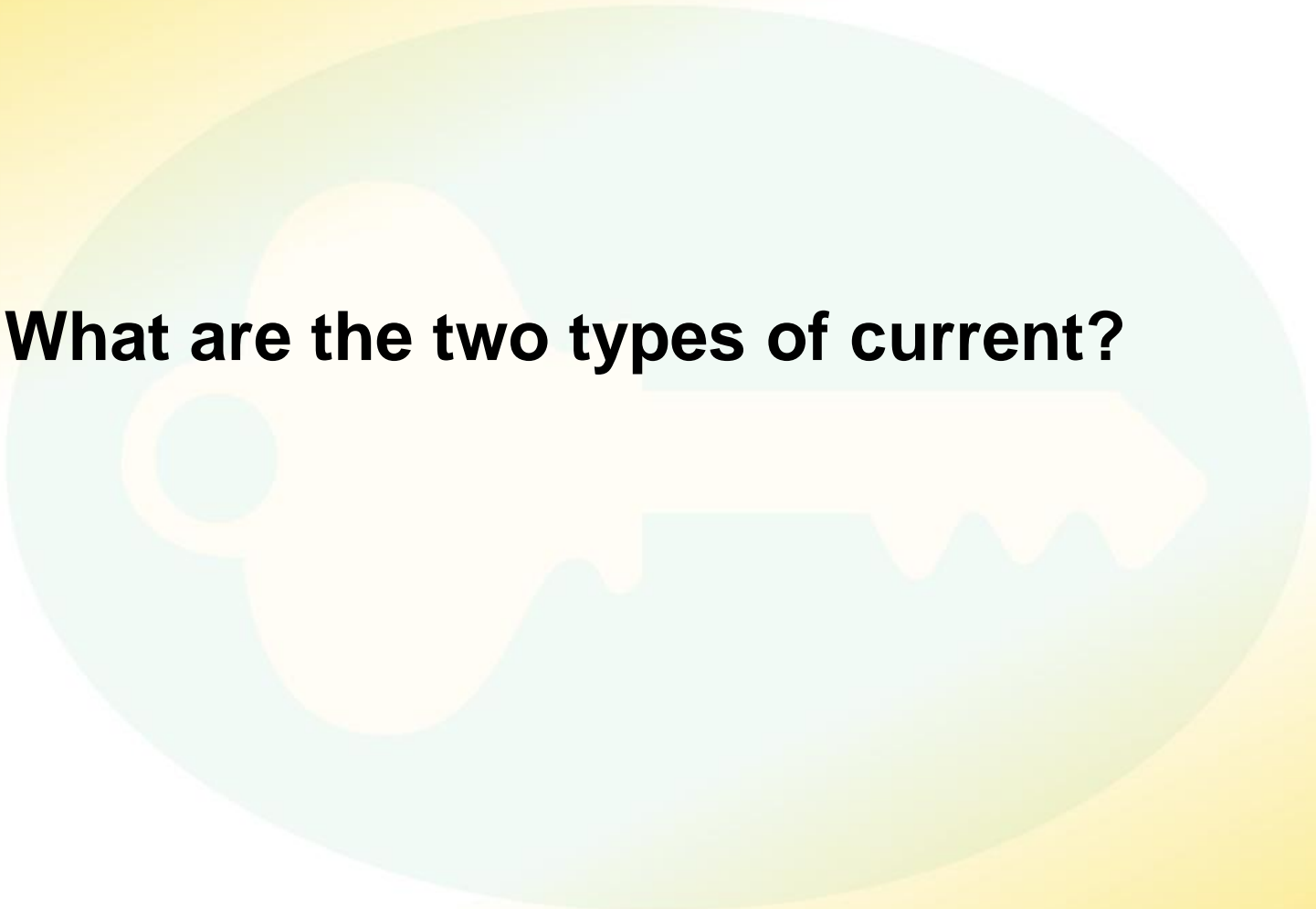


Electric Current



What are the two types of current?



Electric Current

Electric current –

- **Direct current (DC) –**
- **Alternating current (AC) is –**

Electric Current

The SI unit of electric current is –

Even though electrons flow in an electric current –

Conductors and Insulators



What are some examples of conductors and insulators?

