

磁電廊
Electricity & Magnetism Gallery



**Come on, let's learn
Electricity and Magnetism**

Hi! Welcome to Electricity & Magnetism Gallery. We are "Little Light Bulb" and "Little Magnet". After having observed and handled the exhibits, try to finish this worksheet. And then to see if you could be a junior electricity and magnetism specialist!

Name: _____ Class: _____

School: _____ Visiting date: _____

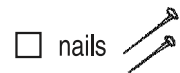
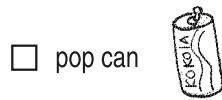
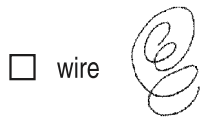
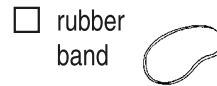
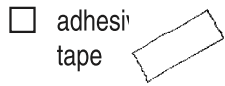


Finding out conductors (Reference exhibit: EG22)

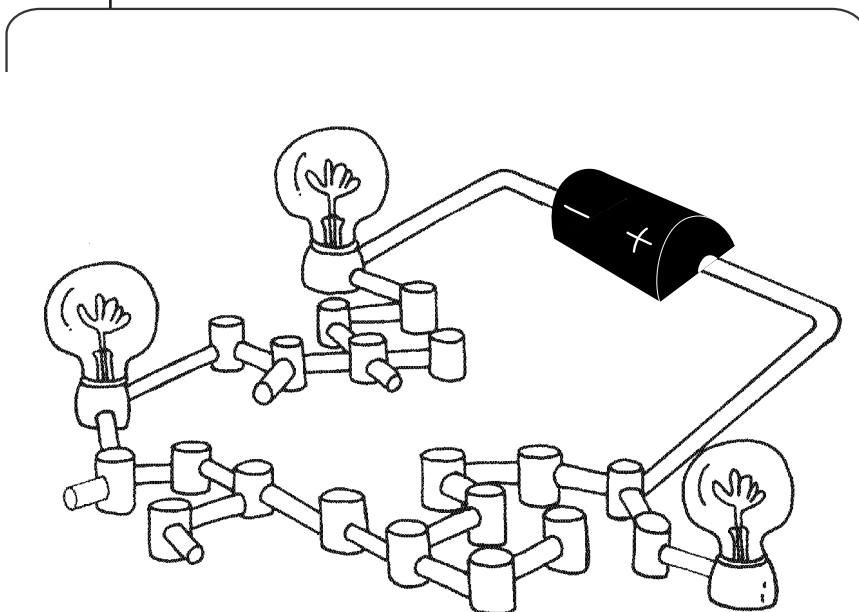
We call materials which allow current to flow – conductors

We call materials which DO NOT allow current to flow –

Among the following materials, mark “✓” on the conductors:



How can electric current flow? (Reference exhibit: EG18)



Use red color pen to draw the circuit in which the current flows.

Fill the lighting bulbs with yellow, and how many bulbs are lighted up? pieces

3

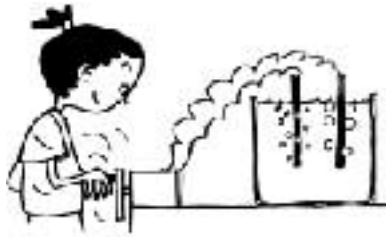
When the current flows... (Reference exhibit: EG17, EG19, EG21)

When the current flows, what will happen? Complete the following sentences:

