



NINE NEEDLING QUIZZES!

Coming up are 10 questions on each of nine diverse topics. You'll need to elect a question master, and give all players pens and paper to record their answers. When you've finished each round, the question master will check everyone's score against the answers at the bottom of each page. You can then enter these on the score sheet below.

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Spring Clean Quiz

spring is sprunging, rubber gloves all round

- 1) Dust mites prefer to feed on which part of our house dust?
 - a. Fluff from clothing and carpets.
 - b. Dead skin cells from humans and animals.
 - c. Cigarette ash.
- 2) Mice sneak into houses through very small cracks. What size of hole can a mouse just squeeze through?
 - a. 1 mm
 - b. 6 mm
 - c. 2 cm
- 3) Which of these pests are you very unlikely (and unlucky) to find in your home?
 - a. Biscuit beetle
 - b. Silverfish
 - c. Black widow spider
- 4) Most bacteria living on food multiply between what temperatures?
 - a. -20 C – 0 C
 - b. 0 C – 100 C
 - c. 5 C – 60 C
- 5) ...And since many bacteria can double in number every 20 minutes, in 8 hours how many bacteria can grow from just one single cell?
 - a. 16,000
 - b. 16,000,000
 - c. 16,000,000,000
- 6) Dr. Charles Gerba, an environmental microbiologist has suggested that one object in the house may frequently harbour salmonella bacteria. Which object is it?
 - a. Toilet seat
 - b. Kitchen sponge
 - c. Kettle
- 7) ...This scientist went on to find out which room in the house contained the most bacteria. What room was it?
 - a. Kitchen
 - b. Bathroom
 - c. Bedroom
- 8) What gas can be given off if you mix the two cleaning products bleach and acidic toilet cleaner?
 - a. Carbon Dioxide
 - b. Chlorine
 - c. Nitrogen
- 9) People who are allergic to cats and dogs are generally allergic to what?
 - a. The mud the animals track into the house.
 - b. The parasites they catch when outside.
 - c. Proteins in their dead skin cells which they drop all over the house.
- 10) Calcium bicarbonate in hard water leaves a residue of calcium carbonate on showers and sinks. If you don't have a water softener how can you get rid of the residue?
 - a. Rinse with water - calcium carbonate is soluble.
 - b. Soak with an acid, like vinegar - the end result is soluble.
 - c. Leave with mildew growing on it - eventually the mildew will break it down.

Southern Hemisphere Quiz

science south of the equator!

- 1) What makes marsupials like kangaroos and koalas different from other mammals?
 - a. They have a pouch where their young develop
 - b. They are completely covered in fur
 - c. They are all completely vegetarian
- 2) Which of these mountains is found in the Southern Hemisphere?
 - a. Mount Everest
 - b. Mount Kilimanjaro
 - c. Mont Blanc
- 3) Which of these carefully named aurora can sometimes be seen in the Australia?
 - a. Aurora Borealis
 - b. Aurora Australis
 - c. Aurora Colourific
- 4) Which of these animals are not found north of the equator in the wild?
 - a. Polar bears
 - b. Seals
 - c. Penguins
- 5) Which of these places in the Southern Hemisphere receives virtually no rain at all?
 - a. Lake Victoria in Africa
 - b. Atacama Desert in Chile
 - c. Sydney, Australia
- 6) What New Zealand bird lays an egg that is almost a quarter of the weight of the mother?
 - a. Ostrich
 - b. Kiwi
 - c. Emu
- 7) What star can NOT be seen from the anywhere south of the equator?
 - a. Rigel – in Orion
 - b. Acrux – in the Southern Cross
 - c. Polaris – The North Star in Ursa Minor
- 8) Which country does the equator pass through in South America?
 - a. Ecuador
 - b. Chile
 - c. Argentina
- 9) The Cullinan was the largest rough gem-diamond ever found – it was the size of a fist. Which diamond producing country was it found in?
 - a. Peru
 - b. New Zealand
 - c. South Africa
- 10) In which country was the last Dodo seen in the wild before it became extinct?
 - a. Galapagos Islands
 - b. Mauritius
 - c. Falkland Islands

Renewable Quiz!

