

1. _____ belts are chains of mountain ranges that are 1000s of km long.
2. Mountain ranges are commonly located at or near the _____ of continental landmasses.
3. Mountain belts are part of the _____.
4. What two forces form mountain ranges (2pts)?
5. As mountains grow higher and steeper, erosion rates (increase/decrease).
6. Air (atmosphere) rising over mountain ranges results in _____ and _____.
7. Name the ten major mountain ranges on Earth (10pts).

8. Mountain belts are very _____ compared to their width.
9. Older mountain ranges (Appalachians) tend to be (lower/higher) in height than younger ones (Himalayas) due to _____.
10. Young mountain belts are _____ of millions of years old, whereas older ones may be _____ of millions of years old.
11. Ancient mountains have eroded nearly flat to form the stable cores of the continents called _____. _____ are areas of cratons laid bare by erosion.
12. Much of Canada is a shield (hence the term Canadian Shield). Using your new knowledge of shields and cratons, what would be the most common rock type found in Canada? _____
13. Mountain belts typically contain thick sequences of _____ and _____ sedimentary rocks, often of marine origin. May also contain great thicknesses of _____ rock.
14. Fold and thrust belts (composed of many folds and reverse faults) indicate _____ shortening (and thickening) produced by _____. Common at _____ boundaries. Typically contain large amounts of metamorphic rock.
15. Localized tension in uplifting mountain belts can result in _____ faulting.
16. _____ and _____ can produce mountains and valleys (such as in the Basin and Range Province).
17. _____ are common along faults in mountain ranges due to the uplifting activity.
18. Rocks (sedimentary and volcanic) that will later be uplifted into mountains are deposited during the _____ stage.

19. Typically accumulation occurs in what three locations?

20. Mountains are uplifted at convergent boundaries during the _____ stage, and results from what three events?

21. Subsequent gravitational _____ and spreading may bring deep-seated rocks to the surface.

22. After convergence stops, a long period of _____, _____ and block-faulting occurs.

23. As erosion removes overlying rock, the crustal root of a mountain range rises by _____ adjustment. Tension in uplifting and spreading crust results in normal faulting and fault-block mountain ranges.

24. Basin-and-Range province of Western North America may be the result of _____, which is where overthickened mantle lithosphere beneath old mountain belts may detach and sink into asthenosphere resulting in the inflow of hot asthenosphere that can stretch and thin overlying crust, producing normal faults.

25. Continents become (smaller/larger) as mountain belts evolve along their margins. Accumulation and igneous activity may also add new continental crust.

26. New accreted _____ can be added with each episode of convergence. Western North America (especially Alaska) contains many such terranes.

27. What is the likely date for the beginning of mountain building on the Earth, and why (5pts)?

28. Why are foliated metamorphic rocks, particularly schists and gneisses, so commonly associated with the cores of mountain ranges (5pts)?

29. Why is the continental crust generally thick under mountain ranges (5pts)?

30. The mountains directly West of Gunnison, Utah are capped in Flagstaff Limestone. It is very common to walk in the high country and find fossilized snails on the ground. It is known that Lake Flagstaff covered much of Central and Northeastern Utah about 66 million years ago. Explain how the snails that once lived in Lake Flagstaff are now found in the mountains (5pts).