

Chapter 12

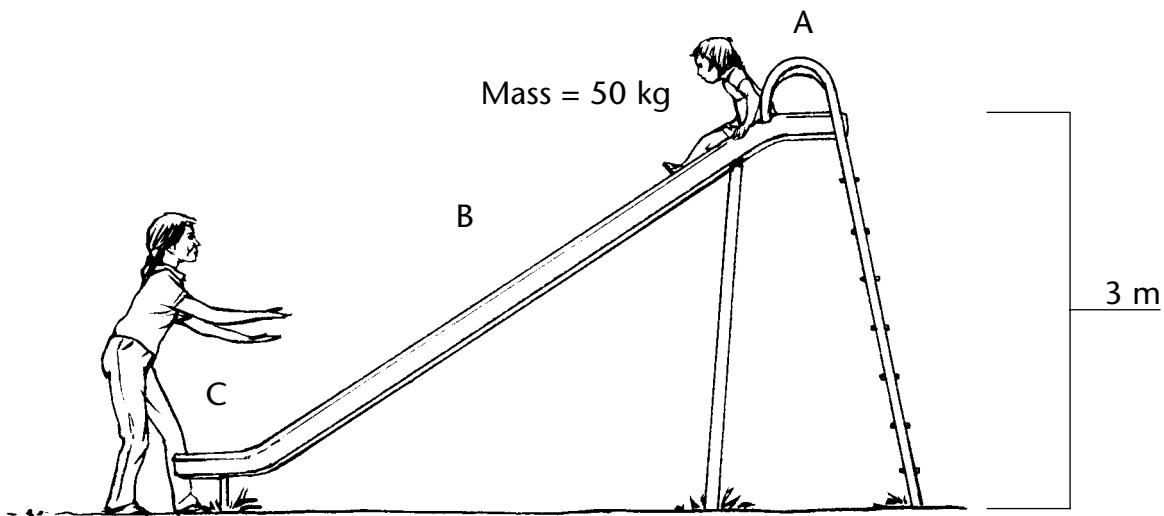
Use with Section 3

REINFORCEMENT

● **What is energy?**

In the following examples, indicate whether kinetic or potential energy is being displayed.

- _____ 1. A book sits on the edge of a desk.
- _____ 2. A soccer ball is kicked downfield by several soccer players.
- _____ 3. A pendulum swings down and through its range of motion.
- _____ 4. A pendulum is held motionless at the top of its range of movement.
- _____ 5. A spring is compressed and held in place.
- _____ 6. A paper clip moves toward a magnet.
- _____ 7. You hold a ball up as you prepare to bounce it on the floor.



After studying the illustration of the child getting ready to slide down the slide, answer the following questions about kinetic and gravitational potential energy.

- 8. At what point(s) is kinetic energy the highest? Lowest? _____
- 9. At what point(s) is gravitational potential energy the highest? Lowest? _____
- 10. Calculate the GPE for the child waiting at the top of the slide to go down. Use the formula $GPE = mgh$ to calculate the answer. Show your work. (Recall that g = acceleration due to gravity and equals 9.8 m/s^2) _____
- 11. What factors could influence the amount of kinetic energy possible when the child is sliding down the slide? _____
- 12. Can you think of another example of an activity that demonstrates both gravitational potential energy and kinetic energy in its range of movement? _____

