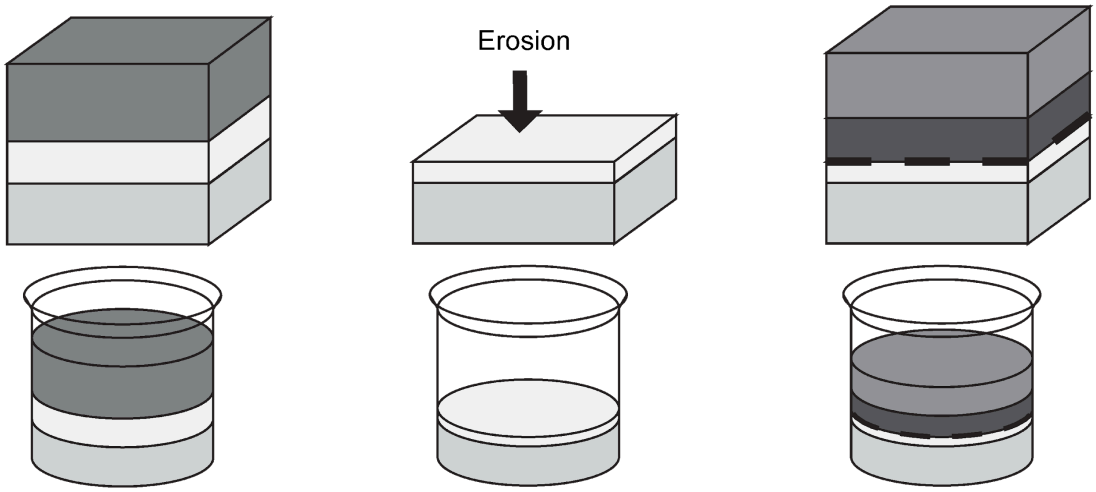
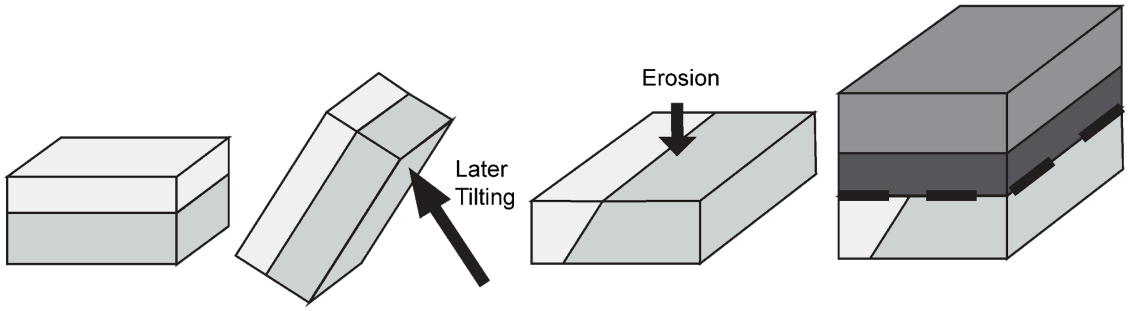
First some review of Unconformities:

Disconformity



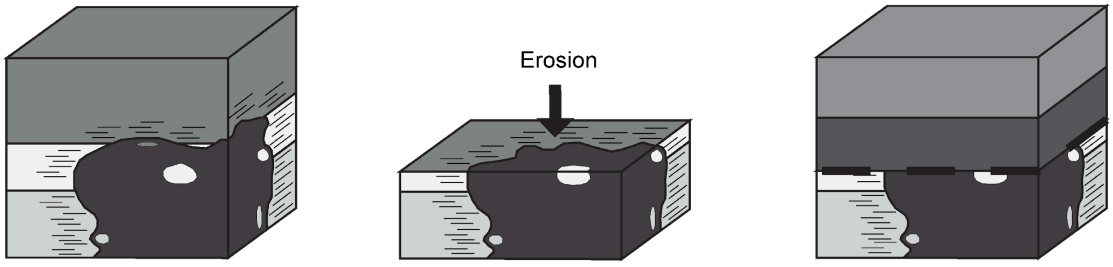
A disconformity is a geologic contact in which significant missing rock layers (strata) represents a large gap in the geologic record (a gap in time). In the above example, previously deposited rocks were eroded flat prior to deposition of later units. A disconformity could also arise from simply having a period of non-deposition (erosion not required).

Angular Unconformity



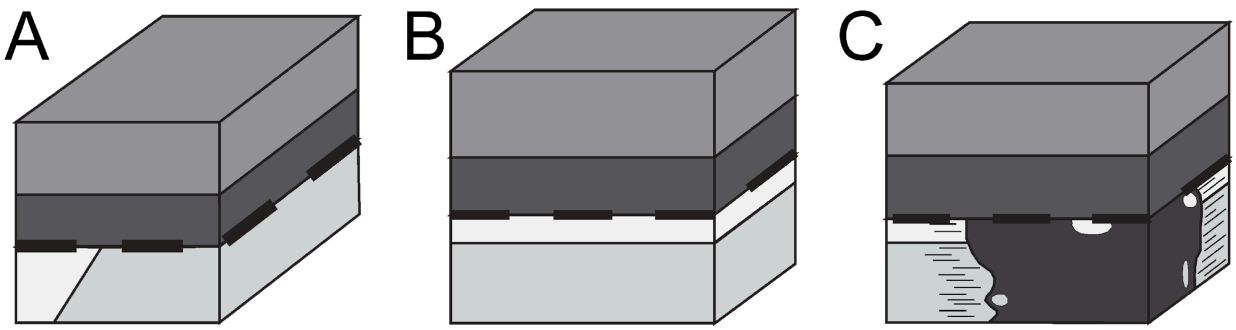
An angular unconformity is a contact in which younger sedimentary rocks (strata) overlie an erosion surface, and the underlying sedimentary rocks (strata) have been folded or tilted.

