Finding Clues to Rock Layers

Fossil clues give geologists a good idea of what life on Earth was like millions or even billions of years ago.

Procedure
Study the rock layers at Sites 1 and 2. Write down the similarities and differences between the layers at the two sites.

Here is a list the kinds of fossils that are found in each rock layer of Sites 1 and 2.

<table>
<thead>
<tr>
<th>Key</th>
<th>Trilobite</th>
<th>Fish</th>
<th>Mammal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bird</td>
<td>Shell</td>
<td>Plant</td>
<td></td>
</tr>
<tr>
<td>Ammonite</td>
<td>Dinosaur</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intrusion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analyze and Conclude
Write your answers in the spaces provided.

Site 1
1. What type of environment existed when Layers A and B were formed? What changed from layer B to layers D through layer G?
   A water environment because fish and shells are present. There is no longer water as the fossils are terrestrial (land) animals
2. Which layer is the oldest? How do you know?
   Layer A is the oldest because it is the one on the bottom
3. What may have happened in layers C and E? (Look at the Key)
   Lava extruded onto the surface. There was an extrusion.
4. Why are there no fossils in layers C and E?
   There was a lava flow so the lava probably destroyed any fossils that were in those layers.
5. What kind of organism lived when layer F was formed?
   Layer F has dinosaur, plant and bird trace fossils
Site 2
6. Which layer at Site 1 might have formed at the same time as layer W at Site 2?
   *Layer B at Site 1 could have formed at the same time as layer W at Site 2*

7. What layers show an unconformity or gap in the horizontal rock layers?
   *Layers A, D and E are missing from Site 1 to Site 2 so they are examples of an unconformity because there is an interruption in the rock layers (those layers are missing so they are creating an unconformity)*

8. Which is older, intrusion V or layer Y? How do you know?
   *Layer Y is older than Intrusion V. An intrusion is always newer than the layer it cuts through.*

9. Think About It Working as a geologist, you find a rock containing fossils. What types of things could you hypothesize about the history of site one? Give a written description of the occurrences in each layer. Include the organisms the lived during that period as well as the environment that may have existed at that time.

   *Student can skip this question.*
More to Explore
Draw a sketch similar to Site 2 and include a fault that cuts across the intrusion. Have a partner then identify the relative age of the fault, the intrusion, and the layers cut by the fault.