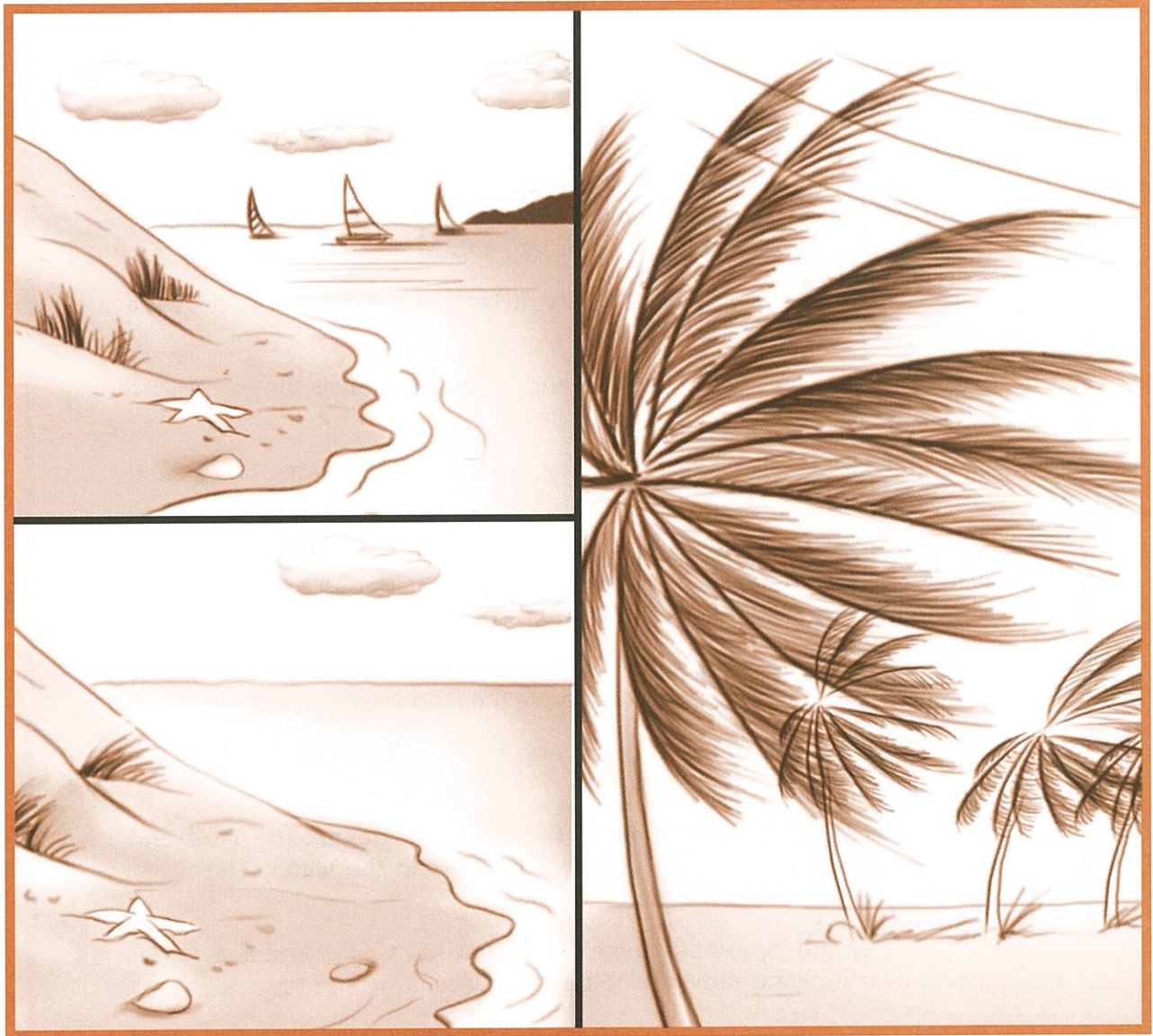


What are shore breezes?



KEY TERMS

land breeze: breeze coming from the land toward the sea

sea breeze: breeze coming from the sea toward the land

LESSON

17

What are shore breezes?

Did you ever visit the seashore? Did you notice that it is usually breezy there?

Shore breezes are special, gentle local winds. There are two kinds of shore breezes — the **sea breeze** and the **land breeze**.