Nonconformity



A noncomfority is a contact in which younger sedimentary rocks overlie an erosion surface, and the underlying rock is plutonic (igneous) or metamorphic.

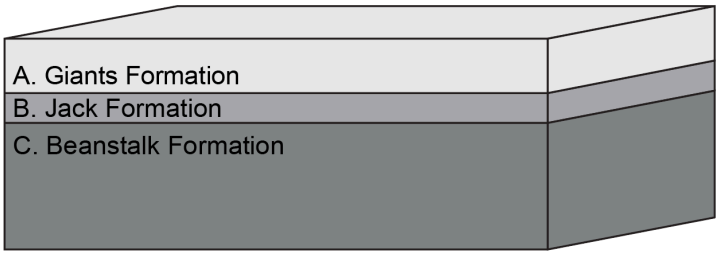
Now, test your knowledge:



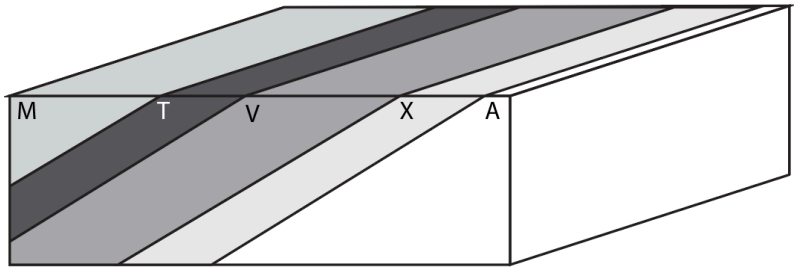
1. Match the following unconformities with the above illustration that best exemplifies that unconformity.
    i. Disconformity: _____
    ii. Angular Unconformity: _____
    iii. Nonconformity: _____

2. Which of the unconformities is arguably the most difficult to identify in the field?
    A. Disconformity
    B. Angular Unconformity
    C. Nonconformity

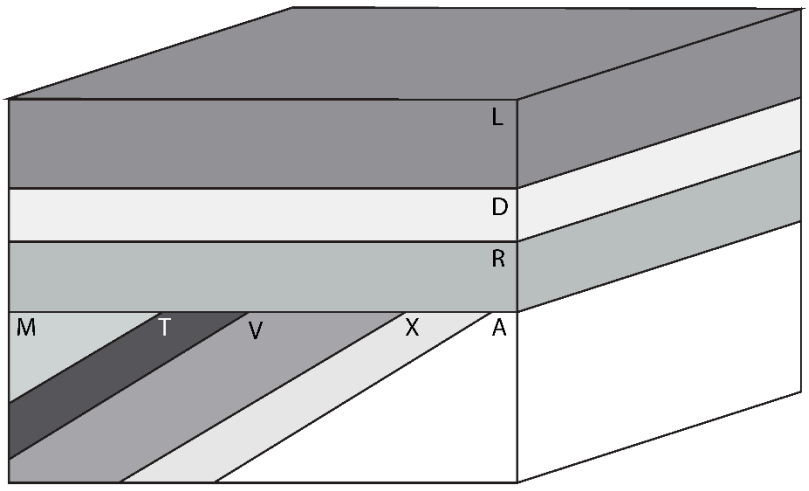
3. Which of the following observations would best help in identifying the “difficult to identify” unconformity in the previous question?
    A. Structural measurements of tilted strata
    B. Fossil records of individual units
    C. Geologic map showing extent of metamorphic aureole in underlying basement rocks.



4. With the information in the above diagram, what type of unconformity can you eliminate as possible in this area of the crust?
    A. Disconformity
    B. Angular Unconformity
    C. Nonconformity



5. If further deposition were to occur on top of the above block, what relative age principle tells us the orientation of the new units?
    A. Cross-Cutting Relationships
    B. Original Horizontality
    C. Lateral Continuity
    D. Inclusions
    E. Superposition



6. Indeed, new units have been deposited. What type of unconformity is present at the base of unit R?

A. Disconformity
B. Angular Unconformity
C. Nonconformity

7. Match the following brief definitions to their corresponding unconformities
    A. Horizontal strata deposited onto region of exposed metamorphic rocks.
    B. Horizontal strata deposited onto a region of exposed tilted strata.
    C. Horizontal strata deposited onto a region of exposed horizontal strata.

        i. Disconformity: _____

        ii. Angular Unconformity: _____

        iii. Nonconformity: _____