

LESSON 18

What are valley and mountain breezes?

Do you live near a mountain? People who live near mountains often feel special, gentle local winds. They are called **valley breezes** and **mountain breezes**.

Valley breezes and mountain breezes are caused by the uneven heating and cooling of mountains and valleys.

VALLEY BREEZE During the day, the air on a mountaintop is warmer than the air in valleys. The cooler air in the valleys moves up the mountaintop.

The air that moves up from the valley is called a valley breeze.

MOUNTAIN BREEZE At night, air begins to cool down. The side of the mountain cools off very fast. So does the air close to it. The valley is sheltered so it keeps some of its heat. The cooler and heavier air from the mountain begins to flow down the slope. It moves into the valley below.

This air that moves down from the mountain is called a mountain breeze.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

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UNDERSTANDING VALLEY AND MOUNTAIN BREEZES

Look at Figures A and B. Then complete the sentences about each picture.

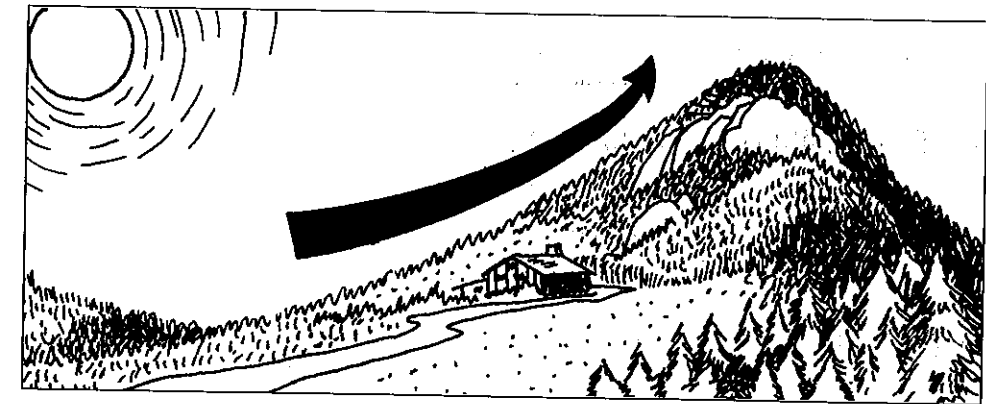


Figure A

1. During the day, the air in a valley is _____ than the air on a mountaintop.
warmer, cooler
2. The air in the valley is _____ than the mountain air. The air in the valley _____.
lighter, heavier
rises, flows downward
3. Air is moving from the _____ to the _____.
mountain, valley mountain, valley
4. What do we call this kind of breeze? _____
5. This is _____ breeze.
a daytime, an evening

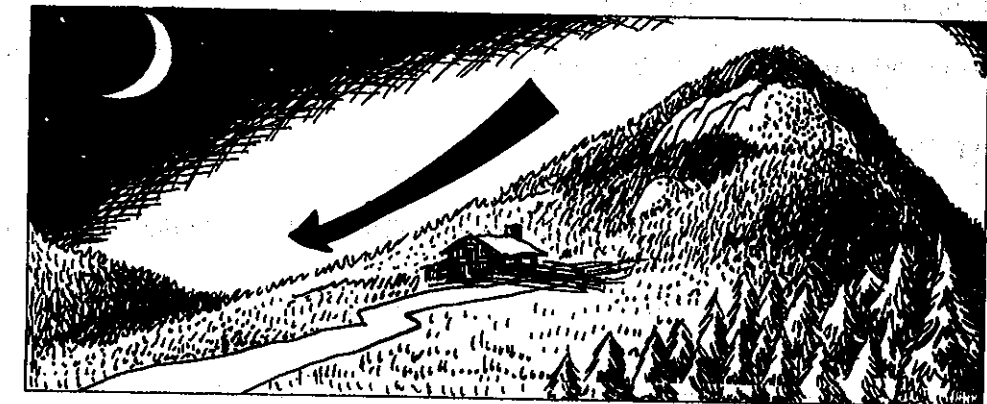


Figure B

6. When the sun goes down, the air _____ in the valley, on the mountaintop.
cools more rapidly.

7. This cooler air is _____ than warm air. The mountain air _____
heavier, lighter

rises, flows downward
8. Air is moving from the _____ to the _____
mountain, valley mountain, valley
9. What do we call this kind of breeze? _____
10. This is _____ breeze.
a daytime, an evening

