An example of an extrusive igneous rock is _____. (Copy and fill in the gaps).
Q9) Name three conditions needed for the formation of metamorphic rocks.
Q10) What is the rock cycle?

JAB 03-04-2004

8G Rocks and Weathering/8H Rock Cycle



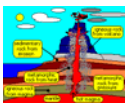
Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8G Geological Changes

Q1) What is weathering?
Q2) Name the two main types of weathering.
Q3) Give the names for two kinds of one of these types of weathering.
Q4) How many types of rock are there?
Q5) Where does the glue that cements the layers together in sedimentary rocks come from?
Q6) How do igneous rocks form?
Q7) What is the difference between magma and lava?
Q8) Intrusive igneous rocks are formed by the _____ cooling of magma which results in _____ crystals. An example of an intrusive igneous rock is _____. Extrusive igneous rocks are formed by the _____ cooling of lava which results in _____ crystals. An example of an extrusive igneous rock is _____. (Copy and fill in the gaps).
Q9) Name three conditions needed for the formation of metamorphic rocks.
Q10) What is the rock cycle?

JAB 03-04-2004

8G Rocks and Weathering/8H Rock Cycle Answers

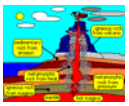


Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8G Geological Changes

A1) The process whereby rocks are broken down into smaller pieces.
A2) Physical weathering and chemical weathering.
A3) Onion skin weathering; freeze-thaw weathering.
A4) Three.
A5) From minerals.
A6) By molten material solidifying.
A7) Magma – molten material below the earth's surface; Lava – molten material above the Earth's surface.
A8) Intrusive igneous rocks are formed by the **slow** cooling of magma which results in **large** crystals. An example of an intrusive igneous rock is **granite**. Extrusive igneous rocks are formed by the **fast** cooling of lava which results in **small** crystals. An example of an extrusive igneous rock is **obsidian/pumice**.
A9) Heat, pressure and a long period of time.
A10) The recycling of existing rocks to form new rocks.

JAB 03-04-2004

8G Rocks and Weathering/8H Rock Cycle Answers



Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8G Geological Changes

A1) The process whereby rocks are broken down into smaller pieces.
A2) Physical weathering and chemical weathering.
A3) Onion skin weathering; freeze-thaw weathering.
A4) Three.
A5) From minerals.
A6) By molten material solidifying.
A7) Magma – molten material below the earth's surface; Lava – molten material above the Earth's surface.
A8) Intrusive igneous rocks are formed by the **slow** cooling of magma which results in **large** crystals. An example of an intrusive igneous rock is **granite**. Extrusive igneous rocks are formed by the **fast** cooling of lava which results in **small** crystals. An example of an extrusive igneous rock is **obsidian/pumice**.
A9) Heat, pressure and a long period of time.
A10) The recycling of existing rocks to form new rocks.

JAB 03-04-2004

8I Heating and Cooling

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8I Energy Transfers

Q1) Thermal/heat energy can move in three ways; conduction, convection and radiation. Put gases, liquids and solids in the order in which they conduct (the best conductor first).
Q2) In which state of matter can convection NOT occur and why?
Q3) Which surfaces emit and absorb radiation the best?
Q4) What is an insulator?
Q5) Why do many insulators work?
Q6) Give an example of an insulator which works as the answer to Q5.
Q7) Give five ways of insulating your house.
Q8) Give four stages of producing electricity in a power station.
Q9) What supplies the electricity produced in power stations to homes, schools e.t.c.?
Q10) Give two bad effects of burning fossil fuels.

JAB 03-04-2004

8I Heating and Cooling

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8I Energy Transfers

Q1) Thermal/heat energy can move in three ways; conduction, convection and radiation. Put gases, liquids and solids in the order in which they conduct (the best conductor first).
Q2) In which state of matter can convection NOT occur and why?
Q3) Which surfaces emit and absorb radiation the best?
Q4) What is an insulator?
Q5) Why do many insulators work?
Q6) Give an example of an insulator which works as the answer to Q5.
Q7) Give five ways of insulating your house.
Q8) Give four stages of producing electricity in a power station.
Q9) What supplies the electricity produced in power stations to homes, schools e.t.c.?
Q10) Give two bad effects of burning fossil fuels.

JAB 03-04-2004

8I Heating and Cooling Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8I Energy Transfers

A1) Solids > liquids > gases.
A2) Solids because the atoms cannot move about.
A3) Black and dull.
A4) Something which stops heat moving.
A5) Because they contain trapped air.
A6) Fibreglass.
A7) Loft insulation: double glazing; foil behind radiators; black up fireplaces; cavity walls.
A8) 1) Fuel is used to produce heat energy; 2) heat energy heats water and turns it into steam; 3) steam is pushed at high pressure along pipes to turbines; 4) steam makes turbines spin turning a generator which then produces electricity.
A9) The national grid.
A10) Global warming and acid rain.

JAB 03-04-2004

8I Heating and Cooling Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8I Energy Transfers

A1) Solids > liquids > gases.
A2) Solids because the atoms cannot move about.
A3) Black and dull.
A4) Something which stops heat moving.
A5) Because they contain trapped air.
A6) Fibreglass.
A7) Loft insulation: double glazing; foil behind radiators; black up fireplaces; cavity walls.
A8) 1) Fuel is used to produce heat energy; 2) heat energy heats water and turns it into steam; 3) steam is pushed at high pressure along pipes to turbines; 4) steam makes turbines spin turning a generator which then produces electricity.
A9) The national grid.
A10) Global warming and acid rain.