When the current flows,



When the current flows,



When the current flows,



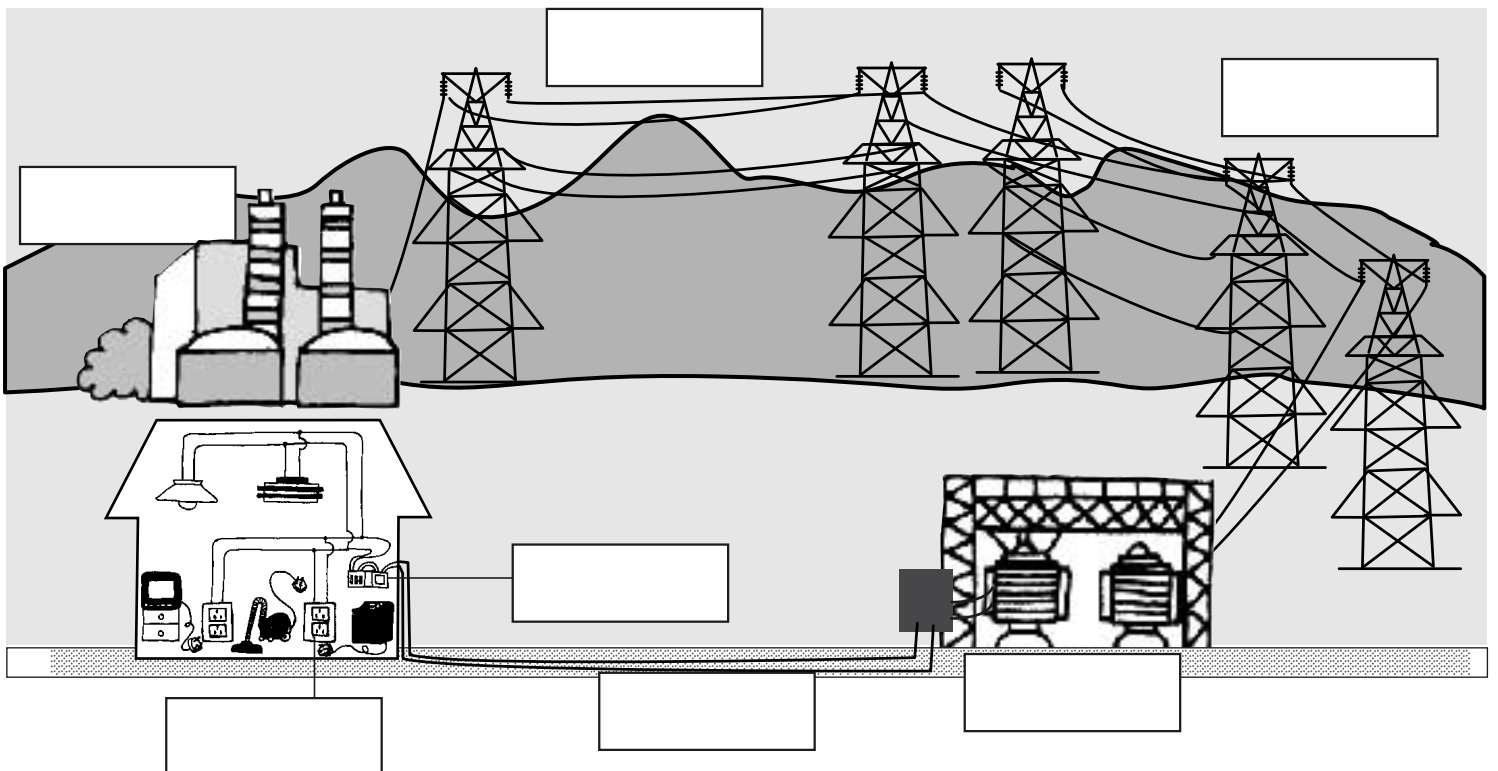
4

What is behind the socket? (Reference exhibit: EG28)

Do you know how does electric power go to your home?

