### Collision theory and particle pictures

<table>
<thead>
<tr>
<th>Topic</th>
<th>Collision theory</th>
<th>Level</th>
<th>GCSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcomes</td>
<td>1. To draw particle pictures to explain why changing the temperature, pressure and concentration will change the rate of a reaction.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Collision theory and particle pictures**

- Reactant A
- Reactant B

Complete the boxes below to show what would happen to the particles BEFORE they react.

Using your understanding of rates of reaction can you explain the following?

1. Why does increasing the temperature of a reaction increases the rate of reaction?
2. Why does adding a catalyst increase the rate of reaction?
3. Why does increasing the concentration of a reactant increases the rate of a reaction?
4. Why does hitting your hand on the desk does not result in a reaction, despite particles colliding?

**Progress:** have a look at other activities that get students to understand rates of reaction  
[http://www.thescienceteacher.co.uk/rates-of-reaction/](http://www.thescienceteacher.co.uk/rates-of-reaction/)