JAB 03-04-2004

8J Magnets and Electromagnets

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8J Magnetism and Electromagnetism

Q1) What happens if you put two magnets close together?
Q2) Where is the magnetic field the strongest?
Q3) Which way do the arrows on the field lines round a magnet always point?
Q4) Complete these sentences: Opposite poles _____. Like poles _____.
Q5) Name the three main magnetic elements.
Q6) What do all electric currents have round them?
Q7) Give three advantages of electromagnets over permanent magnets.
Q8) Give three ways of increasing the strength of the magnetic field round a coil electromagnet.
Q9) Why is an iron core preferred to a steel core to make an electromagnet?
Q10) Give four uses of electromagnets.

JAB 03-04-2004

8J Magnets and Electromagnets

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8J Magnetism and Electromagnetism

Q1) What happens if you put two magnets close together?
Q2) Where is the magnetic field the strongest?
Q3) Which way do the arrows on the field lines round a magnet always point?
Q4) Complete these sentences: Opposite poles _____. Like poles _____.
Q5) Name the three main magnetic elements.
Q6) What do all electric currents have round them?
Q7) Give three advantages of electromagnets over permanent magnets.
Q8) Give three ways of increasing the strength of the magnetic field round a coil electromagnet.
Q9) Why is an iron core preferred to a steel core to make an electromagnet?
Q10) Give four uses of electromagnets.

JAB 03-04-2004

8J Magnets and Electromagnets Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8J Magnetism and Electromagnetism

A1) They either push away (repel) or pull together (attract).
A2) At the poles.
A3) From the north pole to the south pole.
A4) Complete these sentences: Opposite poles **attract**. Like poles **repel**.
A5) Iron, cobalt, nickel.
A6) A magnetic field.
A7) 1) Can be switched on or off. 2) Their strength can be changed by altering the current. 3) Can easily be made into a variety of shapes and are less expensive to make.
A8) 1) Increasing the current in the wire. 2) Putting more loops on the coil. 3) Placing an iron or steel core inside the coil.
A9) It is easier to magnetise and loses its magnetism quicker when the current is switched off.
A10) Dumping cars; electric motors; loud speakers; relays.

JAB 03-04-2004

8J Magnets and Electromagnets Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8J Magnetism and Electromagnetism

A1) They either push away (repel) or pull together (attract).
A2) At the poles.
A3) From the north pole to the south pole.
A4) Complete these sentences: Opposite poles **attract**. Like poles **repel**.
A5) Iron, cobalt, nickel.
A6) A magnetic field.
A7) 1) Can be switched on or off. 2) Their strength can be changed by altering the current. 3) Can easily be made into a variety of shapes and are less expensive to make.
A8) 1) Increasing the current in the wire. 2) Putting more loops on the coil. 3) Placing an iron or steel core inside the coil.
A9) It is easier to magnetise and loses its magnetism quicker when the current is switched off.
A10) Dumping cars; electric motors; loud speakers; relays.

JAB 03-04-2004

8K Light

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8K Properties of Waves; Light and Sound

Q1) How does light energy move?
Q2) What Is reflection?
Q3) Give the three rules of reflection.
Q4) What happens to light rays when they pass from air into glass?
Q5) What happens to light rays when they pass from glass into air?
Q6) What do we call this effect which happens to light waves when they pass from one medium to another?
Q7) What is dispersion?
Q8) Why does a red jersey appear red?
Q9) What are the primary colours for light?
Q10) Name the secondary colours for light and say how each is made.

JAB 03-04-2004

8K Light

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8K Properties of Waves; Light and Sound

Q1) How does light energy move?
Q2) What Is reflection?
Q3) Give the three rules of reflection.
Q4) What happens to light rays when they pass from air into glass?
Q5) What happens to light rays when they pass from glass into air?
Q6) What do we call this effect which happens to light waves when they pass from one medium to another?
Q7) What is dispersion?
Q8) Why does a red jersey appear red?
Q9) What are the primary colours for light?
Q10) Name the secondary colours for light and say how each is made.

JAB 03-04-2004

8K Light Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8K Properties of Waves; Light and Sound

A1) By transverse waves.
A2) When light bounces off a surface.
A3) 1) Angle of incidence = angle of reflection. 2) The image is always the same distance behind the mirror as the object is in front. 3) The image is always the same size as the object.
A4) They slow down.
A5) They speed up.
A6) Refraction.
A7) When white light is split up into a spectrum (colours of the rainbow).
A8) The red jersey absorbs all colours except red which it reflects.
A9) Red, green, blue.
A10) **Yellow** = red + green; **cyan** = blue + green; **magenta** = red + blue.

JAB 03-04-2004

8K Light Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8K Properties of Waves; Light and Sound

A1) By transverse waves.
A2) When light bounces off a surface.
A3) 1) Angle of incidence = angle of reflection. 2) The image is always the same distance behind the mirror as the object is in front. 3) The image is always the same size as the object.
A4) They slow down.
A5) They speed up.
A6) Refraction.
A7) When white light is split up into a spectrum (colours of the rainbow).
A8) The red jersey absorbs all colours except red which it reflects.
A9) Red, green, blue.
A10) **Yellow** = red + green; **cyan** = blue + green; **magenta** = red + blue.

JAB 03-04-2004

8L Sound and Hearing

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8K Properties of Waves; Light and Sound

Q1) How does sound energy move?
Q2) Name four characteristics of sound waves and describe each one.
Q3) What is frequency measured in and what is the symbol for this unit?
Q4) Give the wave equation.
Q5) Put the three states of matter in the order in which sound passes through them, starting with the fastest.
Q6) What causes sound?
Q7) What can sound not travel through?
Q8) How many bones are in the middle ear?
Q9) Name the above bones.
Q10) Give the frequency range of human hearing.

