Pre/Post Test--Engaging Questions

Must be answered in complete sentences.

1. What is a sugar maple? (5 pts)

2. How do we get maple syrup? (5 pts)

3. What states are considered New England? (5 pts)

4. What are the seasons of New England? (5 pts)

5. What is the best time of the year for getting the Maple Syrup? (5 pts)
Background Information on New England and the Maple Syrup Industry

Part I
New England is located in the northeastern corner of the United States consisting of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut. The dominant trees in the New England area are sugar and red maple. The New England states have beautiful fall color, jagged coastlines, mountains and rolling hills that make it a great tourist area.

The New England area has four very distinct seasons:
- Spring temperatures are usually wet with temperatures between 40-60 degrees.
- Summers are somewhat humid and hot with thunderstorms usually between June-August.
- Fall temperatures are usually 45-50 degrees. The air is cool and crisp with peak beautiful foliage changes.
- Winter climate average is 25 degree and it usually snows and average of 35 inches per year.

Part II
Maple sugar producers have kept records (data) for over 50 years. Here are some of the facts gathered:
- The Maple Syrup season is starting three weeks earlier and ending two weeks sooner.
- Scientists are predicting the New England area maple sugaring tradition will end by the century’s end.
- The proper condition to get the maple syrup sap to flow properly depends on freezing nights followed by warm days in late winter.
- At one time maple sugar farmers could use buckets to collect the syrup. Today, with a shorter season, they had to become innovative and now use tubes for collection.
- The sugar maple tree flows sap from late February to early March depending on its geographic location and day/night temperature differences.
- To get the sap, a tree must be “tapped” with a spigot or tube.
- As little as two degrees warmer temperature could make the difference on how much sap will flow.
Writing Assignments

Name___________________

Part I Analyzing a Climograph
Once you have completed your graph, compare and contrast the data and write a paragraph about your conclusions. (10 pts)

Part II Maple Syrup
Once you have finished the maple syrup demonstration, complete the following tasks in sentences.

• Describe the color and texture of maple syrup. (5pts)
• Describe why maple syrup has a distinctive smell. (5pts)
• Describe how maple syrup tastes. (5pts)
• Identify 2 foods that are similar to maple syrup. How are they the same? (5pts)

Part III Climate Change
In a well-written paragraph, answer the following questions: What do you think will happen to the location of maple tree forests should the climate warm even more? In what three ways, can humans help save the maple syrup industry? (20pts)
Climate Change Extension Idea

1. Read Case Study 2 The Maple Sugar Industry
2. Add these facts taken from [http://www.wunderground.com/history/airport/KBTV/1960/3/2/MonthlyHistory.html?req_city=NA&req_state=NA&req_statename=NA](http://www.wunderground.com/history/airport/KBTV/1960/3/2/MonthlyHistory.html?req_city=NA&req_state=NA&req_statename=NA) to your information. In February 1960, the average temperature for Burlington, Vermont, was 24°F. In February 2012, the average temperature for the same city was 29°F.
3. In March 1960, the average temperature for Burlington, Vermont, was 24°F. In March 2012, the average temperature for the same city was 43°F.
4. Add facts from the Background Information on New England and the Maple Syrup Industry reading.
5. Add facts from your climograph.

In a well-written paper, describe the changes in climate in the New England states and how this is hurting one of their industries. Be sure to cite your sources.
Completed Climograph

Average Monthly Temperature and Rainfall
Year = 2010 State = VT

Temperature

Rainfall

- Rainfall
- 30 Year Avg Rainfall
- Temperature
- 30 Year Avg Temp.
<table>
<thead>
<tr>
<th>Assignment</th>
<th>Pts Possible</th>
<th>Pts Earned</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Test—Engaging Questions</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing Assignments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part I</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part II</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part III</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graphing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climograph</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>