

## Refutational Writing

Once each semester you will write a one- to two-page essay on a topic of your choice. This essay will REPLACE the essay test for the unit to which it corresponds; you will take the MC test in class and submit this essay via turnitin.com the same day INSTEAD of completing the essay test in class. This refutational essay will count as your essay test grade for that unit. You must sign up (via Google form) letting me know which essay you will be completing each semester.

For each essay you write, remember to

- clearly state the misconception you are trying to refute;
- include several specific facts, details, reasons, and/or examples that show or demonstrate why the misconception is inaccurate;
- explain how the correct conception is true;
- include several specific facts, details, reasons, and/or examples that show or demonstrate the correct conception;
- present your ideas in a clear and logical order, including an introduction, body, and conclusion;
- use a variety of words and well-constructed sentences to create a professional tone and voice;
- include at least three references in your essay (textbook, online resources, etc), and be sure to cite them correctly; and
- correct errors in capitalization, punctuation, sentence structure, spelling, and grammar.

### Topics and Units for First Semester

- Misconception about theories and laws (Biochem Unit, chapters 1-3): Many people believe theories turn into laws. In other words, some people believe that a theory is a well-supported hypothesis and a law is a theory that has been proven true. Your essay should convince someone who thinks this way that it is a misconception.
- Misconception about the nature of science (Biochem Unit, chapters 1-3): Many people believe that scientific knowledge is absolute. In other words, some people think of scientific knowledge as something that has been proven true and as a result, it cannot or will not change. For these people, scientific knowledge is not tentative; scientific knowledge is absolute. Your essay should convince someone who thinks this way that it is a misconception.
- Misconception about inheritance of traits (Genetics Unit, chapter 11): Many people think that all human traits are inherited. In other words, some people think that artistic skills learned through practice or large muscles developed through countless hours in the gym, or other acquired characteristics can be inherited in the same way that hair color, eye shape, and baldness are inherited. They think that acquired characteristics are transferred to our offspring in the same way that inherited traits are transferred – through genes. Your essay should convince someone who thinks this way that it is a misconception.

### Topics and Units for Second Semester

- Misconception about life on Earth (Evolution Unit, chapters 15-19): Many people think that species do not evolve over time. In other words, some people think that a change in the gene frequency in a population from one generation to the next (microevolution) does not happen, and the formation of a new species from an existing species (macroevolution) has never occurred. Your essay should convince someone who thinks this way that it is a misconception.
- Misconception about insects (Evolution Unit, chapters 15-19): Many people think that some organisms do not play an important role in an ecosystem. For example, some people think that termites are nothing but pests because they damage our property. These people often want to get rid of all termites. They think that insects, such as termites, are not important and that eliminating all of them would not have a negative impact on an ecosystem. Your essay should convince someone who thinks this way that it is a misconception.
- Misconception about bacteria (Human Body Unit 1, chapters 33-35): Many people think that all bacteria cause disease. In other words, some people think that all bacteria are bad for humans. Your essay should convince someone who thinks this way that it is a misconception.
- Misconception about plant reproduction (Plant Unit, chapters 24-28): Many people think that plants do not sexually reproduce. In other words, some people think that sexual reproduction is something that only animals do and that plants do not. Your essay should convince someone that thinks this way that it is a misconception.