

# What is engineering?



1. Read the text and translate the 2 passage.

3.

Read the four paragraphs again and decide if the sentences (1–4) below, are true (T) or false (F).

- |   |     |
|---|-----|
| 1 Lots of things are made by engineers. | T/F |
| 2 Engineering isn't practical.          | T/F |
| 3 Engineers must think carefully.       | T/F |
| 4 Only engineers can solve problems.    | T/F |

2.

## 1 Engineering is everywhere

Almost everything we use in modern life is made by engineers. For example, if **a manufacturer** wants a faster car, a smaller personal stereo, or a better pen, they will ask a design engineer to find a practical **solution**.

## 2 Engineering is both theoretical and practical

Engineers use theory (ideas about engineering) to produce practical answers. The design solution must be a reasonable price, safe, and reliable. A new idea that is expensive, dangerous, or doesn't always work is not a good solution.

## 3 Engineers use a method

Generally, engineers solve problems in a **methodical** way. Engineers:

- 1 **define** the problem,
- 2 **design** a solution,
- 3 **test** the solution,
- 4 **evaluate** the solution.

If the solution isn't right, the process is repeated.

When a good solution is found, the next step is to:

- 5 **communicate** the solution.

## 4 Anyone can use engineering ideas

This method of problem-solving is useful in **everyday** life. For example, you can use the five steps next time you prepare for a test.

- 1 Define the problem: I want to pass my test next week.
- 2 Design a solution: I will study for three hours a day.
- 3 Test the solution: Study for three hours a day and take the test.
- 4 Evaluate the solution: Have I passed the test with a good mark? Yes = a good solution. No = a bad solution, so think of a better one.
- 5 Communicate the solution: Tell your friends about your test-passing technique.

4.

Match the **highlighted** words from the text with the meanings (1–7) below.

- |               |                         |
|---------------|-------------------------|
| 1 plan        | 5 careful               |
| 2 say exactly | 6 assess the success of |
| 3 a business  | 7 normal                |
| 4 answer      |                         |

5. Write the verbs which describe the steps of problem-solving in the correct order

6. Use part 4 of the text as an example and describe the steps of the following problem:  
**You want to go away for a weekend with your friends but your parents want you to study**

Define the problem

Design the solution

Test the solution

Evaluate the solution

Communicate the solution