



Name: Steven Clarke

Date: 05-02-2022

Student Exploration: Collision Theory

Directions: Follow the instructions to go through the simulation. Respond to the questions and prompts in the orange boxes.

Vocabulary: activated complex, catalyst, chemical reaction, concentration, enzyme, half-life, molecule, product, reactant, surface area

Prior Knowledge Questions (Do these BEFORE using the Gizmo.)

1. Suppose you added a spoonful of sugar to hot water and another to ice-cold water. Which type of water will cause the sugar to dissolve more quickly?

The hot water

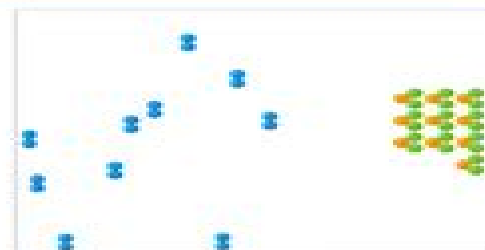
2. Suppose you held a lighted match to a solid hunk of wood and another match to a pile of wood shavings. Which form of wood will catch fire more easily?

Timber shavings

Gizmo Warm-up

A **chemical reaction** causes the chemical compositions of substances to change. **Reactants** are substances that enter into a reaction, and **products** are substances produced by the reaction. The *Collision Theory* Gizmo allows you to experiment with several factors that affect the rate at which reactants are transformed into products in a chemical reaction.

You will need blue, green, and orange markers or colored pencils for the first part of this activity.

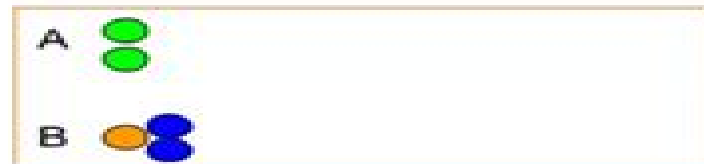


1. Look at the key at the bottom of the SIMULATION pane. In the space below, draw () the two reactants and two products of this chemical reaction.

Reactants:



Products:



2. Click **Play** (). What do you see?

Explore Learning Gizmo Answer Key Collision Theory

Christian G. Meyer

A red circular graphic with a gradient, appearing as a semi-circle or a partial circle, located to the right of the author's name.

Explore Learning Gizmo Answer Key Collision Theory:

Enjoying the Track of Appearance: An Mental Symphony within **Explore Learning Gizmo Answer Key Collision Theory**

In a world eaten by screens and the ceaseless chatter of instantaneous communication, the melodic beauty and mental symphony created by the written word often fade in to the backdrop, eclipsed by the relentless noise and disturbances that permeate our lives. Nevertheless, situated within the pages of **Explore Learning Gizmo Answer Key Collision Theory** an enchanting literary value overflowing with natural feelings, lies an immersive symphony waiting to be embraced. Crafted by an outstanding musician of language, that charming masterpiece conducts viewers on an emotional journey, well unraveling the concealed songs and profound impact resonating within each carefully constructed phrase. Within the depths with this moving assessment, we can examine the book is main harmonies, analyze their enthralling writing fashion, and surrender ourselves to the profound resonance that echoes in the depths of readers souls.

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generating a substructure a single analysis can include multiple substructure generate steps and abaqus cae creates corresponding output database files for each step multiple preloading steps can precede every substructure generation step in your analysis

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this example shows you how to create a substructure and use it four times in the model as a leg support for storage vessel

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a substructure database is the set of files that describe the mechanical and geometrical properties of a substructure and abaqus writes all substructure data to the substructure database during the substructure generation analysis

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dec 17 2013 i have created a substructure in abaqus as output i will like to see the substructure matrices mass stiffness and damping matrices however i m only able to write the mass and stiffness matrices to an output file mtx does anyone know how to create an output file including both the mass stiffness and damping matrices of the substructure

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the basic substructuring idea is to consider a substructure a part of the model separately and eliminate all but the degrees of freedom needed to connect this part to the rest of the model so that the substructure appears in the model as a substructure a collection of finite elements whose response is defined by the stiffness and mass o

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limitations of structural elements membrane elements cannot be used to overlay a substructure that consists of second order three dimensional brick elements of type c3d20 r h if the substructure will be used as a slave surface normally abaqus standard automatically converts c3d20 r h brick elements to elements with midface nodes c3d27 r h because this

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in abaqus standard the response within a substructure once it has been reduced to a substructure is considered to be a linear perturbation about the state of the substructure at the time it is made into a substructure

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set this parameter equal to yes default if the substructure eigenproblem needs to be solved during substructure generation in abaqus substructure eigenvectors can be used to define substructure modal damping for a given substructure abaqus standard will evaluate the stiffness associated with frequency dependent springs and dashpots at

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the purpose of this example is to provide basic demonstration and verification of the substructuring capabilities in abaqus problem description the example is a frame consisting of two columns connected by a beam figure 1 16 1 1 the columns and

the beam are each modeled with 10 elements of type b21 once a substructure has been