**Science 9**
**Unit B: Matter and Chemical Change**
**Lesson 14**
**Practice Worksheet 31: How Does the Surface Area of the Reactants Affect Reaction Rate?**

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Watch the video "Surface Area and Reaction Rate".

As you watch the video, complete the following questions.

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**Question 1**

Complete the data table below, based on the experiment in the video.

| Form of Tablet Added | Reaction Time (s) |
|---|---|
| whole tablet | |
| crushed | |

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**Question 2**

a) Identify the **manipulated variable** in the experiment. The manipulated variable is what the experimenter chooses to change in the experiment.

b) Identify the **responding variable** in the experiment. The responding variable occurs as a result of changes in the experiment. The experimenter measures the responding variable.

c) Identify **controlled variables** in the experiment. Controlled variables are anything that stays the same throughout the experiment, to make it a fair test.

**Question 3**

When particle size decreases, what happens to the total surface area of a reactant?

As a result, what happens to the rate of reaction?

**Congratulations! You have completed this practice worksheet.**

Now it's time to carefully compare your answers to the suggested answers in the online course. When comparing, you should feel free to make changes to your answers or make extra notes.

**Keep this practice worksheet for study purposes.** Using practice worksheets as a study tool to review for exams is a great idea.

**If you unsure about any of the questions or answers, or you just want more feedback, share this practice worksheet with your teacher and ask for assistance.** You can do that by emailing the teacher, or by submitting it in the Course Questions Forum in the online course. If you are using this practice worksheet in Google Drive, don't forget to change the sharing settings so that anyone can view it before sending the link to your teacher.