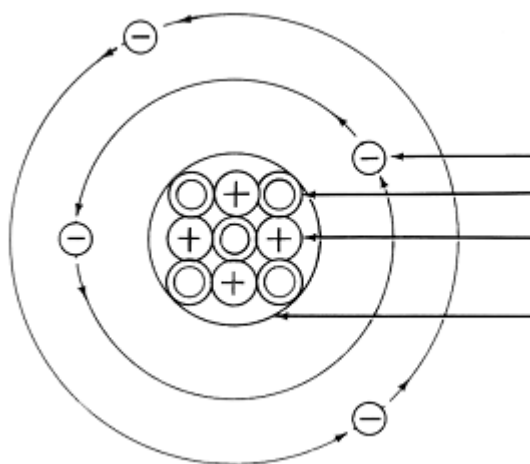


ATOMS AND MOLECULES

PRE READING

Label the different parts of an atom



Fill in the blanks with the correct terms

- 1) The atomic number tells the number of positively charged _____ in the nucleus of an atom. The atom is _____ because this is also the number of _____ charged _____ in the atom.
- 2) The mass number tells the total number of _____ and _____ in the nucleus of an atom. These particles collectively are called _____ since both are located in the nucleus.
- 3) Isotopes are atoms of the same element with different numbers of _____ which results in different _____ numbers

READING

The tiny particles that make up elements are called atoms. An atom is the smallest unit of an element that retains or keeps the properties of that element. For example, the atoms that make up oxygen can never be changed.

The inside of an atom contains three different kinds of particles as well. They are called protons, neutrons, and electrons. Surprisingly, atoms are not solid, they are mostly empty space. There is a tiny, very dense body in the center of an atom called the nucleus. Inside the nucleus are the protons and neutrons. The electrons are in the space outside the nucleus.

A proton carries one unit of positive electric charge. An electron carries one unit of a negative electric charge. Neutrons have no electric charges. The number of protons in an atom determines what the element is. An oxygen atom, for example, has eight protons.

The Periodic Table of Elements shows the number of protons for each element. The element or substance called sodium has eleven protons. Sodium is a substance when combined with another substance makes salt. As in all kinds of matter, the different elements can be a solid, liquid, or gas.

The different kinds of atoms are then joined together to make a molecule. A molecule is a particle that contains more than one atom joined together. Basically, atoms come together in different ways to make molecules, and molecules come together in different ways to make different kinds of matter.

Water is an example of a molecule made up of different atoms. The atoms for water include hydrogen and oxygen. It takes two atoms of hydrogen and one atom of oxygen to make one molecule of water. This would be an extremely tiny drop of water a person could not see without a special microscope. Some elements are made up of single atoms and do not attach to any other kinds atoms. Neon is an example of an atom that does not attach to another atom.

However, there are certain atoms that attach to themselves to make different substances. For example, oxygen is usually made up of two-atom molecules. But, a three-atom molecule of oxygen will create ozone. Oxygen and ozone is very different from each other but both use oxygen atoms to be formed.

Most everyday substances people use are made up of a combination of different molecules. Table salt is made up of an element called sodium joined with an element called chloride. Sodium chloride is the scientific name for salt. The different atoms making up sodium and chloride are joined together to make a new substance and molecule called salt.

Sometimes the use of atoms and molecules can be very confusing but it sometimes can be thought of as a recipe. In summary, the particles (or ingredients) that make up an atom are protons, neutrons, and electrons. Atoms (another ingredient) are particles joined together in many different ways and methods to form molecules. Finally, the molecules (more ingredients) are joined together to make everything on Earth and in the universe

READING COMPREHENSION

Tick the right answer

- 1) The smallest unit of an element that retains or keeps the properties of that element is called
 - A. A molecule
 - B. An atom
 - C. A proton
 - D. A neutron

- 2) Which of the following does not have an electrical charge?
 - A. Neutron
 - B. Electron
 - C. Neuron
 - D. Proton

- 3) The Periodic Table of Elements shows the number of _____ for each element.
 - A. Neutrons
 - B. Electrons
 - C. Atoms
 - D. Protons

- 4) How many more protons does sodium have than oxygen?
- 8
 - 11
 - 3
 - 1
- 5) Protons, electrons, and neutrons make up atoms and atoms make up
- Substances
 - Matter
 - Molecules
 - Solids
- 6) Sodium Chloride is the scientific name for which of the following substance?
- Water
 - Sugar
 - Gas
 - Salt

GRAMMAR

We use tags in spoken English but not in formal written English.

They are not really questions but are a way of asking the other person to make a comment and so keep the conversation open.

Making a tag is very mechanical. To make a tag, use the first auxiliary. If there is no auxiliary, use do, does or did. With a positive sentence, make a negative tag and with a negative sentence, make a positive tag.

