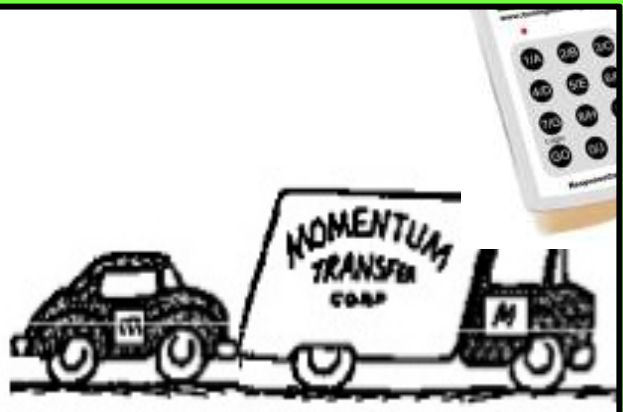
Problem 5



A truck breaks down and receives a push back into town by a small car as shown in the figure at the right.

5.1 While the car is pushing the truck and accelerating it to get it up to cruising speed, what can you say about the forces the car and the truck exert on each other?

A. The car feels a bigger force.

B. The truck feels a bigger force.

C. They exert equal forces on each other.

D. There is not enougn information to tell.

Problem 5

A truck breaks down and receives a push back into town by a small car as shown in the figure at the right.

5.1 Which of Newton's laws most helps you out in answering the last question?

A. N0

B. N1.

C. N2.

D. N3.

Example

- A book is placed on a table. The table reacts to this action by exerting an upward force on the book that prevents it from falling through the table. Which of Newton's laws is most relevant in explaining why the book remains stationary?

A. N0

B. N1.

C. N2.

D. N3.

Example

- A book is slid along a table and comes to a stop in a few feet. Why does the book change its motion by slowing down and stopping?

A. Since no forces are applied to the box it stops moving.

B. The box's memory of the force that caused it to move fades over time so it stops.

C. After the demonstrator stops pushing, there is an unbalanced force acting on the book.

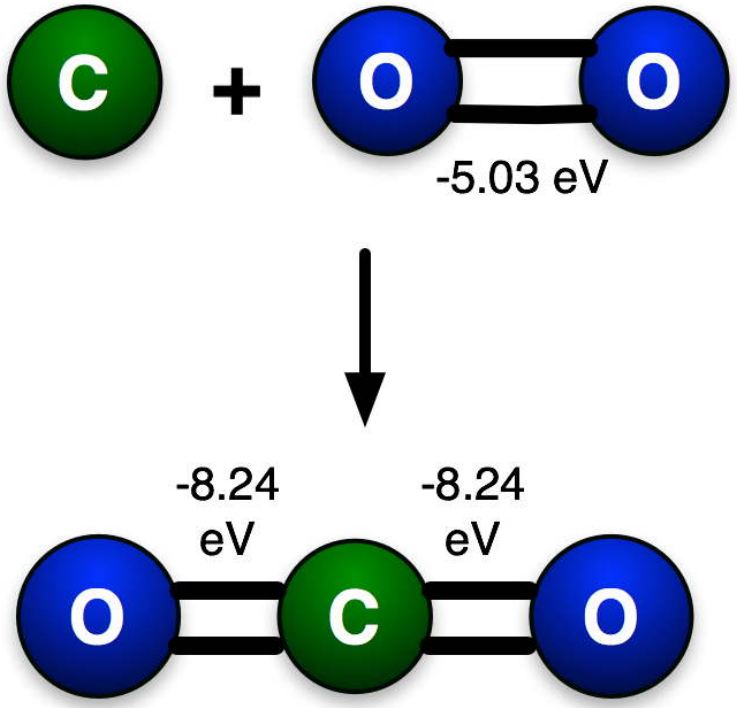
D. Something else.

Consider the reaction

$$C + O_2 \rightarrow CO_2$$

What is the **magnitude** of the change in the chemical energy for this reaction (per reaction)?

