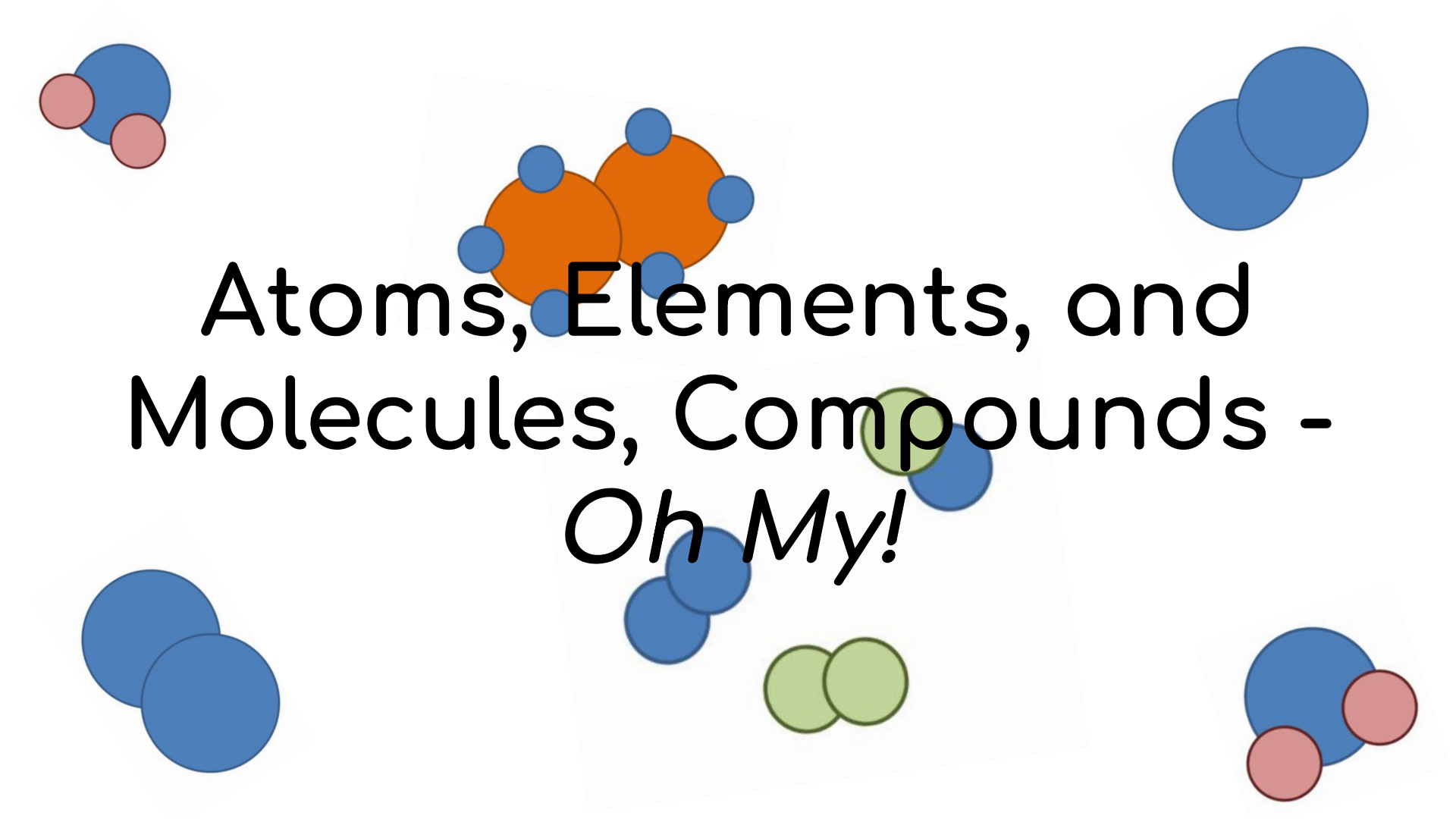
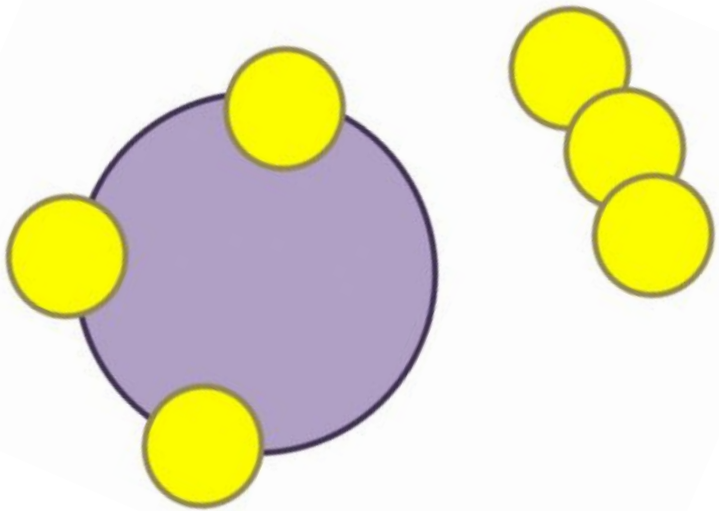


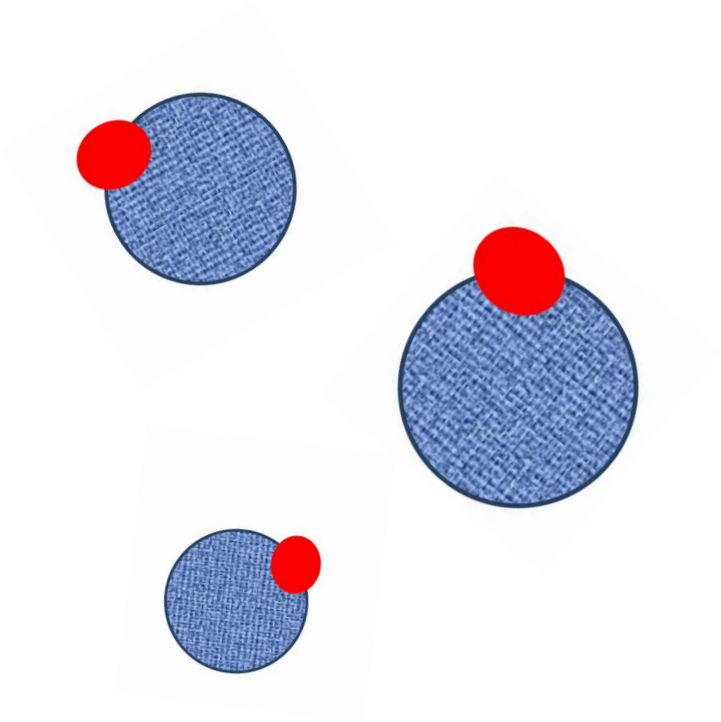
Atoms, Elements, and Molecules, Compounds - *Oh My!*

Our Learning Objective

- Develop models to describe the atomic composition of simple molecules and extended structures.

