

# DNL : Anglais

## Formules et modèles moléculaires

### Jeu de "Dominos"

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Voici quatre jeux de "Dominos" de difficulté croissante pour faire travailler les élèves sur le passage de la formule au modèle et du modèle à la formule. La notation qui servira dans les équations de réaction est abordée ainsi dans des exemples de plus en plus complexes.

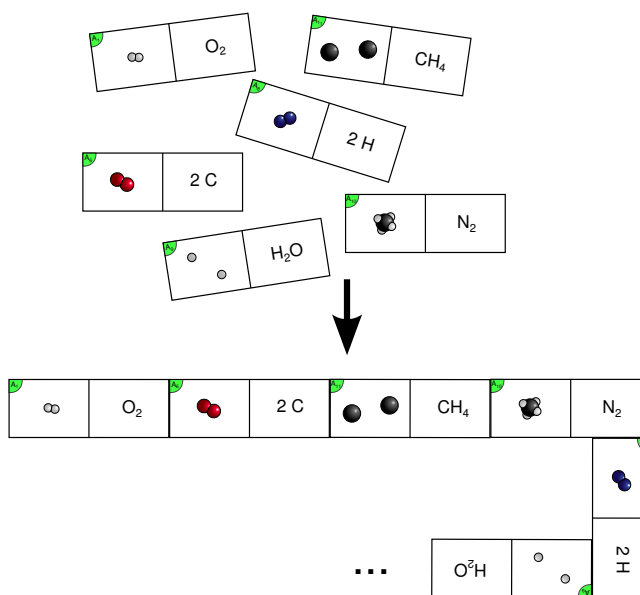
Autant que possible, les diamètres relatifs des atomes et les angles des liaisons ont été respectés.

Il est recommandé d'imprimer les dominos sur du papier cartonné, ou mieux encore, d'imprimer sur papier normal mais de plastifier les tirages avant de massicoter entre les cartes.

Les jeux sont conçus à la base pour une utilisation linéaire (une seule carte convient à la suite d'une autre) et ils "bouclent", c'est à dire que la première carte est associée à la dernière et l'ensemble forme un rectangle qui tient sur une table.

Cette version contient des descriptions des molécules en anglais pour un travail en langue étrangère dans le cadre d'une classe européenne par exemple.

On peut faire jouer les élèves par équipes ou par binômes et c'est au groupe qui fera boucler le jeu le premier.



#### Correction des quatre jeux :

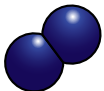
Facile : B1 B6 B2 B14 B11 B10 B13 B8 B3 B4 B9 B12 B7 B5

Moyen : B1 B4 B12 B2 B9 B8 B3 B7 B13 B5 B11 B14 B6 B10

Difficile : B1 B7 B11 B10 B3 B8 B5 B2 B4 B6 B12 B9 B14 B13

Très difficile : B1 B3 B9 B7 B12 B8 B6 B11 B2 B5 B13 B14 B10 B4

B<sub>1</sub>



H<sub>2</sub>

B<sub>6</sub>

One hydrogen molecule


CO<sub>2</sub>

B<sub>2</sub>

One carbon dioxide molecule

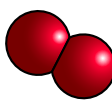
CH<sub>4</sub>

B<sub>14</sub>



O<sub>2</sub>

B<sub>11</sub>



2 N

B<sub>10</sub>

Two nitrogen atoms


H<sub>2</sub>O

B<sub>13</sub>

One water molecule

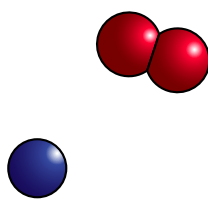
CO

B<sub>8</sub>



N + O<sub>2</sub>

B<sub>3</sub>



C + O<sub>2</sub>

B<sub>4</sub>

One carbon atom and one oxygen molecule

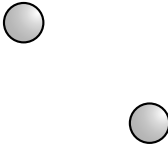
2 C

B<sub>9</sub>

Two carbon atoms


2 H

B<sub>12</sub>



H<sub>2</sub> + O

B<sub>7</sub>



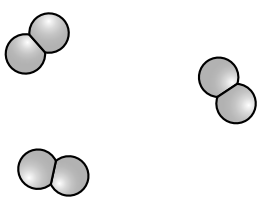
O<sub>3</sub>

B<sub>5</sub>

One ozone molecule (three oxygen atoms linked together)

