**SCIENCE 9 Final JEOPARDY**

**Homophones**

**2 4 6 8 10**

**Scientific Process**

**2 4 6 8 10**

**Famous Scientists**

**2 4 6 8 10 12 14 16 18 20**

**Formulas & Calculations**

**2 4 6 8 10 12 14 16 18**

**Chemistry**

**2 4 6 8 10 12 14 16 18 20 22 24 26 28 30**

**Environmental Chemistry**

**2 4 6 8 10 12 14 16 18 20 22 24**

**Electricity**

**2 4 6 8 10 12 14 16 18 20 22 24 26 28**

**Biological Diversity**

**2 4 6 8 10 12 14 16 18 20 22 24 26 28 30**

**32 34 36 38**

**Space2 4 6 8 10 12 14 16 18**

**Homophones**

**2--To give birth or a large omnivorous animal.(Bare, bear)**

**4--A small rabbit or a stylish "do"(Hare, hair)**

**6--Writing paper or to stand still."(Stationary, stationery)­**

**8--Our inner being, a smelly fish (Soul, sole)**

**10--Total of all parts or a gopher's door.(Whole, hole)**

**Scientific Process**

**2--An educated guess based on scientific thought. *(Hypothesis)***

**4--The name for all the things that need to be kept constant in an experiment. *(controls or control variables)***

**6--The variable which is changed to test your predictions in an experiment. *(Manipulated variable)***

**8--This is the order of the categories in a lab write up-there are 7 headings.**

***(problem, hypothesis, materials, procedure, observations, conclusions, analysis questions)***

**10--This year I wanted all of your lab conclusion to include these three key pieces of information.**

***(answer to the problem with supporting data, sources of error and a practical application)***

**Famous Scientists**

**2--This scientist travelled to the Galapagos Islands then developed the theory of natural selection. *(Charles Darwin)***

**4--His telescope observations supported Nicholas Copernicus’ sun centered model of the solar system *(Galileo Galilei)***

**6--This famous Russian scientist developed the periodic table and even predicted the position of yet unknown elements.**

***(Dmitri Mendeleev)***

**8--This famous scientist developed the atomic theory.**

***(John Dalton* p. 111*)***

**10--This astronaut was the first person to the moon*(Neil Armstrong)***

**12--He developed a formula to calculate electrical resistance using the formula R=V÷I *(George Ohm)***

**14--He invented a battery composed of alternating layer of zinc, blotting paper soaked in salt water and silver.**

***(Alessandro Volta)***

**16--This scientist combined math and observations to determine that planetary orbits are elliptical. *(Johannes Kepler)***

**18--This person was the first Canadian in space *(Marc Garneau)***

**20--In 1961 this cosmonaut was the first human in space.**

***(Yuri Gagarin)***

**Formulas and Calculations**

**2--The atomic mass of fluorine is approximately 19 and the atomic number is 9. How many neutrons are found in this element? *(10)***

**4--What is the formula for carbon tetrachloride? *(CCl4)***

**6--If the pH of acid rain is 5 and the pH of lemon juice is 2, how much more acidic is the lemon juice? *(1000 times)***

**8--Calculate the magnification of an optical telescope that has an ocular lens length of 3cm and an objective lens length of 213 cm.**

**10--The population of bacteria doubles every 20 minutes. If you start with one bacterium, this is how many bacteria would you have after 3 hours. *(512)***

**12--What is the formula for lithium sulfide? *(Li2S)***

**14--What is the resistance with correct units of a light bulb if a 9 V battery sends a current of 1.6 amps through it?**

***(5.625 ohms)***

**16--If there is 120 ppm of cholesterol in a 220 gram bag of chips, how many grams of cholesterol will be found in all of the chips combined? *(0.0264 g or 26.4 mg)***

**18--Calculate the cost to operate a space heater for 10 hours when it has a current of 13.6 amps passing through it while plugged into a 110 volt wall outlet. The cost of power is $0.09 per KwH. *($1.35)***

**Chemistry**

**2--Zinc is an element represented by this abbreviation.*(Zn)***­

**4--Hg is the chemical symbol for this element. *(Mercury)***

**6--This malleable metal is valuable, shiny and often mixed with copper in jewellery. *(Gold)***

**8--This is the definition of a compound.**

***(two or more elements chemically combined together)***

**10--All elements to the left of the staircase on the periodic table are classified as this type.*(Metals)***

**12--This family of elements wants to lose one electron and includes elements that are so reactive that many of them require special storage. *(alkali metals)***

**14--These are four ways to increase the rate of a reaction.**

***(increase temperature, agitation, increasing surface area exposed, increasing concentration of the substance, using a catalyst)***

**16--The total amount of protons in an atom.*(Atomic number)***

**18--This family of elements all have a stable number of electrons in their outer shell therefore they seldom are involved in chemical reactions *(noble gases)***

**20--These are three types of heterogeneous mixtures.**

***(Ordinary Mechanical mixture, Suspensions and Colloids****)*

**22--Law that states matter is not created or destroyed in normal chemical changes. *(Law of Conservation of Mass)***

**24--Release of heat in a chemical change.*(Exothermic reaction)***

**26--The chemical name for aspirin.*(Acetylsalicylic acid)***

**28--This is a Bohr model of Sodium.**

11+

e- e-

e- e-

e- e-

e- e-

e- e-

 e-

**30--These are five possible**

**indicators of a chemical change.**

***(heat released or absorbed,***

***difficult to reversed,***

***colour change, precipitate formed,***

***new substance formed)***

**Environmental Chemistry**

**2--Pesticide that is used to control weeds. *(herbicide)***

**4--Neutralizes a base. *(Acid)***

**6--Measure of acidity level of a substance from 0 to 14.**

***(pH scale)***

**8--The dose of a chemical required to kill 1/2 of the population to which it is applied. *(LD50)***

**10--This is the meaning of biomagnification. *(build up of toxins at higher levels in upper levels of the food chain)***

