How You Rate

Procedure

1. **Collaborate** Work in a group. Have one group member be the timekeeper. Use the chart shown.

2. **Measure** Have a group member take your pulse while you sit at rest. The group member will count beats for 15 seconds. You count the number of breaths you take during the same time.

3. **Record Data** Record your pulse and breathing rate below. Repeat steps 2 and 3 for each group member.

<table>
<thead>
<tr>
<th>Pulse</th>
<th>Breathing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beats in 15 s</td>
<td>Beats in 1 min</td>
</tr>
</tbody>
</table>

| At Rest |  |  |  |
| After Exercise |  |  |  |

4. **Measure** Jump in place for 1 minute. Immediately have a group member take your pulse for 15 seconds. During the same time count your breaths. Record your new pulse and breathing rate. Repeat this step for each group member.

5. **Use Numbers** Find your pulse and breathing rate for 1 minute. Use this formula:

\[
\text{Number in 15 seconds} \times 4 = \text{Number in 1 minute}
\]

Record the data in your chart.
Conclusion

1. **Analyze Data** How did your pulse and breathing rates change with exercise?

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   ______________________________________________________
   ______________________________________________________
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2. **Infer** Why do breathing and pulse rates increase with exercise?

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3. **Infer** Athletes often have much lower pulse rates and breathing rates after exercise compared with most people. Why do you think this is true?

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**Ask Questions**

What other factors do you think affect pulse rate? Plan an experiment to test your ideas. Conduct the experiment with your teacher’s permission.