A sea breeze moves in from the sea. It heads towards the land. A sea breeze blows during the daytime.

A land breeze moves out from the land. It heads towards the sea. A land breeze blows during the evening hours.

Shore breezes are caused by the uneven heating and cooling of the land and water.

SEA BREEZE During the daytime, the sun heats both the land and the water, but the land heats up faster than the water. Because of this, the air above the land becomes warmer than the air above the water.

The cooler and heavier air that is over the water moves in toward the land. The warmer and lighter air above the land rises.

This air that moves in from the sea and heads towards the land is a sea breeze.

LAND BREEZE In the evening, the sun goes down. The land and water cool off, but the land cools off faster than the water. The water becomes warmer than the land.

The warmer and lighter air above the water rises. Cooler and heavier air that is over the land moves in to take its place.

This air that moves out from the land and heads towards the sea is a land breeze.

UNDERSTANDING SEA BREEZES AND LAND BREEZES

Study Figure A on this page and Figure B on the next page. Then choose the correct term to complete the statements below each picture. Write your choice in the space provided.



Figure A

1. In Figure A, the _____ is warmer; the _____ is cooler.
land, water land, water
2. The air is warmer over the _____.
land, water
3. The air is cooler over the _____.
land, water
4. The air is lighter over the _____.
land, water
5. The air is heavier over the _____.
land, water
6. The air over the _____ rises.
land, water
7. Air that is over the _____ moves in to take its place.
land, water
8. This is an example of a _____ breeze.
land, sea
9. A sea breeze blows during the _____.
daytime, evening

FILL IN THE ANSWERS

Look at Figures C and D. Then complete the exercise that goes with each picture.

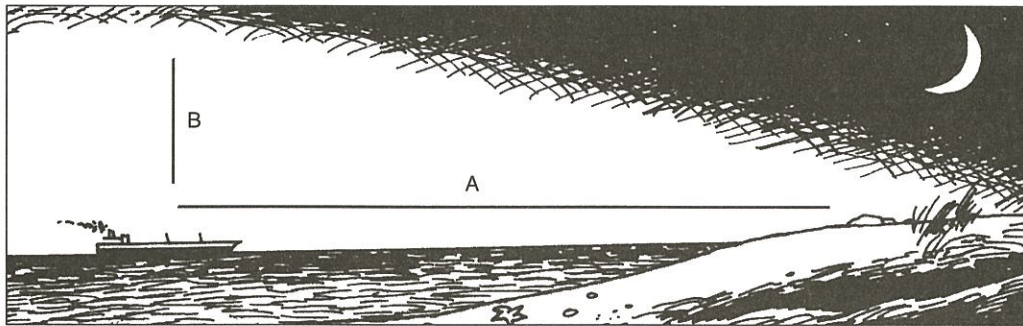


Figure C

Lines A and B stand for moving air.

1. Draw arrows on each line to show how it is moving.
2. The current is line _____
A, B
3. The shore breeze is line _____
A, B
4. What kind of shore breeze is it? _____

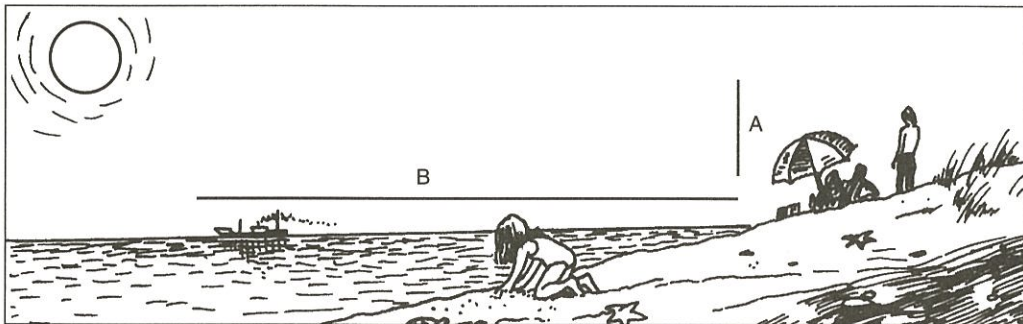


Figure D

Lines A and B stand for moving air.

