Constraints of the Earthquake Challenge

1. You may use only the supplies provided which includes scissors and rulers.
2. You must build a structure that will survive a mild earthquake simulation.
3. The structure will rest on top of the earth (a layer of gelatin). The structure is not attached to the earth layer.
4. The structure must be at least 3 floors tall. It can be any size or shape.
5. You will build the structure completely before placing it on the earth layer for testing.
6. Test your structure by sitting it on the earth layer and shaking. You may improve your structure after testing it.
7. Your final structure will be presented and tested with the entire class.

Constraints of the Water Pipeline Challenge

1. You may use only the supplies provided which includes scissors and rulers.
2. Your pipeline must connect from an elevated tank to an ending tank.
3. The pipeline must be at least 100 cm long.
4. The pipeline cannot touch the ground.
5. The tanks may be secured to the table top.
6. A minimum of leakage will be allowed.
7. You may test your pipeline while building it in order to make needed improvements.
8. You will share your finished pipeline and demonstrate it to the entire class.

Constraints of the Windmill Challenge

1. You may use only the supplies provided which includes scissors and rulers.
2. Safety rules must be followed as you are building. Bring devices to the safety table as needed.
3. Your tower must be free-standing and movable.
4. The turning mechanism must be securely attached to the tower and turn freely.
5. You may test your windmill as much as is needed in order to determine the adjustments to be made.
6. Your final windmill may be decorated.
7. Each team will present its windmill and demonstrate how it works.