10 questions on the science of starting over

- 1) What's the process called when an insect gets rid of its old coat for a bigger one?
 - a. Striping
 - b. Upsizing
 - c. Moulting

- 2) Which of these is made from a renewable resource?
 - a. Plastic duck
 - b. Brass nob
 - c. Wooden spatula

- 3) According to which law will the total amount of energy in the universe remain constant, never being lost just converted to another form?
 - a. Conservation of energy
 - b. Murphy's law
 - c. Dalton's law

- 4) Which cells do not get renewed?
 - a. Hair
 - b. Brain
 - c. Skin

- 5) Seeds of Acorn banksias found in Australia only germinate to produce new plants after being exposed to what?
 - a. Frost
 - b. Fire
 - c. Flood

- 6) One of these can hijack your genetic machinery to renew itself. Which one is it?
 - a. Fungus
 - b. Virus
 - c. Bacteria

- 7) There is an animal that can be squished through a sieve and then new ones can be made from the single cells. What is this amazing animal?
 - a. Sea sponge
 - b. Sea cucumber
 - c. Sea slug

- 8) Cunning molecules within cells get used over and over again to make and break other molecules. What are these molecules?
 - a. Enzymes
 - b. Antioxidants
 - c. Cunniniodants

- 9) The fertilizer of sea cliff habitats is constantly renewed from sea birds' bottoms. What is this fertilizer called?
 - a. Guano
 - b. Kacko
 - c. Squitate

- 10) Which renewable source of fuel could you run a diesel car on?
 - a. Wood chip
 - b. Manure
 - c. Chip fat

Andrew Quiz

- 1) Why is the St Andrew's cross spider so named?
 - a. All the spiders are born in late November.
 - b. They hold their pairs of legs together in an X shape like the St Andrew's cross.
 - c. They can only be found in Scotland.

- 2) Roy Chapman Andrews has an animal species named after him - Protoceratops andrewsi.
What type of animal was this?
 - a. Fish
 - b. Ape
 - c. Dinosaur

- 3) ...He also has a very famous film character based on him and his scientific exploits. Who is this character?
 - a. Indiana Jones
 - b. Luke Skywalker
 - c. Fox Mulder

- 4) The chemist Thomas Andrews was first to work out the composition of ozone.
What element is ozone a form of?
 - a. Carbon
 - b. Iron
 - c. Oxygen

- 5) Andrew Wiles is a mathematician who famously solved a 300 year-old maths problem, Fermat's last theorem. It starts off with $x^2+y^2=z^2$ – what is this more commonly known as?
 - a. Pythagoras' Theorem
 - b. Archimedes' Problem
 - c. Aristotle's Query

- 6) Hurricane Andrew was the most damaging hurricane of all time, causing billions of dollars of damage. There is a special way of naming hurricanes in the same year, what was the next hurricane after Andrew called?
 - a. Archibald
 - b. Bonnie
 - c. Quentin

- 7) Andrews Salts are a common medicine for indigestion and heartburn. They are antacids which means they neutralise some of the acid in the stomach. What acid is in our stomachs?
 - a. Nitric Acid
 - b. Carbonic Acid
 - c. Hydrochloric Acid

- 8) ... What kind of chemicals do these antacids contain that allows them to neutralise the acid?
 - a. Alkalis such as magnesium and calcium carbonate
 - b. Enzymes such as amylase
 - c. Acids such as sulphuric acid

- 9) Thomas Andrews was a chemist who worked on liquifying gases. His work has led to what useful household item?
 - a. Fridge
 - b. Television
 - c. Microwave Oven

- 10) Robert Andrews Millikan was famous for his oil drop experiment, which he used to work out what?
 - a. The thickness of an atom
 - b. The charge of an electron
 - c. The mass of an oil molecule

