Name: _____ Date: _____

The Forecaster Who Reads Layers of Snow

Circle group

On a snowy mountain, one question must be asked each morning. Is it safe out there today? An avalanche forecaster answers it. Skiers, hikers, and road crews read the report before they go.

The day starts early. The forecaster checks the weather. New snow, strong wind, and sudden warmth can change how snow acts. Then the forecaster climbs a slope to study the snow. A pit is dug down through the snow. One wall is made smooth. The wall shows layers, like a cake. Each layer came from a different storm or cold spell.

Some layers are firm. Some are weak and crumbly. A weak layer under a heavy layer is a problem. The top can slide. To test it, the forecaster cuts out a column of snow. Then the forecaster taps it to see if it breaks at a weak layer.

At the end of the day, the forecaster puts all the clues together. A danger rating is posted, from low to extreme. It does not tell people to stay home. It helps them pick safe places to go.

Questions

1. What question does the forecaster answer each morning?

_____

_____

2. What does the forecaster check first?

_____

_____

3. What does the smooth wall of the pit show?

_____

_____

4. How does the forecaster test for a weak layer?

_____

_____

5. What is posted at the end of the day?

_____

_____

6. Why is a weak layer under a heavy layer a problem?

_____

_____

7. Why does the rating help people?

_____

_____

Words to know

avalanche: a large amount of snow sliding down a mountain
forecaster: a person who tells what is likely to happen
layer: one flat level lying on top of another
crumbly: easily broken into small pieces
rating: a score or level that tells how much of something there is

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

The Forecaster Who Reads Layers of Snow

Triangle group

On a snowy mountain, someone has to ask a hard question every morning: is it safe out there today? An avalanche forecaster answers it. Skiers, hikers, and road crews read the forecaster's report before they head out.

The work begins early. The forecaster checks the weather first, because new snow, strong wind, and sudden warmth can all change how snow behaves. Then the forecaster climbs a slope to study the snow itself. A pit is dug down through the snow, and one wall is smoothed flat. The wall shows layers, much like the layers of a cake. Each layer formed during a different storm or cold spell.

Some layers are firm, and some are weak and crumbly. A weak layer buried under a heavy one can be a problem, because the top layers may slide. To test for this, the forecaster cuts out a column of snow and taps it gently to see whether it breaks along a weak layer.

At the end of the day, the forecaster puts every clue together and posts a danger rating, from low to extreme. The rating does not tell people to stay home. It helps them decide where they can travel safely and where they should not go.

Questions

1. What question does an avalanche forecaster answer every morning?

_____

_____

2. What does the forecaster check before climbing the slope?

_____

_____

3. What does the smooth wall of the snow pit show?

_____

_____

4. How does the forecaster test whether a weak layer is hiding in the snow?

_____

_____

5. What is posted at the end of the day?

_____

_____

6. Why is a weak layer under a heavy layer a problem?

_____

_____

7. Why does the rating help people instead of just telling them to stay home?

_____

_____

Words to know

avalanche: a large amount of snow sliding down a mountain
forecaster: a person who tells what is likely to happen
layer: one flat level lying on top of another
crumbly: easily broken into small pieces
rating: a score or level that tells how much of something there is

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

The Forecaster Who Reads Layers of Snow

Square group

On a snow-covered mountain, someone must confront a difficult question each morning: is it safe to travel out there today? An avalanche forecaster provides the answer. Skiers, hikers, and road crews all study the forecaster's report before they set out.

The work begins at dawn. The forecaster first examines the weather, since fresh snow, strong wind, and sudden warmth can each alter the way snow behaves. Next, the forecaster climbs a slope to investigate the snow itself. A pit is dug down through the snowpack, and one wall is smoothed flat. That wall reveals distinct layers, much like the layers of a cake, and every layer was laid down during a different storm or cold spell.

Some layers are firm, while others are weak and crumbly. A fragile layer buried beneath a heavy one can create a hazard, because the layers above it may slide away. To check for this, the forecaster cuts out an isolated column of snow and taps it gently to find out whether it fractures along a weak layer.

By the end of the day, the forecaster has combined every clue into a single danger rating that ranges from low to extreme. The rating does not command people to stay home. Instead, it helps them decide where they can travel safely and which places they ought to avoid.

Questions

1. What question must an avalanche forecaster answer every morning?

_____

_____

2. What does the forecaster examine before climbing the slope?

_____

_____

3. What does the smoothed wall of the snow pit reveal?

_____

_____

4. How does the forecaster check whether a weak layer is hidden in the snow?

_____

_____

5. What is posted once the day's work is finished?

_____

_____

6. Why does a weak layer beneath a heavy layer create a hazard?

_____

_____

7. Why is the rating more helpful than simply telling people to stay home?

_____

_____

Words to know

avalanche: a large amount of snow sliding down a mountain
forecaster: a person who tells what is likely to happen
layer: one flat level lying on top of another
crumbly: easily broken into small pieces
rating: a score or level that tells how much of something there is

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

For the teacher: The Forecaster Who Reads Layers of Snow

Each student sheet carries a shape, not a level. The same topic and facts, written three ways.

Circle: The Forecaster Who Reads Layers of Snow

Easier · 180 words · Flesch-Kincaid grade 2.6

1. Whether it is safe on the mountain today.
2. The weather.
3. Layers of snow, like a cake.
4. Cuts out a column of snow and taps it to see if it breaks at a weak layer.
5. A danger rating from low to extreme.
6. The top layers can slide off it.
7. It helps them pick safe places to go and avoid unsafe ones.

Triangle: The Forecaster Who Reads Layers of Snow

This passage · 205 words · Flesch-Kincaid grade 5.5

1. Whether it is safe out on the mountain that day.
2. The weather.
3. Layers of snow, like the layers of a cake.
4. By cutting out a column of snow and tapping it to see if it breaks along a weak layer.
5. A danger rating from low to extreme.
6. The top layers may slide off the weak layer.
7. It lets them choose safe places to travel and avoid the unsafe ones.

Square: The Forecaster Who Reads Layers of Snow

Harder · 223 words · Flesch-Kincaid grade 7.6

1. Whether it is safe to travel on the mountain that day.
2. The weather.
3. Distinct layers of snow, much like the layers of a cake.
4. By cutting out a column of snow and tapping it to see if it fractures along a weak layer.
5. A danger rating that ranges from low to extreme.
6. The layers above it may slide away.
7. It lets them choose safe routes and avoid the dangerous places.