# Safety First: Elementary Science Internet Activity Assignments

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## I. INTRODUCTION:

The Internet offers a spectrum of exciting opportunities for students to enhance their doing and understanding of science with the click of a computer mouse.  A variety of formats including hands-on activities, science fair projects, informational research information, videos, and much more are available. Unfortunately, security needs to be contended with, including disclosing of personal information, computer viruses, spyware, and access to inappropriate sites and individuals.

Safety also needs to be addressed.  If students are assigned a project that involves exploration and carrying out of an activity found on the Internet, there is potential for an accident, whether done in the home or school classroom. There also is the potential for shared liability involving both the teacher who made the assignment and the school district.  How can elementary teachers make better and safer use of the Internet for students?  The following are strategies and actions for serious consideration based on professional best practices and legal safety standards.  Elementary teachers of science should review and apply these strategies and actions before assigning use of Internet based project assignments.

## II. INTERNET USE STRATEGIES:

1. Most school districts have developed Board of Education (BOE) Internet use policies for students and employees.  Before having students work on the Internet as the source for or part of an assignment, always first secure, review and adhere to the BOE Internet policy.
2. Develop an Internet assignment safety acknowledgment form which notes both the advantages and potential hazards of the Internet.  Encourage parents/guardians to be involved in the assignment by directly supervising the student's Internet surfing. Both the student and parent/guardian should sign and date the acknowledgment form.  Keep the forms in a safe place once signed.  A good place to start can be found in the online document titled "Common Sense media agreement for parents and kids grades K–5" found at: www.commonsensemedia.org/sites/default/files/fma-elementary.pdf
3. Remember that if a student is doing a school related science project/activity using websites that were assigned, the teacher and school may have shared liability should there be a safety incident.  Make sure all aspects of safety are directly reviewed with students and noted on the acknowledgment form before the activity is assigned.
4. Providing internet assignments for science should be minimally a two-step process:
    A. First, develop a specific science curriculum related research lesson or activity which requires student access to one specific Internet site.  Review the results of

the experience with students to make sure they not only understand the curriculum piece but also the process using the technology including safety and security.
   B. Second, once comfortable with student progress, again review the safety acknowledgment form contents.  Then proceed to incrementally assign research lessons or activities in steps or pieces until students can work totally on their own with the noted safeguards in place.  Always assign an Internet based or assisted activity with a prescribed outcome or product.  Consider a science research report, science project, journal activity, and printouts of pictures or other graphics.
5. Whether in the classroom or home, keep the computer in a central place so it can be monitored.
6. Always suggest safer, age-appropriate websites for student use <u>after they have been first directly reviewed by the teacher.</u>  Consideration should be given to the following:
   A. Make sure the reading level and volume of written information is age-appropriate for the students using the site.
   B. Check to be certain the site information correlates with the assigned research or activity.
   C. Check out graphics, pictures, and videos relative to fostering student understanding.
   D. Note if the information is based on scientific fact or opinion. Review the difference between an authoritative website, such as a government, university, or professional site, and one that may not provide accurate information, such as a blog or other personal sites.
   E. Be sensitive to the source and age of the information.
   F. Check for advertisements and appropriateness for students. Remind students they are not to click on advertisements!
   G. Be certain to check out links that may be provided.  Let them know if there are any links that should be avoided.
   H. Some sites require plug-ins or other software on the computer.  Either avoid these sites or make sure appropriate software is installed prior to students using the site.

7. Suggest that parents use filtering software with settings for young students to limit inappropriate exposure on the Internet.
8. Remind students that there are individuals on the Internet who are not who they say they are.  If they do not know who is talking to them, they should not respond.
9. Once students decide on a science activity they retrieve online, <u>they should be instructed to share it with the teacher for approval before working on the activity</u>.
10. Make sure students understand the importance of typing the correct website addresses.  Put into place rules to follow in case students end up on an inappropriate site.
11. Examples of child-safe general search engines include the following:

   A. [OneKey - The Kid Safe Search Engine](http://www.onekey.com)  [www.onekey.com](http://www.onekey.com)
      Search engine with a large database of kid-safe sites.

B. [AOL NetFind Kids Only](http://kids.aol.com/)  http://kids.aol.com/
A search engine that links only to sites that are safe for kids.
C. [Yahooligans!](www.yahooligans.com/) www.yahooligans.com/
Child-safe search engine. Not reviewed for educational relevancy.
D. [Searchopolis](www.searchopolis.com/) www.searchopolis.com/
Sites found were screened for inappropriate language, etc., but not for educational relevance. A lot of commercial and advertising sites were found.
E. [Ask Jeeves for Kids](www.mmscrusaders.com/lib/find/ajkids.htm) www.mmscrusaders.com/lib/find/ajkids.htm
Ask a question in plain English instead of using key words. AJ will tell you what questions he does have answers for that might be similar to yours. Only "G-rated" web pages and web pages written specifically for children are included in this knowledge base.

## III. TOP 10 SAFETY "DO'S" and "DON'TS" FOR SCIENCE ACTIVITIES:

The following list of 10 safety "do'" and "don'ts" for students, teachers and parents should be posted in the science classroom and also noted in the safety acknowledgment form. Remember to review the list with students prior to assigning science activities, including Internet secured activities.  The list in poster format is available at:
[www.nsta.org/pdfs/Top10SafetyTipsPoster.pdf](www.nsta.org/pdfs/Top10SafetyTipsPoster.pdf).


1. If it can splash in your face, you need to protect your space: Goggles On!
2. Don't just stash your trash! What can cut you, can cut the person after you: put all sharp broken material in its proper disposal container—NOT in the trash!
3. If it can grow on you, it shouldn't be grown in the lab!
4. Wash your hands, wash your hands, wash your hands!
5. What burns can't learn: tie back that hair and use goggles, gloves, and aprons whenever working with flame and/or chemicals.
6. See Johnny play with sharp tool without prior instruction on its safe use! See Johnny lose a piece of his anatomy! See Johnny's teacher get sued back to the Stone Age!
7. Remember! The live animal or plant you just used for the "Ooh! Wow!" moment will still be around after you're done. Prepare in advance for its proper long-term care and/or responsible disposal.
8. A cluttered lab is an accident waiting to happen.
9. When in doubt, throw it out—into a biohazard safety bag for proper disposal!
10. Just because you and children can think of it, doesn't mean any of you should try it: think that lesson through beforehand! PLAN AHEAD! PLAN AHEAD! PLAN AHEAD!

Additional safety information for elementary science can be found in the document titled "Science and Safety: It's Elementary" by the Council of State Science Supervisors at:
[www.sde.ct.gov/sde/lib/sde/pdf/curriculum/science/safety/scisaf_cal.pdf](www.sde.ct.gov/sde/lib/sde/pdf/curriculum/science/safety/scisaf_cal.pdf)