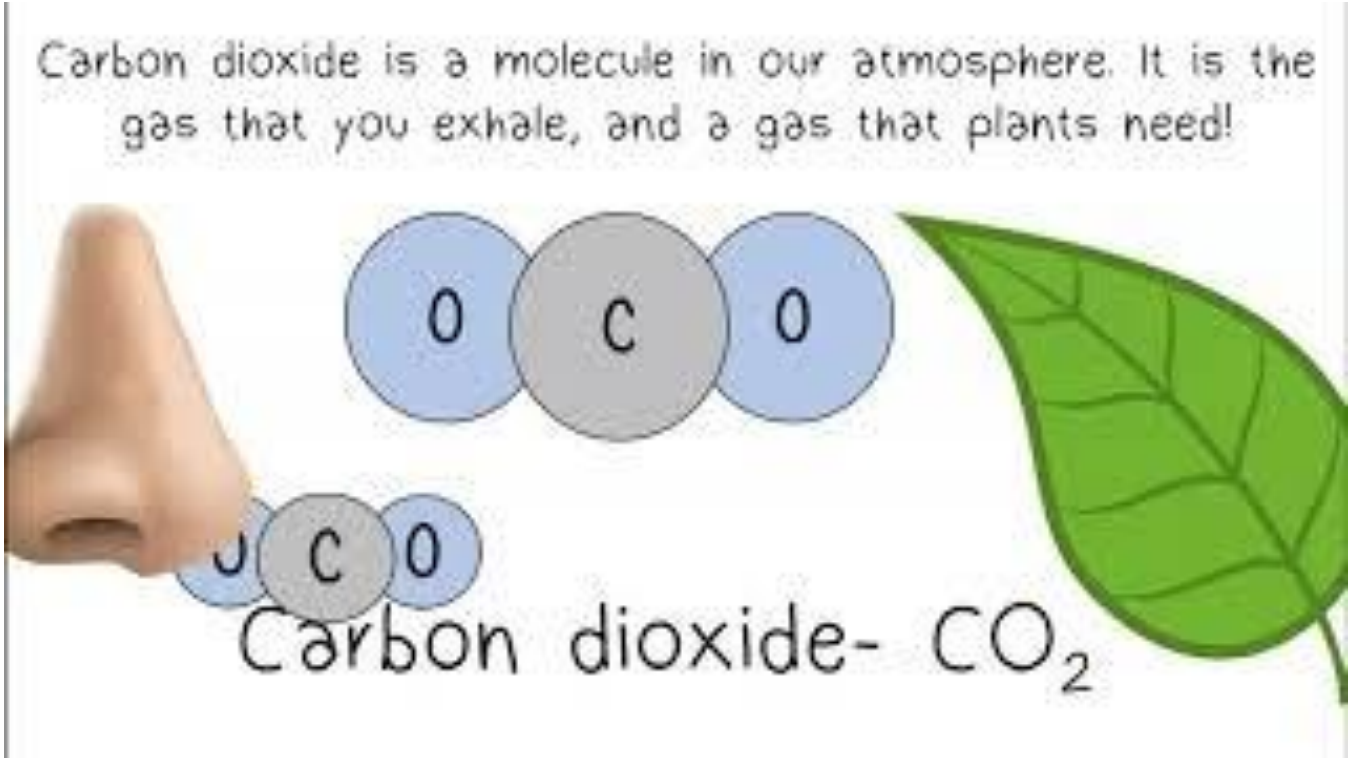


I can...

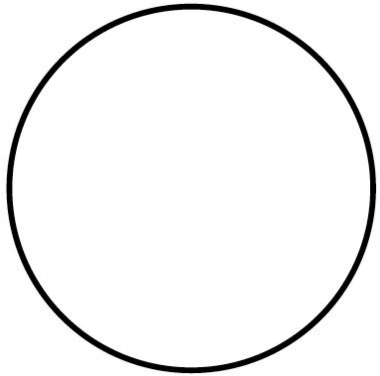


- Identify that all matter is made out of atoms
- Identify that atoms combine to form molecules
- Compare and contrast molecules, compounds, elements, and mixtures

Review from Last Week:



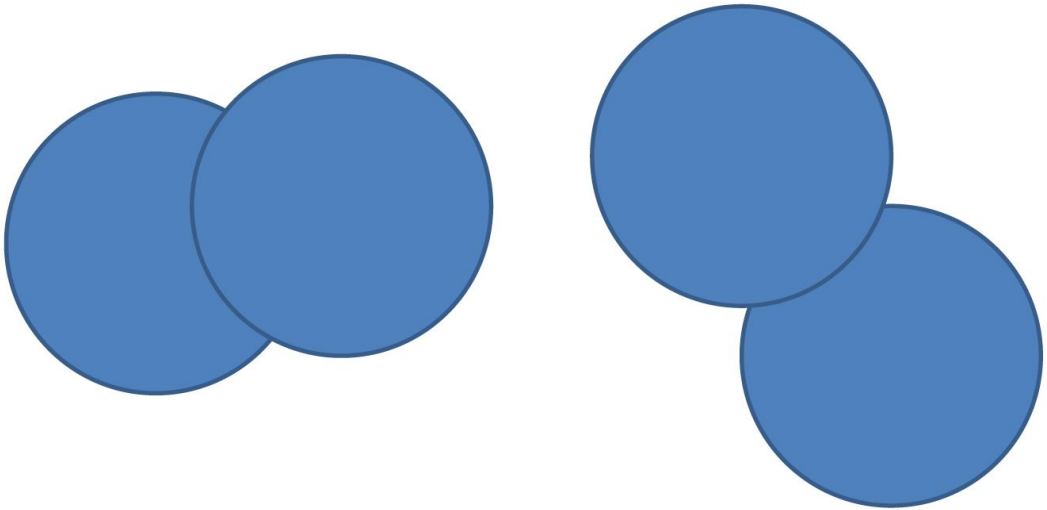
An atom is the smallest unit of matter.



This is represented by a circle.

Counting the number of atoms is easy!

