

5th grade Literacy Resources

Summary

Using the graphic novel, The Dynamic World of Chemical Reactions with Max Axiom students will gain an understanding of examples of chemical reactions in daily life. Students will observe yeast as a chemical reaction. They will review the concepts of physical change and compare states of matter.

Additional Core Ties

English Language Arts Grade 5

[Reading: Literature Standard 7](#)

English Language Arts Grade 5

[Writing Standard 2](#)

Time Frame

1 class periods of 60 minutes each

Group Size

Large Groups

Materials

Novel: Biskup Agnieszka, The Dynamic World of Chemical Reactions with Max Axiom. North Mankato, Minnesota, 2011

One teaspoon yeast, one teaspoon sugar and ½ cup luke warm water, a clear cup (to observe yeast in action.)

1/2 sheet paper for each student to record observations and notes

Background for Teachers

Other excellent books on chemical change

:

Baldwin, Carol, Material Matters Chemical Reactions Chicago, Ill. 2006 ISBN 978 1-4109-1681-5

Thomas, Isabel, Fireworks, Chicago, Ill. 2006 ISBN 13 978-1-4109-2618-0

Saunders, Nigel, Exploring Physical Science Exploring Chemical Reactions New York, NY. 2008

Carle, Eric, Pancakes, Pancakes! 1990

Student Prior Knowledge

Before this lesson, students should have an understanding of matter and the four phases of matter (solid, liquid, gas and plasma.)

Intended Learning Outcomes

5. Demonstrate Awareness of Social and Historical Aspects of Science

Cite examples of how science affects life.

Intended Learning Outcome -- Linked to Standards:

Students will be able to identify chemical reactions and explain how chemical reactions affect our daily lives.

Instructional Procedures

Before reading the book, The Dynamic World of Chemical Reactions with Max Axiom ask students if

they know any chemical reactions that occur in everyday life.

Record their ideas.

Read Section 1- Reactions Around Us. (pgs. 4-7)

Put 1/2 cup luke warm water into a clear container. Draw a line on the container when you put the mixture in. Add 1 tsp. sugar with 1 tsp. yeast.

**If you have students in small groups give each group the yeast mixture, this would be ideal for observing, drawing and recording this chemical reaction, though it can be done as a whole group. Continue on with section two of the book. Stop after page 13 and make observations, and recordings of the yeast.

Finish Sections 3 and 4 of the book. Ask students if they want to add on to the list of chemical reactions that you started the session off with.

Make your final observations, drawings and recordings of the yeast mixture. (Make sure students observed the bubbles of gas in the water, this is a clue that a chemical reaction has taken place.)

Give each student a half sheet of paper have them name, explain and illustrate an example of a chemical reaction that either they knew about, or a new one they discovered while listening to the book.

Strategies for Diverse Learners

Observing, drawing and recording the way yeast reacts will help diverse learners understand a chemical reaction.

Extensions

Teach students that some chemical compounds require safe handling to minimize their hazards.

Review these [Hazardous Household Product Symbols \(HHPS.\)](#)

Assessment Plan

Asking the class if anyone knows a chemical reaction is the first assessment. After the book is read, students will be able to describe a chemical reaction using precise language and domain-specific vocabulary to inform their peers about a specific chemical reaction.

| 3 | 2 | 1 |
|--|---|--|
| Chemical reaction in daily life is included. | Chemical reaction in daily life is listed. | Chemical reaction in daily life is missing. |
| Written explanation of chemical reaction. | Unclear or no explanation of chemical reaction. | Unclear or no explanation of chemical reaction. |
| Example of chemical reaction is illustrated. | Illustration of chemical reaction. | Chemical reaction poorly, or not illustrated at all. |

Bibliography

Biskup Agnieszka, The Dynamic World of Chemical Reactions with Max Axiom. North Mankato, Minnesota, 2011

Authors

[Candace Collins](#)

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