

ELECTRICITY AND INVENTIONS



1. Complete the following diagram.

Keywords

- proton
- neutron
- electron
- nucleus

electrons
have a charge of _____

protons
have a charge of _____

neutrons
have a charge of _____

the nucleus
is made up of _____ and neutrons

Atoms have the same number of protons and electrons

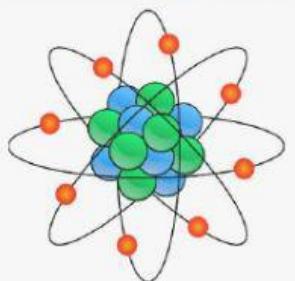
Example

This lithium atom has:

- electrons
- protons
- neutrons

2. Fill in the gaps. Pay attention to the word bank.

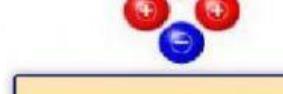
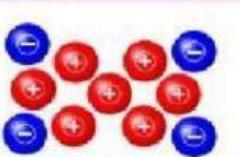
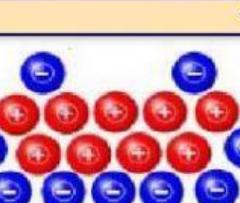
Matter is anything that has mass and takes up space. The primary constituent of matter is called an 1) element and is made up of 2) _____. Each atom is made of smaller particles, known as subatomic particles. In the 3) _____, or middle, of an atom are two types of subatomic particles: protons and 4) _____.



The positively charged particles in the nucleus of an atom are called 5) _____ while the uncharged particles in the nucleus are called neutrons. Orbiting the nucleus of an atom is a cloud of negatively charged 6) _____. These negatively charged particles are much smaller in mass than protons and neutrons, so much so that they do not contribute a significant amount to the mass of an atom.

Therefore, to calculate the atomic mass of an atom, you find the sum of the protons and neutrons found in the atom.

3. Choose the right answer: electrically neutral / positively charged/ negatively charged

1. 
-
2. 
+
3. 
+
4. 
+
5. 
-
6. 
+

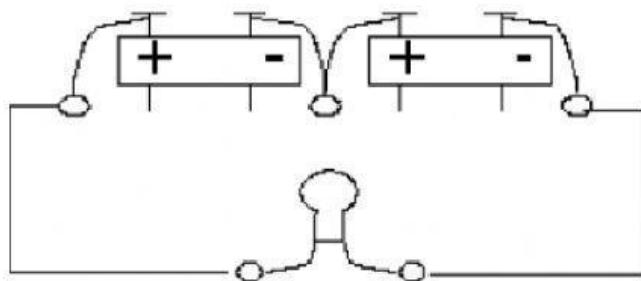
4. Look at the following picture and answer the questions.

a) What type of circuit is it?

SIMPLE CIRCUIT

SERIES CIRCUIT

PARALELL CIRCUIT



b) Does the lamp light with two batteries?

YES

NO

c) Now, we will add two more bulbs to the same circuit. Unscrew one bulb from its socket. What happens?

NOTHING

ALL LIGHT BULBS GO OUT.

ONLY THE NEXT ONE GOES OUT.

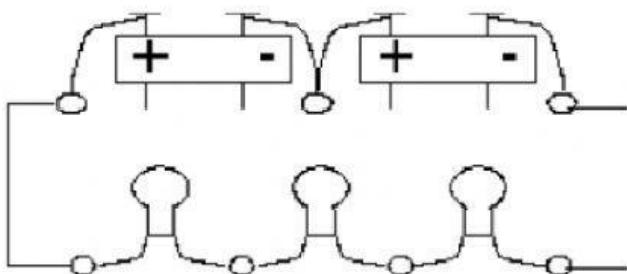


Figure B

d) Why wouldn't it be a good idea to wire your house in a simple or series circuit?

WE WASTE TOO MUCH ENERGY.

IT WOULD BE A GOOD IDEA TO SAVE ENERGY. EVERYTHING IS CONNECTED.

IF ONE LIGHT WENT OUT, THEN EVERYTHING THAT REQUIRES ELECTRICITY, WOULD GO OUT TOO.