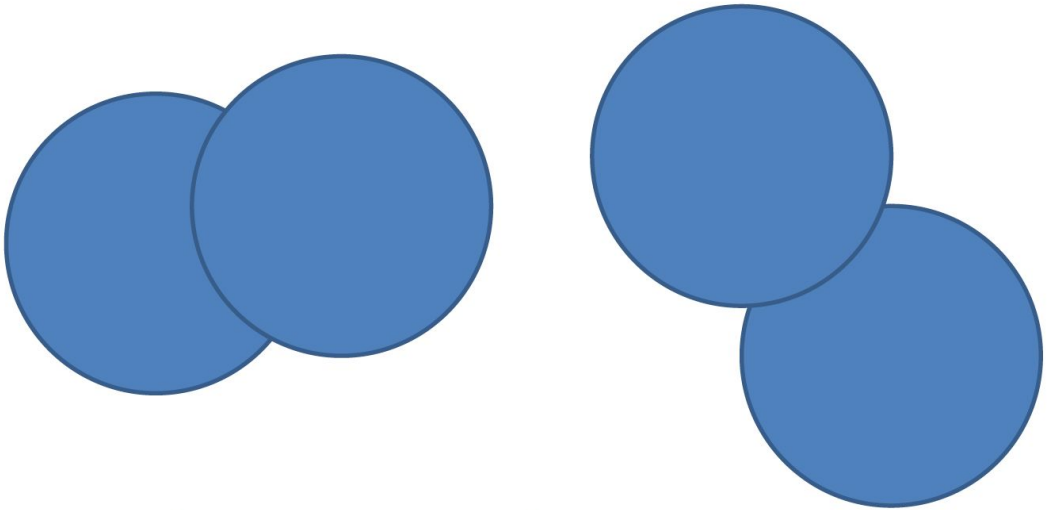
Just count how many circles!



How many atoms are in this example?

Counting the number of atoms is easy!

Just count how many circles!



There are 4 atoms in this example

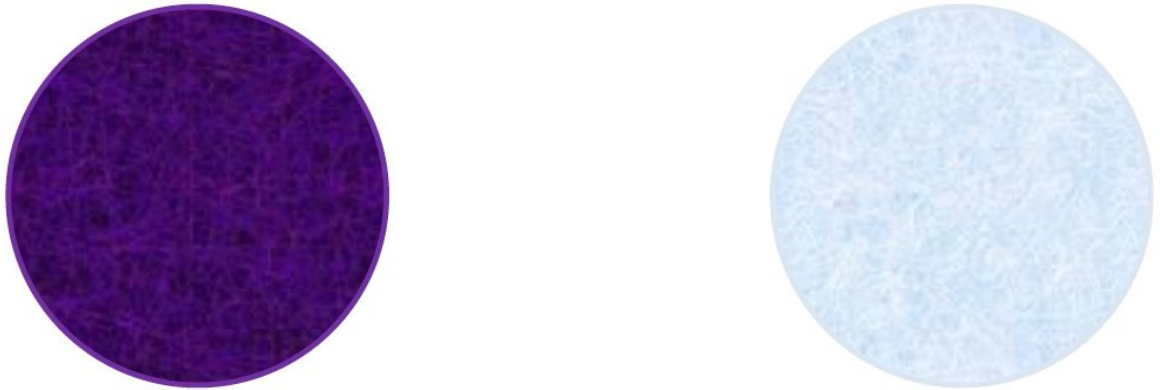
Each element has an atom that is completely unique.

How do we determine what element an atom is? (Hint: it's a subatomic particle.)

Each element has an atom that is completely unique.

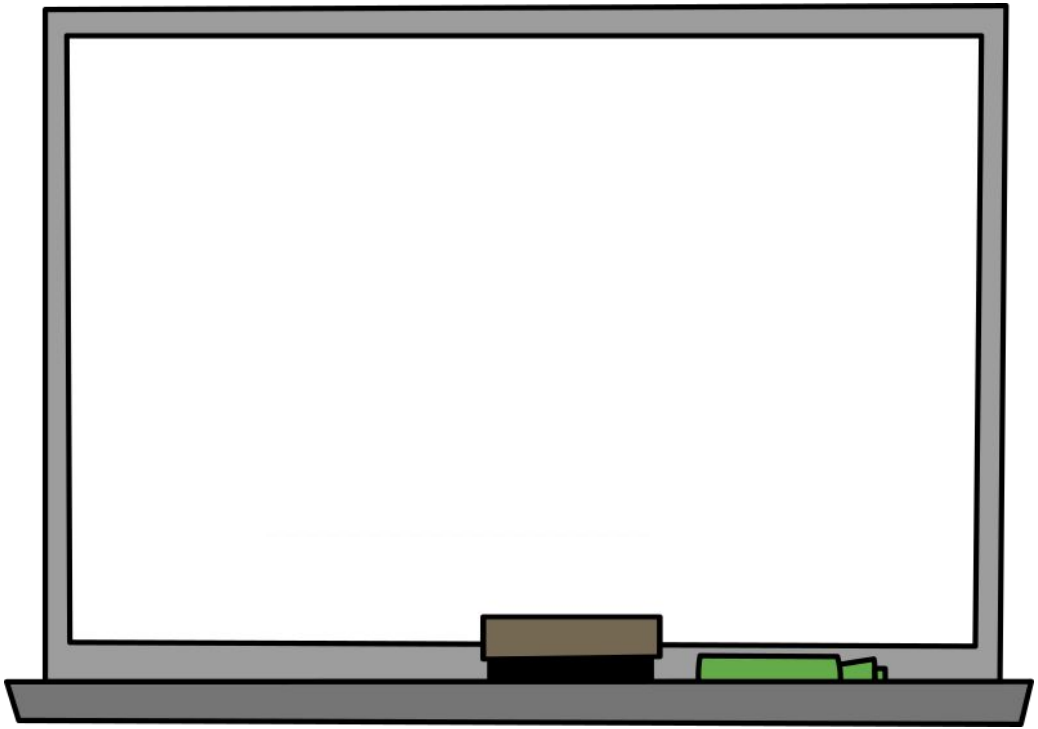
How do we determine what element an atom is? (Hint: it's a subatomic particle.)

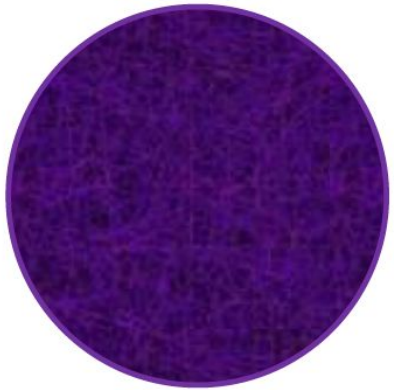
The number of protons!



