Complete the text to describe electrolysis using the words in the box:

battery	**negative**	**solution**	**electrodes**	**positive**	**chemical**

Electrolysis is a _____ reaction produced when an electric current passes through a _____ of positively and negatively charged particles. To perform electrolysis, two metal _____ are placed in the solution and connected to a power source such as a _____. As the electric current passes through the liquid, the positively charged atoms are attracted to the _____ electrode, and the negatively charged atoms are attracted to the _____ electrode. This causes the components of the solution to separate.

LIVEWORKSHEETS

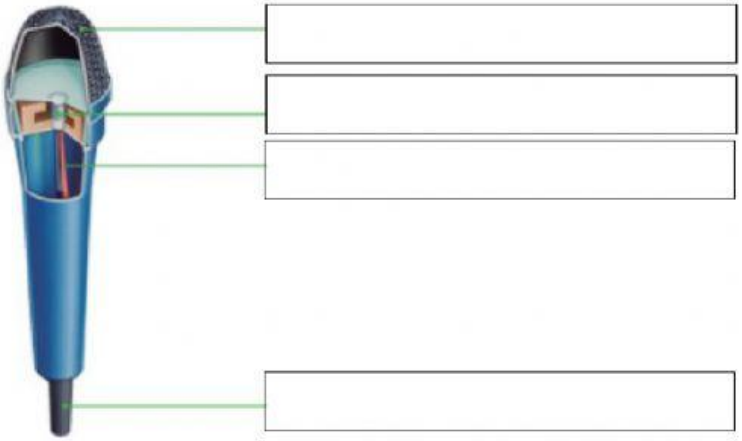
Complete the table with an example of how each effect of electricity can be used.

Electricity produces thermal energy	Electricity produces light energy	Electricity produces a magnetic field	Electricity produces a chemical reaction
It can be used to/for	It can be used to/for	It can be used to/for	It can be used to/for
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

LIVEWORKSHEETS

Read about microphones. Then, label the diagram:

Sound waves enter the microphone and cause the **cone** to vibrate. The cone is attached to a **magnet** inside a **wire coil**. As the cone vibrates, the magnet vibrates inside the coil, producing an electric current. The current travels down a **wire** to a recording device or speaker.



LIVEWORKSHEETS

Answer the questions:

- What mixtures can an electromagnet be used to separate?

_____

- How many poles does a bar magnet have?

_____

- What two things can happen when two magnets are moved together?

_____

- How can we identify a magnet?

_____

- What is the Earth's magnetic field called?

_____

- What does the Earth's magnetic field protect us from?

_____

LIVEWORKSHEETS

Order the sentences to describe how an electric bell works:

- [ ] Then an electric current flows around the circuit producing a magnetic field in the electromagnet.
- [ ] As the hammer moves back into its original position, the circuit is completed again.
- [ ] First the switch is closed and the circuit is completed.
- [ ] This magnetic field attracts the hammer, which is made of iron.
- [ ] The hammer is pulled towards the magnet. This movement breaks the circuit.

LIVEWORKSHEETS

TRUE or FALSE? Correct the false sentences.

- A compass needle is a bar magnet.

- The electric current in an electric bel switches on and off rapidly.

- A Maglev is a train that is powered by thermal energy.

- Speakers and microphones both contain bar magnets.

LIVEWORKSHEETS

Find out more about magnetism. Use the Internet to answer the questions:

- If we move two magnets away from each other, does the magnetic force between them get stronger or weaker?

_____

_____

- What two names are given to naturally occurring magnets found in nature?

_____

_____

- What materials do we need to make an electromagnet?

_____

_____

LIVEWORKSHEETS

Find out more about magnetism. Use the Internet to answer the questions:

- If a magnet is broken into little pieces, does each piece continue to produce a magnetic field?

_____

_____

- Does the magnetic field of an electromagnet get stronger or weaker when the electric current is increased?

_____

_____

- What happens to the magnetic field of a bar magnet if the magnet is heated, dropped or hit with a hammer?

_____

LIVEWORKSHEETS