

Solving A Technical challenge.

A Destination Imagination technical challenge asks a lot of teams choosing to create a solution.

There are a number of ways to approach a technical challenge.

To begin, I will present steps my teams have taken in order to plan, create, build and compete with a technical solution.

Once this step-by-step process has been completed, Teams should then link up steps that teams may wish to take to incorporate the non-technical portions of the challenge.

1. Ascertain the design expectations (parameters of the technical device)

Teams should ask themselves some questions when reading the challenge

- What is the technical device supposed to do?
- What limits are placed on the device according to the rules?
- Are there materials that may not be used?
- According to the central challenge points awarded chart, what is being scored?

2. Re-read the challenge with a pen or highlighter and confirm the main ideas. Team may wish to write these main ideas at the top of a planning page.

3. Divide the design expectations and main ideas into individual steps.

In other words break the process the technical device must carry out into discrete steps. This will further define the end product of the design.

4. Define and label these individual steps that are being required of the device in the expectations of the challenge.

5. Review parameters again. In thinking of these expectations / limitations brainstorm possible solutions and factors that may cause potential problems.

6. Brainstorm materials that may be needed to build the device.

- Are these materials available?
- Are these materials within the cost limits?
- What methods may be needed to fabricate parts?

7. Establish a time management calendar or time line to organize the design / build/ test and present phases.

A calendar works here

If that is not graphic enough, a Gantt Diagram is also good.

8. With a “working hypothesis” of possible solution(s) model the most desirable solution.

Hint - make sure that any other ideas are still recorded save any research, drawings or brainstorming plans that may exist. These are the team’s fall-back plans in the event of disaster or the primary design does not meet expectations.

9. Draw concept pictures these are general pictures, not detailed

Guesstimate the “numbers” these are estimates of output / performance etc that may be important goals for the team’s device.

Do the math to get working numbers – this forms the basis for later calculations that may be required.

- 10.