N<sub>2</sub>

B<sub>1</sub>



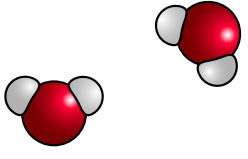
2 CO<sub>2</sub>

B<sub>4</sub>

Two carbon dioxide molecules

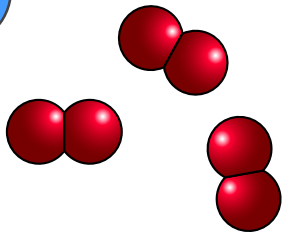
2 H<sub>2</sub>O

B<sub>12</sub>



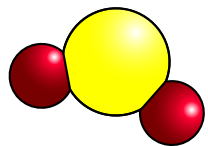
Three oxygen molecules

B<sub>2</sub>



One sulphur dioxide molecule

B<sub>9</sub>



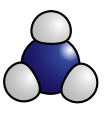
2 O + 2 H<sub>2</sub>

B<sub>8</sub>

Two oxygen atoms and two hydrogen molecules

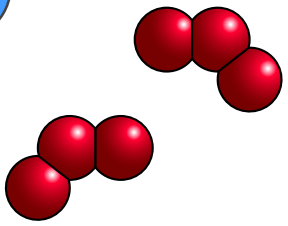
NH<sub>3</sub>

B<sub>3</sub>



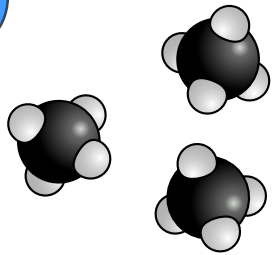
Two ozone molecules (three oxygen atoms linked together)

B<sub>7</sub>



Three methane molecules

B<sub>13</sub>



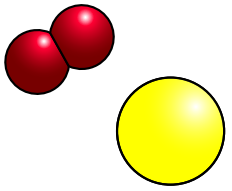
3 N<sub>2</sub>

B<sub>5</sub>

Three nitrogen molecules

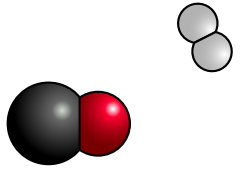
S + O<sub>2</sub>

B<sub>11</sub>



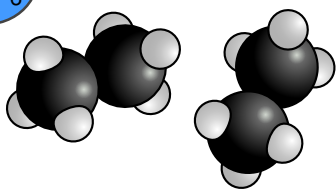
One hydrogen molecule and one carbon monoxide molecule

