**Reaction Rate Experiment**

**(This sheet accompanies the video experiment)**

**Aim:** To investigate the factors that affect the rate of a reaction.

**Background**

When bananas go brown in a fruit salad it is due to a chemical reaction. The rate of this reaction is fairly slow, but it can be changed. In this experiment we will consider factors that affect the rate of a chemical reaction.

**Part A**: Reaction rate

The video will show you that when

HCl is added to a test-tube containing

a marble chip, a reaction occurs.

1. Write a balanced equation for the reaction occurring.

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2. How can you ‘observe’ the rate of this reaction?

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3. Suggest three ways you could modify this experiment to monitor the rate of this reaction.

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5. Why does this reaction stop?

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6. a. Why does the pH change during this reaction?

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 b. What is the final pH in the test-tube likely to be?

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**Part B: Rate and Temperature**

Aim: To investigate the impact of temperature upon the rate of the reaction.

A gas syringe is used to monitor the progress of the reaction.

**Results**

Volume of gas evolved at the three temperatures used.

 20 0C 40 0C 60 0C



7. Explain how the progress of the reaction is being monitored?

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8. Draw a graph of your results. All three reactions can be plotted onto the one graph.

9. What conclusion can you draw from your graph?

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10. Explain why the rate varies with temperature.

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11. Explain why all graphs plateau out at the same volume.

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12. Give three examples from society where temperature is used to change a reaction rate.

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