Nanotechnology Lesson 2: Surface Area to Volume Ratio

Essential Question: How does surface area and volume ratio impact the way that materials react to their environment based on size?

Unpacking the Standards:

Surface Area related to the Chemical Reaction of Seltzer

Make a Prediction: Which cup will have the fastest reaction time, the crushed seltzer tablet or the whole?

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Cup 1- Full Seltzer Table Observation:

Time: _____

Cup 2- Crushed Seltzer Tablet Observation:

Time: _____

How did surface area make a difference in this experiment?

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Name _____ Date _____ Period _____

Reflection:

How does this information help you understand how different materials function at the Nano scale?

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As a particle gets smaller and smaller, what happens to its surface area to volume ratio?

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What would happen if you took a Seltzer tablet and continued to break it into smaller pieces? How would the reaction with water change as the pieces got smaller and smaller?

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