

Justin Barry  
August 17, 2006  
Dr. Roberts  
Chem 501

## Website Analysis Project: Chemical Reactions

### Purpose

The purpose of this website analysis project is to seek out and describe websites that can be useful for my classroom on a particular topic that is interesting and relevant. The topic chosen was chemical reactions. Each website was carefully scrutinized; however, the following websites below are not an exhaustive list. Familiarizing myself with several (about 7) quality websites was beneficial so that they can be used in my classroom. This is the central purpose of this project.

### Topic

“Chemical reactions” is a topic that nearly all students in Chemistry cover to some degree. The members in our group were particularly interested in better methods of teaching chemical reactions and having students retain information learned. We wanted better methods of distinguishing between chemical reactions and how to predict the products of chemical reactions. Many websites were found but only a few offered clear descriptions.

### Criteria for Beneficial Websites

Here is a list of the criteria our group agreed was important to have in a website. In addition, we agreed there needs to be uses for the classroom and uses for the teacher/student at home.

#### **Important aspects of good classroom websites:**

- Visually stimulating material and activities to students in class.
- Deeper understanding on websites so students have a resource to look to beyond classroom information.
- Gives clear, concrete visual concepts.
- Example problems have to be good examples that are straight forward.
- Usable working links/videos and other resources
- Up to date information
- Abridged text and examples that emphasize the main points.
- Challenging content and problems that are not too elementary.

#### **Uses in classroom:**

- Interactive quizzes for classroom or homework.
- Practice problems available for students.

#### **Uses at home:**

- Homework practice problems on web.
- Further challenging content available on website to go more in depth.

### Websites on Chemical Reactions

1. [www.teachersfirst.com](http://www.teachersfirst.com)

The following website provides a central location for searching websites for material dealing with anything teaching. One can click on the “Search teachers first” website and type in “Chemistry” under the subject heading and include the grades 9-12 in the pull down boxes. Although this is not a specific site that lists information on chemical reactions, many of the websites listed under the search are also listed in the search below. This huge resource is worthwhile to list as a primary resource for teachers.

2. <http://genchem.chem.wisc.edu/demonstrations>

The following website is from the University of Wisconsin-Madison Chemistry Department. To begin, load the website above and click on “General Chemistry”. The value of the website lies in the visual demonstrations that can be used in the classroom to show students various chemical reactions. Although real life demonstrations can be more effective in class, many times working videos are beneficial. Under “General Chemistry Demos” click “Types of chemical reactions.” On the left side of the website demonstrations appear that can be clicked on. The links are pictures, short video clips, or links from the *Journal of Chemical Education* website. The positive aspect of the website is that nearly all links work and are very useful. Dangerous demonstrations, which should never be performed in class, are included as well. Overall the website is very useful. Either teachers can project demonstrations or students can click on reactions and be asked to explain the reactions they see. One minor drawback was that the program “Active X” was needed to load certain videos.

3. [http://www.chemistrydaily.com/chemistry/Chemical\\_reactions](http://www.chemistrydaily.com/chemistry/Chemical_reactions)

The following website is considered the chemistry encyclopedia. Its characteristics are very encyclopedia like. The information provided is in a very logical, organized way and includes the basics with many links to additional topics. As a basic simple format, the website gives clear explanation to chemical reactions. Nevertheless, if one wanted to go further in depth, many links expose layers of understanding from activation energy to catalysts. Teachers can use the site for students who would like further understanding on chemical reactions. Another aspect that was beneficial were clear examples that were not too complicated. As a means of conveying information about general chemical reactions, this website was very well put together.

4. <http://www.usoe.k12.ut.us/curr/science/sciber00/8th/matter/sciber/chemtype.htm>

The following website was chosen because of its simplistic way of depicting the four main chemical reactions. With great pictures for each reaction, students will be able to visibly see an abstract concept in every day pictures. This is a great website to start students who are learning reactions for the first time or are struggling. Although not very interactive, it does feature minimal music.

5. [http://www.chem4kids.com/files/react\\_intro.html](http://www.chem4kids.com/files/react_intro.html)

After loading the website, one can click “view in frames” to further see the content on the website. Probably one of the simplest websites found, it encompasses reactions very well, using colors and simple language. Although the types of reactions are not listed the background of reactions is given and “Key Points” are made to help students focus on the main idea. Most importantly, the website features an online quiz (click on “take quiz on reactions”) to test students’ understanding of chemical reaction background. This quiz may be taken in class and used as an introduction to the types of chemical reactions.

6. <http://trackstar.4teachers.org/trackstar/ts/viewTrack.do?number=257052>

Featured among many websites from “trackstar”, this website gives the basics on chemical reactions and provides videos for each reaction. First the website explains how one will know if a chemical reaction takes place. Then, it gives a guided practice questions and then finishes with videos for each chemical reaction. Although the videos take a while to load and do not give specific information on each type of reaction, the videos make this website worthwhile for teachers.

Supplemental Resources:

7. <http://dbhs.wvusd.k12.ca.us/webdocs/Equations/WS-ReactionTypes.pdf>

Example problems on chemical reactions.

8. <http://www.learnnc.org/lessons/htillett1142004668>

Lesson plan for a lab on the four basic types of chemical reactions.

9. <http://misterguch.brinkster.net/6typesofchemicalrxn.html>

Includes notes on six chemical reactions, a basic list for whether a reaction takes place, sample problems and solutions.