

Chapter 11 Mountain Building

Section 11.3 Mountains and Plates

(pages 320–325)

This section explains how mountains are formed at plate boundaries.

Reading Strategy (page 320)

Outlining As you read, make an outline of the important ideas in this section. Use the green topic headings as the main topics and the blue headings as subtopics. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

I. Mountains and Plates

A. Convergent Boundary Mountains

1. Ocean-Ocean Convergence

2. _____

3. _____

B. Divergent Boundary Mountains

C. _____

D. _____

1. Terranes

2. _____

Convergent Boundary Mountains (pages 320–323)

1. Is the following sentence true or false? Most mountain building occurs at convergent plate boundaries. _____
2. Use the terms below to fill in the blank.

Colliding plates Grabens Divergent boundaries

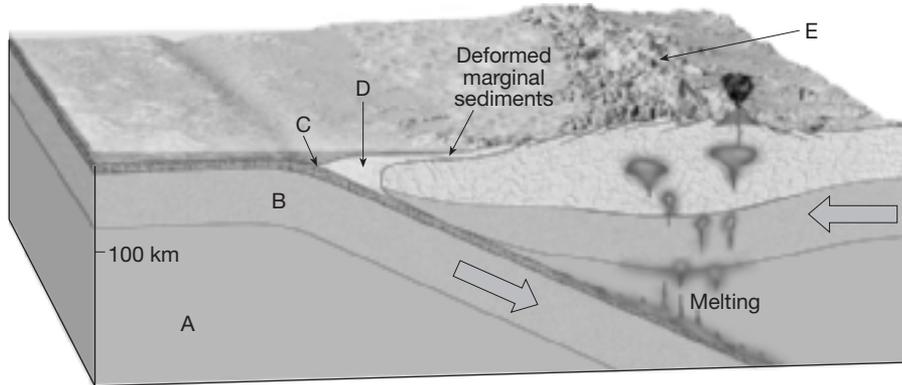
_____ provide the compressional forces that fold, fault, and metamorphose the thick layers of sediment deposited at the edges of landmasses.

3.  Is the following sentence true or false? The types of mountains formed by ocean-continental convergence are volcanic mountains and folded mountains. _____

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4. The figure illustrates mountain building along an Andean-type subduction zone. Select the appropriate letter in the figure that identifies each of the following features.

- _____ ocean trench
- _____ asthenosphere
- _____ continental volcanic arc
- _____ accretionary wedge
- _____ subducting oceanic lithosphere



5. Is the following sentence true or false? At a convergent boundary, a collision between two plates carrying continental crust will result in the formation of folded mountains. _____

Divergent Boundary Mountains (page 323)

6. _____ mountains are formed along ocean ridges at divergent plate boundaries.

Non-Boundary Mountains (page 323)

7. Use the terms below to fill in the blank.

ocean ridge	hot spot	normal fault
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The Hawaiian Islands are volcanic mountains that formed far from plate boundaries at a _____.

Continental Accretion (pages 324–325)

8. When crustal fragments called _____ collide with a continental plate, they become stuck to or embedded into the continent in a process called accretion. Circle the correct answer.

- plates terranes ridges

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WordWise

Use the clues to determine which vocabulary terms from the list below are hidden in the puzzle. Then find and circle the terms in the puzzle. The terms may occur vertically, horizontally, diagonally, or backwards.

accretion
anticline
deformation

fault-block
monocline
orogenesis

strain
stress
syncline

Q A C C R E T I O N D S C A M A
 K L W O A U A V J E T N Q T K H
 D C I Z Y D O W F R N I A R T S
 E V O B I F D O E E Q N F P V G
 N I P L Z M R S N K E H Y E N G
 I C D X B M S I S E N E G O R O
 L R K M A T L Y G X E I R R Z B
 C J T T O C L J N N F H E Z B M
 I P I N O P Q U E C Y Y A X M W
 T O V N P Q U I A R L A F G H X
 N E O M R S W B H F C I A J Z S
 A M P A X M U D S R W D N D L R
 Q Z B S H F C M K P X J E E F K

Clues

The general term that refers to all changes in the shape or size of a rock body

Force per unit area acting on a solid

The change in shape or volume of a body of rock as a result of stress

Commonly formed by the upfolding, or arching, of rock layers

A trough associated with anticlines

A large, step-like fold in otherwise horizontal sedimentary strata

The collection of processes that produce a mountain belt

Mountains formed as large blocks of crust are uplifted and tilted along normal faults

The process in which fragments become embedded or stuck to a continental plate

Hidden Words