Conductors and Insulators

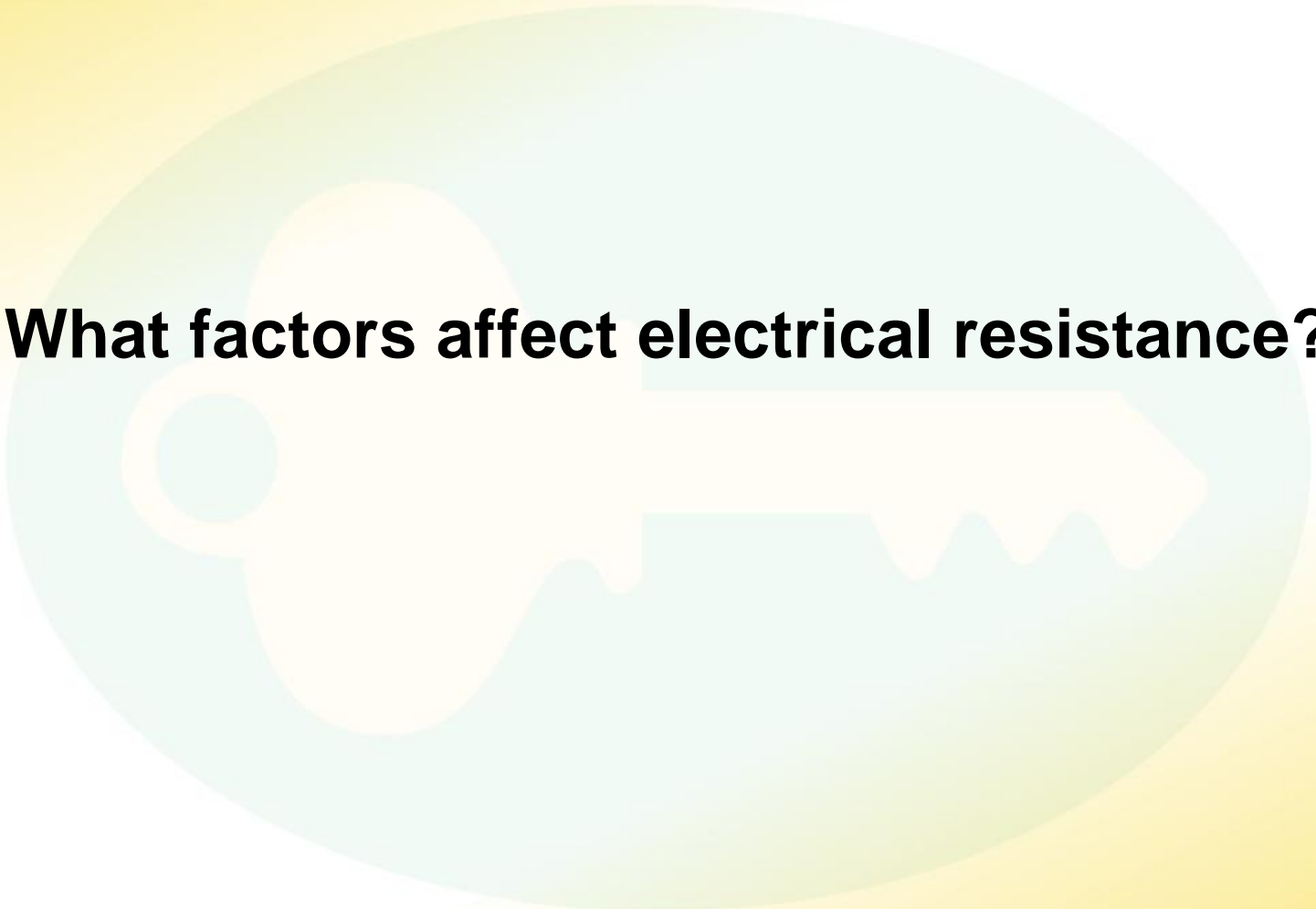
An **electrical conductor** is –

An **electrical insulator** is –

Resistance



What factors affect electrical resistance?