JAB 03-04-2004

8L Sound and Hearing

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8K Properties of Waves; Light and Sound

Q1) How does sound energy move?
Q2) Name four characteristics of sound waves and describe each one.
Q3) What is frequency measured in and what is the symbol for this unit?
Q4) Give the wave equation.
Q5) Put the three states of matter in the order in which sound passes through them, starting with the fastest.
Q6) What causes sound?
Q7) What can sound not travel through?
Q8) How many bones are in the middle ear?
Q9) Name the above bones.
Q10) Give the frequency range of human hearing.

JAB 03-04-2004

8L Sound and Hearing Answers

.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8K Properties of Waves; Light and Sound

A1) By longitudinal waves.
A2) 1) Amplitude – height of the wave from the middle to a peak or trough.
2) Wavelength – length of one complete wave (from one peak to the next).
3) Time period – time it takes for one complete wave to pass.
4) Frequency – Number of waves that travel past a point in one second.
A3) Hertz, symbol Hz.
A4) Speed = Frequency X Wavelength.
A5) Solid, liquid, gas.
A6) An object vibrating.
A7) A vacuum.
A8) Three.
A9) Hammer, anvil, stirrup.
A10) 20Hz to 18 000Hz

JAB 03-04-2004

8L Sound and Hearing Answers

.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 8, 8K Properties of Waves; Light and Sound

A1) By longitudinal waves.
A2) 1) Amplitude – height of the wave from the middle to a peak or trough.
2) Wavelength – length of one complete wave (from one peak to the next).
3) Time period – time it takes for one complete wave to pass.
4) Frequency – Number of waves that travel past a point in one second.
A3) Hertz, symbol Hz.
A4) Speed = Frequency X Wavelength.
A5) Solid, liquid, gas.
A6) An object vibrating.
A7) A vacuum.
A8) Three.
A9) Hammer, anvil, stirrup.
A10) 20Hz to 18 000Hz

JAB 03-04-2004

9A Inheritance and Selection

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9A Variation; Adaptation

Q1) What are characteristic features?
Q2) Name five inherited characteristics.
Q3) Group the following four characteristics as either Environmental or Inherited: stamina; speed; natural ability; correct swimming.
Q4) Identify the following characteristics as Inherited, Environmental or Both: height; strength; attached earlobes; intelligence; writing neatly.
Q5) What do we mean by selective breading?
Q6) Which two breeds of cow would a farmer breed together to produce a cow giving both creamy milk and a lot of it and say what each breed contributes?
Q7) Give four basic requirements of survival.
Q8) What is a habitat?
Q9) What is a community?
Q10) Give three ways in which all town animals have adapted to their habitat.

JAB 03-04-2004

9A Inheritance and Selection

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9A Variation; Adaptation

Q1) What are characteristic features?
Q2) Name five inherited characteristics.
Q3) Group the following four characteristics as either Environmental or Inherited: stamina; speed; natural ability; correct swimming.
Q4) Identify the following characteristics as Inherited, Environmental or Both: height; strength; attached earlobes; intelligence; writing neatly.
Q5) What do we mean by selective breading?
Q6) Which two breeds of cow would a farmer breed together to produce a cow giving both creamy milk and a lot of it and say what each breed contributes?
Q7) Give four basic requirements of survival.
Q8) What is a habitat?
Q9) What is a community?
Q10) Give three ways in which all town animals have adapted to their habitat.

JAB 03-04-2004

9A Inheritance and Selection Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9A Variation; Adaptation

A1) Variations within a particular species.
A2) Finger prints; attached earlobes; eye colour; tongue rolling; blood group.
A3) Environmental - stamina; speed; correct swimming. Inherited – natural ability.
A4) Inherited – attached earlobes. Environmental – height; strength. Both – intelligence; writing neatly.
A5) Carefully choosing animals with desired characteristics for breeding.
A6) Friesian (for a lot of milk) and Jersey (for creamy milk).
A7) Food; water; shelter; the need to reproduce.
A8) A particular place where an organism lives.
A9) All the plants and animals living together in a habitat.
A10) 1) eating a variety of foods; 2) not being scared of humans; 3) becoming very smart.

JAB 03-04-2004

9A Inheritance and Selection Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9A Variation; Adaptation

A1) Variations within a particular species.
A2) Finger prints; attached earlobes; eye colour; tongue rolling; blood group.
A3) Environmental - stamina; speed; correct swimming. Inherited – natural ability.
A4) Inherited – attached earlobes. Environmental – height; strength. Both – intelligence; writing neatly.
A5) Carefully choosing animals with desired characteristics for breeding.
A6) Friesian (for a lot of milk) and Jersey (for creamy milk).
A7) Food; water; shelter; the need to reproduce.
A8) A particular place where an organism lives.
A9) All the plants and animals living together in a habitat.
A10) 1) eating a variety of foods; 2) not being scared of humans; 3) becoming very smart.

JAB 03-04-2004

9B Fit and Healthy

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9B Human Health

Q1) Give three ways of keeping our bodies healthy.
Q2) How can we keep our minds healthy?
Q3) What do drugs do?
Q4) What effect does drinking excess alcohol have on the brain?
Q5) About how many alcoholics are there in Britain today?
Q6) What is a drug addict?
Q7) Give five types of illegal drugs.
Q8) List four ways we can protect ourselves from diseases.
Q9) What does stomach acid do?
Q10) Name the two types of white blood cell and briefly say what each type does.