B<sub>14</sub>



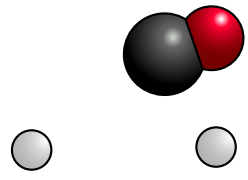
2 C<sub>2</sub>H<sub>6</sub>

B<sub>6</sub>

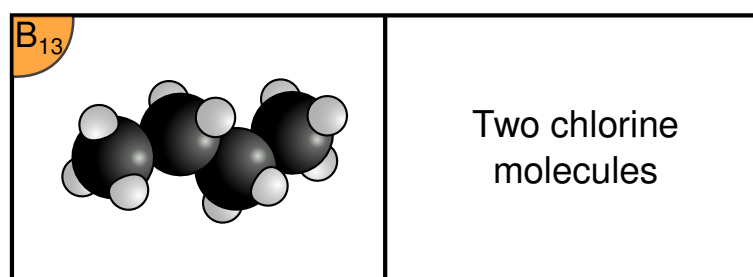
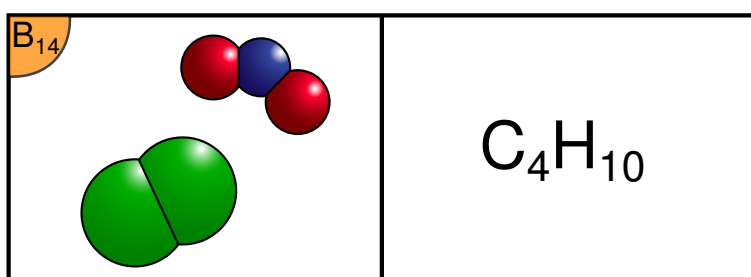
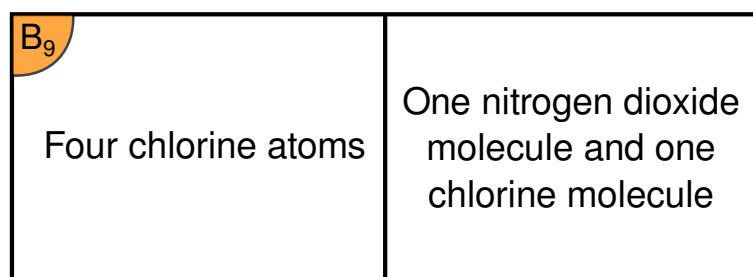
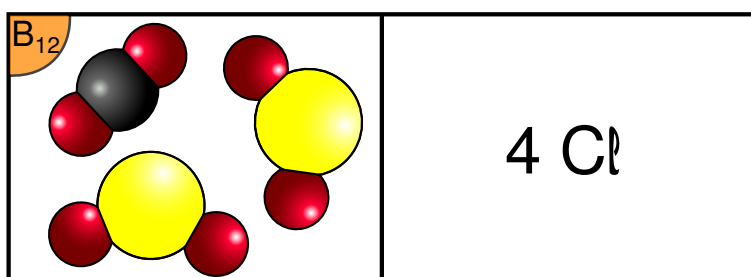
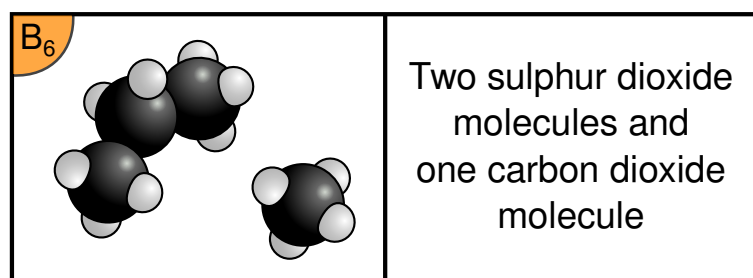
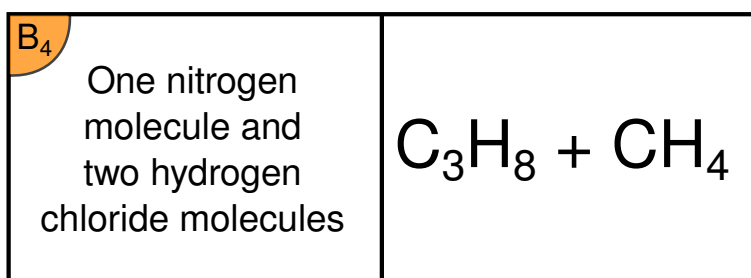
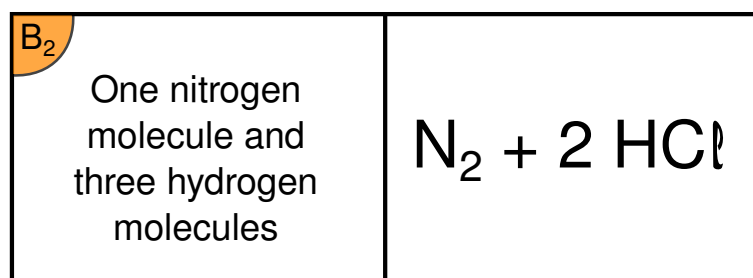
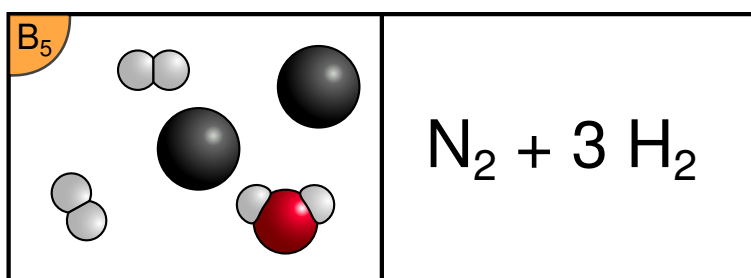
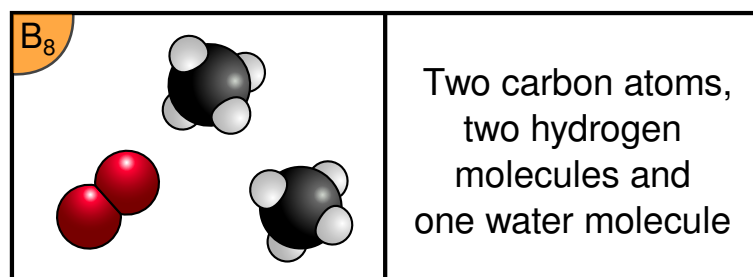
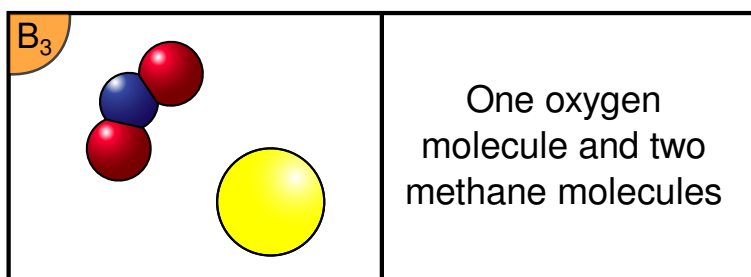
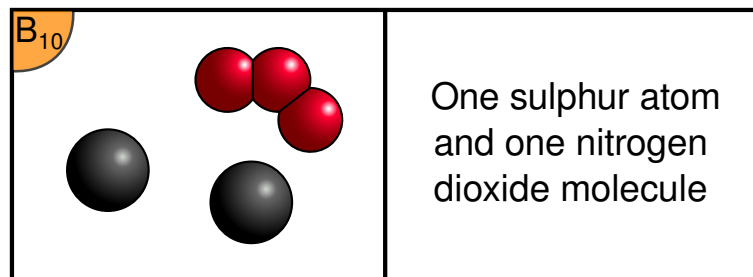
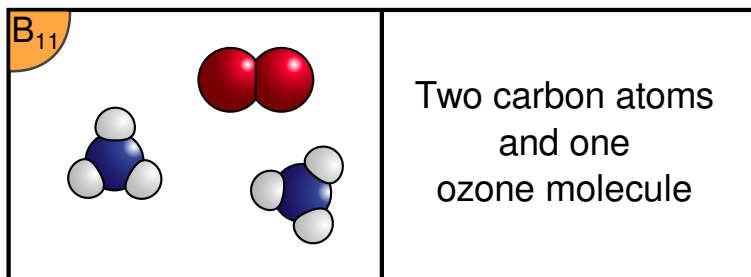
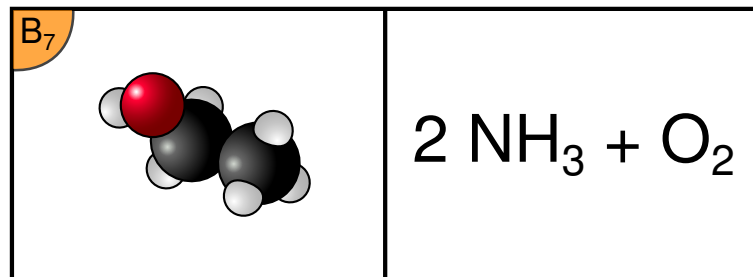
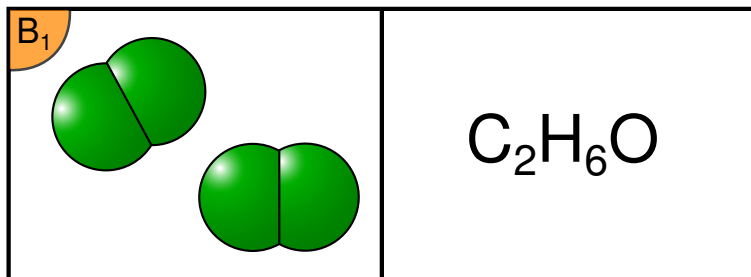


