Counting Atoms in Chemical Equations: Do they prove the Law of Conservation?

Use your skills of counting atoms in the given chemical reactions.

Check to see if the number of atoms on the Reactants side (left side) **EQUALS** the number of atoms on the Products side (right side).

If they are equal the law has been proven. If the are not equal the law is not proven.

1. $C_2H_6O + 3O_2 \longrightarrow 2CO_2 + 3H_20$

Reactant Side (left side)		Product Side (right side)	
Element symbol	Number of atoms	Element symbol	Number of atoms
C		C	
H		H	
O		O	
Total number of atoms in the reactants		Total number of atoms in the products	

Does this reaction support or prove the law of conservation? Yes No

Explain why (give two pieces of evidence):

2. $PCl_5 + 4H_2O \longrightarrow H_3PO_4 + 3HCl$

Reactant Side (left side)		Product Side (right side)	
Element symbol	Number of atoms	Element symbol	Number of atoms
P		P	
Cl		Cl	
H		H	
O		O	
Total number of atoms in the reactants		Total number of atoms in the products	

Does this reaction support or prove the law of conservation? Yes No

Explain why (give two pieces of evidence):

3. $SnO_2 + 2H_2 \longrightarrow Sn + 2H_2O$

Reactant Side (left side)		Product Side (right side)	
Element symbol	Number of atoms	Element symbol	Number of atoms
Total number of atoms in the reactants		Total number of atoms in the products	

Does this reaction support or prove the law of conservation? Yes No

Explain (give two pieces of evidence):

4. $TiCl_4 + H_20 \longrightarrow TiO_2 + 3HCl$

Reactant Side (left side)		Product Side (right side)	
Element symbol	Number of atoms	Element symbol	Number of atoms
Total number of atoms in the reactants		Total number of atoms in the products	

Does this reaction support or prove the law of conservation? Yes No

Explain (give two pieces of evidence):

5. $4NH_3 + 5O_2 \longrightarrow 4NO + 6H_2O$

Reactant Side (left side)		Product Side (right side)	
Element symbol	Number of atoms	Element symbol	Number of atoms
Total number of atoms in the reactants		Total number of atoms in the products	

Does this reaction support or prove the law of conservation? Yes No