JAB 03-04-2004

9B Fit and Healthy

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9B Human Health

Q1) Give three ways of keeping our bodies healthy.
Q2) How can we keep our minds healthy?
Q3) What do drugs do?
Q4) What effect does drinking excess alcohol have on the brain?
Q5) About how many alcoholics are there in Britain today?
Q6) What is a drug addict?
Q7) Give five types of illegal drugs.
Q8) List four ways we can protect ourselves from diseases.
Q9) What does stomach acid do?
Q10) Name the two types of white blood cell and briefly say what each type does.

JAB 03-04-2004

9B Fit and Healthy Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9B Human Health

A1) 1) Eating a balanced diet; 2) drinking 6-8 glasses of water a day; 3) doing some exercise.
A2) By not taking drugs or other substances that will cloud our judgement.
A3) Drugs change the way our body or mind works.
A4) It ages the brain by shrinking it, eventually causing loss of memory.
A5) One million.
A6) Someone who becomes so dependent on a drug that they cannot live without it.
A7) Hallucinogens; pain-killers; stimulants; depressants; inhalants.
A8) Natural barriers; natural immunity; immunisation; taking medicines called antibiotics.
A9) Kills bacteria.
A10) Phagocytes – engulf microbes by surrounding them. Lymphocytes – produce antibodies.

JAB 03-04-2004

9B Fit and Healthy Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9B Human Health

A1) 1) Eating a balanced diet; 2) drinking 6-8 glasses of water a day; 3) doing some exercise.
A2) By not taking drugs or other substances that will cloud our judgement.
A3) Drugs change the way our body or mind works.
A4) It ages the brain by shrinking it, eventually causing loss of memory.
A5) One million.
A6) Someone who becomes so dependent on a drug that they cannot live without it.
A7) Hallucinogens; pain-killers; stimulants; depressants; inhalants.
A8) Natural barriers; natural immunity; immunisation; taking medicines called antibiotics.
A9) Kills bacteria.
A10) Phagocytes – engulf microbes by surrounding them. Lymphocytes – produce antibodies.

JAB 03-04-2004

9C Plants and Photosynthesis

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9C Photosynthesis

Q1) Name the part of the plant where most photosynthesis takes place.
Q2) What is photosynthesis?
Q3) Give the word equation for photosynthesis.
Q4) What do plants use to pick up the energy from the sunlight?
Q5) Name four factors which increase the rate of photosynthesis.
Q6) How do plants store the sugar glucose?
Q7) Why is the glucose stored as the answer to question 6?
Q8) Which cells contain the chloroplasts?
Q9) What is a stoma?
Q10) Which cells change shape to close the stoma?

JAB 03-04-2004

9C Plants and Photosynthesis

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9C Photosynthesis

Q1) Name the part of the plant where most photosynthesis takes place.
Q2) What is photosynthesis?
Q3) Give the word equation for photosynthesis.
Q4) What do plants use to pick up the energy from the sunlight?
Q5) Name four factors which increase the rate of photosynthesis.
Q6) How do plants store the sugar glucose?
Q7) Why is the glucose stored as the answer to question 6?
Q8) Which cells contain the chloroplasts?
Q9) What is a stoma?
Q10) Which cells change shape to close the stoma?

JAB 03-04-2004

9C Plants and Photosynthesis Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9C Photosynthesis

A1) Leaves.
A2) The way that plants make their food using energy from sunlight.

A3) Carbon Dioxide + Water $\xrightarrow{\text{Sunlight}}$ Glucose (sugar) + Oxygen

A4) Chlorophyll.
A5) 1) More water; 2) more carbon dioxide; 3) more sunlight; 4) more warmth (higher temperature).
A6) As starch.
A7) Because starch is insoluble in water so less water is required to keep its food stored.
A8) The palisade cells.
A9) A hole in the leaf through which gases diffuse.
A10) The guard cells.

JAB 03-04-2004

9C Plants and Photosynthesis Answers

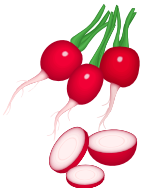
Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9C Photosynthesis

A1) Leaves.
A2) The way that plants make their food using energy from sunlight.

A3) Carbon Dioxide + Water $\xrightarrow{\text{Sunlight}}$ Glucose (sugar) + Oxygen

A4) Chlorophyll.
A5) 1) More water; 2) more carbon dioxide; 3) more sunlight; 4) more warmth (higher temperature).
A6) As starch.
A7) Because starch is insoluble in water so less water is required to keep its food stored.
A8) The palisade cells.
A9) A hole in the leaf through which gases diffuse.
A10) The guard cells.

JAB 03-04-2004



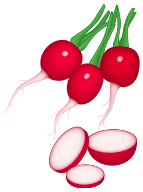
9D Plants for Food

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9D Plant Nutrition and Growth; Plant Growth

Q1) What does a plant need to be able to make its own food?
Q2) Where does photosynthesis take place?
Q3) Which organ in the plant is responsible for producing biomass?
Q4) Why are leaves both flat and thin?
Q5) Name five factors that affect the rate of photosynthesis.
Q6) What is the main function of roots?
Q7) What does the xylem do?
Q8) What does the phloem do?
Q9) What are the three best known nutrients found in fertilisers?
Q10) What is a tropism?.

JAB 03-04-2004



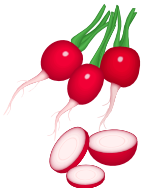
9D Plants for Food

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9D Plant Nutrition and Growth; Plant Growth

Q1) What does a plant need to be able to make its own food?
Q2) Where does photosynthesis take place?
Q3) Which organ in the plant is responsible for producing biomass?
Q4) Why are leaves both flat and thin?
Q5) Name five factors that affect the rate of photosynthesis.
Q6) What is the main function of roots?
Q7) What does the xylem do?
Q8) What does the phloem do?
Q9) What are the three best known nutrients found in fertilisers?
Q10) What is a tropism?.