FILL IN THE BLANK

Complete each statement using a term or terms from the list below. Write your answers in the spaces provided. Some words may be used more than once.

cooler
daytime

warmer
evening

valley
mountain

- A valley breeze blows during the _____.
- A mountain breeze blows during the _____.
- A valley breeze blows from a _____.
- A mountain breeze blows from a _____.
- A valley breeze blows toward a _____.
- A mountain breeze blows toward a _____.
- During the day, air in a valley is _____ than air on a mountaintop.
- During the day, air on a mountaintop is _____ than air in a valley.

MATCHING

Match each term in Column A with its description in Column B. Write the correct letter in the space provided.

Column A

- _____ 1. valley breeze occurs
- _____ 2. mountain breeze occurs
- _____ 3. valley and mountain breezes
- _____ 4. warm air
- _____ 5. cool air

Column B

- a) local winds
- b) sinks
- c) at night
- d) rises
- e) during the day

7. This cooler air is _____ than warm air. The mountain air
heavier, lighter

_____ rises, flows downward

8. Air is moving from the _____ to the _____
mountain, valley mountain, valley

9. What do we call this kind of breeze? _____

10. This is _____ breeze.
a daytime, an evening

FILL IN THE BLANK

Complete each statement using a term or terms from the list below. Write your answers in the spaces provided. Some words may be used more than once.

cooler warmer valley
 daytime evening mountain

1. A valley breeze blows during the _____.
2. A mountain breeze blows during the _____.
3. A valley breeze blows from a _____.
4. A mountain breeze blows from a _____.
5. A valley breeze blows toward a _____.
6. A mountain breeze blows toward a _____.
7. During the day, air in a valley is _____ than air on a mountaintop.
8. During the day, air on a mountaintop is _____ than air in a valley.

MATCHING

Match each term in Column A with its description in Column B. Write the correct letter in the space provided.

- | Column A | Column B |
|--------------------------------------|-------------------|
| _____ 1. valley breeze occurs | a) local winds |
| _____ 2. mountain breeze occurs | b) sinks |
| _____ 3. valley and mountain breezes | c) at night |
| _____ 4. warm air | d) rises |
| _____ 5. cool air | e) during the day |

TRUE OR FALSE

In the space provided, write "true" if the sentence is true. Write "false" if the sentence is false.

- _____ 1. Valley breezes and mountain breezes are local winds.
- _____ 2. Valley breezes and mountain breezes are caused by the uneven heating and cooling of the land.
- _____ 3. A valley breeze blows during the daytime.
- _____ 4. A valley breeze blows from a mountain.
- _____ 5. A mountain breeze blows during the daytime.

NAME THE BREEZE

One of these figures below shows a valley breeze. The other one shows a mountain breeze. Write Figure C or Figure D on the spaces provided.