5. Draw arrows on each line to show how it is moving.
6. The current is line _____
A, B
7. The shore breeze is line _____
A, B
8. What kind of shore breeze is it? _____

ABOUT MONSOONS

A monsoon is like a very strong shore breeze. It covers a very large area. It is caused by the uneven heating and cooling of land and water areas. But a monsoon does not change from day to night. A monsoon changes from season to season.

Most monsoons happen in India and southeast Asia.

The maps below show the monsoon winds of India.

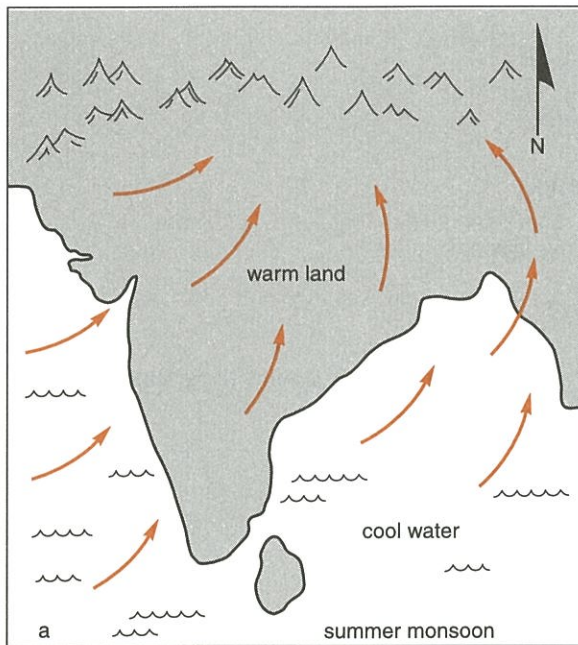


Figure E Summer monsoon

During the summer, the continent remains warm both day and night. Monsoon winds blow from the sea to the land all summer.

This wind has a lot of moisture from the water. It causes heavy rain.

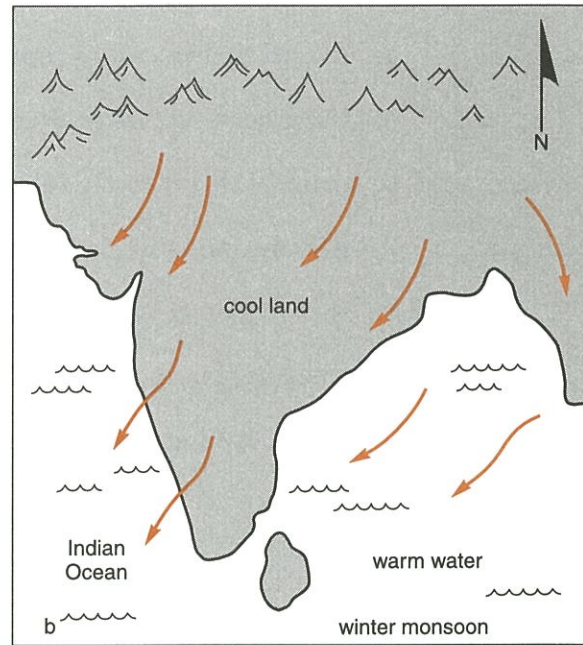


Figure F Winter monsoon

During the winter, the land gets cold. The air above the oceans is warmer. Monsoon winds blow from the land to the water all winter.

The wind is dry. There is little rain in winter.

1. In the summer, monsoon winds blow _____ the land.
towards, away from
2. In the winter, monsoons blow _____ the land.
towards, away from
3. In the summer, monsoon winds are _____ .
wet, dry
4. In the winter, monsoon winds are _____ .
wet, dry
5. The monsoon winds change with _____ .
each day, the seasons

TRUE OR FALSE

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

- _____ 1. Sea breezes and land breezes are global winds.
- _____ 2. A sea breeze is a daytime breeze.
- _____ 3. A land breeze is an evening breeze.
- _____ 4. A land breeze comes from the sea.
- _____ 5. Land heats up faster than water.
- _____ 6. Land cools off faster than water.
- _____ 7. A monsoon is like a huge shore breeze.
- _____ 8. A monsoon covers a small area.
- _____ 9. Uneven heating and cooling of water and land cause monsoons.
- _____ 10. Monsoons happen all over the world.

REACHING OUT

Sometimes it gets cool extra fast at night. Would this make a land breeze blow slower or faster? Why? _____