JAB 03-04-2004

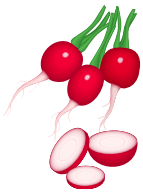


9D Plants for Food Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9D Plant Nutrition and Growth; Plant Growth

A1) Chlorophyll.
A2) In the chloroplasts.
A3) The leaf.
A4) Flat – gives a large surface area to capture as much sunlight as possible. Thin – gives a short diffusion distance for carbon dioxide from the atmosphere to the cells close to the surface.
A5) Temperature; light intensity; water content of soil; mineral content of soil; chlorophyll concentration.
A6) To absorb water and essential minerals.
A7) Carries water and mineral nutrients to all parts of the plant, especially the leaves.
A8) Carries the sugars such as glucose made in the leaves to all parts of the plant, including the roots.
A9) Nitrates; phosphates and potassium.
A10) A growth response shown by a plant as a result of a stimulus.

JAB 03-04-2004

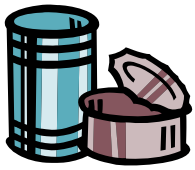


9D Plants for Food Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9D Plant Nutrition and Growth; Plant Growth

A1) Chlorophyll.
A2) In the chloroplasts.
A3) The leaf.
A4) Flat – gives a large surface area to capture as much sunlight as possible. Thin – gives a short diffusion distance for carbon dioxide from the atmosphere to the cells close to the surface.
A5) Temperature; light intensity; water content of soil; mineral content of soil; chlorophyll concentration.
A6) To absorb water and essential minerals.
A7) Carries water and mineral nutrients to all parts of the plant, especially the leaves.
A8) Carries the sugars such as glucose made in the leaves to all parts of the plant, including the roots.
A9) Nitrates; phosphates and potassium.
A10) A growth response shown by a plant as a result of a stimulus.

JAB 03-04-2004



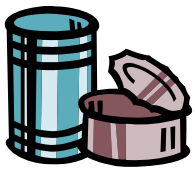
9E Metals

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9E Reactivity Series; Extraction

Q1) Which properties of metals make them useful for the following: jewellery; pans; bridges; making bells?
Q2) When metals react with water they produce one of two products: name these two products.
Q3) What gas is produced if a metal reacts with an acid?
Q4) Put the following metals in order of reactivity with the most reactive metal first: zinc; copper; magnesium; lead; iron.
Q5) If we put an iron nail into blue copper sulphate solution the nail turns brown and the blue solution turns green. Explain these two observations.
Q6) Name two factors needed for rusting to occur.
Q7) Name four methods of rust prevention.
Q8) Which one of the above four methods is the cheapest?
Q9) What metal is used to cover the iron in galvanising?
Q10) In “sacrificial protection”, is a more or less reactive metal than iron used to coat the iron?

JAB 03-04-2004



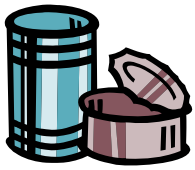
9E Metals

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9E Reactivity Series; Extraction

Q1) Which properties of metals make them useful for the following: jewellery; pans; bridges; making bells?
Q2) When metals react with water they produce one of two products: name these two products.
Q3) What gas is produced if a metal reacts with an acid?
Q4) Put the following metals in order of reactivity with the most reactive metal first: zinc; copper; magnesium; lead; iron.
Q5) If we put an iron nail into blue copper sulphate solution the nail turns brown and the blue solution turns green. Explain these two observations.
Q6) Name two factors needed for rusting to occur.
Q7) Name four methods of rust prevention.
Q8) Which one of the above four methods is the cheapest?
Q9) What metal is used to cover the iron in galvanising?
Q10) In “sacrificial protection”, is a more or less reactive metal than iron used to coat the iron?

JAB 03-04-2004

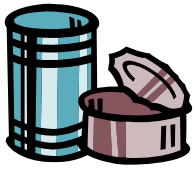


9E Metals Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9E Reactivity Series; Extraction

A1) Jewellery – hard and shiny appearance; pans – good conductors of heat; bridges – strong; making bells – sonorous.
A2) Metal hydroxide; metal oxide.
A3) Hydrogen.
A4) Magnesium; zinc; iron; lead; copper.
A5) The nail turns brown as it is coated with a layer of copper metal. The blue solution turns green as the blue copper sulphate solution is replaced by the green iron(ll) sulphate solution.
A6) Water and oxygen.
A7) Painting or greasing; coating with plastic; galvanising; chromium plating.
A8) Painting or greasing.
A9) Zinc.
A10) More reactive.

JAB 03-04-2004



9E Metals Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9E Reactivity Series; Extraction

A1) Jewellery – hard and shiny appearance; pans – good conductors of heat; bridges – strong; making bells – sonorous.
A2) Metal hydroxide; metal oxide.
A3) Hydrogen.
A4) Magnesium; zinc; iron; lead; copper.
A5) The nail turns brown as it is coated with a layer of copper metal. The blue solution turns green as the blue copper sulphate solution is replaced by the green iron(ll) sulphate solution.
A6) Water and oxygen.
A7) Painting or greasing; coating with plastic; galvanising; chromium plating.
A8) Painting or greasing.
A9) Zinc.
A10) More reactive.

JAB 03-04-2004

9F Patterns of Reactivity

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9F Metals and Non-Metals

Q1) An element is malleable; magnetic; conducts heat and electricity. Is it a metal or a non-metal?
Q2) Are all metals good conductors of heat and electricity?
Q3) Are all metals magnetic?
Q4) What class of compounds are formed when metals burn in oxygen?
Q5) Name two unreactive metals that do not rust.
Q6) What is the reactivity series?
Q7) Which metals will produce hydrogen gas from water or steam?
Q8) Name a metal that does not react with hydrochloric acid.
Q9) Metals are said to be malleable. What does this mean?
Q10) Non-metals are brittle. What does this mean?