There are two different elements in this example.
How many atoms are there?

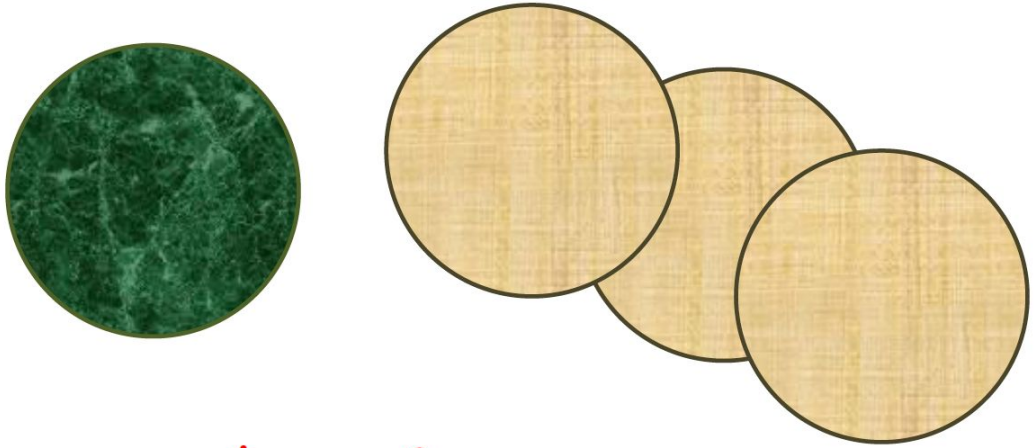
Write the answer on your whiteboard!





There are two different elements in this example.
How many atoms are there?
2

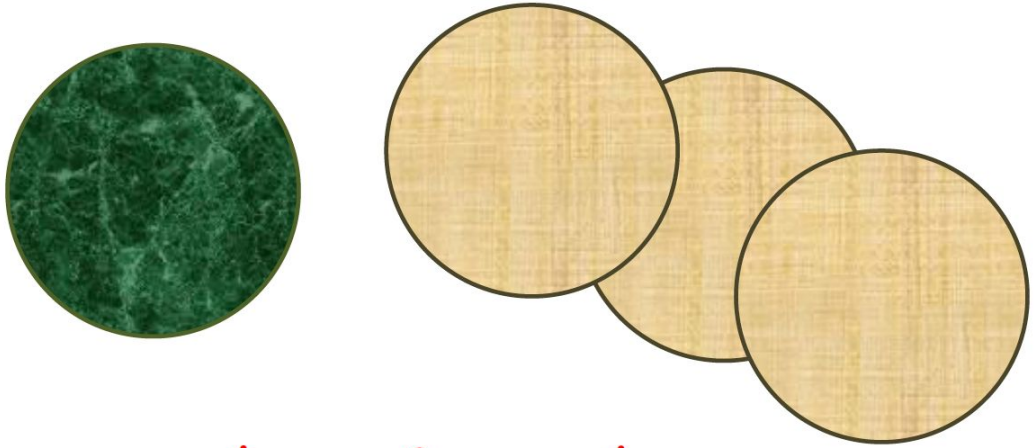
Count the number of atoms and elements in this example:



How many atoms?

How many elements?

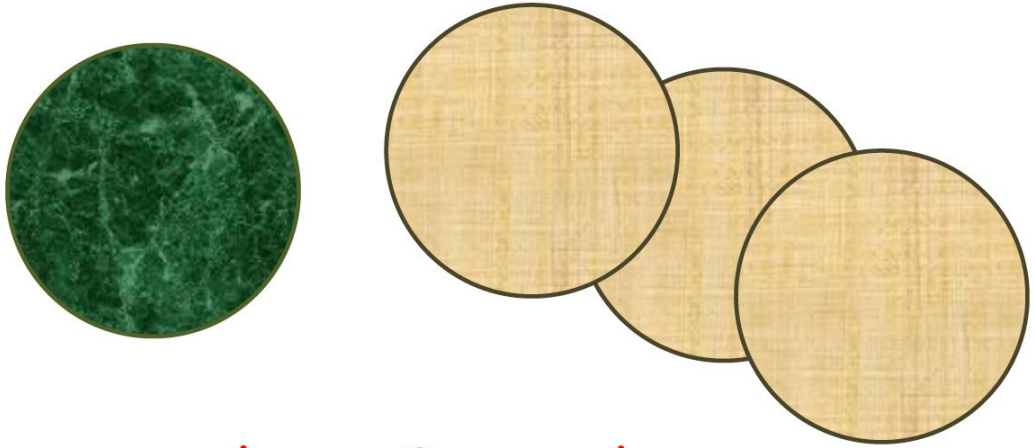
Count the number of atoms and elements in this example:



How many atoms? 4

How many elements?

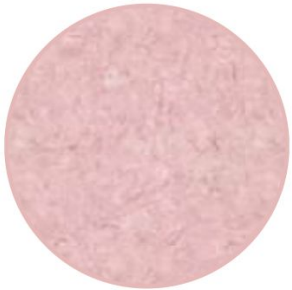
Count the number of atoms and elements in this example:



How many atoms? 4

How many elements? 2

If you recall, a molecule is a group of 2 or more atoms. **Any atoms!**

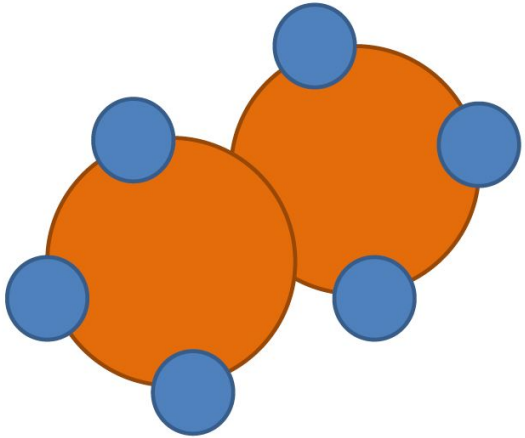


Is this a molecule?

If you recall, a molecule is a group of 2 or more atoms. **Any atoms!**

Is this a molecule?

No, because it is only one atom.

