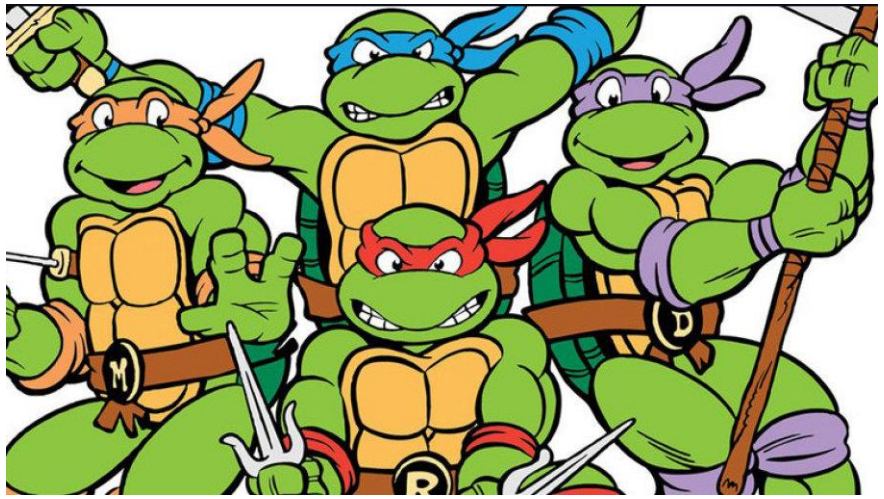
Knowledge Ninja



Cell Biology - Questions

1. Name three organelles of a plant cell not found in an animal cell?
2. Which type of cell contains 23 chromosomes?
3. How do you calculate the magnification of something?
4. What is mitosis and what is it used for in animals and plants?
5. What is a stem cell?

Biology - Answers

1. Vacuole, Cell Wall, chloroplasts.
2. Gamete.
3. Size of image / Actual size of object.
4. Growth, repair and asexual reproduction.
5. An undifferentiated cell.

Biology - Questions

1. What is diffusion?
2. What is osmosis?
3. What is active transport?
4. Put the following in size order from smallest to largest: tissue, organ system, cell, organism, organ.
5. What is an enzyme?

Biology - Answers

1. The spreading of the particles of a gas or substances in solution, resulting in a net movement of particles from a region where they are of a higher concentration *to an area of* lower concentration.
2. The diffusion of water from a dilute, low concentrated solution (high water) to a concentrated solution (low water) through a partially permeable membrane.
3. It moves substances (commonly ions) from a more dilute solution to a more concentrated solution (against a concentration gradient). The energy is provided by respiration.
4. cell → tissue → organ → organ system → organism
5. proteins or biological catalysts

Biology - Questions

1. What two factors can affect Enzyme activity?
2. Where is lipase produced and what does it break down?
3. Give two adaptations of alveoli?
4. Name the four main components of blood?
5. Name the three most common causes of CHD?

Biology - Answers

1. Temperature and pH level.
2. Pancreas and Fats.
3. Large surface area, covered in lots of capillaries.
4. Plasma, White cells, Red cells and Platelets.
5. Smoking, High cholesterol and lack of exercise.

Biology - Questions

1. What are stents and why are they used?
2. What is a double circulatory system?
3. What makes veins different to arteries and capillaries?
4. What is the difference between non-communicable and communicable disease?
5. Which type of tumour is cancerous?

Biology - Answers

1. Metal cylinder grids which can be inserted into an artery to maintain blood flow by keeping the artery open so that the heart continues to receive enough oxygen to function effectively.
2. Where blood is pumped through the lungs and the body at the same time.
3. Valves.
4. Communicable disease is infectious diseases caused by microbes that can be spread. Non-communicable diseases are not caused by infections and cannot be spread.
5. Malignant.

Biology - Questions

1. What is the word equation for photosynthesis?
2. Where does photosynthesis occur?
3. Why does the heart rate increase during exercise?
4. What is the definition of metabolism?
5. What is oxygen debt?

Biology - Answers

1. Water + Carbon Dioxide → (*SUN)* Oxygen + Glucose
2. Chlorophyll.
3. Increased demand for oxygen and energy (glucose).
4. Metabolism is the sum of all reactions which occur in a cell or body.
5. A temporary oxygen shortage in the body tissues arising from exercise. Assisting with the chemical breakdown of lactic acid.

Biology - Questions

1. What is the difference between sexual and asexual reproduction?
2. Where does Meiosis occur?
3. List **two** reasons why it is important to understand more about the human genome.
4. Calculate the possible genotypes of offspring's with parental genotypes Bb & bb?
5. What does an evolutionary tree show?

Biology - Answers

1. Asexual reproduction involves only one parent. No mixing of genetic information occurs. All offspring are genetically identical (called clones)
2. Reproductive organs
3. To be able to identify the genes which are linked to different diseases, To understand and be able to treat inherited disorders & To use in tracing human migration patterns from the past.
4. Bb, Bb, bb & bb
5. How organisms are related using current classification data or fossil data is a species is extinct

Biology - Questions

1. Define Ecology
2. What are the three types of Adaptations?
3. What is an abiotic factor?
4. Define the terms predator and prey?
5. List three main processes in the carbon cycle?

Biology - Answers

1. The relationship of organisms to one another and to their physical surroundings.
2. Behavioural, Structural and Functional
3. A non-living factor
4. An animal which kills and eats another animal and an animal which is hunted for food by another animal
5. Photosynthesis, Respiration, Combustion and Decay.

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Biology Questions

1. What is meant by the term limiting factor?
2. What is the word equation for the fermentation in yeast?
3. List 4 ways a plant can use the glucose produced in photosynthesis?
4. Name three processes that organisms require energy for.
5. Why is respiration described as an exothermic reaction?

Biology - Answers

1. A factor which is not at an optimum level to enable maximum rate of photosynthesis e.g. temperature
2. Glucose -> Ethanol + Carbon dioxide
3. Used in respiration, starch storage, lipid storage, cellulose cell walls, conversion into proteins for growth.
4. Chemical reactions to build larger molecules, keeping warm and movement
5. Respiration is an exothermic reaction because it transfers energy to the environment

Biology - Questions

1. What is homeostasis?
2. What is the name given to the organs which secrete hormones?
3. List three conditions that the body needs to maintain.
4. What is an effector?
5. List the receptor cells and the stimulus they detect?

Biology - Answers

1. The regulation of the internal conditions of a cell or organism to maintain optimum conditions
2. Endocrine glands
3. Blood glucose concentration, body temperature and water levels.
4. A Muscle or gland
5. Eye (retina) - light, Ear – sound, Nose – Chemicals in the air, Mouth (tongue) – chemicals in food, Skin - touch, pressure, pain and temperature

Key Words

1. What is Repeatable?
2. What is Reproducible?
3. What does precision mean?
4. What does accuracy mean?
5. What is a random error?

Key Words answers

1. A measurement is repeatable if the original experimenter repeats the investigation using same method and equipment and obtains the same results.
2. A measurement is reproducible if the investigation is repeated by another person, or by using different equipment or techniques, and the same results are obtained.
3. Precise measurements are ones in which there is very little spread about the mean value. Precision depends only on the extent of random errors – it gives no indication of how close results are to the true value.
4. A measurement result is considered accurate if it is judged to be close to the true value.
5. These cause readings to be spread about the true value, due to results varying in an unpredictable way from one measurement to the next. Random errors are present when any measurement is made, and cannot be corrected. The effect of random errors can be reduced by making more measurements and calculating a new mean.