Resistance

Resistance is –

- The SI unit of resistance is –

Resistance

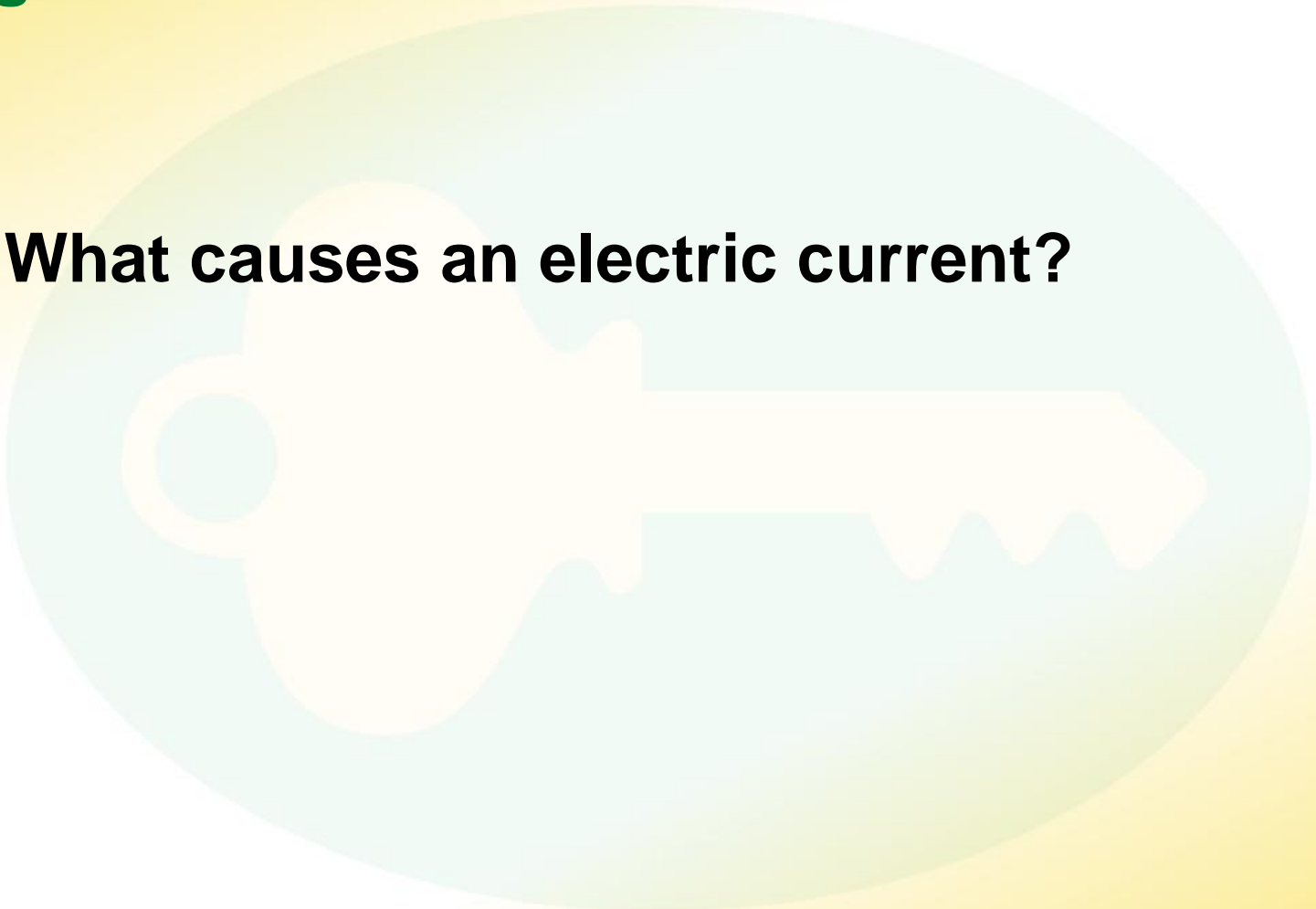
Resistance is –

A **superconductor** is –

Voltage



What causes an electric current?



