

Scientific English

Classes: L3
Biotechnology and L3
Biology and Vegetal Physiology.

Lesson 01: Grammar Review

Here are the basic rules and tips to help you review English grammar.

1- A sentence starts with a capital letter and ends with a period/full stop, a question mark or an exclamation mark.

*Photosynthesis is the process by which green plants turn carbon dioxide and water into food.

2-The order of a basic positive sentence is Subject-Verb-Object. (Negative and question sentences may have a different order.)

*Bacteria are the second smallest living things on earth with only viruses being smaller.

3- Every sentence must have a subject and a verb. An object is optional. Note that an imperative sentence may have a verb only, but the subject is understood.

* John teaches.

* John teaches English.

*Stop! (ie You stop!)

4-The subject and verb must agree in number, that is a singular subject needs a singular verb and a plural subject needs a plural verb.

* John works in London.

* That monk eats once a day.

* John and Mary work in London.

* Most people eat three meals a day.

5- When two singular subjects are connected by or, use a singular verb. The same is true for either/or and neither/nor.

* John or Mary is coming tonight.

* Either coffee or tea is fine.

* Neither John nor Mary was late.

6- Adjectives usually come before a noun (except when a verb separates the adjective from the noun).

* I have a big dog.

* She married a handsome Italian man.

* Her husband is rich.

7- When using two or more adjectives together, the usual order is opinion-adjective + fact-adjective + noun. (There are some additional rules for the order of fact adjectives.)

* I saw a nice French table.

* That was an interesting Shakespearian play.

8- Treat collective nouns (eg committee, company, board of directors) as singular OR plural. In BrE a collective noun is usually treated as plural, needing a plural verb and pronoun. In AmE a collective noun is often treated as singular, needing a singular verb and pronoun.

* The committee are having sandwiches for lunch. Then they will go to London. (typically BrE)

* The BBC have changed their logo. (typically BrE)

* My family likes going to the zoo. (typically AmE)

* CNN has changed its logo. (typically AmE)

9- The words its and it's are two different words with different meanings.

* The dog has hurt its leg.

* He says it's two o'clock.

10- The words your and you're are two different words with different meanings.

* Here is your coffee.

* You're looking good.

11-The words there, their and they're are three different words with different meanings.

* There was nobody at the party.

* I saw their new car.

* Do you think they're happy?

12-The contraction he's can mean he is OR he has. Similarly, she's can mean she is OR she has, and it's can mean it is OR it has, and John's can mean John is OR John has.

* He is working

* He has finished.

* She is here.

* She has left.

* John is married.

* John has divorced his wife.

13- The contraction he'd can mean he had OR he would. Similarly, they'd can mean they had OR they would.

* He had eaten when I arrived.

* He would eat more if possible.

* They had already finished.

* They would come if they could.

14- Spell a proper noun with an initial capital letter. A proper noun is a "name" of something, for example Josef, Mary, Russia, China, British Broadcasting Corporation, English.

* We have written to Mary.

* Is China in Asia?

* Do you speak English?

15- Spell proper adjectives with an initial capital letter. Proper adjectives are made from proper nouns, for example Germany → German, Orwell → Orwellian, Machiavelli → Machiavellian.

* London is an English town.

* Who is the Canadian prime minister?

* Which is your favourite Shakespearian play?

16- Use the indefinite article a/an for countable nouns in general. Use the definite article the for specific countable nouns and all uncountable nouns.

* I saw a bird and a balloon in the sky. The bird was blue and the balloon was yellow.

* He always saves some of the money that he earns.

17- Use the indefinite article a with words beginning with a consonant sound. Use the indefinite article an with words beginning with a vowel sound. see When to Say a or an

* a cat, a game of golf, a human endeavour, a Frenchman, a university (you-ni-ver-si-ty)

* an apple, an easy job, an interesting story, an old man, an umbrella, an honorable man (on-o-ra-ble)

18-Use many or few with countable nouns. Use much/a lot or little for uncountable nouns.
see Quantifiers

* How many dollars do you have?

* How much money do you have?

* There are a few cars outside.

* There is little traffic on the roads.

19-To show possession (who is the owner of something) use an apostrophe + s for singular owners, and s + apostrophe for plural owners.

* The boy's dog. (one boy)

* The boys' dog. (two or more boys)

20- In general, use the active voice (Cats eat fish) in preference to the passive voice (Fish are eaten by cats).

* We use active in preference to passive.

* Active is used in preference to passive.

Lesson 2: Phonetics rules

Basic phonics rules help us to read and understand the English language. Here are the most important rules:

- 1- **Vowels are the letters a, e ,i ,o, u and sometimes include y.** When we make a vowel sound our jaw drops. Vowels are the letters in words that make words sound clear. Without them we sound as if we are muttering. No-one would understand us if we spoke without including them.
- 2- **Words can be broken up into smaller pieces or chunks called syllables.** Breaking up words makes them easier to read and to work out how to spell. Every syllable has to have at least one vowel in it. A word with one syllable like **cat** has one vowel, **a**. A word like **America** can be broken up into four syllables like this, **A me ri ca**.

