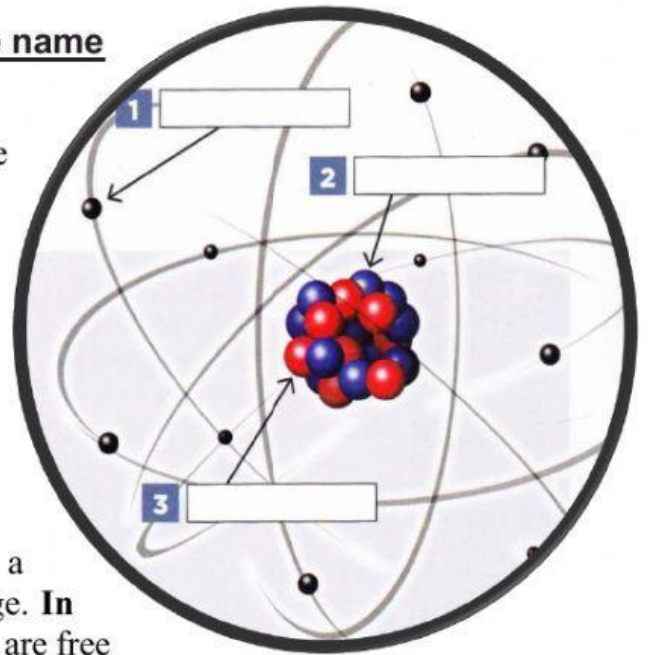


## WHAT'S ELECTRICITY?

**1 - Read the text and label the picture with the name of each part.**

All substances, solids, liquids or gases, are composed of one or more of the chemical elements. Each element is composed of identical atoms. Each atom is composed of a small central nucleus consisting of protons and neutrons around which **orbit shells** of electrons. These electrons are very much smaller than protons and neutrons. The electrons in the **outermost** shell are called **valence** electrons and the electrical **properties** of the substance depend on the number of these electrons. Neutrons have no electric **charge**, but protons have a positive charge while electrons have a negative charge. **In** some substances, usually metals, the valence electrons are free to move from one atom to another and this is what constitutes an electric current.



1- .....2.....3.....

**2- Vocabulary work.**

SPANISH	ENGLISH	pequeño		carga	
elemento		propiedades		libre	
sustancias		valencia		mover	

SPANISH	ENGLISH		current		have
	each		nucleus		another
	electric		orbits		outermost

### **3 Listen and complete the text with the missing information.**

Electricity consists of a <sup>1</sup> .....of free electrons along a conductor. To produce this current flow, a generator is placed at the end of the conductor in order to move the <sup>2</sup> .....

#### **Conductors**

Electricity needs a material which allows a current to pass through easily, which offers little ( <sup>3</sup> ..... to the flow and is full of free electrons. This material is called a conductor and can be in the form of a bar, tube or sheet. The most commonly used <sup>4</sup> ..... are wires, available in many sizes and thicknesses. They are coated with insulating materials such as plastic.

#### **Semiconductors**

Semiconductors such as silicon and germanium are used in transistors and their conductivity is halfway in between a conductor and an <sup>5</sup> .....

Small quantities of other substances, called impurities, are introduced in the material to <sup>6</sup> ..... the conductivity.

#### **Insulators**

A material which contains very <sup>7</sup> ..... electrons is called an insulator. Glass, rubber, dry wood and <sup>8</sup> ..... resist the flow of electric charge, and as such they are good insulating materials.

### **4 Read the text again and decide if the following statements are true (T) or false (F)**

- 1 A flow of electrons moving inside a conductor creates an electric current. ....
- 2 A generator is used to move the charges. ....
- 3 Electrons can easily pass through any material. ....
- 4 Any material is a good conductor. ....
- 5 Conductors are coated with insulators. ....
- 6 The presence of free electrons affects the conductivity of materials. ....
- 7 Impurities are introduced to increase conductivity. ....
- 8 Insulating materials resist the flow of electrons. ....