Smile-athon Quiz

- 1) What is the technical name for bad breath?
 - a. Halibut
 - b. Halitosis
 - c. Halleberry
- 2) Teeth are made of the hardest substance in the human body. What is this called?
 - a. Marrow
 - b. Enamel
 - c. Cartilage
- 3) Which of these animals have the most permanent teeth?
 - a. Cat
 - b. Dog
 - c. Rabbit
- 4) How can you tell the difference between crocodiles and alligators?
 - a. A crocodile's teeth are visible when the crocodile's mouth is shut.
 - b. Alligators have no teeth and use their claws to kill prey.
 - c. Crocodiles' teeth tend to look pink in sunlight.
- 5) On average, how many bacteria can be exchanged during a single kiss?
 - a. 5 hundred
 - b. 5 thousand
 - c. 5 million
- 6) The first braces were invented by Pierre Fauchard in 1728 – what were they made of?
 - a. A flat strip of metal with thread to attach it to the teeth.
 - b. Gold wire wound around each tooth
 - c. Stainless steel shield, sealing all the teeth into a preset mould.
- 7) What is so special about a person's ability to roll their tongue?
 - a. It is a genetic trait – either you can or you can't – there is no in-between
 - b. With enough practice everyone can roll their tongue
 - c. It can only be learnt before the age of 5, after that it is too late.
- 8) Which one of these foods contains tannins that cause teeth staining?
 - a. Tea
 - b. Cheese
 - c. Eggs
- 9) A gelotologist studies what?
 - a. Saliva
 - b. Laughter
 - c. The uvula - the dangly thing at the back of the mouth
- 10) What is so special about a Duchenne smile?
 - a. In this smile both the top and bottom teeth are visible.
 - b. Muscles in the eye work as well as those around the mouth – it is an emotional smile.
 - c. It is a false smile, given away by the mouth being crooked.

The Sun Shiner!

ready to SHINE?

- 1) On June 21st, which part of the world experiences the most hours of daylight?
 - a. On the equator in Colombia
 - b. In Wales
 - c. At the North Pole
- 2) Which part of the Sun's radiation gives us sunburn?
 - a. Microwave radiation
 - b. Ultra Violet Radiation
 - c. X-ray radiation
- 3) What gas is the Sun mostly made of?
 - a. Oxygen
 - b. Carbon Dioxide
 - c. Hydrogen
- 4) When is the Earth closest to the Sun in its orbit?
 - a. January
 - b. June
 - c. October
- 5) How far is the Sun from the centre of the galaxy?
 - a. 30 light years
 - b. 30,000 light years
 - c. 3,000,000 light years
- 6) Why do lizards bask in the Sun?
 - a. They are cold blooded and use the Sun's heat to warm them up.
 - b. They like to have a tan, which helps with their camouflage.
 - c. They like to look tanned so they can attract a mate.
- 7) About how often is there a total solar eclipse visible somewhere on Earth?
 - a. Once every 1 – 2 months
 - b. Once every 1 – 2 years
 - c. Once every 10 – 20 years
- 8) Why is it hotter in the UK in the summer than in the winter?
 - a. The Northern Hemisphere is tipped towards the Sun in summer, so the Sun's heat is less spread out on the ground.
 - b. There are too many clouds in the sky in winter to let the heat through.
 - c. The Sun is hotter in June, July and August so the Earth picks up more of this heat.
- 9) Where in the world are you most likely to find a sunny day – where the Sun shines 91% of the time?
 - a. Arizona, USA
 - b. The Sahara Desert, Libya
 - c. The Tanami Desert, Australia
- 10) Einstein's equation $E=mc^2$ can be used to calculate what?
 - a. The total amount of gas, blown off the Sun in the solar wind.
 - b. How fast the Sun spins.
 - c. The amount of energy produced by fusion in the Sun.

Holiday Special

going anywhere nice?

- 1) How do the experts define sand?
 - a. Sand can be blown by the wind but sinks in water.
 - b. Sand is yellow in colour.
 - c. Sand is found only on beaches.

- 2) Most sand is made of silicon dioxide, but in coral regions the white tropical sand beaches have loads of what?
 - a. Ice crystals
 - b. Calcium Carbonate
 - c. Peat rich soil

- 3) When we eat a stick of seaside rock the amount of sugar in our blood rises. Which hormone in our body controls the amount of sugar in our blood?
 - a. Insulin
 - b. Oestrogen
 - c. Thyroxine

- 4) What chemical in the skin is responsible for the brown colour of a suntan?
 - a. Keratin
 - b. Colatin
 - c. Melanin

- 5) Which vitamin does our body produce in response to sunlight?
 - a. Vitamin P
 - b. Vitamin Z
 - c. Vitamin D

- 6) It is common in summer for the nerves in the roof of the mouth to be triggered causing blood vessels to dilate (open) and giving the person a terrible, but brief, headache. What has happened to start this off?
 - a. They have swallowed sea water.
 - b. They have eaten ice cream or had a super cold drink giving them a “freeze head”.
 - c. Too much sugar has given them tooth decay.

