**MEIOSIS**

1. **How many daughter cells are produced by the process of meiosis?**
2. **Do chromosomes replicate and double or divide and half their number before meiosis?**
3. **How many copies of each chromosome are there in human sex cell?**
4. **Are the daughter cells following meiosis diploid or haploid?**
5. **What advantage does sexual reproduction have over asexual reproduction?**
6. **What are two results of Meiosis?**
7. **You have 100 trillion cells in your body. How many X chromosomes does your father have in his body?**
8. **What is Non-Disjunction?**
9. **What are the names and relative sizes of the sex chromosomes?**
10. **What is the difference between Meiosis I and Meiosis II?**

**MITOSIS**

1. **Name, in order, the four stages of mitosis.**
2. **What are the two main events in interphase?**
3. **If a cell has 66 chromosomes how many are there in each daughter cell after Mitosis.**
4. **Name a type of cell that doesn’t undergo mitosis.**
5. **What happens to chromosomes during metaphase?**
6. **What is the result of Asexual reproduction?**
7. **What is the net result of Mitosis?**
8. **What would happen if mitosis occurred before DNA replication?**
9. **What is a Karyotype?**
10. **What is an Autosome?**

**HEREDITY AND GENETICS**

1. **The two genes or alleles that combine to determine a trait would be the organism's \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**
2. **If both alleles are the same on homologous chromosomes is the organism homozygous or heterozygous for that gene?**
3. The genes for sex-linked traits are only carried on which chromosome?
4. If being greedy is dominant (G) and being generous is recessive (g) what are the chances of generous parents having a greedy child?
5. Explain why recessive sex linked traits tend to show up more in men than women.
6. What word describes how an organism looks and behaves?
7. **What does a genetic councilor use a Pedigree for?**
8. **What makes a disease inheritable?**
9. **What is an allele?**
10. If having black fur is dominant (F) and having blonde fur is recessive (f) what is the ratio of Black:Blonde offspring if both parents are heterozygous?

**EARTH HISTORY**

1. What is the most reliable method for dating rocks?
2. **What is a Sedimentary Rock?**
3. **What is the half-life of a radioactive element?**
4. How old is the Earth?
5. What is a Fossil?
6. If the half-life of a radioactive isotope is 4000 years, how long will it take a rock containing the isotope to be 25% as radioactive as it was when it started out?
7. Could the isotope in the previous question be used to date fossils? Explain.
8. How does the half-life of a radioactive element change over time?
9. What causes continents to move?
10. Give two reasons why fossils are so rare.

Principles of EVOLUTION

1. What happens to a species if its environment changes too quickly?
2. How do genes change?
3. Give two ways combinations of genes change? (hint: they are both the result of Meiosis).
4. What is the result of genes changing and how these genes are combined together?
5. List two resources that organisms compete for in the environment.
6. Which organisms in a population are most likely to have offspring and pass on their traits? (Do not say "the strongest")
7. What is artificial selection?
8. If variation is the "fuel" of evolution what is the "driving force"?
9. **How might we know two organisms are related but not the same species?**
10. **In nature, what tends to happen to the size of populations over time?**

**Evidence of Evolution**

1. **What is the role of the hormone Glucagon?**
2. **What substance are steroid hormones synthesized from?**
3. **What do endocrine glands produce?**
4. **What is type 1 diabetes?**
5. **What happens when hormones contact receptors on target cells?**
6. **What is the result of a negative feedback loop?**
7. **What is missing from the following list? [Organism; Body System; Tissue; Cell]**
8. **What is an integument?**
9. **What is the function of the digestive system?**
10. **Name two endocrine glands.**