

HOW TO SOLVE THE PROBLEM

Step 1. Coaches-Read the Problem and Program Guide

(First 2-3 meetings, have team read the problem)

Go through each section of the problem carefully.

Make sure each participant understands what is required

General ideas are OK, but don't focus on Brainstorming solutions yet

Understand how each of the parts interact

Figure out the requirements of the problem (and the scoring elements)

Step 2. Brain-Storm Possible Solutions

(Meetings 2-5)

Generate lots of ideas (keep track of them on paper, chalkboard, or whiteboard)

Don't evaluate ideas yet... just list them

Break the problem down into manageable pieces

Encourage wild, creative solutions

Step 3. SCAMPER

(Meetings 4-6)

Use SCAMPER (Substitute, Combine, Adapt, Magnify/Magnify/Minify, Put to other uses, Eliminate, Reverse) and other Brainstorming techniques to come up with more ideas

Change the ideas, generate even more

Step 4. Refine and Evaluate Ideas

(Meetings 4-6)

Which ideas does the team like best?

Discuss and evaluate ideas, but don't criticize.

Modify ideas to make them better.

Select a preliminary solution.

Step 5. Determine Tasks & Timeline

(Meetings 5-8)

What types of tasks, skills, props, contraptions, needed to complete this solution?

Who and how will they do these things?

Determine a basic time-line for completing the solution.

**Continue to evaluate the solution and refine/revise as needed.
Do the items decided upon fit the problem specifications?**

Step 6. Begin Construction

(Meetings 6- ?)

Start building things and writing a script. Evaluate new ideas as they arise.

Test the solution. Does it work? Can it be made to work better?

Revise/refine (continuously) and as necessary.

Step 7. Put it Together

(At least one month before Tournament)

As props, tasks are near completion, or are completed, test them out.

Continue to refine/revise. Does it work? Is there a better way?

Does the proposed solution still fit the problem? What problems need to be fixed?

Step 8. Finish it Up and Practice

(2-3 Meetings Before Tournament)

Celebrate major accomplishments as they happen.

Test things out... do they work? Can they work better?

Practice the whole skit. Timing. Explain how they did it? Look for problem spots.

What happens if something goes wrong? Contingency plan.

Revise/refine.