One carbon monoxide molecule and two hydrogen atoms

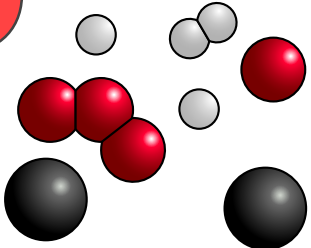
B<sub>10</sub>



3 H<sub>2</sub>

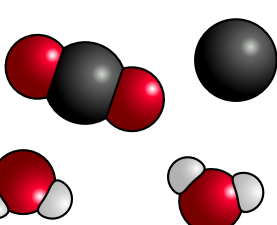


**B<sub>1</sub>**



One carbon atom,  
one carbon dioxide  
molecule and  
two water molecules

**B<sub>3</sub>**



$2 \text{ CO}$   
 $+ 2 \text{ H}_2\text{O}$

**B<sub>9</sub>**

Two carbon monoxide  
molecules and two  
water molecules

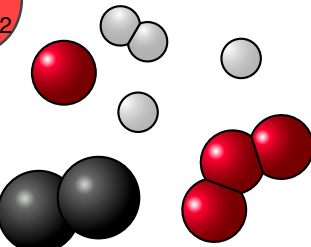
$\text{CO} + \text{CO}_2$   
 $+ \text{H}_2\text{O} + \text{H}_2$

