

## ***JET ENGINES***

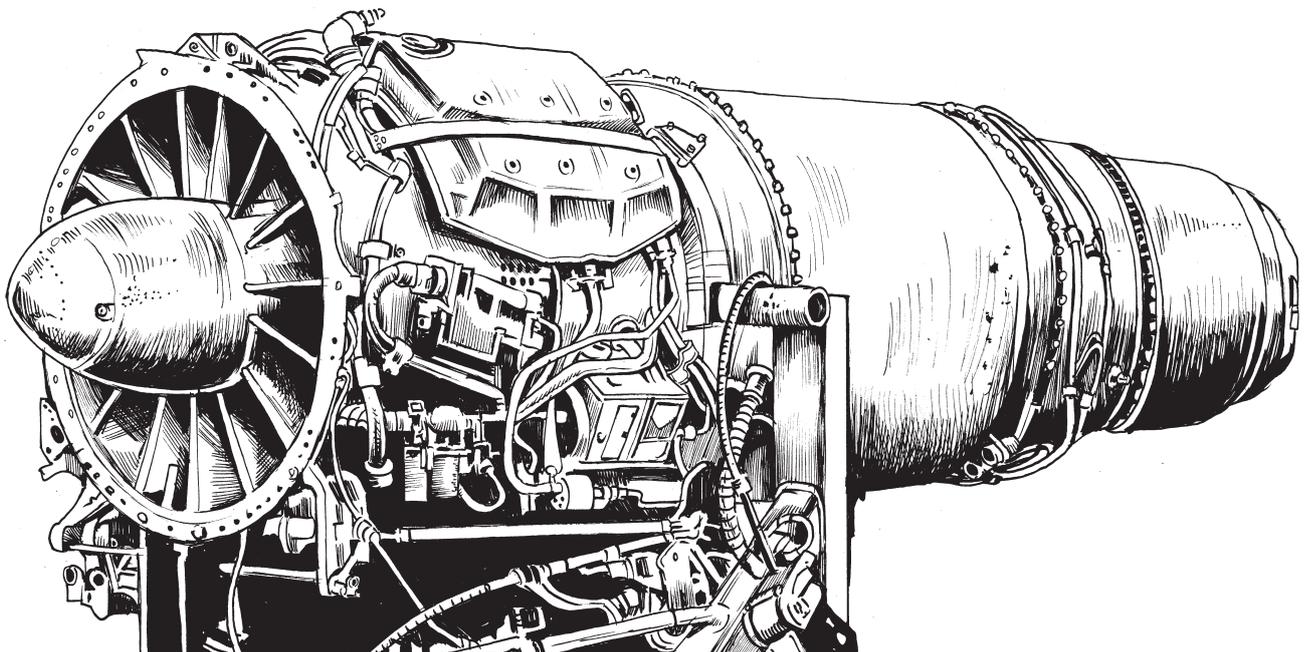
Large aircraft usually use jet engines to fly long distances at high speeds. A jet engine is one which is powered by a jet of air or gas.

At the front of a jet engine on a jet aircraft is a large fan, which sucks in air as the plane flies along. Once inside the engine, the air is 'compressed' or squeezed. This makes the pressure of the air build up. The compressed air is then mixed with jet fuel inside a special chamber and set alight. The temperature of the fuel mixture quickly rises to about 2000 °C—about 50 times hotter than the hottest summer's day you can imagine!

As well as heat, the burning fuel produces gases called 'jet exhaust', which are blasted out of the back of the engine at a high speed. As the jet exhaust leaves the engine, it passes through a turbine, a set of blades attached to a shaft, which helps to drive the large fan. Most importantly, the action of the jet exhaust leaving the engine causes a force called 'thrust', which helps to drive the jet engine forward. Thrust is also produced by the large fan at the front of the engine. If you want to see thrust in action for yourself, try blowing up a balloon and then letting it go. You will see that the escaping air helps to drive the balloon forward, just as jet exhaust helps to drive a jet engine forward.

In newer jet aircraft, only some of the air sucked into the engine is used to make jet exhaust. The rest passes around the engine and is added to the exhaust just as it leaves the engine. This creates even more thrust, keeps the engine cooler and produces less noise.

Jet engines are likely to be around for a long time to come. Who knows what the next improvement to them will be?



# Examining explanation

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Use the explanation on page 55 to complete the page.

## 1. Title

Use keywords from the text to write a new, more exciting title.

## 2. Definition

What is the purpose of the definition in an explanation?

## 3. Description

(a) Explanations often contain terms that are special to the topic. Name one special term to do with jet engines. Write its meaning.

\_\_\_\_\_

\_\_\_\_\_

(b) Write what each paragraph in the description is about.

**1** How ...

**2** How ...

**3** How ...

(c) Most of the verbs in an explanation are in the present tense; e.g. walk, jump. List three present tense verbs used in this text.

\_\_\_\_\_

## 4. Conclusion

The writer ends the conclusion with a question. Write another question he/she could have used instead.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



# Addition and Subtraction 4-Digit Worded Calculations

LO: I can use the correct calculation to solve problems.

1. What number is three thousand and six more than four thousand, six hundred and ninety-five?
2. Subtract 6725 from 8053.
3. How much smaller is 4237 than 5138?
4. What number is four thousand, three hundred and forty more than five thousand and seventy-six?
5. Calculate the difference between three thousand, two hundred and twelve, and two thousand and forty-six.
6. Add £23.71 to £78.46.
7. What number is 5002 less than 7001?
8. Increase £76.83 by £22.71.
9. What number is the sum of six thousand and sixty and two thousand, four hundred and thirteen?
10. Decrease 2973 by 628.
11. What is added to £45.62 to make £87.00?
12. What number is four thousand, six hundred and twelve minus nine hundred and sixty?
13. Take £6712 from £8000.
14. If I increase a number by 2097 and get 4651, what number did I start with?
15. Add together 5892 and 3015, then subtract 6719.

## Challenge

Using the digits 1-8, how many different ways can the digits be arranged to make 2 numbers whose sum is 9999?

# Chance

Write 2 events where one happening will not affect the other happening. An example has been given for you.

Event 1	Event 2
It will rain today.	I will go to the shops today.

I can identify events where the chance of one happening will not affect the chance of the other happening. (ACMSPO94)