

**DO YOU
KNOW?**



HIGH SPEED

Level 4

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New words



air



beak



design
(noun)



float
(verb)



land



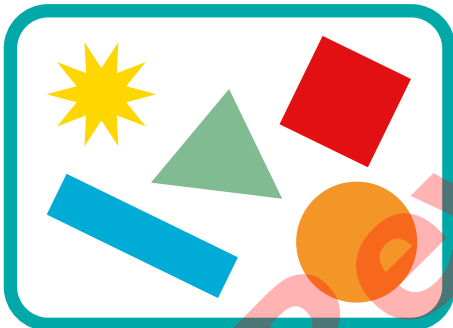
lightning



melt



metal



shape
(noun)



speed



speed limit



tracks

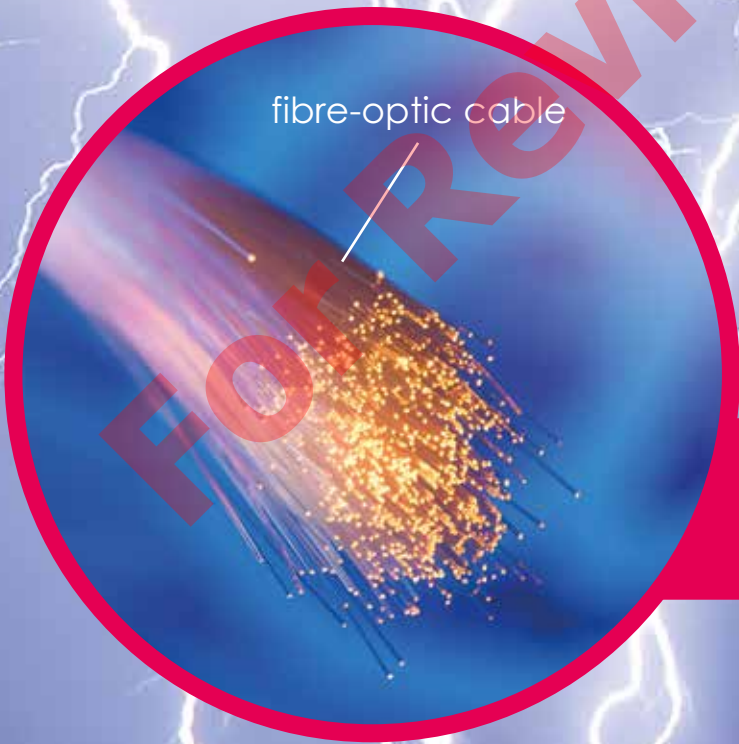
What has the highest speed?

Nothing can travel faster than light.

It travels at 299,792 kilometres a second!

Light travels faster than sound.

When there is a storm, you always see the **lightning** before you hear it.



fibre-optic cable

We use light in fibre-optic cables for high speed internet.

It takes 499 seconds for
light from the Sun to
travel to Earth.



THINK!

Which comes first, thunder or lightning?

What is a sonic boom?

Sound travels at 332 metres a second. When planes travel through the sky, they push air to the sides.

When a plane travels faster than the speed of sound, this makes a shock wave. The shock wave makes a loud BANG! This is called a sonic boom.

shock wave





In 1947, Chuck Yeager was the first person to fly a plane faster than sound.

This is a Pistol shrimp. It has a big claw. It can close its claw at a high speed, and make a sonic boom. It uses the sound to catch fish.



claw



WATCH!

Watch the video (see page 32).
Did you hear the bang?

Is this the plane of the future?

If something is hypersonic, it can fly at five times the speed of sound. A hypersonic plane could fly at 6,000–7,000 kilometres an hour. Plane companies want much faster journeys. They want to fly from New York to London in less than two hours!

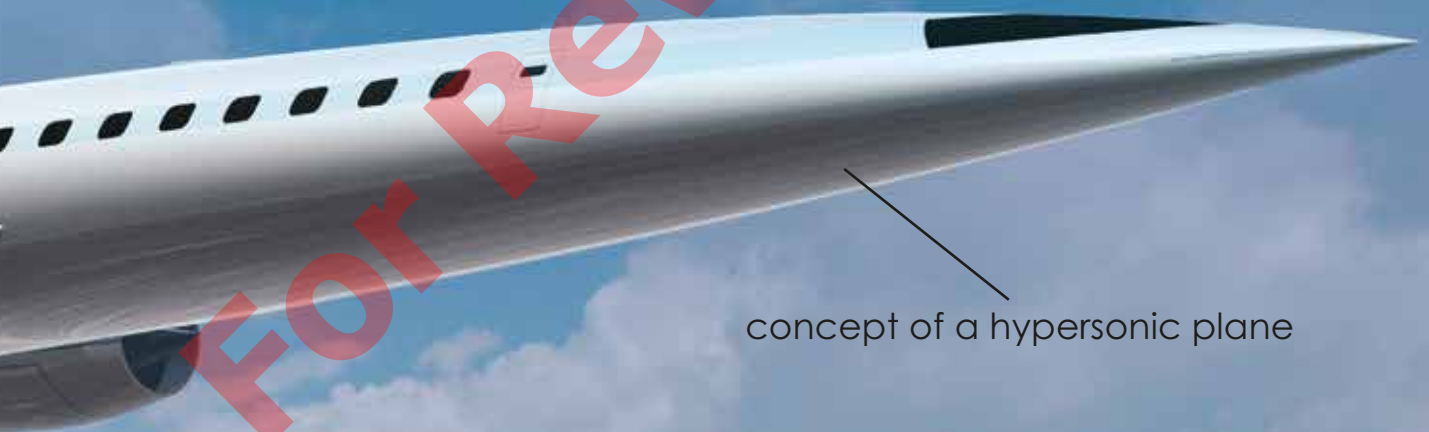


Hypersonic engines have one big problem: they get too hot.

If a plane flies at 7,000 kilometres an hour, the **metal** will **melt**. Engineers are working hard to find an answer.



melted metal



concept of a hypersonic plane



FIND OUT!

Use books or the internet to find out what type of metal engines are made of. What temperature does it melt at?