A. 8.24 eV
B. 3.21 eV
C. 11.45 eV
D. 16.48 eV
E. Something else



Consider the reaction

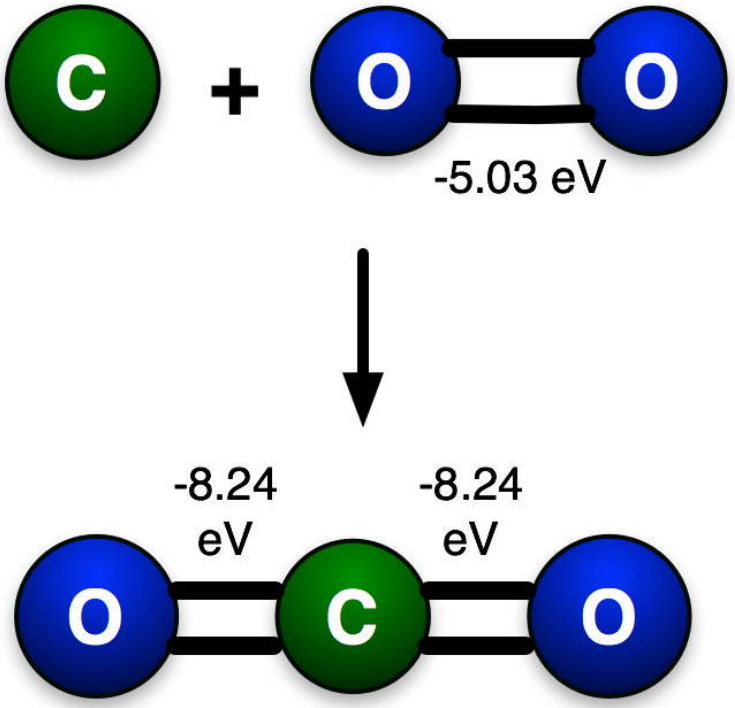
$$C + O_2 \rightarrow CO_2$$

What is the **sign** of the change in the chemical energy for this reaction (for a single reaction)?

A. Positive

B. Negative

C. Cannot be determined

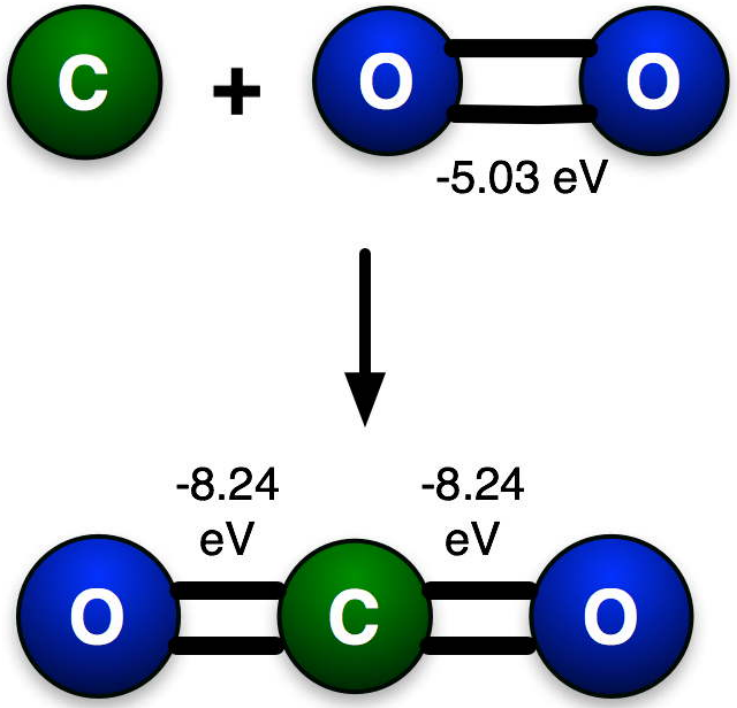


Consider the reaction

$$C + O_2 \rightarrow CO_2$$

If a mixture of carbon and oxygen gas undergoes the reaction at the right, what is the **sign** of the change in the **thermal** energy?

