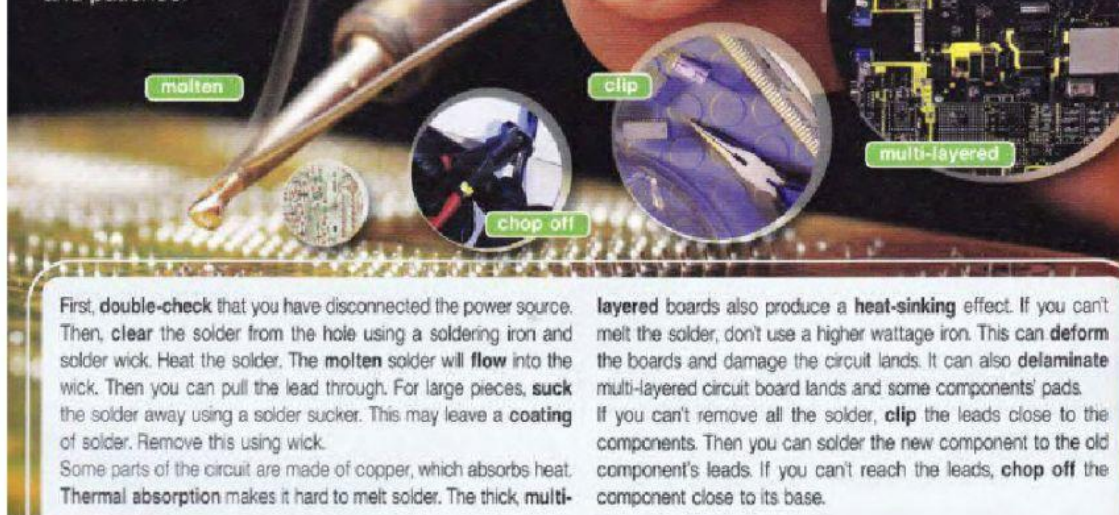


## Removing components

In the past it was simple to remove components. Circuits had one layer. You just had to remove the solder and pull the lead through the hole in the board. Nowadays, boards are **multi-layered**, and component removal requires lots of skill and patience.



First, **double-check** that you have disconnected the power source. Then, **clear** the solder from the hole using a soldering iron and solder wick. Heat the solder. The **molten** solder will **flow** into the wick. Then you can pull the lead through. For large pieces, **suck** the solder away using a solder sucker. This may leave a **coating** of solder. Remove this using wick.

Some parts of the circuit are made of copper, which absorbs heat. **Thermal absorption** makes it hard to melt solder. The thick, multi-

layered boards also produce a **heat-sinking** effect. If you can't melt the solder, don't use a higher wattage iron. This can **deform** the boards and damage the circuit lands. It can also **delaminate** multi-layered circuit board lands and some components' pads. If you can't remove all the solder, **clip** the leads close to the components. Then you can solder the new component to the old component's leads. If you can't reach the leads, **chop off** the component close to its base.

### Get ready!

1 Before you read the passage, talk about these questions.

- 1 What are some ways a circuit board can be damaged by heat?
- 2 What are two ways to disconnect leads or wires?

### Reading

2 Read the article on removing components. Then, mark the following statements as true (T) or false (F).

- 1 ☐ Solder wick is used to remove small pieces of solder.
- 2 ☐ A higher wattage iron is good to use on multi-layered boards.
- 3 ☐ Remove the solder before cutting the component leads.

### Vocabulary

3 Match the words (1-8) with the definitions (A-H).

- |                                       |   |
|---------------------------------------|---|
| 1 <input type="checkbox"/> flow       | 5 <input type="checkbox"/> suck         |
| 2 <input type="checkbox"/> deform     | 6 <input type="checkbox"/> double-check |
| 3 <input type="checkbox"/> delaminate | 7 <input type="checkbox"/> clear        |
| 4 <input type="checkbox"/> chop off   | 8 <input type="checkbox"/> clip         |

- A check something twice  
 B remove obstacles from a passage  
 C remove the coating  
 D cut through something small and thin  
 E remove using a vacuum  
 F move in liquid form  
 G change shape in a bad way  
 H cut and remove something

Answers:

1.1

1.2

## Grammar

*Choose the right option in each sentence. (escribe la letra minúscula correspondiente a la opción correcta en cada espacio)*

- 1 He \_\_\_\_ to go home.  
a want  
b did  
c didn't want  
d didn't wanted
- 2 Where \_\_\_\_ to school?  
a did you go  
b went you  
c did you went  
d did go
- 3 If my new company is successful, I \_\_\_\_ employ people to help me.  
a will  
b be able to  
c will be able to  
d will able to
- 4 The first reality TV show \_\_\_\_ in Sweden in 1997.  
a showed  
b shown  
c is shown  
d was shown
- 5 The film Avatar was directed \_\_\_\_ James Cameron.  
a by  
b from  
c for  
d with
- 6 He realized that he \_\_\_\_ his car keys in the office.  
a left  
b has left  
c had left  
d was leaving
- 7 We wouldn't have missed the bus if you \_\_\_\_ to chat with Mary!  
a didn't stop  
b hadn't stopped  
c don't stop  
d wouldn't have stopped
- 8 We'll stay at home if it \_\_\_\_\_ this afternoon.  
a raining  
b rains  
c will rain  
d rain
- 9 If I hadn't replied to your email, I \_\_\_\_\_ here with you now.  
a. can't be  
b. wouldn't be  
c. won't be  
d. haven't been
- 10 You may not like the cold weather here, but you'll have to \_\_\_\_\_, I'm afraid.  
a tell it off  
b sort itself out  
c put up with it  
d put it off