**STEM Design Challenge- A Hydroponic System Garden**

Challenge **Working in teams (or individually as approved),**

**design and make an**

**inexpensive, compact, portable,**

**working hydroponic gardening**

**system that can be conveniently**

**used on your window sill or**

**countertop to grow mesclun**

**(lettuce), radishes, basil, or**

**another quick growing, edible**

**plant. Make your system**

**aesthetically appealing since it**

**will be highly visible for a long**

**period of time.**

**Criteria & Constraints**

• Minimize risk of water damage

• Transportable (during breaks, if needed)

• Use available lighting systems

• Compact (12”x12”x12” max)

• Well‐constructed

• Aesthetically pleasing, including labels

• Use materials from trash or recycle bin

• Work in pairs (or individually, as approved)

• Extensive documentation of design &

problem‐solving process (use rubrics provided, document with photos, video, etc)

• Ongoing plant documentation using documentation techniques (Extra Credit)

**Hydro-Plant Rubric** 

• Design documentation

• Plant documentation (Extra Credit)

• Materials and Cost Analysis

• Function (Does it work?)

• Construction of working model (or 2 dimensional model) & aesthetics

• Creativity & effort

• *Extra Credit:* Grow a seedling in your working system. Document your progress and results (photos, data collection, etc). [EC up to 50 points.]