

Astronomy Ranking Task: Chemical Reactions

Exercise #2

Description: The following are all balanced chemical reaction equations.

- A. $4\text{Fe} + 3\text{O}_2 \rightarrow 2\text{Fe}_2\text{O}_3$
- B. $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$
- C. $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$
- D. $4\text{FeS}_2 + 11\text{O}_2 \rightarrow 8\text{SO}_2 + 2\text{Fe}_2\text{O}_3$
- E. $2\text{H}_2\text{S} + 3\text{O}_2 \rightarrow 2\text{SO}_2 + 2\text{H}_2\text{O}$
- F. $\text{CS}_2 + 3\text{O}_2 \rightarrow 2\text{SO}_2 + \text{CO}_2$

A. Ranking instructions: Rank the total number of hydrogen atoms in each reaction.

Ranking Order: Most 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ Least

Or, all of the reactions involve the same total number of hydrogen atoms. _____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

B. Ranking instructions: Rank the total number of carbon atoms in each reaction.

Ranking Order: Most 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ Least

Or, all of the reactions involve the same total number of carbon atoms. _____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

C. Ranking instructions: Rank the total number of oxygen atoms in each reaction.

Ranking Order: Most 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ Least

Or, all of the reactions involve the same total number of oxygen atoms. _____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

D. Ranking instructions: Rank the total number of sulfur atoms in each reaction.

Ranking Order: Most 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ Least

Or, all of the reactions involve the same total number of sulfur atoms. _____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

E. Ranking instructions: Rank the total number of iron atoms in each reaction.

Ranking Order: Most 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ Least

Or, all of the reactions involve the same total number of iron atoms. _____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:
