

TAKE HOME LAB EXAM

DUE Monday, May 3, 2010

Instructions: READ THOROUGHLY AND CAREFULLY BEFORE YOU BEGIN

You must answer each of the following three (3) questions. This assignment will require some serious homework and web searching to complete fully. This is half of your lab grade, or fifty (50) points of your final grade. Do NOT resort to Wikipedia for your sources. In addition to the answers you generate to each question, you must attach copies of the actual articles upon which you relied to generate your answers. Just citing a website will not do.

You must address all of the subparts of each question (a, b, c, etc.) to receive ANY credit for the question.

Your answers *must be typed* but may include drawn diagrams.

Question 1: Our first lab assessed the use of the scientific method and the risks of “marrying your hypothesis” rather than just “dating” it. Recall we saw the risks as they affected people caught up in the controversy surrounding facilitated communication for autistics. For your first assignment, find a current science article (it doesn’t matter what it is) and describe each stage of the scientific method that it contains:

- a. what is the observation?
- b. what is the causal question?
- c. what is/are the hypothesis/hypotheses being tested?
- d. what is the test, the predictions and the results?
- e. what is the conclusion regarding the hypothesis or hypotheses?

Note: if you can not glean each of the steps of the scientific method from the article, then it is not a science article. Find another. Attach a copy of the article to your exam.

Question 2: One of our labs was the dots lab that illustrated ‘natural’ selection. Find a recent article (dated 2008 or more recently) that describes an example of natural selection. What trait is being selected for or against and why? Attach a copy of the article to your exam.

Question 3: The video, ‘Harvest of Fear’ described genetically modified organisms (GMOs). Although the video focused on plant crops, animal biotechnology is also underway. Using google, search ‘in vitro meat’ and from the hits you get, answer the following questions:

- a. what is in vitro meat?
- b. how is in vitro meat produced?
- c. list 5 advantages of in vitro meat over ‘natural’ ranch-raised meat.
- d. thinking back to ecology and the 10% rule, how will in vitro meat affect human diet and the energy we receive from our food?
- e. why is in vitro meat not considered a GMO?