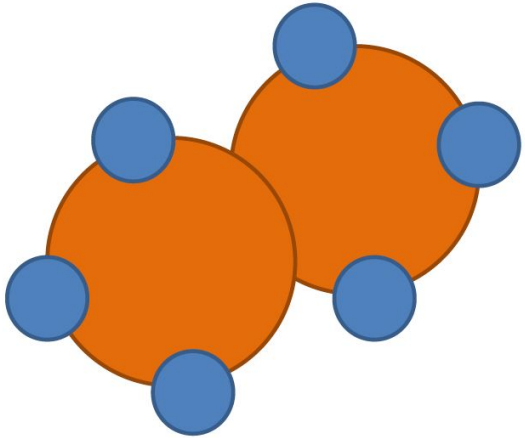


How many…

How many atoms?

How many elements?

How many molecules?

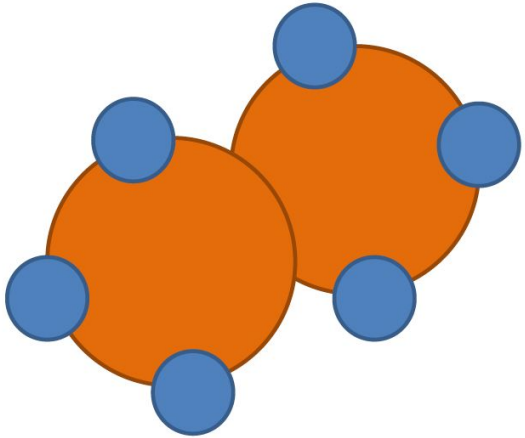


How many…

How many atoms? 8

How many elements?

How many molecules?

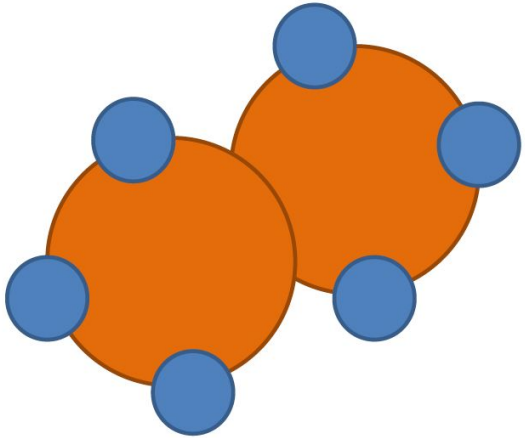


How many…

How many atoms? 8

How many elements? 2

How many molecules?

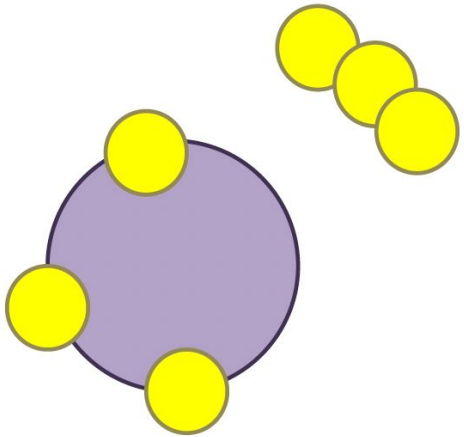


How many…

How many atoms? 8

How many elements? 2

How many molecules? 1

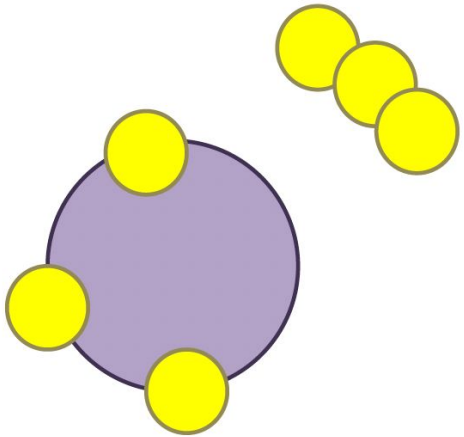


How many…

How many atoms?

How many elements?

How many molecules?

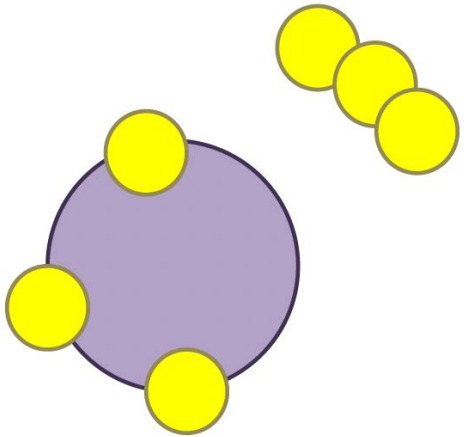


How many…

How many atoms? 7

How many elements?

How many molecules?

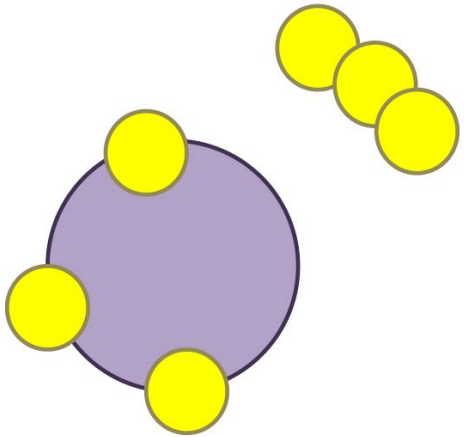


How many...

How many atoms? 7

How many elements? 2

How many molecules?

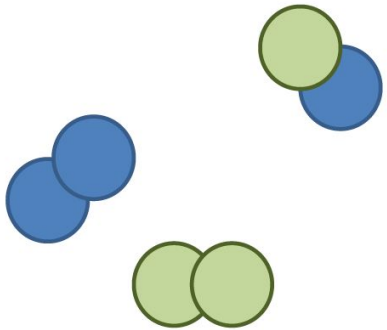


How many…

How many atoms? 7

How many elements? 2

How many molecules? 2

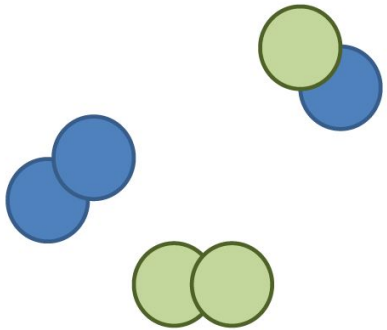


How many…

How many atoms?

How many elements?

How many molecules?

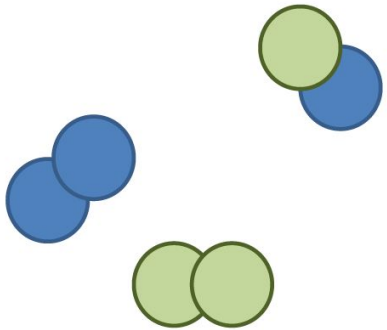


How many…

How many atoms? 6

How many elements?

