**Problem Solving Application**

**Problem:**

You and your friends want to build a fort to hang out in during summer break because your parents want you to take a break from playing video games and have kicked you outside. You’re planning to use the fort during the day to stay cool from the sun and to sleep in at night, so it must be big enough for all of you to stand in and lay down in.

You have found the following materials (listed below) and unfortunately, your allowance won’t cover any additional material. You are using your friend’s backyard as the site to build your fort. You want to build your fort to be “green” so you want to minimize electricity usage, and build it to allow for breezes to go through it and keep it cool. You can use the tree in your solution, but you cannot build in or disturb the garden area. The fort is only going to be in the place for the summer; your friend’s parents want it taken down the last week before school starts. You may want to build the fort as something that can be easily taken apart at the end of summer so you can store it during the rainy months and reuse it next summer, but that is not a requirement.

**Materials:**

Eight 4’x8’ Plywood boards

One 20’ rope (can be cut)

One 20’x20’ tarp (cannot be cut!)

Ten 8’ long 2x4 studs

A box of nails and a hammer

\*\*Your friend’s parents will help you cut the wood material and rope if you would like\*\*

Follow the Problem Solving Process to come up with a solution. Use this paper to keep track of your thoughts – use the back if you run out of room. Remember – don’t skip steps!

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| Step 1Acceptance and Understanding Overall view of the Problem |  |
| Step 2Analysis and DefinitionDetailed View of the Problem |  |
| Step 3Ideas and Selection Brainstorming Solutions to Problem |  |
| Step 4Use your Solutions!  |  |
| Step 5Evaluate How did your solutions work? |  |