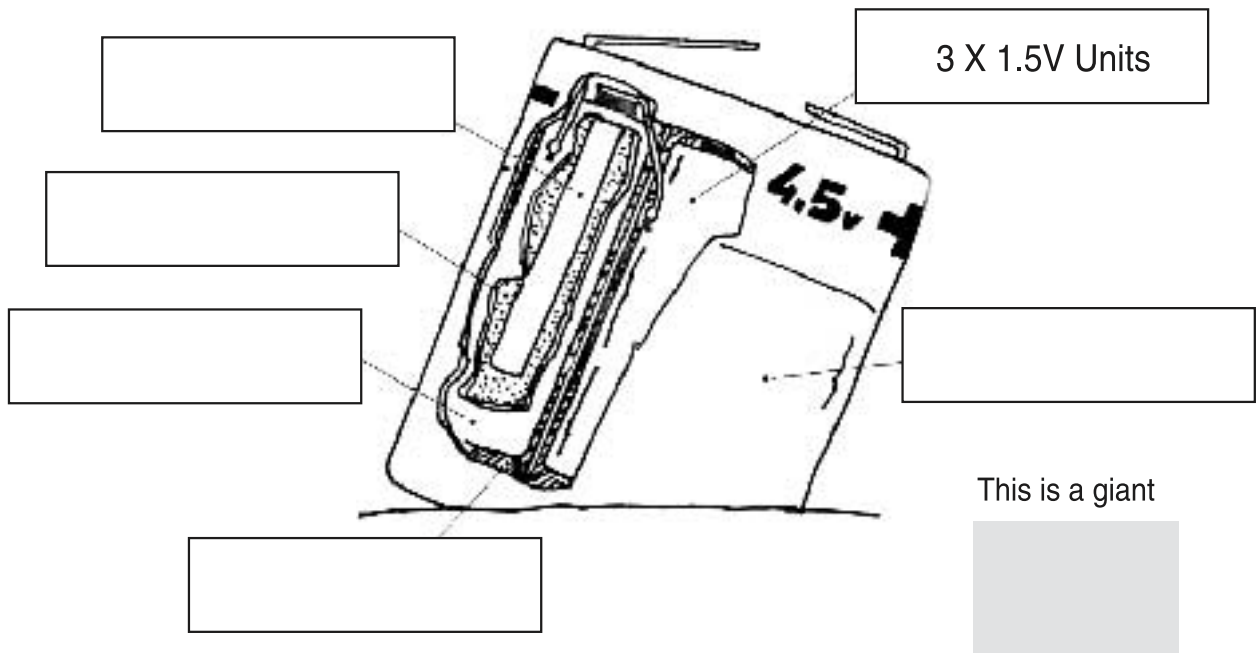
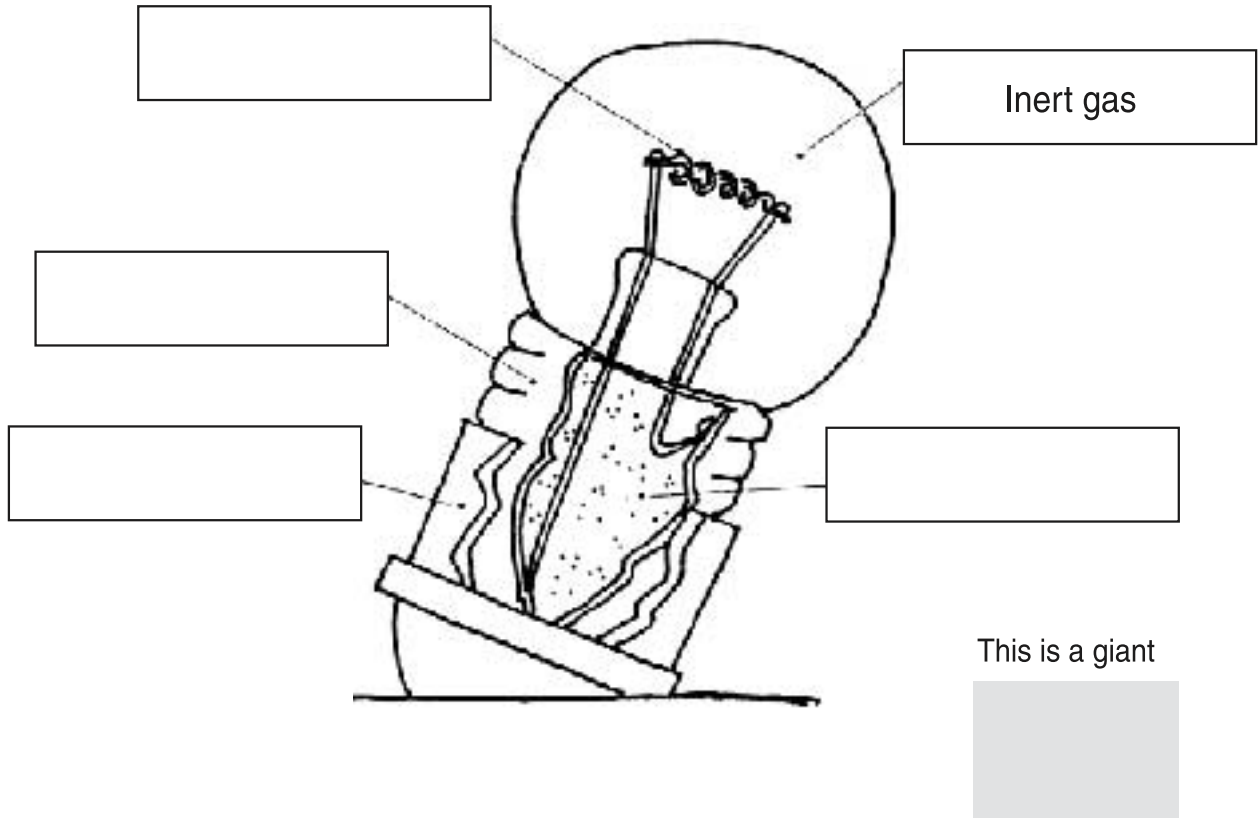
Pull the cable of the exhibit and fill in the following blanks.

socket power station main switch underground cable
transmission tower transformer station overhead cable



How does it work? (Reference exhibit: EG01, EG11)

Could you discover the giant light bulb and battery? If so, try to study various parts of them and fill in the following blanks. (Some answers have been done for you!)