JAB 03-04-2004

9F Patterns of Reactivity

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ / > Science KS3 Hyperlinked Ref > Yr 9, 9F Metals and Non-Metals

Q1) An element is malleable; magnetic; conducts heat and electricity. Is it a metal or a non-metal?
Q2) Are all metals good conductors of heat and electricity?
Q3) Are all metals magnetic?
Q4) What class of compounds are formed when metals burn in oxygen?
Q5) Name two unreactive metals that do not rust.
Q6) What is the reactivity series?
Q7) Which metals will produce hydrogen gas from water or steam?
Q8) Name a metal that does not react with hydrochloric acid.
Q9) Metals are said to be malleable. What does this mean?
Q10) Non-metals are brittle. What does this mean?

JAB 03-04-2004

9F Patterns of Reactivity Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9F Metals and Non-Metals

A1) A metal.
A2) Yes.
A3) No.
A4) Oxides.
A5) Gold and silver.
A6) A list of elements indicating the relative reactivities of the elements.
A7) Metals above hydrogen in the reactivity series.
A8) Copper
A9) They can be hammered or bent into a new shape without returning to their old shape.
A10) They break easily.

JAB 03-04-2004

9F Patterns of Reactivity Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9F Metals and Non-Metals

A1) A metal.
A2) Yes.
A3) No.
A4) Oxides.
A5) Gold and silver.
A6) A list of elements indicating the relative reactivities of the elements.
A7) Metals above hydrogen in the reactivity series.
A8) Copper
A9) They can be hammered or bent into a new shape without returning to their old shape.
A10) They break easily.

JAB 03-04-2004

9G Environmental Chemistry

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9G Big Crossword

Q1) In the upper atmosphere, this absorbs and protects us from harmful ultraviolet radiation, 5,5 letters?
Q2) A fossil fuel that often collects above oil, 7,3 letters?
Q3) Found on stonewalls and does not take kindly to air pollution, 6 letters?
Q4) What we need to do with soil that's too acid for good crop growth, 10 letters?
Q5) The organic part of soil debris which is vital in holding nutrients, 5 letters?
Q6) One of the 'fallout' effects of burning fossil fuels, 4,4 letters?
Q7) Metal that doesn't corrode too badly or too fast, at least for a few years, and keeps the water in old pipes and out of chimney-roof joints, 4 letters?
Q8) These compounds fizz with acids but handy for neutralising indigestion, 10 letters?
Q9) Name of the main gas formed on burning fossil fuels, 6,7 letters?
Q10) Sedimentary rock that readily weathers, 9 letters?

JAB 03-04-2004

9G Environmental Chemistry

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9G Big Crossword

Q1) In the upper atmosphere, this absorbs and protects us from harmful ultraviolet radiation, 5,5 letters?
Q2) A fossil fuel that often collects above oil, 7,3 letters?
Q3) Found on stonewalls and does not take kindly to air pollution, 6 letters?
Q4) What we need to do with soil that's too acid for good crop growth, 10 letters?
Q5) The organic part of soil debris which is vital in holding nutrients, 5 letters?
Q6) One of the 'fallout' effects of burning fossil fuels, 4,4 letters?
Q7) Metal that doesn't corrode too badly or too fast, at least for a few years, and keeps the water in old pipes and out of chimney-roof joints, 4 letters?
Q8) These compounds fizz with acids but handy for neutralising indigestion, 10 letters?
Q9) Name of the main gas formed on burning fossil fuels, 6,7 letters?
Q10) Sedimentary rock that readily weathers, 9 letters?

JAB 03-04-2004

9G Environmental Chemistry Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9G Big Crossword

A1) Ozone layer.
A2) Natural gas.
A3) Lichen.
A4) Neutralise.
A5) Humus.
A6) Acid rain.
A7) Lead.
A8) Carbonates.
A9) Carbon Dioxide.
A10) Limestone.

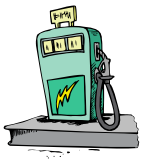
JAB 03-04-2004

9G Environmental Chemistry Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9G Big Crossword

A1) Ozone layer.
A2) Natural gas.
A3) Lichen.
A4) Neutralise.
A5) Humus.
A6) Acid rain.
A7) Lead.
A8) Carbonates.
A9) Carbon Dioxide.
A10) Limestone.

JAB 03-04-2004



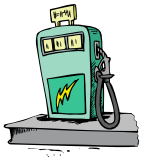
9H Using Chemistry

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9H Big Crossword

Q1) Metal used to coat steel cans to prevent corrosion, 3 letters?
Q2) A platinum and rhodium catalyst converts this gas into harmless carbon dioxide, 6, 8 letters?
Q3) Famous English scientist who 'discovered' oxygen, 9 letters?
Q4) Famous French scientist who tried to sort out the elements, 9 letters?
Q5) Catalytic converters in cars change this gas into nitrogen, 8, 8 letters?
Q6) An ideal fuel, no pollution, just water, 8 letters?
Q7) Forms a poisonous gas on burning but can be used as a fumigant and helps ripen some fruit and vegetables (gives low pH in water but no ph in this spelling!), 6 letters?
Q8) This is the main chemical plant process in nature, 14 letters?
Q9) A crucial element in ancient and modern metal extraction, 6 letters?
Q10) When the lungs ain't so good, cylinders of this save lives both in the home as well as in hospitals, 6 letters?

