Name: _____ Group: _____ Date: _____

CONCEPT REVIEW 15

Balancing chemical equations

EST

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Complete this concept review handout and keep it as a record of what you have learned.

Definitions

- The law of conservation of mass states that _____
- Balancing a chemical equation consists _____
- Stoichiometry is _____

EST

Signs pointing to the occurrence of a chemical change

- _____
- _____
- _____
- _____
- _____

Rules to apply when balancing chemical equations

- _____
- _____
- _____
- _____
- _____

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Example of interpreting a chemical equation

Chemical equation	$CH_{4(g)}$	+	$2\ O_{2(g)}$	→	$CO_{2(g)}$	+	$2\ H_2O_{(g)}$
Interpretation	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____

Total number of atoms of each element before and after the reaction

Before the chemical reaction		After the chemical reaction	
Reactants	**Number of atoms**	**Product**	**Number of atoms**
$N_2 + 3\ H_2$	_____	$2\ NH_3$	_____
	_____		_____

2 Different interpretations of the chemical equation for the synthesis of water

Chemical equation	$2\ H_{2(g)}$	+	$O_{2(g)}$	→	$2\ H_2O_{(l)}$
Interpretation 1	Two hydrogen molecules	react with	one oxygen molecule	to form	two water molecules.
Interpretation 2	Two moles of hydrogen molecules	react with	_____	to form	_____
			_____		_____
Interpretation 3	4 g of hydrogen	react with	_____	to form	_____
			_____		_____
Interpretation 4	1 g of hydrogen	reacts with	_____	to form	_____
			_____		_____