

## Safer roads

### Introduction

During winter when it is frosty or when it snows, lorries drive around spreading grit on the roads. Lots of people do not know what the lorries are spreading and how it helps to make our roads safe.

In this activity you will be using your research skills to find out about:

- what gritting lorries actually spread on our roads
- how spreading 'grit' makes our roads safe
- how we decide when to grit.

You will be using your literacy skills to write a leaflet explaining to the public what the gritting lorries spread and how this helps in icy or snowy conditions.

### Brief

Many councils have information about gritting on their websites. However, one council wants to have a leaflet too, and they have asked you to create it.

Your leaflet should:

- identify what substance gritting lorries spread on the roads in winter
- explain how the substance helps to make the roads safer
- end with a summary that says how important gritting is to make roads safe
- be aimed at the general public who do not know a lot about science
- be made from one A4 sheet of paper folded into four.

### Step 1

You are going to find out what gritting lorries actually spread on our roads. Think about what substance(s) are used.

### Step 2

Find out what the 'grit' is and where it comes from. Explain what effect the 'grit' has on ice. Explain the science carefully. Mention the melting point of ice (freezing point of water). Explain why fresh 'grit' must be spread throughout the winter. Find out under what conditions the grit will not work.

### Step 3 (extension)

You should find out why the sea does not freeze around our coast in even the coldest conditions. Find out how cold the sea must be before it will begin to freeze.

### Step 4

Plan how your leaflet should be structured and the important information you want to include.

### Step 5

Now make your leaflet. End with a summary that says how important gritting is to make roads safe.

## Sources

### Council information on road-gritting

An information website provided by a county council:

[www.northyorks.gov.uk/index.aspx?articleid=18187](http://www.northyorks.gov.uk/index.aspx?articleid=18187)

### Keeping the roads safe throughout the winter

How road gritting works and why you need to keep on doing it through the bad weather:

[news.bbc.co.uk/1/hi/magazine/8420755.stm](http://news.bbc.co.uk/1/hi/magazine/8420755.stm)

### Where the 'grit' comes from

An article on where we get 'grit' to spread on roads:

<http://news.bbc.co.uk/1/hi/magazine/7871816.stm>

### The sea and the cold

An answer to the question 'Why doesn't the ocean ever freeze?':

<https://www.education.com/science-fair/article/why-doesnt-the-ocean-freeze/>

**Writing frame**

Make a leaflet explaining to the public what gritting lorries spread and how this helps in snowy and icy conditions.

Explain what it is that gritting lorries spread on roads and where it comes from.

Include some important science. What is the freezing point of pure water and what happens to the freezing point when 'grit' is added?

Describe what happens when lorries spread 'grit' on roads

Adding 'grit' to ice doesn't work under some conditions. What are these conditions? Describe what happens to the 'grit' spread on roads and why more has to be spread.

Summarise here the importance of using 'grit' on roads to make them safe in winter

**Your work**

You have made a public information leaflet.

Look at the questions below and think about whether you have met the brief.

- Have you explained exactly what is spread on roads by gritting lorries?
- Have you said where the 'grit' comes from?
- Have you explained what the 'grit' does to ice?
- Have you got some numbers to show what happens to the freezing point of water when 'grit' is used?
- Have you explained what happens to the 'grit' on wet roads and why more 'grit' has to be spread?
- Have you given a summary explaining the benefits of road-gritting?