



CULVER

THE SHOCKING TRUTH

Discovery Guide
Culver Company Booklet #36250

Answer Key

Note: Many of the activities in The Shocking Truth don't have "Answers" per se, but are activities designed for co-operative learning.

- Page 2:**
1. Students should place an "X" on the Power Plant.
 2. The path should be traced from the power plant to the video game control.
 3. The path should be from the video control back to the power plant.

- Page 3:**
1. The following materials are conductors:
water, foil (aluminum), paper clip (steel), can (tin).
The following materials are insulators:
toothpick (wood), dry dirt, glass, hose (air), leather, plastic, paper and rubber band.
 - 2-4. Answers will vary according to what items the students choose.

- Page 4:**
- The path electricity travels is called a circuit.
The amount of electricity flowing through a conductor is measured in amps.
The pressure at which electricity flows is called voltage.
The place where electricity is always trying to go is the ground.

- Page 5:**
- Watering the grass while mowing with an electric lawnmower is not a safe combination. You may become part of electricity's path to the ground if you are accidentally sprayed by the hose.

- Page 6:**
1. When you touch electricity and the ground at the same time, you become part of the easiest path to the ground for electricity, and can be shocked or electrocuted.
 2. If a bird touches the pole (an extension of the ground) and a wire at the same time it could be electrocuted. The birds are not injured because they are not in contact with the pole or ground.
 3. An electric source (a wire) and the ground.

- Page 7:**
- Circle only the top picture.
Cross out the other three pictures.

- Page 8:**
1. 1,000 milliamps
 2. 10,000 milliamps
 3. Probably fatal
- Your body is 70% water.

- Page 9:**
- The top left picture—F
The top right picture—B
The middle left picture—E
The middle right picture—D
The bottom left picture—C
The bottom right picture—A

Page 11: The hard hat would protect their head from falling objects. Plastic is also a good insulator. The safety goggles would provide better protection for the eyes. The insulated gloves on the right are thicker, provide better insulation and won't tear easily.

Page 12: The car rests on four rubber tires that are insulators. The air and tires separate the metal car body from the ground. If you touch the car and the ground at the same time, then electricity would have a path to the ground. If you touch the body of the car to help someone from the car, you provide a direct path to the ground. If you touch point A and point B at the same time, 2,500 volts would flow through the person's body.

Page 13: If a person tried to put out an electrical fire with water, the water would provide a path to the person's body and electrocute them.

CROSSWORD PUZZLE

ACROSS CLUES

2. If you put your **BODY** between electricity and the ground, electricity will flow through you.
4. You can be safe around **ELECTRICITY** if you take the right precautions.
8. Coming in contact with electricity can cause **SHOCK**, burns, or death.
9. The path electricity travels in is called a **CIRCUIT**.
10. GFCI's are Ground **FAULT** Circuit Interrupters.
11. Fly kites in **OPEN** areas away from overhead power lines.
14. Overloaded **OUTLETS** can cause electrical fires.
16. Obey warning signs like Danger High **VOLTAGE**.

DOWN CLUES

1. Electricity flows through **CONDUCTORS** easily.
3. **FRAYED** electric cords can cause shock and fire.
5. Electricity always seeks the **EASIEST** path to the ground.
6. **INSULATORS** prevent the passage of electricity. They keep the electricity flowing through wires.
7. Birds can sit on an electric line because they are not touching the **GROUND**.
12. Don't climb transmission **TOWERS**, utility poles, or substation fences.
13. The safest thing to do in an electrical emergency is to call for **HELP**.
15. The human body is 70% **WATER**.

PRE AND POST READING TEST

ANSWER KEY

- | | | | |
|------|------|-------|-------|
| 1. C | 5. D | 9. D | 13. D |
| 2. A | 6. A | 10. A | 14. C |
| 3. B | 7. B | 11. C | 15. D |
| 4. B | 8. B | 12. C | |