

# Quizzes

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1. A hypothesis that posits “no effect” is called a \_\_\_\_\_ hypothesis, and is compared with an \_\_\_\_\_ hypothesis.
2. The meter measures length, and is a \_\_\_\_\_ unit; meters/second measures velocity, and is a \_\_\_\_\_ unit.
3. Scientists (and people in general) often see what they \_\_\_\_\_ to see.
4. In one sentence, briefly describe one pillbug behaviour that you observed last week.
5. Before milk was enriched with vitamin D, rickets was more common in areas with low average insolation. What does insolation mean?

1. A small p-value (e.g. 0.001) is evidence against the \_\_\_\_\_ hypothesis, since the results are very unlikely the result of \_\_\_\_\_ alone.
2.  $R^2$  is known as the coefficient of \_\_\_\_\_. It measures how much variation in the dependent variable is explained by the \_\_\_\_\_.
3. In one sentence, name and BRIEFLY describe your favorite non-infectious disease.
4. “Characteristically bad tasting or toxic, \_\_\_\_\_ are a powerful line of defense against animal predators.”
5. “Humans have a long history of using plants for \_\_\_\_\_ purposes.”

1. I want to study how plant growth is affected by temperature. The independent variable is \_\_\_\_\_, and the dependent variable is \_\_\_\_\_.
2. In **one sentence**, name and **describe** the source/effects of your favorite plant-derived alkaloid (hint - the names of many end in -ine).
3. “In photosynthesis, \_\_\_\_\_ molecules are ‘split’ (a process known as photolysis), and \_\_\_\_\_ is released from this reaction.
4. Fermentation:  $C_6H_{12}O_6 \rightarrow 2$  \_\_\_\_\_ + 2 \_\_\_\_\_
5. “Carbon dioxide is a greenhouse gas, meaning that it retains heat from \_\_\_\_\_, whereas oxygen is not.”

1. The energy that powers muscles in the heart & neurons in the brain originally came from \_\_\_\_\_.
2. \_\_\_\_\_ produces sugar and oxygen from carbon dioxide and water; \_\_\_\_\_ produces carbon dioxide and water from sugar and oxygen. Together they form a closed cycle.
3. “The basic structural unit of DNA is the \_\_\_\_\_.”
4. a). DNA is an acronym for \_\_\_\_\_.  
b). Notecard.
5. “The two processes by which DNA controls protein synthesis are known as \_\_\_\_\_ and \_\_\_\_\_.”

1. DNA is read from \_\_\_\_ to \_\_\_\_\_ and written from \_\_\_\_\_ to \_\_\_\_\_.
2. In eukaryotes, DNA is stored in the \_\_\_\_\_. In transcription, genes are copied from DNA to \_\_\_\_\_.
3. a) “DNA is packaged into \_\_\_\_\_, strands of DNA with associated proteins.”  
b) Notecard.
4. Cell division for somatic cells is called \_\_\_\_\_, and cell division for gametic cells is called \_\_\_\_\_.
5. Every human has \_\_\_\_\_ total chromosomes, \_\_\_\_\_ from each parent.

1. a) Independent assortment randomly separates homologous pairs of chromosomes into gametes during \_\_\_\_\_.  
b) Notecard
2. \_\_\_\_\_ is when homologous pairs of chromosomes break and recombine with each other to form novel combinations of alleles.
3. What happens during cytokinesis?
4. In a homozygous genotype, the two alleles are \_\_\_\_\_, and in a heterozygous genotype, the two alleles are \_\_\_\_\_.
5. “A gene is a section of \_\_\_\_\_ that codes for a single polypeptide.”

1. a) In one sentence, explain the difference between genotype and phenotype  
b) Notecard
2. “A \_\_\_\_\_ is a section of DNA that codes for a single polypeptide.” An \_\_\_\_\_ is one version of that DNA section (often differing between individuals).
3. Write out a Punnet square of the monohybrid cross between the two parents Ff and Ff. How many offspring phenotypes are possible?
4. “The bones in the wing of a bird and in the wing of a bat are \_\_\_\_\_. ” (Hint - uses the prefix for “same”)
5. “Evolution by natural selection is the unifying theory of \_\_\_\_\_.”



**Please put everything away  
except notecard and paper.**

1. Notecard - 2 points
2. In **one sentence**, describe the meaning of “heritable trait frequencies”.  
Please write clearly.
3. a) “The first life on earth was \_\_\_\_\_..”  
(Hint - answer is **not** arhaea or bacteria)
- b) Name 2 traits that archaea and bacteria have in common.

**Go look at slides when you're done!**

## You must have a notecard to get quiz credit

1. Name 2 different environments that archaea are commonly found in.
2. Name 2 methods of locomotion (movement) found in protists.
3. Name 1 cell structural feature that bacteria and protists have in common (other than DNA/genes/proteins).
4.
  - a) What do fungi use chitin for?
  - b) What do plants use cellulose for?
5. What does “heterotrophic” mean? Name one heterotrophic species.

## You must have a notecard to get quiz credit

1. Give an example of a:
  - a. Non-vascular plant
  - b. A seedless vascular plant
2. Give an example of a plant that has flagellated sperm.
3.
  - a) Name 2 resources that plants compete for.
  - b) Name 2 structures that help them acquire those resources.
4. “Porifera are the \_\_\_\_\_ (least derived) phylum of Animalia”.
5. “The cnidaria are the jellyfish, sea anemones, coral, and hydras. They have \_\_\_\_\_ symmetry.

## You must have a notecard to get quiz credit

Name one macroscopic (not molecular/cellular) feature that the following organisms have in common. You must use a different answer for each question.

1. Flatworms (platyhelminthes) and roundworms (nematodes).
2. Sponges (porifera) and cnidaria (jellyfish, hydra).
3. Arthropods (e.g., insects) and fungi
4. Bony fish and segmented worms (annelid)
5. Mammals and molluscs (e.g. snails).