

Physical and Chemical Sciences
Energy

Additional FCAT Practice Questions

Directions: Select the best answer for each of the following questions

1. Julianna was studying organisms in a local park, where she recorded the following plants and animals.



Which of the following best describes the transfer of energy between these organisms in a food chain?

- A. seeds > mouse > hawk > snake
- B. hawk > snake > mouse > seeds
- C. seeds > mouse > snake > hawk
- D. seeds > snake > mouse > hawk

2. All the organisms in a food chain play a role in the flow of energy in an ecosystem. Below is a picture of a food chain, where the grasshopper eats the grass, and the toad eats the grasshopper.



What is the primary role of the grass in this food chain?

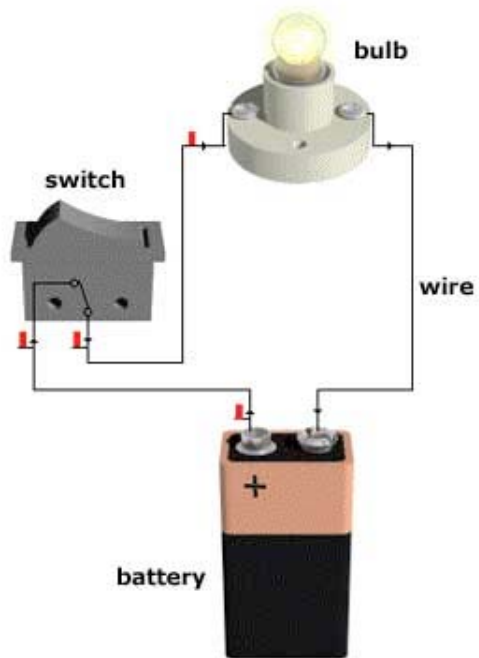
- A. The grass is the direct source of energy for the grasshopper
 - B. The grass absorbs nutrients from the frog
 - C. The grass is a source of water
 - D. The grass is the direct source of energy for the frog
3. All the organisms in a food chain play a role in the flow of energy in an ecosystem. Below is a picture of a food chain, where the grasshopper eats the grass, and the robin eats the grasshopper.



What is the primary role of the grasshopper in this food chain?

- A. The grasshopper absorbs nutrients from the robin
- B. The grasshopper is the direct source of energy for the grass
- C. The grasshopper is a source of water
- D. The grasshopper is the direct source of energy for the robin

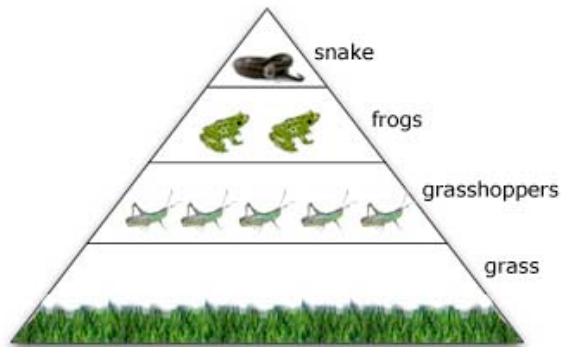
4. The following diagram represents a simple electric circuit.



Which of the items of the circuit is the source of energy for the circuit?

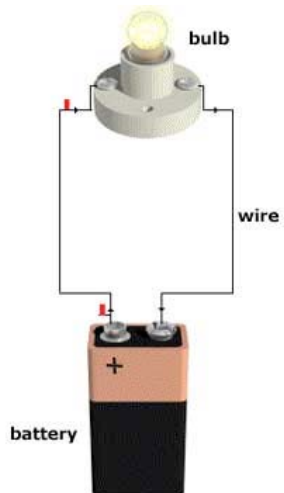
- A. Battery
- B. Wire
- C. Switch
- D. Bulb

5. The following diagram represents an energy pyramid, where snakes eat frogs, frogs eat grasshoppers, and the grasshoppers eat grass.



Which way does energy flow in the pyramid?

- A. Energy flows sideways in the pyramid
 - B. Energy flows down the pyramid
 - C. Energy flows up the pyramid
 - D. Energy does not flow in this pyramid
6. Bryan constructs a very simple electric circuit that includes a common light bulb.



Which two forms of energy does the light bulb release?

- A. Light and chemical
- B. Light and heat
- C. Magnetic and heat
- D. Light and electrical

7. While you are in a swimming pool you see a small girl standing on the end of the diving board, too frightened to jump into the water below. While the girl is on the board, what type of energy does she possess?
- A. Gravitational kinetic energy
 - B. Gravitational potential energy
 - C. Chemical potential energy
 - D. Chemical kinetic energy
8. Jennifer decides to practice some target shooting with her slingshot.



When Jennifer pulls the slingshot back and aims, what is the best way to describe the energy in the slingshot?

- A. Elastic kinetic energy
- B. Elastic potential energy
- C. Chemical potential energy
- D. Chemical kinetic energy

9. In some parts of the country, electrical energy is generated using very large propellers mounted on poles.



What source of energy drives these propellers to make electricity?

- A. Magnetic energy
 - B. Nuclear energy
 - C. Wind energy
 - D. Thermal energy
10. Bungee jumping is an exciting activity.



When a bungee jumper stands on a platform, they have a certain type of energy, which is converted to another form of energy when they jump and begin picking up speed. Which of the following best describes these two forms of energy?

- A. Elastic potential energy is converted to chemical energy
- B. Gravitational kinetic energy is converted to potential energy
- C. Elastic potential energy is converted to kinetic energy
- D. Gravitational potential energy is converted to kinetic energy

Answers

1. C
2. A
3. D
4. A
5. C
6. B
7. B
8. B
9. C
10. D