**12--Organisms that are sensitive to changes in their environments so they can be used to gauge the health of the ecosystem. *(biological indicators)***

**14--A positive and a negative consequence of DDT use.**

***(e.g. controls malaria but causes soft eggs in birds of prey)***

**16--Examples include phenolphthalein, cabbage juice, litmus paper and bromothymol blue.**

***(Acid/Base Indicators \*discuss colour changes for each)***

**18--The three numbers on a bag of fertilizer refer to this.**

***(The amount of N (leaves), P(roots), K(flowers))***

**20--These human made pollutants are very stable so they persist in the atmosphere for many years and they break down ozone. *(CFCs-chlorofluorocarbons)***

**22--These are the four categories of organic nutrients.**

***(carbohydrates, proteins, lipids and vitamins)***

**24--This is what the four Rs stand for and mean.**

***(Reduce--use less***

 ***Reuse--use over for another purpose***

 ***Recycle--break down old material and rebuild for another***

 ***purpose***

 ***Recover--use a waste product for a good use)***

**Electricity**

**2--A 'shocking' experience.*(Electric discharge)***

**4--Two electrodes and an electrolyte*.(A cell)­***

**6--Moving a magnet through a coil of wire makes one of these.**

***(generator)***

**8--These circuits have multiple pathways for electrons to follow. *(parallel circuit)***

**10--Materials that do not conduct electricity effectively. *(insulators)***

**12--This converts electrical energy to mechanical energy.*(motor)***

**14--Used to control lights, motors, volume, etc.**

***(Variable resistors or rheostats)***

**16--The scientific name for the process by which sound or pressure waves are converted to electricity*.***

***(Piezoelectric effect*)**

**18--These are the laws of electric charges.**

***(unlike charges attract, like charges repel and charged objects attract neutral objects)***

**20--This is a drawing of an electric circuit with three bulbs, a motor and two switches. One switch controls two lights only and the other switch controls the motor only. One light is unaffected by either switch.**

**22--Two different metals joined at a junction that can convert heat into electricity. *(thermocouple)***

**24--Of the following light sources, fluorescent, halogen, LED and incandescent it is the most efficient. *(LED)***

**26--The form of current that flows into your home from transformers along transmission lines. *(Alternating current)***

**28--This safety device has a bimetallic strip that curls to stop the flow of electricity if overheating occurs.**

***(circuit breaker)***

**Biological Diversity**

**2--I am green and don't need to eat to survive*.(Plants or plantae)***

**4--Features that increase an organisms chance of survival in a particular environment.*(Adaptations)***

**6--Similar organisms that can mate and produce viable offspring. *(Species)***

**8--All living things fit into one of these five large groups.*(Kingdoms)***

**10--A fertilized cell. *(Zygote)*­**

**12--This is another name for broad niche organism. *(generalists)***

**14--Creation of new life from one organism with genetic information from one parent only. *(asexual reproduction)***

**16--A close relationship between two different species in which one partner is unaffected and the other benefits. *(commensalism)***

**18--The process that creates the gametes/sex cells. *(meiosis)***

**20--The entire female reproductive organ in an angiosperm. *(pistil)***

**22--Skin colour is an example of this kind of trait.**

***(continuous variation)***

**24--This is the geographical location where you would find the highest diversity index. *(equatorial tropics)***

**26--Polydactyly is a dominant trait. This is what dominant means. *(masks the recessive form of the trait)***

**28--These are the nitrogen base pairings. *(A-T, C-G)***

**30--This is a possible cause of speciation.**

***(geographical separation of species leading to a new species)***

**32--These are two advantages of internal fertilization.**

***(gametes protected from weather and chemicals, sperm move to egg in a protected environment)***

**34--This describes the nature vs nurture concept.**

***(some of our characteristics controlled by nature—genetics and others controlled by nurture—our environment and experiences but most characteristics are influence by both)***

**36--This describes the structure of a nucleotide.**

***(sugar, phosphate and a pair of nitrogen bases)***

**38--An genetically modified organism that has a segment of genetic code from one species spliced into its code is known as this. *(transgenic e.g. spider goats)***

**Space**

**2--The ancient view of the universe where earth is the centre and all celestial bodies rotate around us.**

***(geocentric model)***

**4—Point to the position in this classroom from where you are standing that is 180º azimuth and 45º altitude.**

**6—The largest planet in our solar system. *(Jupiter)***

**8—This is the primary advantage of modern space shuttles. *(reusable)***

**10--The term used to describe what happens to light as a star moves toward us. *(blue shifted)***

**12—connecting radio telescopes across a distance to create the effect of one very large telescope is a method known as this. *(interferometry)***

**14—This is the purpose of multi-stage rockets. (*drop off stages as fuel is used to make a lighter load)***

**16—These are two examples of how remote sensing is used.**

***(predict/track weather, monitor forests, etc.)***

**18—This is an example of an artificial satellite.**

***(e.g. Hubble telescope)***