**B<sub>7</sub>**

One water molecule,  
one hydrogen molecule,  
one carbon monoxide  
molecule and one  
carbon dioxide molecule

$2 \text{ H} + \text{O}$   
 $+ \text{H}_2 + \text{C}_2$   
 $+ \text{O}_3$

**B<sub>12</sub>**



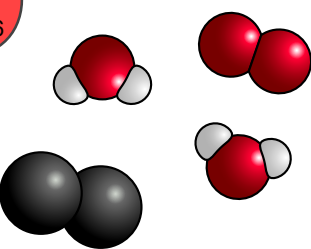
$\text{CO} + 2 \text{ H}$   
 $+ \text{CO}_2$   
 $+ \text{H}_2\text{O}$

**B<sub>8</sub>**

Two hydrogen atoms,  
one water molecule  
one carbon monoxide  
molecule and one  
carbon dioxide molecule

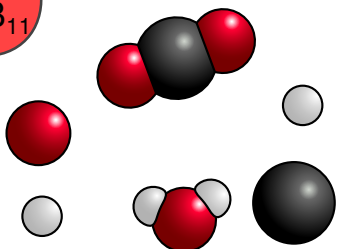
$\text{C}_2 + \text{O}_2$   
 $+ 2 \text{ H}_2\text{O}$

**B<sub>6</sub>**



Two hydrogen atoms,  
one oxygen atom,  
one carbon atom,  
one water molecule and  
one carbon dioxide  
molecule

**B<sub>11</sub>**



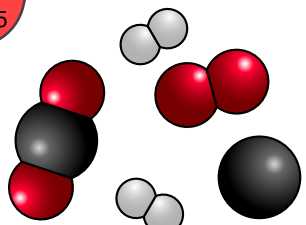
$\text{CO} + \text{H}_2\text{O}$   
 $+ \text{H} + \text{H}_2$   
 $+ \text{O}_2$

**B<sub>2</sub>**

One oxygen molecule,  
one hydrogen molecule,  
one hydrogen atom,  
one water molecule and  
one carbon monoxide  
molecule,

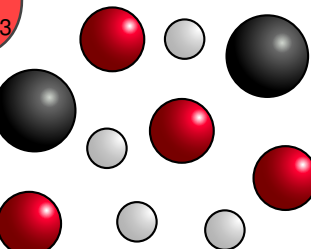
$\text{CO}_2 + 2 \text{ H}_2$   
 $+ \text{C} + \text{O}_2$

**B<sub>5</sub>**



Four hydrogen atoms,  
two carbon atoms and  
four oxygen atoms

**B<sub>13</sub>**



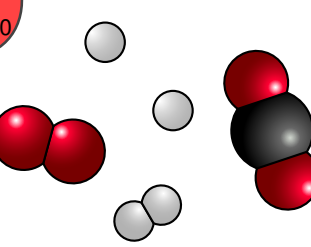
$\text{H}_2 + 2 \text{ H}$   
 $+ 2 \text{ CO}_2$

**B<sub>14</sub>**

One hydrogen molecule,  
two hydrogen atoms  
and two carbon dioxide  
molecules

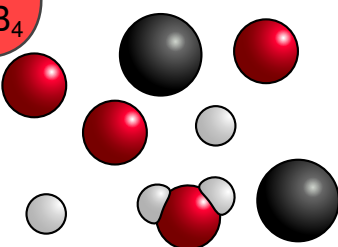
$\text{CO}_2 + \text{H}_2$   
 $+ 2 \text{ H} + \text{O}_2$

**B<sub>10</sub>**



Three oxygen atoms,  
two carbon atoms,  
two hydrogen atoms  
and one water molecule

**B<sub>4</sub>**



Two carbon atoms,  
two hydrogen atoms,  
one ozone molecule,  
one oxygen atom and  
one hydrogen molecule