3-When two or three consonants are placed side-by-side (called consonant clusters) they are pronounced by running the sounds together like this...

f + l say fl as in flip.

Putting the letters together like this produces a smooth flowing sound, called **blending**.

There are many combinations of these blends.

Here are a few... **fl, tr, cl, st, tw, nk, lk and str**.

Some occur at the beginning of a word, like **tw** in **twin**.

Others appear at the end of a word like **lk** in **milk** and **nt** in **went**.

4-When two vowels are placed side-by-side, in most cases the first vowel says its name and the other is silent. Take for example the word **rain**. Notice that the **a** in **rain** says its name and the second vowel **i** is silent.

5-The letter y has three sounds. It says **yi** in words like **yellow**. At other times the letter y, as mentioned earlier, makes the same sound as a vowel. It can make an **eee** sound as at the end of the word **baby**. At other times it can make an **i** sound as at the end of the word **cry**.

Lesson 03: Scientific texts

+ Reading comprehension: Read the text carefully then answer the following questions

Photosynthesis:

All living things need food and energy to survive. The food-making and energy process for plants to survive is called **photosynthesis**. Plants make food and produce oxygen through photosynthesis. The process is complex but with the sun, water, nutrients from the soil, oxygen, and chlorophyll, a plant makes its own food in order to survive.

Chlorophyll is a green chemical inside a plant that allows plants to use the Sun's energy to make food. Without chlorophyll a green plant would not be able to survive.

The following are the steps in photosynthesis:

1. The sunlight is absorbed through a plant by its leaves, or other green parts.
2. The water and nutrients from the soil are absorbed through the roots of the plant.
3. The chlorophyll inside the plant's leaves traps the energy from the sunlight.
4. Carbon dioxide in the air enters through the leaves of the plants. (**Carbon dioxide** is carbon and oxygen combined.)
5. Inside the chlorophyll there are **chloroplasts** which contain water and the carbon dioxide from the air.

6. The chloroplasts are like tiny manufacturing plants. The water and carbon dioxide from the air combine to make sugar and water. Basically, it is the food for the plant to survive and grow.
7. Sugar is then made and released into the veins of the leaf and it spreads throughout the rest of the plant.
8. The oxygen the plant has made is then released into the air.

The entire process is called photosynthesis, and without it people and other animals would not be able to live and grow. This is the reason it is important for the survival of trees and plants. They give off oxygen which help people and other animals to breathe.

The plants also give people and animals food to eat. The food could be the different kinds of fruit or the many varieties of vegetables from apples and oranges to green beans and peas.

When people and animals eat this food from the plants it also gives them the energy to live and grow. Without plants, animals and people would not be able to survive.

During the fall in certain parts of the world photosynthesis no longer takes place. When this happens the leaves begin to turn different colors. The leaves may turn yellow, orange or maybe even red, or a combination of those colors. Surprisingly, these colors are the original colors of the leaves.

In the spring and summer there is too much green color from the chlorophyll for the leaves to be seen as their original colors. As the temperature drops, though, the leaves of trees, other than evergreens, stop making the chlorophyll. The chlorophyll begins to vanish and the leaves begin to change colors.

In summary, **photosynthesis** is the food-making and energy process for plants to survive. A plant's leaves contain **chlorophyll** which is a green chemical inside a plant that allows plants to use the Sun's energy to make food. **Chloroplast** inside the chlorophyll contain water and the carbon dioxide from the air to make the food for the plant to survive. Without photosynthesis, the plants would not be able to live and grow.

1+ Translate the text into French language

2+ Which of the following statements is true?

- A:** Chloroplasts are the green chemicals inside a plant that allows plants to use the Sun's energy to make food.

- B:** Chlorophyll is a green chemical inside a plant that allows plants to use the Sun's energy to make food.
- C:** Chlorophyll is a green chemical inside the roots of a plant that allows plants to use the Sun's energy to make food.
- D:** Chlorophyll is a green chemical absorbed into a plant that allows them to use the Sun's energy to make food.

3+ Fill in the blank with the correct answer. Carbon dioxide, which is carbon and oxygen combined, in the air enters through the _____ of the plants.

- A:** Roots
- B:** Chlorophyll
- C:** Leaves
- D:** Energy

4+ Food for a plant to survive is

- A:** Sugar and water
- B:** Carbon and oxygen
- C:** Chlorophyll
- D:** Chloroplasts

5+ Which of the following in plants are like tiny manufacturing plants?

- A:** Chloroplasts
- B:** Chlorophyll
- C:** Leaves
- D:** Roots

6+ In the fall leaves begin to turn different colors because

- A:** There is less oxygen in the air for the plants
- B:** There is too much chlorophyll in the leaves of the plant
- C:** The carbon dioxide in the air cannot reach the leaves of the plant
- D:** The temperature begins to drop and leaves cannot produce chlorophyll

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