666

Using electricity properly (Reference exhibit: EG27)

Electricity is a very useful resource; however, it is very dangerous if we use it improperly. Cross out the following situations where danger exists:

- Putting one's finger in a wall socket



- Using an electric appliance when one is wet



- When electric shock accident occurs, dial 999 for help



- Touching damaged electric wires



- Playing with a connected electric extension cord



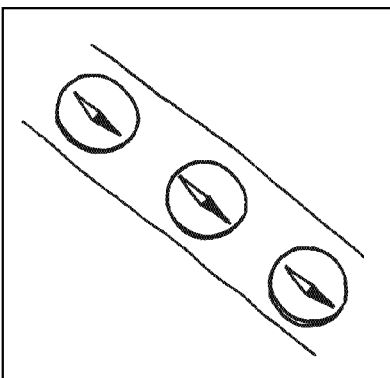
- Turning off the electric switch after use of electric appliance



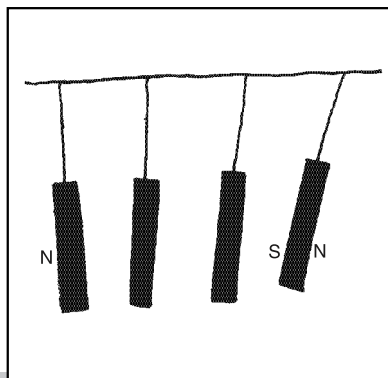
777

The wonders of magnetism (Reference exhibit: EG30,EG31,EG32)

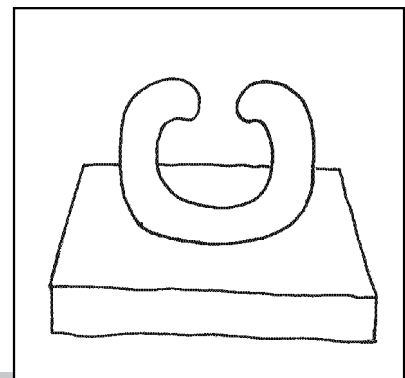
Each magnet has a south pole and a north pole. And unlike poles attract and like poles repel each other. Try to identify the alignment of south and north poles in the following exhibits, write "S" for south pole and "N" for north pole. (Some answers have been done for you!)



Magnetic chain reaction



Invisible force



Giant magnet



Electricity and magnetism maze

According to your knowledge in electricity and magnetism, try to run out the following maze.

Entrance

1. When current passes through the filament in the light bulb, it will make light and ... (EG06)

... sound

...heat

2. The light bulb with a broken filament ... (EG02)

...cannot work

...can still work

3. How to connect two batteries properly? (EG09)

...electric shock

...short circuit

4. When the current flows, the coil can... (EG19)

...move

...attract nails

5. Connecting the positive and negative terminals of a battery with a wire will cause... (EG23)

⚠ (Don't try!)

6. Can electricity travel through human body? (EG29)

Yes!

No!

No!

7. Does each magnet have a south pole and a north pole? (EG30)

Yes!

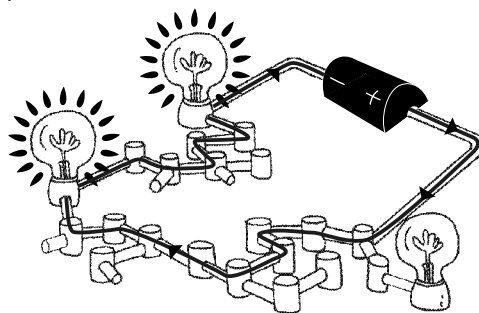
Exit

1 Finding out conductors (Reference exhibit: EG22)

We call materials which DO NOT allow current to flow – **insulator**

- | | | | |
|--|--|---|--|
| <input type="checkbox"/> adhesive tape | <input checked="" type="checkbox"/> paper clip | <input type="checkbox"/> rubber band | <input checked="" type="checkbox"/> coin |
| <input type="checkbox"/> glass | <input type="checkbox"/> envelope | <input checked="" type="checkbox"/> key | <input type="checkbox"/> clothes |
| <input checked="" type="checkbox"/> wire | <input checked="" type="checkbox"/> pop can | <input type="checkbox"/> straw | <input checked="" type="checkbox"/> aluminium foil |
| <input type="checkbox"/> nylon rope | <input type="checkbox"/> eraser | <input type="checkbox"/> cling | <input checked="" type="checkbox"/> nails |

2 How can electric current flow? (Reference exhibit: EG18)



3 When the current flows... (Reference exhibit: EG17, EG19, EG21)

When the current flows,
things are magnetized!



