

Regional or Contact Metamorphism?

Introduction:

When looking at metamorphic rocks in an area, you can use certain clues to determine whether the rocks have formed through regional or contact metamorphism. One clue is the area of metamorphosed rock. Other clues are the degree of metamorphism and the presence of nearby intrusive igneous rocks.

Analysis:

Here are two examples in which one of each type of metamorphism has occurred. Keep in mind your knowledge of both types of metamorphism as you read them.

1. During the formation of the Southern Appalachian mountains, many of the shales found in North Carolina underwent extreme pressure and changed into slate.
2. Near Leesburg, Virginia, there is a deposit of red sandstone. In some places, this sandstone falls apart easily. In other places, the sandstone is securely cemented, and in addition, the surface of the sandstone is covered with green nodules of a mineral that is not found in areas with the weakly cemented sandstone. In the areas with the green minerals, an igneous intrusive is found near the sandstones.

Thinking Critically:

From the evidence given, infer which rocks have been regionally metamorphosed and which rocks have been contact metamorphosed. Be certain to outline your evidence. What other evidence would you search for to support your conclusions?