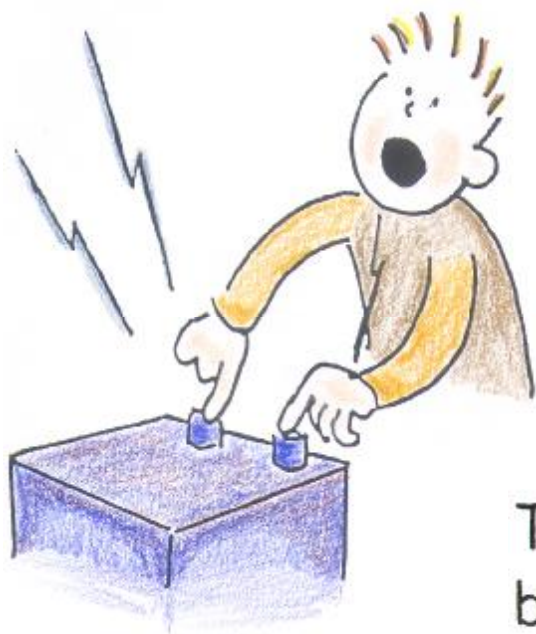


NEXT-TIME QUESTION

CONCEPTUAL Physics



Touch the terminals of a 100-volt battery and you're jolted. Touch a 10,000-volt rubber balloon and you feel nothing. Why?

CAREFUL :
TOUCHING HIGH-VOLTAGE
TERMINALS IS A SAFETY NO NO!



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ARBOR SCIENTIFIC
TOOLS THAT TEACH.

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Answer:

Voltage is energy per charge. How much energy depends on how much charge. A lot more charge flows through you when you become the circuit for the battery, and the corresponding energy flow can be a shocking experience.

Although the energy per charge is 100 times greater on the balloon, only about a millionth as much charge flows through you when you discharge it. The corresponding low energy flow is below your threshold of feeling.



If as much charge flowed through you in touching the high-voltage balloon as the low-voltage battery, you'd be in trouble!

High voltage at low energy is like high temperature at low energy. Both a high-voltage balloon and the high-temperature white-hot sparks of a 4th-of-July sparkler are harmless because their energies are very small.



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Demit!