JAB 03-04-2004



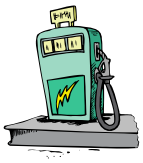
9H Using Chemistry

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9H Big Crossword

Q1) Metal used to coat steel cans to prevent corrosion, 3 letters?
Q2) A platinum and rhodium catalyst converts this gas into harmless carbon dioxide, 6, 8 letters?
Q3) Famous English scientist who 'discovered' oxygen, 9 letters?
Q4) Famous French scientist who tried to sort out the elements, 9 letters?
Q5) Catalytic converters in cars change this gas into nitrogen, 8, 8 letters?
Q6) An ideal fuel, no pollution, just water, 8 letters?
Q7) Forms a poisonous gas on burning but can be used as a fumigant and helps ripen some fruit and vegetables (gives low pH in water but no ph in this spelling!), 6 letters?
Q8) This is the main chemical plant process in nature, 14 letters?
Q9) A crucial element in ancient and modern metal extraction, 6 letters?
Q10) When the lungs ain't so good, cylinders of this save lives both in the home as well as in hospitals, 6 letters?

JAB 03-04-2004

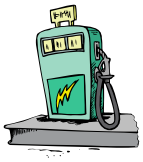


9H Using Chemistry Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9H Big Crossword

A1) Tin.
A2) Carbon monoxide.
A3) Priestley.
A4) Lavoisier.
A5) Nitrogen Monoxide.
A6) Hydrogen.
A7) Sulfur.
A8) Photosynthesis.
A9) Carbon.
A10) Oxygen.

JAB 03-04-2004



9H Using Chemistry Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9H Big Crossword

A1) Tin.
A2) Carbon monoxide.
A3) Priestley.
A4) Lavoisier.
A5) Nitrogen Monoxide.
A6) Hydrogen.
A7) Sulfur.
A8) Photosynthesis.
A9) Carbon.
A10) Oxygen.

JAB 03-04-2004

9I Energy and Electricity

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9I Energy Resources and Transfer

Q1) List eight types of energy.
Q2) Where does most of the energy around us come from?
Q3) What do solar cells do?
Q4) What do solar furnaces use?
Q5) Name three energy resources that do not come from the sun.
Q6) Briefly explain how electricity is generated at a power station.
Q7) Name the three main fossil fuels.
Q8) Why is it important to conserve crude oil?
Q9) What do we need to use to save energy?
Q10) Name five renewable energy resources.

JAB 03-04-2004

9I Energy and Electricity

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9I Energy Resources and Transfer

Q1) List eight types of energy.
Q2) Where does most of the energy around us come from?
Q3) What do solar cells do?
Q4) What do solar furnaces use?
Q5) Name three energy resources that do not come from the sun.
Q6) Briefly explain how electricity is generated at a power station.
Q7) Name the three main fossil fuels.
Q8) Why is it important to conserve crude oil?
Q9) What do we need to use to save energy?
Q10) Name five renewable energy resources.

JAB 03-04-2004

9I Energy and Electricity Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9I Energy Resources and Transfer

A1) Electrical Energy; sound energy; light energy; kinetic energy; thermal energy; gravitational potential energy; elastic energy; chemical energy.
A2) The Sun.
A3) They produce electricity from chemicals when light shines on them.
A4) Many mirrors.
A5) Nuclear energy; geothermal energy; tidal energy.
A6) 1) Fuels are burned to release heat energy. 2) This heat energy changes water to high pressure steam. 3) This high pressure steam drives turbines. 4) These turbines drive generators which spin and make electricity.
A7) Coal, oil and gas.
A8) It is important for making plastics and medicines.
A9) Use more renewable energy resources.
A10) Wind; plants; waves; solar cells; solar panels.

JAB 03-04-2004

9I Energy and Electricity Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9I Energy Resources and Transfer

A1) Electrical Energy; sound energy; light energy; kinetic energy; thermal energy; gravitational potential energy; elastic energy; chemical energy.
A2) The Sun.
A3) They produce electricity from chemicals when light shines on them.
A4) Many mirrors.
A5) Nuclear energy; geothermal energy; tidal energy.
A6) 1) Fuels are burned to release heat energy. 2) This heat energy changes water to high pressure steam. 3) This high pressure steam drives turbines. 4) These turbines drive generators which spin and make electricity.
A7) Coal, oil and gas.
A8) It is important for making plastics and medicines.
A9) Use more renewable energy resources.
A10) Wind; plants; waves; solar cells; solar panels.

JAB 03-04-2004

9J Gravity and Space

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9J Space

Q1) What does our solar system consist of?
Q2) What are the four inner planets called? Name them and briefly describe them. and
Q3) Where does the asteroid belt come?
Q4) Which four planets are called gas giants?
Q5) Which is the hottest planet in the solar system?
Q6) Which is the largest planet in the solar system?
Q7) What do we call the shape of the orbits which the planets take round the Sun?
Q8) What holds satellites in orbits around the Earth?
Q9) Name the two main types of satellites.
Q10) Give a use for each of the above types of satellite.

JAB 03-04-2004

9J Gravity and Space

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9J Space

Q1) What does our solar system consist of?
Q2) What are the four inner planets called? Name them and briefly describe them. and
Q3) Where does the asteroid belt come?
Q4) Which four planets are called gas giants?
Q5) Which is the hottest planet in the solar system?
Q6) Which is the largest planet in the solar system?
Q7) What do we call the shape of the orbits which the planets take round the Sun?
Q8) What holds satellites in orbits around the Earth?
Q9) Name the two main types of satellites.
Q10) Give a use for each of the above types of satellite.