Voltage

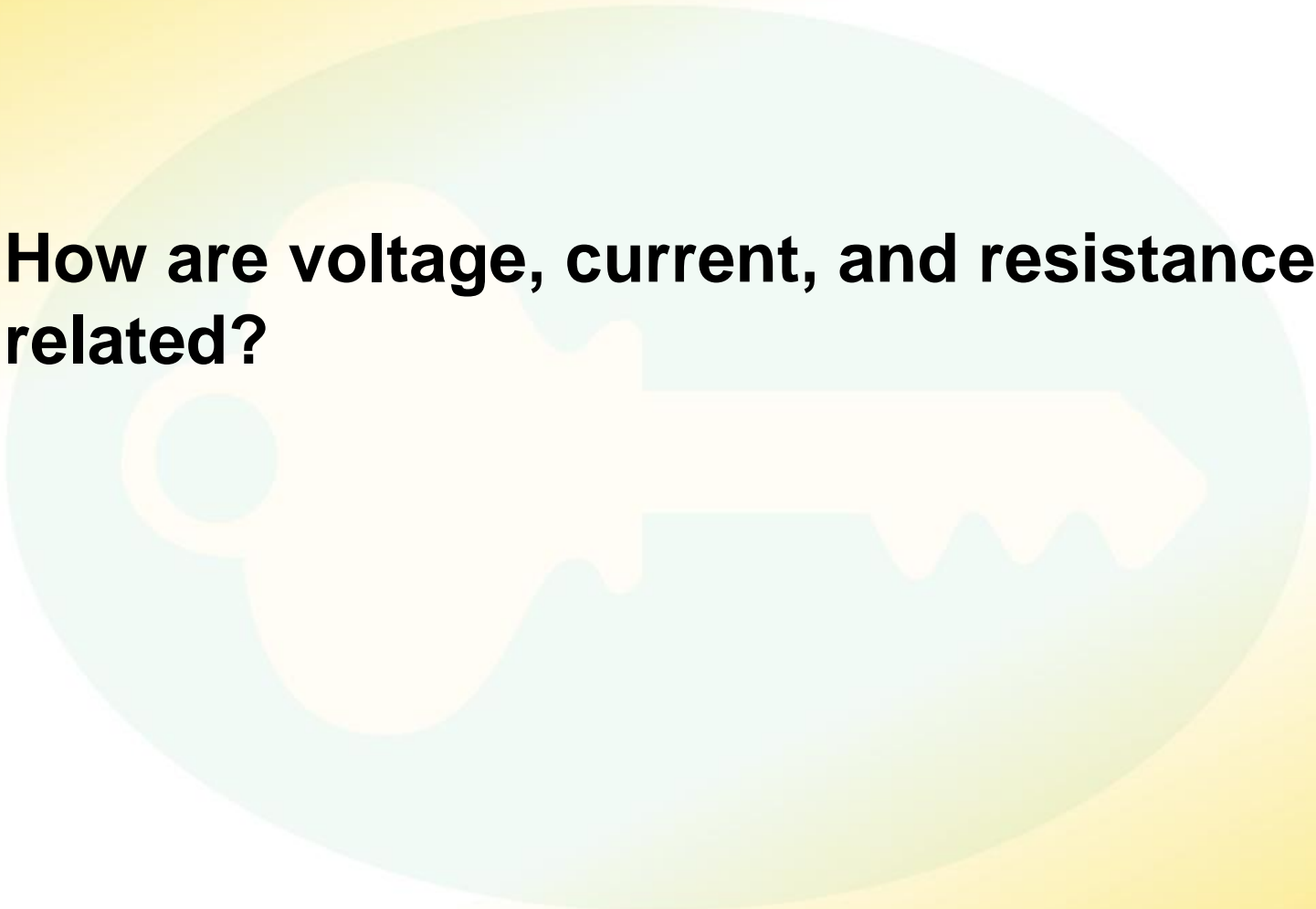
Potential Difference

- **Potential difference** is –
- Potential difference is –

Ohm's Law



How are voltage, current, and resistance related?



Ohm's Law

According to **Ohm's law** -

Ohm's Law

$$V = I \times R \text{ or } I = \frac{V}{R}$$

When the current is –

Ohm's Law

What is the voltage if the resistance is 3 ohms and the current is 3 amps?

Assessment Questions

1. Which of the following materials is a good conductor of electric current?
 - a. wood
 - b. glass
 - c. air
 - d. iron

Assessment Questions

2. If a piece of wire has a certain resistance, which wire made of the same material will have a lower resistance?
- a hotter wire
 - a thicker wire
 - a longer wire
 - a thinner wire

Assessment Questions

3. What does the voltage between two points in an electric field represent?
- the total kinetic energy
 - the difference in mechanical energy
 - the difference in potential energy
 - the electrical energy

Assessment Questions

4. A 9-volt battery drives an electric current through a circuit with 4-ohm resistance. What is the electric current running through the circuit?
- a. 0.44 A
 - b. 2.25 A
 - c. 5 A
 - d. 36 A

Assessment Questions

5. The two types of electric current are direct current and indirect current.

True

False