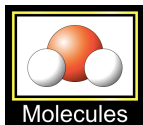


- Go to: <https://phet.colorado.edu/en/simulations/reactants-products-and-leftovers>
- Click the arrow to launch the simulation.

- Select "Molecules"



- Select "Make Water" and complete the following table:

Before Reaction		→	After Reaction			
___ H ₂	___ O ₂		___ H ₂ O	___ H ₂	___ O ₂	
2	2					L: Ex:
			2	2	0	L: Ex:
			2	0	2	L: Ex:
6	4					L: Ex:

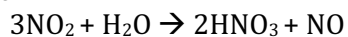
- Select "Make Ammonia" and complete the following table:

Before Reaction		→	After Reaction			
___ N ₂	___ H ₂		___ NH ₃	___ N ₂	___ H ₂	
2	3					L: Ex:
			2	0	1	L: Ex:
3	3					L: Ex:
			2	3	1	L: Ex:

6. Select "Combust Methane" and complete the following table:





Before Reaction		→	After Reaction				
___ CH ₄	___ O ₂		___ CO ₂	___ H ₂ O	___ CH ₄	___ O ₂	
1	2						L: Ex:
3	3						L: Ex:
			1	2	3	1	L: Ex:
			2	4	2	0	L: Ex:

7. Consider the following reaction:

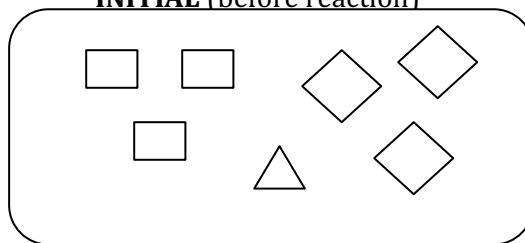


A student placed a certain amount of each chemical in a closed system (look at the **INITIAL** box). The reaction is allowed to occur to completion. Sketch in the following **FINAL** pictorial using the symbols used to represent each particle located in the legend (*Table #1*).

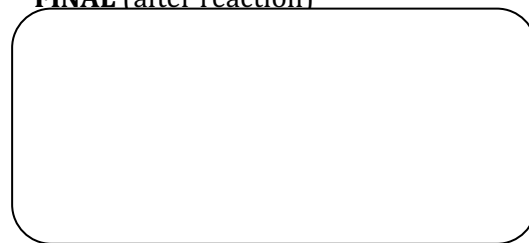
Table 1: Legend

Particle	Symbol
NO ₂	
H ₂ O	
HNO ₃	
NO	

INITIAL (before reaction)



FINAL (after reaction)



FINAL (excess reactants left over)