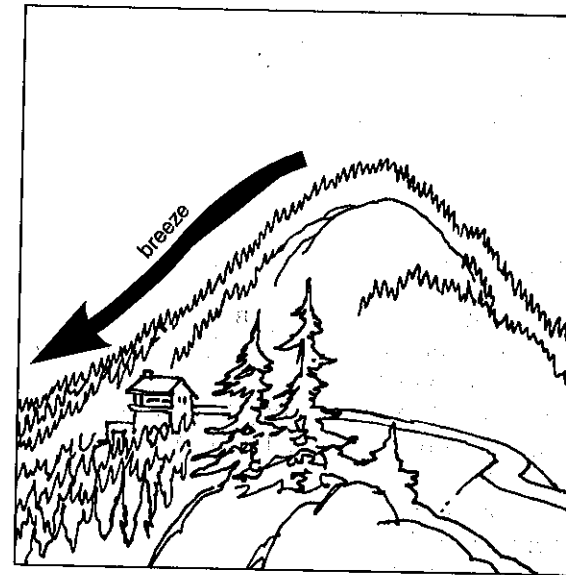


Figure C

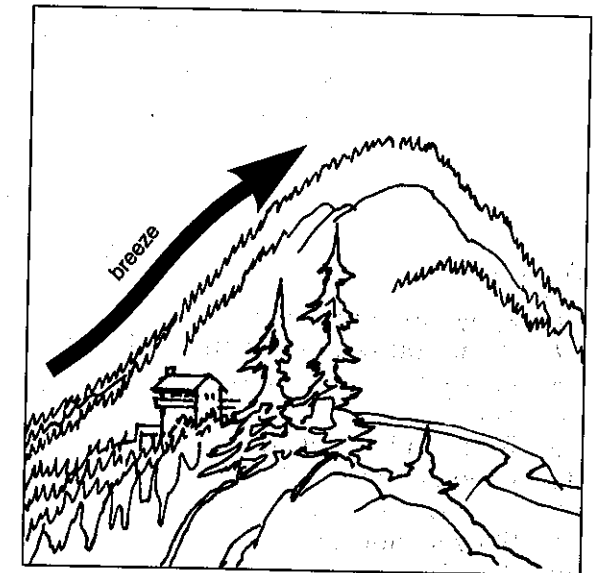
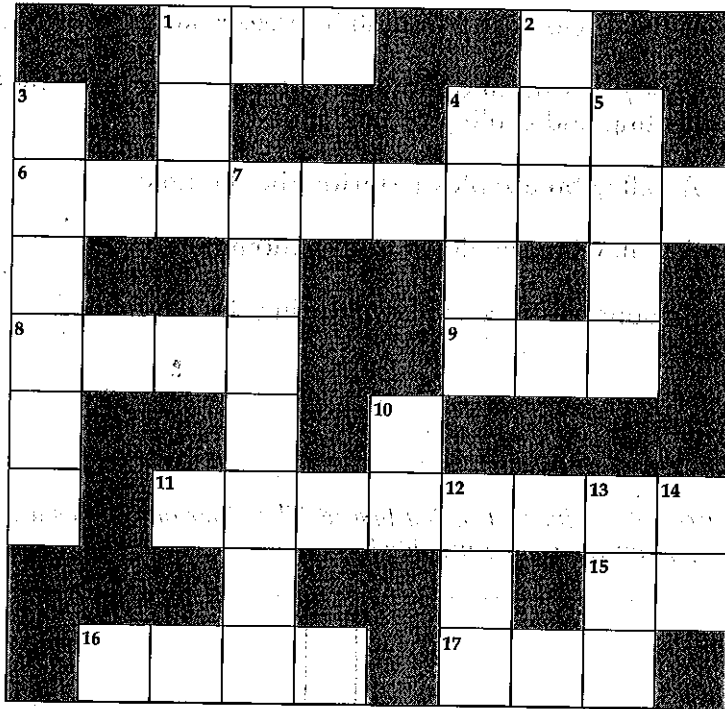


Figure D

1. Which figure shows the valley breeze? _____
2. Which one is the mountain breeze? _____
3. Which one happens at night? _____
4. Which one happens during the daytime? _____

CROSSWORD PUZZLE

Use the clues to complete the crossword puzzle.



Clues

Across

1. Large body of water
4. What you wear on your head
6. Measures wind speed
8. Tilt
9. Black and sticky substance
11. Land above a valley
15. Direction opposite SW
16. Shows wind direction
17. A writing tool

Down

1. You do this with your eyes
2. Larger than a mouse (also 9 across/backwards)
3. Low land between mountains
4. Warming energy from the sun
5. Rip
7. Seasonal wind
10. Not off
12. Hit lightly
13. Old time hotel
14. Direction between north and east (abbreviate)

REACHING OUT

On nights when it is cloudy, the air close to the mountainside does not cool as rapidly.

Would this make the mountain breeze flow faster or slower? Explain.

We

Wh



KEY THE weather