How many molecules?

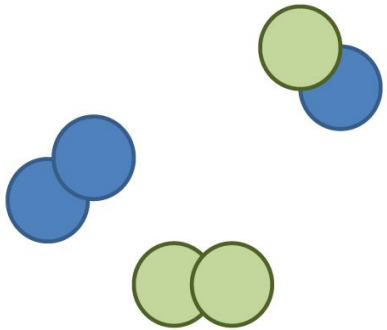


How many…

How many atoms? 6

How many elements? 2

How many molecules?



How many…

How many atoms? 6

How many elements? 2

How many molecules? 3

Now, what about compounds?

Now, what about compounds?

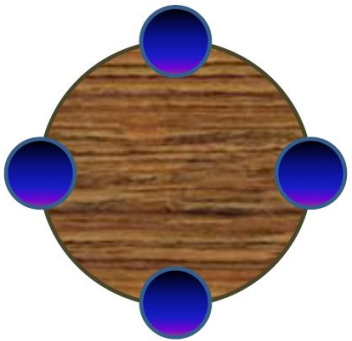
Compounds are any group of atoms (or molecule) that has more than one type of atom.

Understanding Elements and Compounds

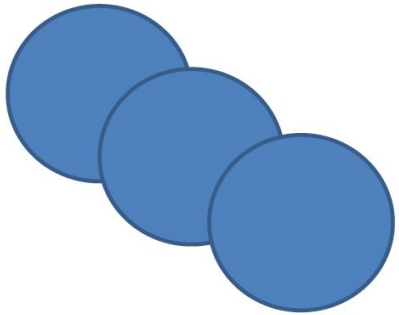
Which one is a compound?

A, B, or Both?

A



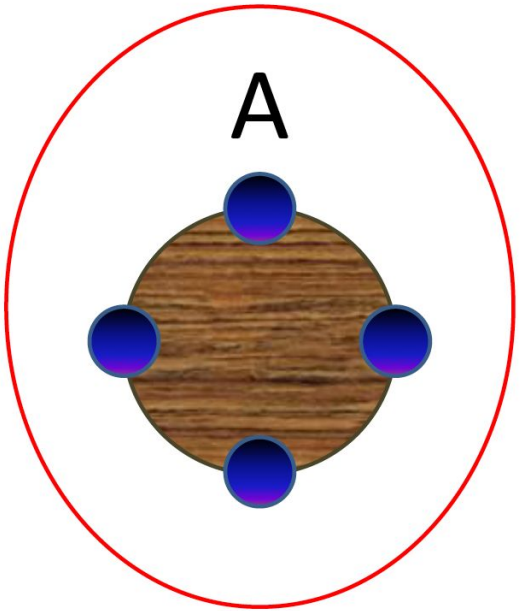
B



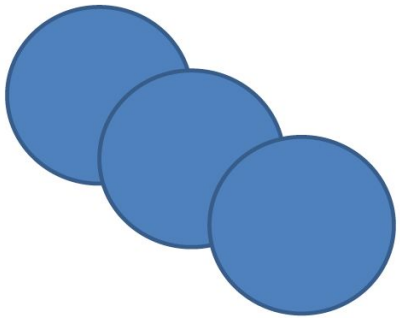
Which one is a compound?

A, B, or Both?

A



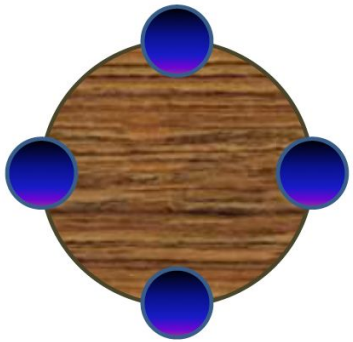
B



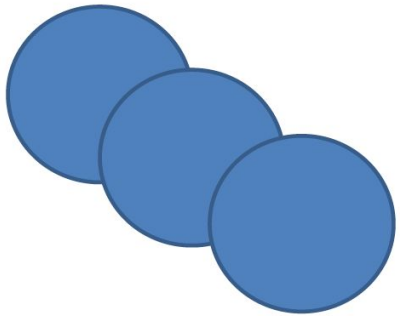
Which one is a molecule?

A, B, or Both?

A

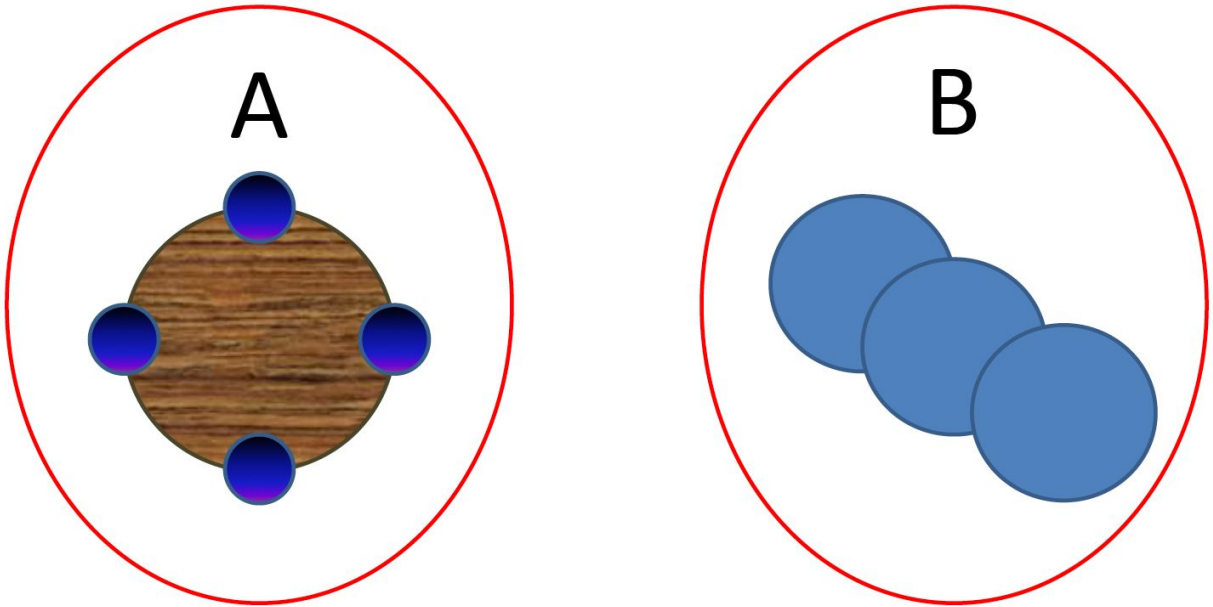


B

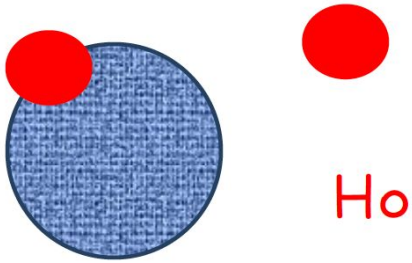


Which one is a molecule?

