**Todd sparks**

**Working with Spreadsheets and Forms**

**Introduction:**

This activity is designed around the bridge project. The students will collect data as they work on their bridges. When the bridges are completed the students will enter their data and compare their results with other students. The activity will help the students understand spreadsheets and be able to work with a spreadsheet.

**Grade Level:**

8th and 9th

**Time frame:**

This is activity will take the class about 3 weeks to complete from beginning to end.

**Objectives:**

* Develop a higher level of communication through different forms of available social networking tools via the Internet.
* Develop an awareness spreadsheets and forms.
* Incorporate peer-to-peer collaboration using the Internet.
* Demonstrate the ability to work as a team in the completion of a project.
* Perform basic computer functions.
* Develop career awareness related to working with spreadsheets and forms.
* Implement problem solving skills.
* Understand and discuss the components of a spreadsheet.
* To be able to understand the relationship between numbers.
* Follow and adhere to the school's acceptable use policy (AUP)
* Fair Use Guidelines and Copyright Law

**Instructions:**

The groups will follow the instructions listed in the [PSW](https://docs.google.com/viewer?a=v&pid=explorer&chrome=true&srcid=0B4qmTXvv_83cNmQ4N2EwMTAtNmI1My00MzlkLWFhNzUtZWE4YTM2OTFhMGVi&hl=en_US) on **page 8**.

**Materials:**

* PSW
* Computer
* Balsa wood or Bass wood
* Cutter
* Work table
* Glue
* Tape
* Pins to support the bridge during construction.
* Wax paper
* Pencil or pen

**Standards Covered:**

Standard 3.1

Students will understand and apply design principles in developing a process, product or system. (Align with National Technology Content Standards: 2-3, 8-13)Standard 2.1 / 2.2 / 2.3 / 2.4 / 2.5

Standard 4.1, 4.2, 4.4, 4.6, 4.7, 4.8

Students will describe and apply the basic steps in the design/problem solving process. Students will document the design process in a portfolio.

Standard 5.1, 5.2, 5.3, 5.4, 5.5

Students will use resources, tools, materials, and processes safely and efficiently. (Align with National Technology Content Standards: 14-20)

**Standards Covered: Math**

Standard 1.3, 1.4

Students will expand number sense to understand, perform operations, and solve problems with rational numbers.

Standard 2.1, 2.2

Students will use proportional reasoning to solve problems.

Standard 4.1, 4.2

Students will use algebraic, spatial, and logical reasoning to solve geometry and measurement problems.

**Project Resources**

 [PSW](https://docs.google.com/viewer?a=v&pid=explorer&chrome=true&srcid=0B4qmTXvv_83cNmQ4N2EwMTAtNmI1My00MzlkLWFhNzUtZWE4YTM2OTFhMGVi&hl=en_US)

 [Form](https://spreadsheets.google.com/a/u.boisestate.edu/spreadsheet/viewform?hl=en_US&formkey=dE1DTDk3S0RyeU1DZVJRb3ZOaEZuYVE6MQ#gid=0)

 [Spreadsheet 1](https://spreadsheets.google.com/spreadsheet/ccc?key=0AoqmTXvv_83cdE1DTDk3S0RyeU1DZVJRb3ZOaEZuYVE&hl=en_US)

 [Spreadsheet 2](https://spreadsheets.google.com/spreadsheet/ccc?key=0AoqmTXvv_83cdFZYR3BDZEJjX0VIZTVQYmN3RkVVa3c&hl=en_US)

**Website References:**

Listed on PSW