6Q3 - Quiz on the Basic Physics of Climate Science

Name:_____________________
Period:_____________________
Date:_____________________

1. List three important considerations for understanding Earth’s worldwide climate.

   I.

   II.

   III.

2. Choose a location on earth and explain how above three considerations influence that location’s climate.

3. For each factor listed in the table, put a checkmark in the energy effect(s) it initially/primary has.

<table>
<thead>
<tr>
<th>Factor</th>
<th>E\text{ input}</th>
<th>E\text{ storage}</th>
<th>E\text{ output}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atmospheric composition</td>
<td></td>
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<tr>
<td>Volcanic activity</td>
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<tr>
<td>Circulation of the Oceans</td>
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<tr>
<td>Deforestation</td>
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<tr>
<td>Earth’s orbit and the orientation of its axis</td>
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<tr>
<td>Circulation of the Atmosphere</td>
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<tr>
<td>Glaciation</td>
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<td>Human activities</td>
<td></td>
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<tr>
<td>Sun’s energy output</td>
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</tbody>
</table>

4. For the scenario of Decreasing Global Temperatures: Select two factors from the list above that would lead to global decreasing temperatures and modify (by changing, adding, or subtracting arrows) and annotate the energy model below to demonstrate a causal chain resulting in decreasing global temperatures.
5. Explain with reference to the diagram above how the changes you made would decrease the global temperature of the Earth.

6. For the scenario of Increasing Global Temperatures: Select two factors from the first page that would lead to global increasing temperatures and modify (by changing, adding, or subtracting arrows) and annotate the energy model below to demonstrate a causal chain resulting in increasing global temperatures.

Factor 1: ___________________________  Factor 2: ___________________________

7. Explain with reference to the diagram above how the changes you made would increase the global temperature of the Earth.