

BIOLOGY ASSIGNMENT

ABIOTENESIS versus BIOTENESIS

1. Match the various experiments with the following biologists.

- | | |
|-------------------|--|
| _____ Aristotle | a. boiled the meat broth to kill microbes but the broth was murky despite being in loosely sealed flasks |
| _____ van Helmont | b. mud gave rise to frogs and fish |
| _____ Redi | c. boiled the meat broth and sealed the flasks proving microbes did not arise from the broth |
| _____ Needham | d. mice were created from wheat and a dirty shirt |
| _____ Spallanzani | e. used a swan-neck flask to boil the meat broth |
| _____ Pasteur | f. proved the maggots found rotting fish were result of flies depositing their eggs |

- _____ 2. The theory of biogenesis means that:
- a. living things come from non-living things
 - b. living things are capable of regenerating themselves.
 - c. living things come from previous living things.
 - d. living things are spontaneously generated.
- _____ 3. What did the critics stated was missing from Redi and Spallanzani's experiments?
- a. water b. air c. microbes d. nutrients
- _____ 4. What was the independent variable in Redi's experiment?
- a. the open jars b. the closed jars c. 4 types of meat d. treatment of the jars (open vs closed)
- _____ 5. What was the dependent variable in Redi's second experiment?
- a. the growth of maggots
 - b. the lack of growth of maggots
 - c. the presence of the active ingredient
 - d. the prevention of flies from laying their eggs
- _____ 6. What type of flask did Pasteur use in his experiment to disprove abiogenesis?
- a. sealed b. narrow opening c. a swan neck d. a J-flask
- _____ 7. Who is given credit for establishing the theory of biogenesis?
- a. Redi b. Spallanzani c. Needham d. Pasteur