A, B, or Both?



Let's try some examples...



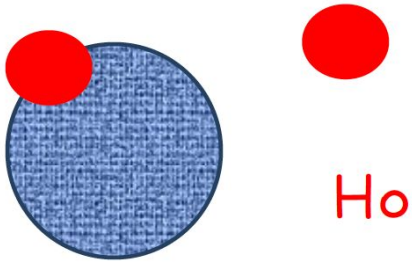
How many atoms?

How many elements?

How many molecules?

How many compounds?

Let's try some examples...



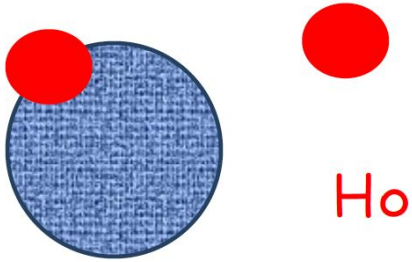
How many atoms? 3

How many elements?

How many molecules?

How many compounds?

Let's try some examples...



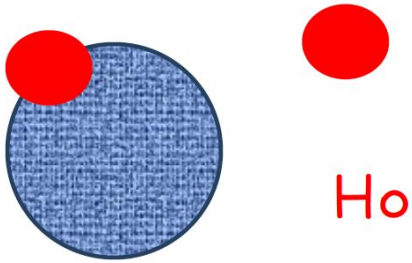
How many atoms? 3

How many elements? 2

How many molecules?

How many compounds?

Let's try some examples...



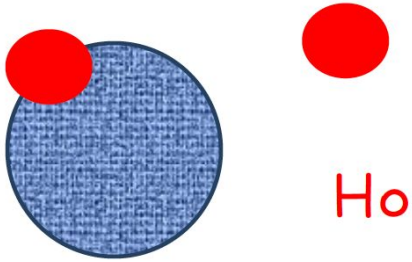
How many atoms? 3

How many elements? 2

How many molecules? 1

How many compounds?

Let's try some examples...



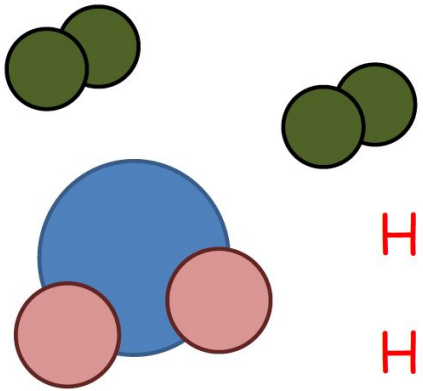
How many atoms? 3

How many elements? 2

How many molecules? 1

How many compounds? 1

Let's try some examples...



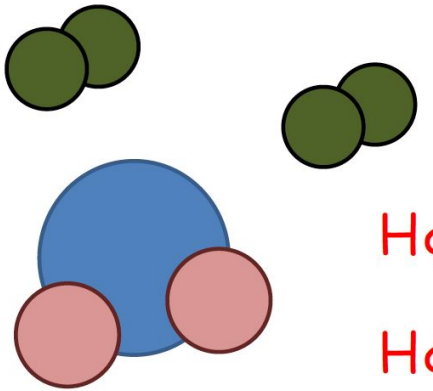
How many atoms?

How many elements?

How many molecules?

How many compounds?

Let's try some examples...



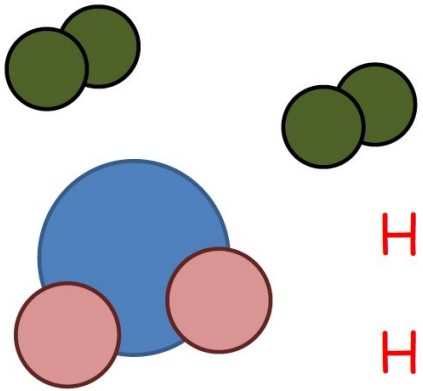
How many atoms? 7

How many elements?

How many molecules?

How many compounds?

Let's try some examples...



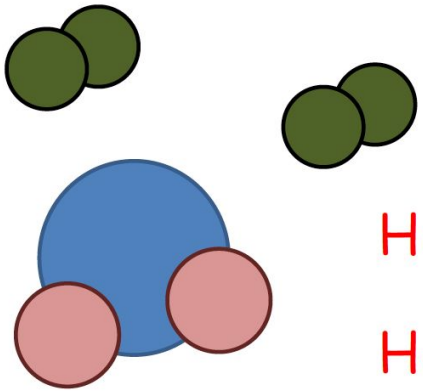
How many atoms? 7

How many elements? 3

How many molecules?

How many compounds?

Let's try some examples...



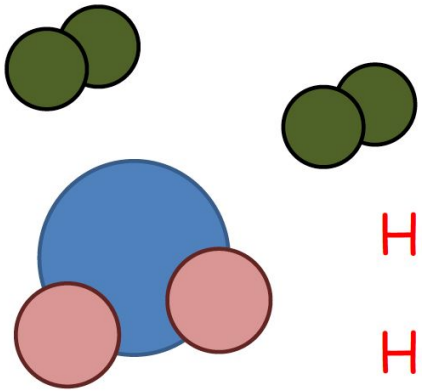
How many atoms? 7

How many elements? 3

How many molecules? 3

How many compounds?

Let's try some examples...



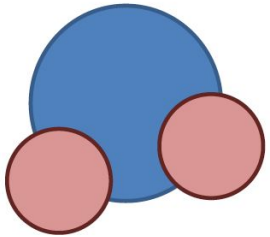
How many atoms? 7

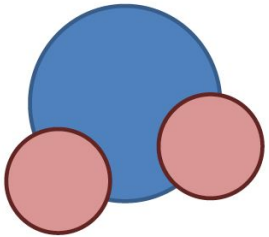
How many elements? 3

How many molecules? 3

How many compounds? 1

Let's try some examples...





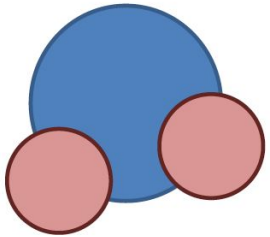
How many atoms?

