

Unit 06: Thermochemistry and Thermodynamics

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1. Unit 06: Thermochemistry and Thermodynamics

4. Chapter: Unit 06: Thermochemistry and Thermodynamics

1. Unit 06: Thermochemistry and Thermodynamics Questions

4.1.1. A 5.10 g sample of iron is heated from 36.0°C to 75.0°C. Th...

Author: Joanna Smithback

A 5.10 g sample of iron is heated from 36.0°C to 75.0°C. The amount of energy required is 89.5 J. What is the specific heat capacity of iron?

Please choose only one answer:

- 17800 J/g °C
- 0.900 J/g °C
- 11.7 J/g °C
- 0.450 J/g °C

Check the answer of this question online at QuizOver.com:

Question: [A 5.10 g sample of iron is heated from 36.0°C to 75.0°C. The amount of energy required is 89.5 J. What is the specific heat capacity of iron?](#) @Saylor

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4.1.2. A 6.75 g sample of gold (specific heat capacity = 0.13 J/g °C) ...

Author: Joanna Smithback

A 6.75 g sample of gold (specific heat capacity = 0.13 J/g °C) is heated using 50.6 J of energy. If the original temperature of the gold is 25 °C, what is its final temperature?

Please choose only one answer:

- 82.7 °C
- 57.7 °C
- 24.4 °C
- 43.4 °C

Check the answer of this question online at QuizOver.com:

Question: [A 6.75 g sample of gold specific heat Joanna Smithback @Saylor General](#)

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4.1.3. A negative Gibbs free energy means a reaction will

Author: Joanna Smithback

A negative Gibbs free energy means a reaction will

Please choose only one answer:

- be spontaneous.
- react quickly.
- Both A and B
- None of the above

Check the answer of this question online at QuizOver.com:

Question: [A negative Gibbs free energy means a Joanna Smithback @Saylor General](#)

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4.1.4. Exothermic reactions are favored because they:

Author: Joanna Smithback

Exothermic reactions are favored because they:

Please choose only one answer:

- Increase entropy of the surroundings
- Increase entropy of the system
- Decrease entropy of the surroundings
- Decrease entropy of the system

Check the answer of this question online at QuizOver.com:

Question: [Exothermic reactions are favored because Joanna Smithback @Saylor](#)

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4.1.5. For the following general reaction, what can be said about the spon...

Author: Joanna Smithback

For the following general reaction, what can be said about the spontaneity at different temperatures? $A + B \rightleftharpoons C + D$; ΔH° is positive; ΔS° is negative.

Please choose only one answer:

- product-favored at all temperatures
- product-favored only at high temperature
- product-favored only at low temperature
- product not-favored at any temperature

Check the answer of this question online at QuizOver.com:

Question: [For the following general reaction what Joanna Smithback @Saylor](#)

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4.1.6. Given the following information, which of the following answers pro...

Author: Joanna Smithback

Given the following information, which of the following answers provides the calculation of ΔG° for the reaction below at 25°C? $\text{H}_2\text{O}(g) + \text{S}(s) \rightarrow \text{H}_2\text{S}(g) + \frac{1}{2} \text{O}_2(g)$ $\Delta H^\circ = +221.2 \text{ kJ}$ $\Delta S^\circ = +87.7 \text{ J/K}$

Please choose only one answer:

- 247.3 kJ
- -195.1 kJ
- 219.0 kJ
- 195.1 kJ

Check the answer of this question online at QuizOver.com:

Question: [Given the following information which of Joanna Smithback @Saylor](#)

Flashcards:

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4.1.7. Use the following thermochemical equations to solve for the value o...

Author: Joanna Smithback

Use the following thermochemical equations to solve for the value of ΔH° for the reaction: $2\text{F}_2(\text{g}) + 2\text{H}_2\text{O}(\text{l}) \rightarrow 4\text{HF}(\text{g}) + \text{O}_2(\text{g})$. $\text{H}_2(\text{g}) + \text{F}_2(\text{g}) \rightarrow 2\text{HF}(\text{g})$ $\Delta H^\circ = -542 \text{ kJ}$
 $\text{H}_2(\text{g}) + \text{O}_2(\text{g}) \rightarrow 2\text{H}_2\text{O}(\text{l})$ $\Delta H^\circ = -572 \text{ kJ}$

Please choose only one answer:

- -452 kJ
- -922 kJ
- -1124 kJ
- -512 kJ

Check the answer of this question online at QuizOver.com:

Question: [Use the following thermochemical equations Joanna Smithback @Saylor](#)

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4.1.8. What is the sign of the enthalpy change for an exothermic reaction?

Author: Joanna Smithback

What is the sign of the enthalpy change for an exothermic reaction?

Please choose only one answer:

- positive
- This cannot be determined from the information given.
- negative
- It depends on the temperature.

Check the answer of this question online at QuizOver.com:

Question: [What is the sign of the enthalpy change Joanna Smithback @Saylor](#)

Flashcards:

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4.1.9. What is the value of the standard enthalpy of formation for any ele...

Author: Joanna Smithback

What is the value of the standard enthalpy of formation for any element under standard conditions?

Please choose only one answer:

- 273 J/mol
- 0.24 J/mol
- 4.18 J/mol
- 0 J/mol

Check the answer of this question online at QuizOver.com:

Question: [What is the value of the standard enthalpy Joanna Smithback @Saylor](#)

Flashcards:

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4.1.10. Which of the following answers provides the correct calculation for...

Author: Joanna Smithback

Which of the following answers provides the correct calculation for the standard enthalpy change, ΔH° , for the formation of 1 mole of strontium carbonate (the material that gives the red color in fireworks) from its elements? Use the information given: Calculate ΔH° for the reaction

Please choose only one answer:

- -432 kJ
- -1220 kJ
- 1220 kJ
- 36 kJ

Check the answer of this question online at QuizOver.com:

Question: [Which of the following answers provides Joanna Smithback @Saylor](#)

Flashcards:

<http://www.quizover.com/flashcards/which-of-the-following-answers-provides-joanna-smithback-saylor?pdf=3044>

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4.1.11. Which of the following do you expect to have the largest entropy at...

Author: Joanna Smithback

Which of the following do you expect to have the largest entropy at 25°C?

Please choose only one answer:

- $\text{H}_2\text{O}(l)$
- $\text{H}_2\text{O}(s)$
- $\text{O}_2(g)$
- $\text{CCl}_4(l)$

Check the answer of this question online at QuizOver.com:

Question: [Which of the following do you expect to Joanna Smithback @Saylor](#)

Flashcards:

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4.1.12. Which of the following represents an increase in entropy?

Author: Joanna Smithback

Which of the following represents an increase in entropy?

Please choose only one answer:

- freezing of water
- boiling of water
- crystallization of salt from a supersaturated solution
- the reaction $2 \text{NO}(\text{g}) \rightleftharpoons \text{N}_2(\text{g}) + \text{O}_2(\text{g})$

Check the answer of this question online at QuizOver.com:

Question: [Which of the following represents an increase in entropy? @Saylor General](#)

Flashcards:

<http://www.quizover.com/flashcards/which-of-the-following-represents-an-joanna-smithback-saylor-general?pdf=3044>

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