The Structure Problem – What’s it all about?

Building a structure out of balsa wood –

Some handy tools to have on hand:

Files

Sandpaper

Utility knifes or razor blades (not the kind you shave with but the kind that fit in boxcutters and utility knives. Always cut with a shape blade, a dull one damages the end in some way.

A flat surface to build on – a piece of plate glass with the edges taped

Various measuring devices – rulers, squares

A gram scale – since the structure is weighed by grams – see if you can borrow one from the school

Glue – super glues work well, they are quick drying but there are many types of glue on the market – teams should try different types

**The Problem – read the problem and then read it again – and again and again.**

The structure must be built according to the specifications listed in the problem.

Make sure you build or have crusher to practice with –

Team members who will be lifting the weight need to practice placing weight on a structure – so the team needs to be building and testing regularly.

The problem is more than just holding a bunch of weight on the structure. The team must have a skit that incorporates whatever is stated in the problem – this is called the long term part of the problem. Style is also part of the problem.

The day of competition the team must present their structure to the weigh in judges who will check it over to see that it fits the parameters of the problem – for example – at least 8 inches high, weighs the correct amount of grams and is not over the weight listed in the problem. If the structure makes it through weigh in it will be sealed and kept at weigh in until the time the team competes.

Have your team brainstorm ideas. Have them look at books on bridge building. Look at the resources available on the internet. Any skill may be taught but the team must be the one to use the skill when working on their solution to the problem.

Have them practice working with the wood and the glue – each piece of balsa wood has it’s own weight and by having them feel and work with the wood they will see that some pieces are heavier than others and when cutting they will also notice that some pieces are very hard and others are soft and punky.

Teams may laminate – that is glue one piece of wood on top of another to make a thicker piece. The balsa wood must be of the type specified in the problem. You can buy your balsa wood from CCI (Odyssey of the Mind) You may use any commercially produced glue – but follow the guidelines in the problem.