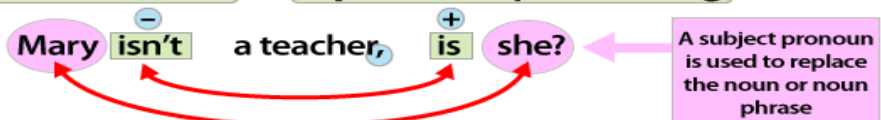
Question Tags

A question tag is a small question at the end of a statement. Question tags are used when asking for agreement or confirmation.

a positive statement + a negative question tag



a negative statement + a positive question tag



Intonation and Meaning

The intonation of a question tag shows the exact meaning of it.

If the intonation of the question tag goes **up**, it means you are not sure and you want to know the answer.

John **doesn't** speak Spanish, **does** he?

If the intonation of the question tag goes **down**, it means you are checking / confirming information or making conversation.

John **doesn't** speak Spanish, **does** he?

Negative Question Tags

Question tags are used when asking for agreement or confirmation.

a positive statement + a negative question tag

Positive Statement

You **are** a student,
He **is** very busy,
He **was** happy,
They **were** surprised,

You **speak** English,
He **studies** Spanish,
You **studied** for the test,

You **have** studied all week,
You **had** arrived before he left,
You **will** pass the exam,
You **can** speak two languages,
You **could** do it for me,
We **must** be patient,
You **should** go now,
You **would** like a new job,

Exceptions

I **am** late,
Let's go home,

Negative Tag

aren't you?
isn't he?
wasn't he?
weren't they?

don't you?
doesn't he?
didn't you?

haven't you?
hadn't you?
won't you?
can't you?
couldn't you?
mustn't we?
shouldn't you?
wouldn't you?

aren't I?
shall we?

Negative auxiliaries and verbs in tags are usually in their contracted form (= n't)

BE CAREFUL

Positive Question Tags

Question tags are used when asking for agreement or confirmation.

a negative statement + a positive question tag

Negative Statement

You **aren't** a teacher,
He **isn't** crazy,
He **wasn't** relaxed,
They **weren't** late,

You **don't** speak French,
You **didn't** study for the test,

You **haven't** been here all week,
You **hadn't** done it before then,
You **won't** fail the exam,
You **can't** drive a car,
You **couldn't** do it for me,
We **mustn't** say anything,
You **shouldn't** be so busy,
You **wouldn't** stop me,

Positive Tag

are you?
is he?
was he?
were they?

do you?
did you?

have you?
had you?
will you?
can you?
could you?
must we?
should you?
would you?

Statements using *barely*, *hardly*, *neither*, *no*, *nobody*, *none*, *nothing* and *seldom* are treated as negative statements.

Nobody **went** to the meeting, **did** they?
Nothing **is** ready, **is** it?

Exercise 1: Tick (✓) the correct question tags to complete the questions.

- She's an accountant, _____?
 (A) aren't she (B) isn't she (C) she isn't (D) doesn't she
- I'm here, _____?
 (A) aren't we (B) aren't I (C) am I not (D) doesn't I
- You and I are very busy right now, _____?
 (A) aren't you (B) isn't she (C) she isn't (D) aren't we
- It isn't very windy today, _____?
 (A) hasn't it (B) isn't it (C) is it (D) doesn't it

Exercise 2: These are sentences from real conversations. Put in the question tags.

- I'm cooking tonight, _____?
- He's not a baby, _____?
- It'll be all right, _____?
- Laura's still got short hair, _____?
- She doesn't feel well, _____?
- They left early, _____?
- She didn't feel well yesterday, _____?
- They've left early, _____?

Exercise 3: Match the beginning of the sentences and the question tags.

Tag Question	Question Tag	Answer
1. They are away for a few weeks,	a. was it?	1. +...
2. It wasn't your turn,	b. don't you?	2. +...
3. You're not serious,	c. doesn't she?	3. +...
4. She isn't Italian,	d. will you?	4. +...
5. She needs some help,	e. is she?	5. +...
6. It's warm,	f. aren't they?	6. +...
7. There is a problem,	g. isn't it?	7. +...
8. You come here often,	h. isn't there?	8. +...
9. Don't forget,	i. are you?	9. +...

Exercise 4: Find and correct the mistakes in each sentence.

- You're Australian, aren't they? _____
- You aren't English, aren't you? _____
- Mary smokes, didn't she? _____
- Sharks don't like vegetables, don't they? _____
- Moles can't see, can it? _____
- You'll be there, won't she? _____
- David won't come, has he? _____
- Bob's got two cats, isn't he? _____
- The music isn't very good, has it? _____
- All the lessons start at 8.00, doesn't they? _____