Activity Guide - Text Compression Heuristics

This meant as a follow-on to the text compression activity.

**Vocabulary**

**Heuristic:** a problem solving approach (typically an algorithm) to find a satisfactory solution where finding an optimal or exact solution is impractical or impossible.

**Develop a Heuristic**

Continue working on compressing your poem using the Text Compression Widget. As you do so, develop a set of rules, or a “heuristic” that generally seems to provide good results.

- **Record your heuristic** as a list of steps that someone else unfamiliar with the problem could follow and still end up with decent compression.
- **Trade your heuristics with another group.** Are they clear and specific enough that you always know what to do? If not, provide feedback to one another and improve your heuristics to provide clearer instructions.
- Using another group’s heuristic, attempt to compress one or more of the poems in the tool. Record the amount of compression you achieve.

<table>
<thead>
<tr>
<th>Poem</th>
<th>Compression Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Record Your Conclusions**

1. Do you think it’s possible to describe (or write) a specific set of instructions that a person could follow that would always result in better text compression than your heuristic? Why or why not?

2. Is there a way to know that a compressed piece of text is compressed the most possible? If yes, describe how you could determine it. If no, why not?