A. Positive
B. Negative
C. Cannot be determined



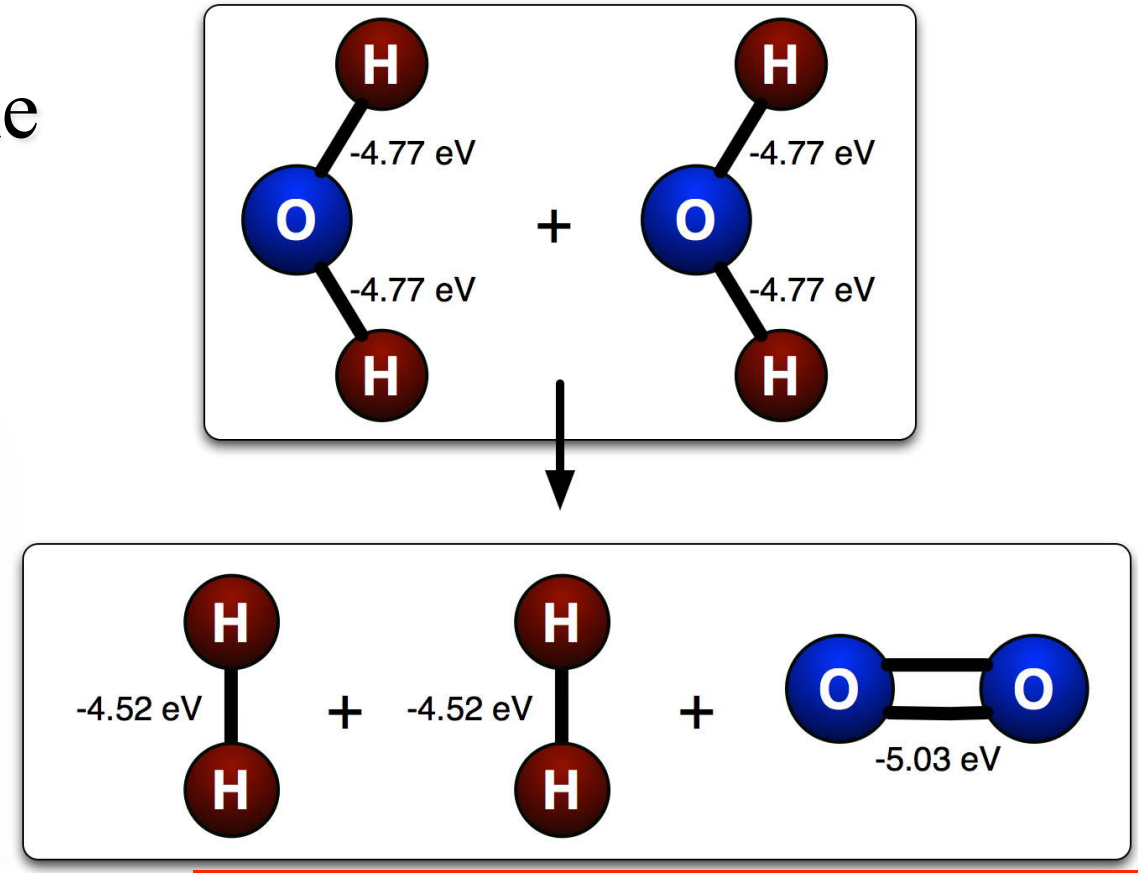
Does this make sense with your everyday experiences?

Consider the reaction

$$2H_2O \rightarrow 2H_2 + O_2$$

What is the **sign** of the change in the chemical energy for this reaction (per reaction)?

A. Positive
B. Negative
C. Cannot be determined



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Consider the reaction

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