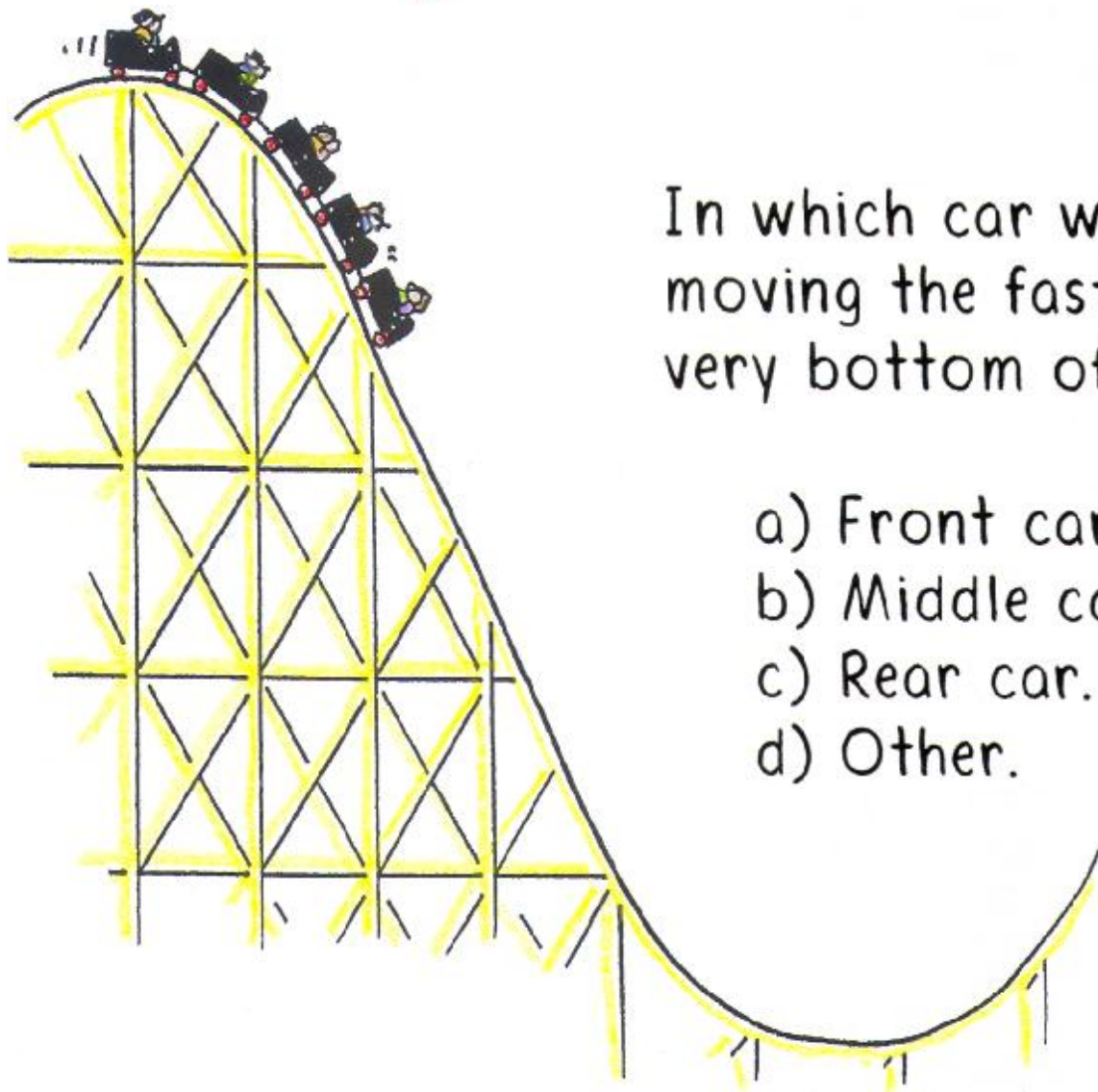


NEXT-TIME QUESTION

CONCEPTUAL Physics



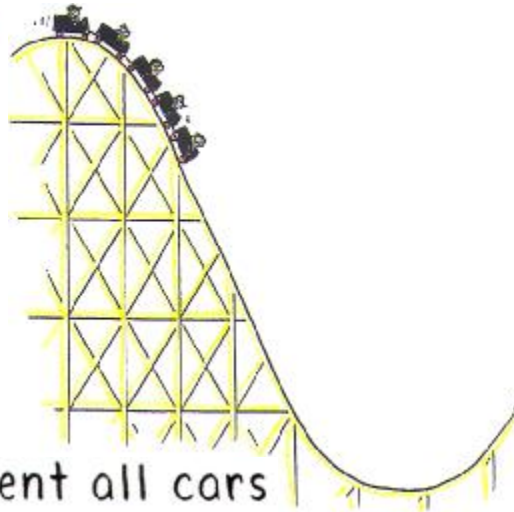
In which car will you be moving the fastest at the very bottom of the incline?

- a) Front car.
- b) Middle car.
- c) Rear car.
- d) Other.



Next-Time Question

CONCEPTUAL Physics



Which car will you be sitting in the fastest at the bottom of the incline?

- a) Front car.
- b) Middle car.
- c) Rear car.
- d) Other.

Answer: b

Of course, at any moment all cars have the same speed, but the gravitational potential energy of the system of cars is least when the middle car is at the bottom—when the center of mass of the system is lowest. Lowest potential energy means highest kinetic energy. So sit in the middle car for the fastest ride at the very bottom!



Another case where consideration of energy simplifies a problem!



If the upward slope is less than the downward slope, can you see that the cars will move fastest when a car in back of the midcar reaches the bottom?



ARBOR SCIENTIFIC
TOOLS THAT TEACH.

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Draw it!