JAB 03-04-2004

9J Gravity and Space Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9J Space

A1) Nine planets and the Sun.
A2) Terrestrial planets. Mercury; venus; Earth; mars. They are small, rocky planets.
A3) Between mars and Jupiter.
A4) Jupiter, Saturn, Uranus, Neptune.
A5) Venus.
A6) Jupiter.
A7) Ellipses.
A8) Gravity.
A9) Geo-stationary orbit satellites and polar orbit satellites.
A10) Geo-stationary orbit satellites used for communications; polar orbit satellites used for weather forecasting and spying.

JAB 03-04-2004

9J Gravity and Space Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9J Space

A1) Nine planets and the Sun.
A2) Terrestrial planets. Mercury; venus; Earth; mars. They are small, rocky planets.
A3) Between mars and Jupiter.
A4) Jupiter, Saturn, Uranus, Neptune.
A5) Venus.
A6) Jupiter.
A7) Ellipses.
A8) Gravity.
A9) Geo-stationary orbit satellites and polar orbit satellites.
A10) Geo-stationary orbit satellites used for communications; polar orbit satellites used for weather forecasting and spying.

JAB 03-04-2004

9K Speeding Up

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9K Speed

Q1) Give the equation for speed.
Q2) To calculate speed, what two measurements do you need?
Q3) What can you say about the forces acting on a body if its speed is constant?
Q4) If a body is accelerating or decelerating what can you say about the forces acting on the body?
Q5) If a skateboarder travels 10 metres in 5 seconds, what is his speed?
Q6) If your mass is 50kg on Earth, what is your weight?
Q7) What is the thrust force?
Q8) What causes drag?
Q9) When someone falling from a plane opens their parachute, what force are they trying to increase?
Q10) In which direction does air resistance always act?

JAB 03-04-2004

9K Speeding Up

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9K Speed

Q1) Give the equation for speed.
Q2) To calculate speed, what two measurements do you need?
Q3) What can you say about the forces acting on a body if its speed is constant?
Q4) If a body is accelerating or decelerating what can you say about the forces acting on the body?
Q5) If a skateboarder travels 10 metres in 5 seconds, what is his speed?
Q6) If your mass is 50kg on Earth, what is your weight?
Q7) What is the thrust force?
Q8) What causes drag?
Q9) When someone falling from a plane opens their parachute, what force are they trying to increase?
Q10) In which direction does air resistance always act?

JAB 03-04-2004

9K Speeding Up Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9K Speed

A1) Speed = Distance/Time
A2) Distance travelled and time taken.
A3) They are balanced.
A4) They are unbalanced.
A5) $2ms^{-1}$
A6) 500N.
A7) The force that makes you move.
A8) The force that makes you move.
A9) Air resistance/drag.
A10) In the direction opposite to motion.

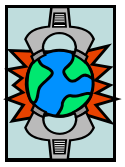
JAB 03-04-2004

9K Speeding Up Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9K Speed

A1) Speed = Distance/Time
A2) Distance travelled and time taken.
A3) They are balanced.
A4) They are unbalanced.
A5) $2ms^{-1}$
A6) 500N.
A7) The force that makes you move.
A8) The force that makes you move.
A9) Air resistance/drag.
A10) In the direction opposite to motion.

JAB 03-04-2004



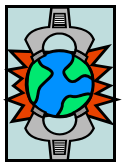
9L Pressure

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9L Pressure

Q1) Give the equation for pressure.
Q2) What unit is pressure measured in?
Q3) State three rules you need to remember about pressure in liquids.
Q4) Can liquids be compressed?
Q5) Why do hydraulics systems work?
Q6) Give an example of a hydraulics system in a car.
Q7) If a gas is squashed, what happens to the pressure exerted by the gas on its container walls?
Q8) What do moments do?
Q9) What is the equation for calculating the size of the moment?
Q10) Is it easier to close a heavy door if you push near the hinge side or the handle side?.

JAB 03-04-2004



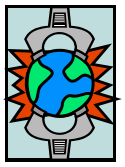
9L Pressure

Answer in **Full** Sentences.

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9L Pressure

Q1) Give the equation for pressure.
Q2) What unit is pressure measured in?
Q3) State three rules you need to remember about pressure in liquids.
Q4) Can liquids be compressed?
Q5) Why do hydraulics systems work?
Q6) Give an example of a hydraulics system in a car.
Q7) If a gas is squashed, what happens to the pressure exerted by the gas on its container walls?
Q8) What do moments do?
Q9) What is the equation for calculating the size of the moment?
Q10) Is it easier to close a heavy door if you push near the hinge side or the handle side?.

JAB 03-04-2004

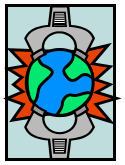


9L Pressure Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9L Pressure

A1) Pressure = Force/Area
A2) Pascal.
A3) 1) Pressure increases with depth. 2) Pressure acts equally in all directions. 3) Pressure is transmitted through liquids.
A4) No.
A5) Because the pressure is the same throughout the system.
A6) The brake system.
A7) The pressure increases.
A8) Make things turn or rotate.
A9) Moment = Force X Distance.
A10) The handle side.

JAB 03-04-2004



9L Pressure Answers

Reference: http://www.jimbakersonlinelearning.co.uk/ > Science KS3 Hyperlinked Ref > Yr 9, 9L Pressure

A1) Pressure = Force/Area
A2) Pascal.
A3) 1) Pressure increases with depth. 2) Pressure acts equally in all directions. 3) Pressure is transmitted through liquids.
A4) No.
A5) Because the pressure is the same throughout the system.
A6) The brake system.
A7) The pressure increases.
A8) Make things turn or rotate.
A9) Moment = Force X Distance.
A10) The handle side.

JAB 03-04-2004