- 7) Where in the world do most shark attacks happen?
 - a. Florida
 - b. Wales
 - c. Scotland

- 8) Why would sun seekers want to avoid Kauai, Hawaii?
 - a. It is infested with fire ants.
 - b. It has up to 350 days of rain every year.
 - c. Temperatures drop to -30°C at night, even in the summer.

- 9) Why does damp sand stick together better than dry sand for making sandcastles?
 - a. The water dissolves the sand making glue.
 - b. The sand grains multiply like bacteria when wet and become more compact.
 - c. The water has a surface tension and acts like loads of elastic bands holding the sand grains together.

- 10) The plane that takes you to your holiday destination is held in the air by the principle of...?
 - a. Tuft
 - b. Waft
 - c. Lift

Four Quiz

the science of 4 for 2004

- 1) What were the four elements in ancient times said to be?
 - a. Earth, wind, foam and fire
 - b. Wind, air, breeze and water
 - c. Earth, air, fire and water
- 2) Humans have four different types of teeth, what are they?
 - a. Grinders, munchers, grippers and biters
 - b. Molars, premolars, canines and incisors
 - c. Molars, premolars, felines and incisions
- 3) Which NASA spacecraft was sent to all four gas giant planets, Jupiter, Saturn, Uranus and Neptune?
 - a. Voyager 2
 - b. Apollo 11
 - c. Galileo
- 4) A shape with four sides, such as a square, is known as what?
 - a. Octahedron
 - b. Dodecagon
 - c. Quadrilateral
- 5) Which of these creatures does NOT have four wings?
 - a. Red Admiral butterflies
 - b. The extinct Microraptor gui dinosaur
 - c. Flying squirrels
- 6) According to Einstein what is the fourth dimension?
 - a. An imaginary place in the mind
 - b. Time
 - c. The place where ghosts exist
- 7) Our taste buds react to what four taste sensations?
 - a. Soft, hard, sharp and squishy
 - b. Bitter, sweet, sour and salty
 - c. Chocolate, pasta, lemon and sherbet
- 8) The four chemicals, nitrogen, oxygen, argon and carbon dioxide make up most of the atmosphere of which planet?
 - a. Mercury
 - b. Earth
 - c. Jupiter
- 9) A cow's stomach has four compartments to help it digest its food. Which of these animals also has four stomach compartments?
 - a. Sheep
 - b. Cats
 - c. Elephants
- 10) At what temperature is liquid water at its most compact (most dense)?
 - a. -4C
 - b. 4C
 - c. 444C

Purification Quiz

pure knowledge required!

- 1) How do they get the 'bits' out of orange juice?
 - a. Filtration
 - b. Distillation
 - c. Sublimation

- 2) Sodium Chloride is made from sea water by evaporation, it is found in nearly every home. What is its common name?
 - a. Salt
 - b. Bleach
 - c. Vinegar

- 3) The kidneys are the body's filters. They remove lots of different chemicals from the blood. Which of these substances do they NOT remove?
 - a. Water
 - b. Urea
 - c. Red blood cells

- 4) Water may seem pure but it contains lots of different chemicals – which of these would you have to worry about if you found it in your water?
 - a. Calcium hydrogen carbonate
 - b. Lead
 - c. Chlorine

- 5) What does distillation do to an alcoholic drink?
 - a. It makes the alcohol more concentrated and the drink 'stronger'.
 - b. It brings out the flavour of the fruit used to make the drink.
 - c. It disguises the taste of the alcohol.

- 6) Emulsions are mixtures of two substances, usually oil and water that normally don't like to mix. Mayonnaise is an emulsion – which of these foods is also an emulsion?
 - a. Milk
 - b. Toast
 - b. Cornflakes

- 7) Recent research shows that some fish contain large amounts of mercury from sea pollution. We should limit our consumption of which if these fish?
 - a. Trout
 - b. Shark
 - c. Sardines

- 8) How much saliva do our bodies produce each day to help us break down our food?
 - a. 100 ml
 - b. 1 litre
 - c. 10 litres

- 9) Ice cubes are usually cloudy because the water isn't pure. It contains dissolved air that forms bubbles in the ice. What is the best way to try and make clear ice cubes?
 - a. Cool the water really quickly
 - b. Cool the water very slowly until it is frozen
 - c. Add salt to the water before freezing it

- 10) What chemical is removed from coffee beans by soaking them in water before they are roasted?
 - a. Caffeine
 - b. Sugar
 - c. Coffee oil