

Power on the Move

Study how a model text connects a process, its limits, and its purpose.

9-10W2a "Introduce and organize complex ideas, concepts, and information to make important connections and distinctions."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the topic sentence in each paragraph, circle words that show a connection or contrast, and number the paragraphs 1, 2, and 3 to show how the explanation develops.

How a Car Recovers Energy

- ① Electric vehicles use batteries to store energy, but slowing a car can also create an opportunity. In a gasoline vehicle, brakes usually turn motion into heat, which then escapes. Many electric vehicles, by contrast, use regenerative braking to send some of that motion back to the battery. This system does not replace every kind of braking, yet it changes how engineers think about stopping: a slowdown can conserve energy as well as control speed. Understanding that connection helps drivers interpret the system's benefits and limits.
- ② When the driver lifts off the accelerator or presses the brake pedal, the car's electric motor can reverse its usual role. Instead of drawing electricity to spin the wheels, it is turned by the moving wheels and produces electricity. The vehicle's control system directs that electricity to the battery, if the battery can accept it. The process is most useful during gradual slowing or downhill travel, when the wheels keep the motor turning. Hard stops still require friction brakes, which grip the wheels to provide strong stopping force.
- ③ Regenerative braking has limits, so its value depends on conditions. A nearly full battery has little room for incoming electricity, and a very cold battery may accept energy more slowly. At low speeds, the motor also produces less braking force. For these reasons, the vehicle blends regenerative braking with friction braking. This combination connects efficiency to safety: regeneration can extend driving range, while friction brakes ensure reliable stopping when extra force is needed. Drivers may notice different pedal responses, but the goal remains consistent: recover energy when possible without reducing control.

2 ANSWER WITH EVIDENCE Use the passage

1 Which sentence introduces the passage's central idea, and what two ideas does it connect?

2 How does paragraph 2 organize its explanation of regenerative braking?

3 What distinction does paragraph 3 make between regenerative braking and friction braking?

4 Why does the author end by mentioning drivers' pedal responses and the goal of control?

3 YOUR TURN Your own words

Write one 90-110 word explanatory paragraph about a system or technology you know. Introduce the main idea, organize at least two connected details, and use a contrast to show an important distinction.

PART 1 • READ AND MARK

Underline the topic sentence in each paragraph, circle words that show a connection or contrast, and number the paragraphs 1, 2, and 3 to show how the explanation develops. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Which sentence introduces the passage's central idea, and what two ideas does it connect?	The first sentence introduces the central idea. It connects electric-vehicle batteries with the opportunity created when a car slows down.
2	How does paragraph 2 organize its explanation of regenerative braking?	It explains the process in sequence: the driver slows the car, the motor reverses its role, the moving wheels turn the motor, and electricity is directed to the battery. It then distinguishes hard stops, which need friction brakes.
3	What distinction does paragraph 3 make between regenerative braking and friction braking?	Regenerative braking can recover energy and extend range, but friction brakes provide reliable stopping force when more force is needed.
4	Why does the author end by mentioning drivers' pedal responses and the goal of control?	The ending connects the technical explanation to a driver's experience and reinforces the main point that energy recovery must not reduce safe control of the vehicle.

PART 3 • YOUR TURN (SAMPLE ANSWER)

City buses can reduce traffic, but their value depends on how a transit system is designed. A bus carries many passengers in one vehicle, so it can use less road space per rider than separate cars. However, a bus route with infrequent service may not help people whose work schedules change. For that reason, transit planners connect route frequency to access: frequent buses make shared transportation practical, while less-used routes may need smaller vehicles or different schedules. This distinction shows that public transit is not simply a question of adding buses. It is a system that must match service to riders' needs.

Accept equivalent explanations that identify the passage's introduction, sequence, connections, and distinctions. For the open response, look for a clear opening idea, logical organization, and a meaningful connection and contrast.