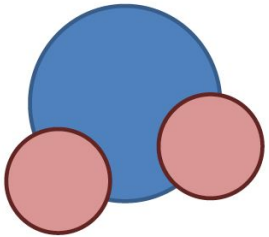
How many elements?

How many molecules?

How many compounds?

Let's try some examples...





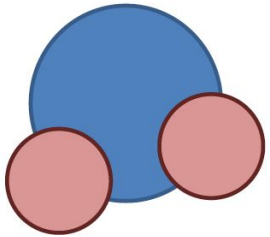
How many atoms? 6

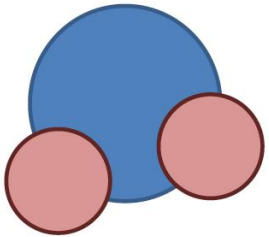
How many elements?

How many molecules?

How many compounds?

Let's try some examples...





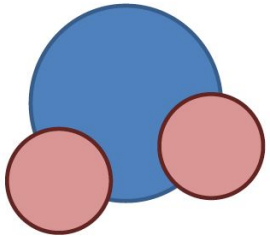
How many atoms? 6

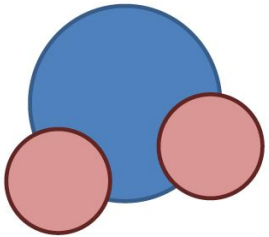
How many elements? 2

How many molecules?

How many compounds?

Let's try some examples...





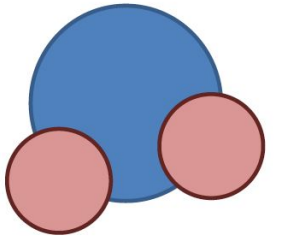
How many atoms? 6

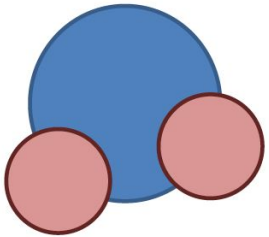
How many elements? 2

How many molecules? 2

How many compounds?

Let's try some examples...





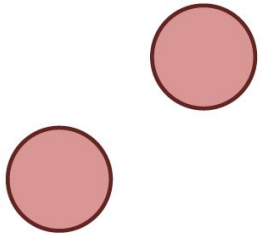
How many atoms? 6

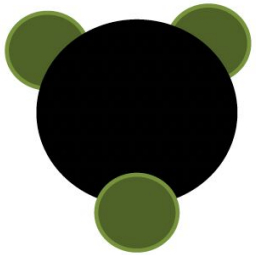
How many elements? 2

How many molecules? 2

How many compounds? 1

Let's try some examples...





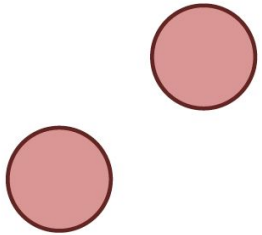
How many atoms?

How many elements?

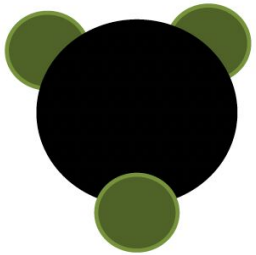
How many molecules?

How many compounds?

Let's try some examples...



How many atoms? 6

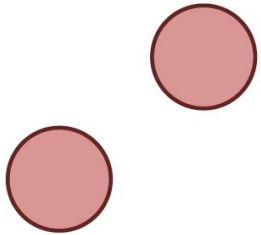


How many elements?

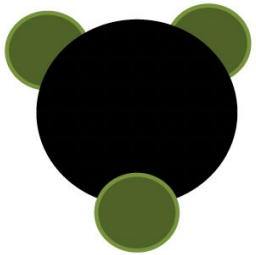
How many molecules?

How many compounds?

Let's try some examples...



How many atoms? 6

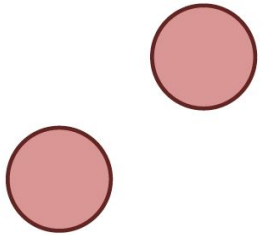


How many elements? 3

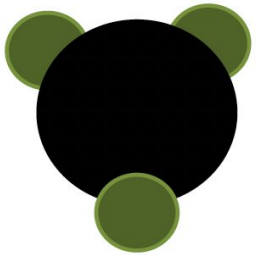
How many molecules?

How many compounds?

Let's try some examples...



How many atoms? 6

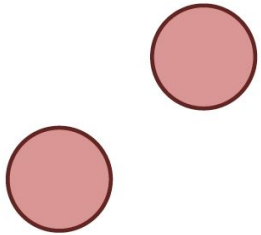


How many elements? 3

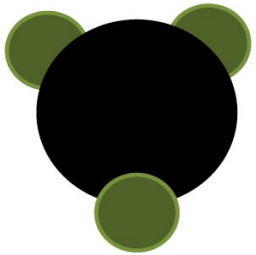
How many molecules? 1

How many compounds?

Let's try some examples...



How many atoms? 6

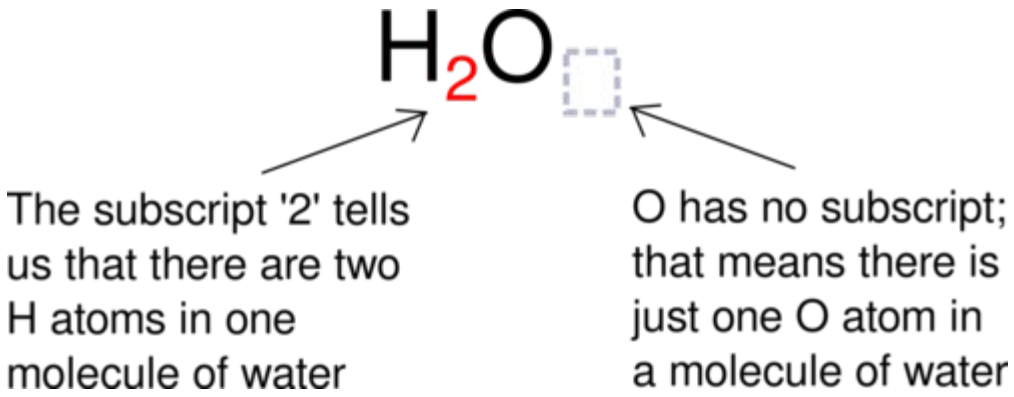


How many elements? 3

How many molecules? 1

How many compounds? 1

What is a "*subscript*"?



Need extra help before starting today's activity?

Scan this QR code

Grab some headphones & watch this video!