



# THE BORELLA RIDE

Parachutes in the First World War  
Science  
Year 7

## *Parachutes in the First World War*

### Lesson objective

Students will demonstrate their ability to understand technical information. Depending on the class level some questions in the task may be better completed as a class discussion.

### Materials

None required

### Key Facts

The First World War was the first time parachutes were used to escape from shot down aircraft. One third of the time they failed to work.

### Task

Read the information below then answer each question in at least 20 words.

### Reading

#### What parachutes are for?

- A safe landing – making the speed at which you hit the ground smaller.
- Parachuting animals
- Parachuting supplies
- Parachuting parts of a re-usable rocket back to earth
- Para sailing – being pulled behind a speed boat
- Returning space capsules to earth [the Apollo flights]
- To slow down the landing speed of a plane

#### A brief history of parachutes

The first parachute was designed in 1514 by Leonardo da Vinci in Italy, but it was never used.

The first man to make and use one was the Frenchman Andre Garnerin who jumped from a balloon over Paris in 1797.

In 1838 John Hampden, an Englishman, made a parachute jump from 2800 m using an umbrella-like parachute made of canvas and bamboo.

The name parachute actually comes from two words, one Italian "para" meaning prevent and the French word "chute" meaning fall. The First World War was the first time parachutes were used to escape from shot down aircraft.

# Parachutes in the First World War

## How do they work?

A parachute is like a large umbrella. If you tie a small brick to the handle of an opened umbrella and then drop it out of a window it will float downwards (make sure that the brick is tied in firmly and check that there is no one underneath!)

When you jump out of a plane your speed increases. As it does so the friction between you and the air also increases – this is called drag. When your drag and your weight are equal you are falling at a steady speed known as your terminal velocity. This can be over 80 metres per second if you fall head down! It's pretty obvious that if you hit the ground at this speed you would never get up again so a parachute is designed to slow you down by increasing the drag on you so that your terminal velocity is much less – just a few metres per second.

In fact parachutes slow the jumper down so that they land at around 6 metres per second – about the same as if they had jumped off a 1.8 metre wall. Still quite fast and parachutists have to learn to land properly by bending their knees and rolling on impact.

## Questions

1. How did a First World War parachute work?
2. When and where was the first parachute jump?
3. What is terminal velocity?
4. Why would terminal velocity be higher if you fall head downwards?
5. Why do you think First World War parachutes often did not work?
6. How are modern parachutes different from First World War parachutes?



Operating a First World War parachute



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