MS. Vassar’s TCAP Study Guide

TSW…

1- Classify organisms as producers, consumers, scavengers, or decomposers according to their role in a food chain or food web.

2- Interpret how materials and energy are transferred through an ecosystem.

3- Identify the biotic and abiotic elements of the major biomes.

4- Identify the environmental conditions and interdependencies among organisms found in the major biomes.

5- Use data to draw conclusions about the major components of the universe.

6- Explain how the relative distance of objects from the earth affects how they appear.

7- Distinguish among a day, lunar cycle, and year based on the movements of the earth, sun, and moon.

8- Explain the different phases of the moon using a model of the earth, moon, and sun.

9- Predict the types of tides that occur when the earth and moon occupy various positions

10- Use a diagram that shows the positions of the earth and sun to explain the four seasons.

11- Explain the difference between a solar and a lunar eclipse.

12- Analyze data to identify events associated with heat convection in the atmosphere.

13- Recognize the connection between the sun’s energy and the wind.

14- Describe how temperature differences in the ocean account for currents.

15- Interpret meteorological data to make predictions about the weather.

16- Distinguish among gravitational potential energy, elastic potential energy, and chemical potential energy.

17- Interpret the relationship between potential and kinetic energy.

18- Recognize that energy can be transformed from one type to another.

19- Explain the Law of Conservation of Energy using data from a variety of energy transformations.

20- Identify how simple circuits are associated with the transfer of electrical energy when heat, light, sound, and chemical changes are produced.

21- Identify materials that can conduct electricity.

22- Design a simple experimental procedure with an identified control and appropriate variables.

23- Select tools and procedures needed to conduct a moderately complex experiment.

24- Interpret and translate data into a table, graph, or diagram.

25- Draw a conclusion that establishes a cause and effect relationship supported by evidence.

26- Identify a faulty interpretation of data that is due to bias or experimental error.

27- Identify the tools and procedures needed to test the design features of a prototype

28- Evaluate a protocol to determine if the engineering design process was successfully applied.

29- Distinguish between the intended benefits and the unintended consequences of a new technology.

30- Differentiate between adaptive and assistive engineered products.