

Strategy

Finding out what the text is about

In order to locate the answers to the questions, and also to follow the writer's main argument, it is useful to spend a short time getting an overview of the text.

- 1 Read the title and subtitle of Reading Passage 1 on page 18 and look quickly through Paragraph 1. Which phrase has a similar meaning to *snow-maker*?

Why is this device needed?

Strategy

Task: Matching paragraph headings

Often it is useful to skim quickly through the entire text to get a better idea of the content. However, here the first task (matching headings to paragraphs) will help you to do this. You have to choose the heading which best summarises the paragraph.

- 1 Read the first paragraph carefully, then look through the list of headings. The answer (v) has been given as an example. In Paragraph A, underline the part of the text that refers to a) the problem and b) the solution.
- 2 Why is heading iii not the correct heading for Paragraph A?
- 3 Read Paragraph B and look at the example heading (x). Why is this a better answer than heading ix?

Now do Questions 1–5. Look down the list of headings and choose the one that you think matches best. You need to find a heading that summarises or paraphrases the overall meaning of the paragraph.

Questions 1–5

Reading Passage 1 has seven paragraphs **A–G**.

Choose the correct heading for each paragraph from the list of headings below.

Write the correct number (**i–x**) in boxes 1–5 on your answer sheet.

List of headings

- i** Considering ecological costs
- ii** Modifications to the design of the snow gun
- iii** The need for different varieties of snow
- iv** Local concern over environmental issues
- v** A problem and a solution
- vi** Applications beyond the ski slopes
- vii** Converting wet snow to dry snow
- viii** New method for calculating modifications
- ix** Artificial process, natural product
- x** Snow formation in nature

Example

Answer

Paragraph **A**

✓

Paragraph **B**

x

1 Paragraph **C**

2 Paragraph **D**

3 Paragraph **E**

4 Paragraph **F**

5 Paragraph **G**

Snow-makers

Skiing is big business nowadays. But what can ski resort owners do if the snow doesn't come?

- A** In the early to mid twentieth century, with the growing popularity of skiing, ski slopes became extremely profitable businesses. But ski resort owners were completely dependent on the weather; if it didn't snow, or didn't snow enough, they had to close everything down. Fortunately, a device called the snow gun can now provide snow whenever it is needed. These days such machines are standard equipment in the vast majority of ski resorts around the world, making it possible for many resorts to stay open four months or more a year.
- B** Snow formed by natural weather systems comes from water vapour in the atmosphere. The water vapour condenses into droplets, forming clouds. If the temperature is sufficiently low, the water droplets freeze into tiny ice crystals. More water particles then condense onto the crystal and join with it to form a snowflake. As the snowflake grows heavier, it falls towards the Earth.
- C** The snow gun works very differently from a natural weather system, but it accomplishes exactly the same thing. The device basically works by combining water and air. Two different hoses are attached to the gun, one leading from a water pumping station which pumps water up from a lake or reservoir, and the other leading from an air compressor. When the compressed air passes through the hose into the gun, it atomises the water – that is, it disrupts the stream so that the water splits up into tiny droplets. The droplets are then blown out of the gun and if the outside temperature is below 0°C, ice crystals will form, and will then make snowflakes in the same way as natural snow.
- D** Snow-makers often talk about dry snow and wet snow. Dry snow has a relatively low amount of water, so it is very light and powdery. This type of snow is excellent for skiing because skis glide over it easily without getting stuck in wet slush. One of the advantages of using a snow-maker is that this powdery snow can be produced to give the ski slopes a level surface. However, on slopes which receive heavy use, resort owners also use denser, wet snow underneath the dry snow. Many resorts build up the snow depth this way once or twice a year, and then regularly coat the trails with a layer of dry snow throughout the winter.

- E** The wetness of snow is dependent on the temperature and humidity outside, as well as the size of the water droplets launched by the gun. Snow-makers have to adjust the proportions of water and air in their snow guns to get the perfect snow consistency for the outdoor weather conditions. Many ski slopes now do this with a central computer system that is connected to weather-reading stations all over the slope.
- F** But man-made snow makes heavy demands on the environment. It takes about 275,000 litres of water to create a blanket of snow covering a 60 x 60 metre area. Most resorts pump water from one or more reservoirs located in low-lying areas. The run-off water from the slopes feeds back into these reservoirs, so the resort can actually use the same water over and over again. However, considerable amounts of energy are needed to run the large air-compressing pumps, and the diesel engines which run them also cause air pollution.
- G** Because of the expense of making snow, ski resorts have to balance the cost of running the machines with the benefits of extending the ski season, making sure they only make snow when it is really needed, and when it will bring the maximum amount of profit in return for the investment. But man-made snow has a number of other uses as well. A layer of snow keeps a lot of the Earth's heat from escaping into the atmosphere, so farmers often use man-made snow to provide insulation for winter crops. Snow-making machines have played a big part in many movie productions. Movie producers often take several months to shoot scenes that cover just a few days. If the movie takes place in a snowy setting, the set decorators have to get the right amount of snow for each day of shooting either by adding man-made snow or melting natural snow. And another important application of man-made snow is its use in the tests that aircraft must undergo in order to ensure that they can function safely in extreme conditions.