

Period 18 Exercises

E.1 Which statement regarding current is TRUE?

- a) Current in a wire produces a magnetic field.
- b) Induced currents produce magnetic fields.
- c) Solenoids can be used with alternating current.
- d) The larger the current, the larger the magnetic field produced by the current.
- e) All of the statements are true.

E.1 = e

E.2 Which of the following will NOT exert a force on a moving charge?

- a) a permanent magnet
- b) an electromagnet
- c) a current carrying wire
- d) another moving charge
- e) an insulator

E.2 = e

E.3 The movement of the coil of wire in a loudspeaker when a current is sent through the coil

- a) illustrates the conversion of sound energy to electrical energy.
- b) is an example of sound energy converted to magnetic energy.
- c) illustrates the fact that a current carrying wire in a magnetic field experiences a force.
- d) none of the above is correct

E.3 = c

E.4 Which of the following principles is used in the design and operation of a stereo loudspeaker?

- a) A permanent magnet experiences a force when placed in the field of another permanent magnet.
- b) A current carrying wire experiences a force when placed in the field of another current carrying wire.
- c) A current carrying wire experiences a force when placed in the field of a permanent magnet.
- d) A capacitor experiences a force when placed in the field of a permanent magnet.
- e) None of these is used in loudspeakers.

E.4 = c

E.5 Which kind of energy is not present in a working loudspeaker?

- a) electrical
- b) magnetic
- c) chemical
- d) sound
- e) mechanical

E.5 = c

E.6 Which of the following does NOT make use of wave motion and energy?

- a) A bowling ball strikes a bowling pin.
- b) A radio plays music transmitted from a radio station.
- c) A microwave oven heats a slice of pizza.
- d) Jane is reading by the light of an incandescent lamp.
- e) A tennis ball floating on the river bobs up and down as a boat passes by.

E.6 = a

Solutions to Period 18 Exercises

$$\mathbf{E.1 = e}$$

$$\mathbf{E.2 = e}$$

$$\mathbf{E.3 = c}$$

$$\mathbf{E.4 = c}$$

$$\mathbf{E.5 = c}$$

$$\mathbf{E.6 = a}$$