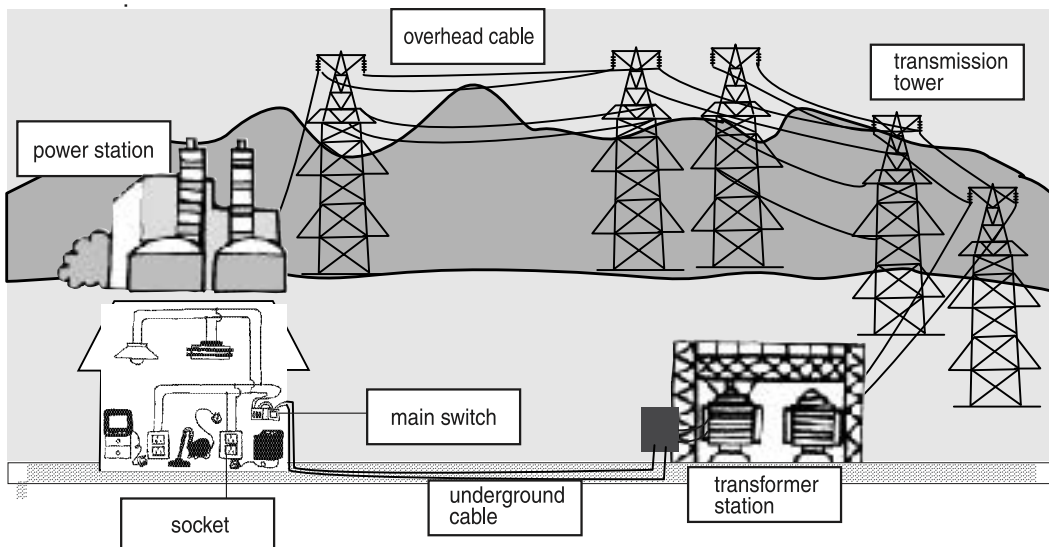
When the current flows,
things are electrolyzed!



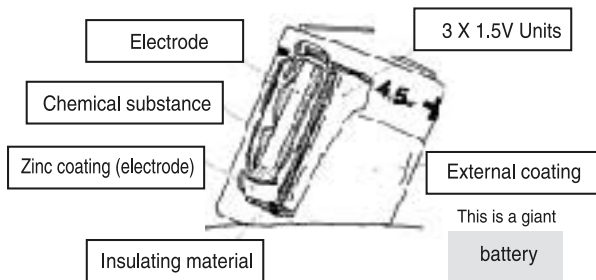
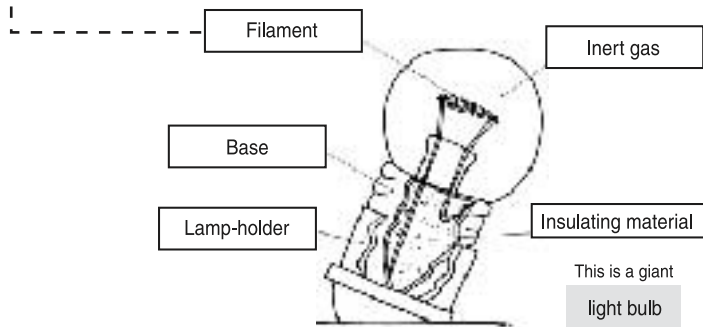
When the current flows,
things heat up!



4 What is behind the socket? (Reference exhibit: EG28)



555 How does it work? (Reference exhibit: EG01, EG11)



666 Using electricity properly (Reference exhibit: EG27)

<input checked="" type="checkbox"/> Putting one's finger in a wall socket		<input checked="" type="checkbox"/> Using an electric appliance when one is wet	
<input type="checkbox"/> When electric shock accident occurs, dial 999 for help		<input checked="" type="checkbox"/> Touching damaged electric wires	
<input checked="" type="checkbox"/> Playing with a connected electric extension cord		<input type="checkbox"/> Turning off the electric switch after use of electric appliance	

777 The wonders of magnetism (Reference exhibit: EG30, EG31, EG32)

