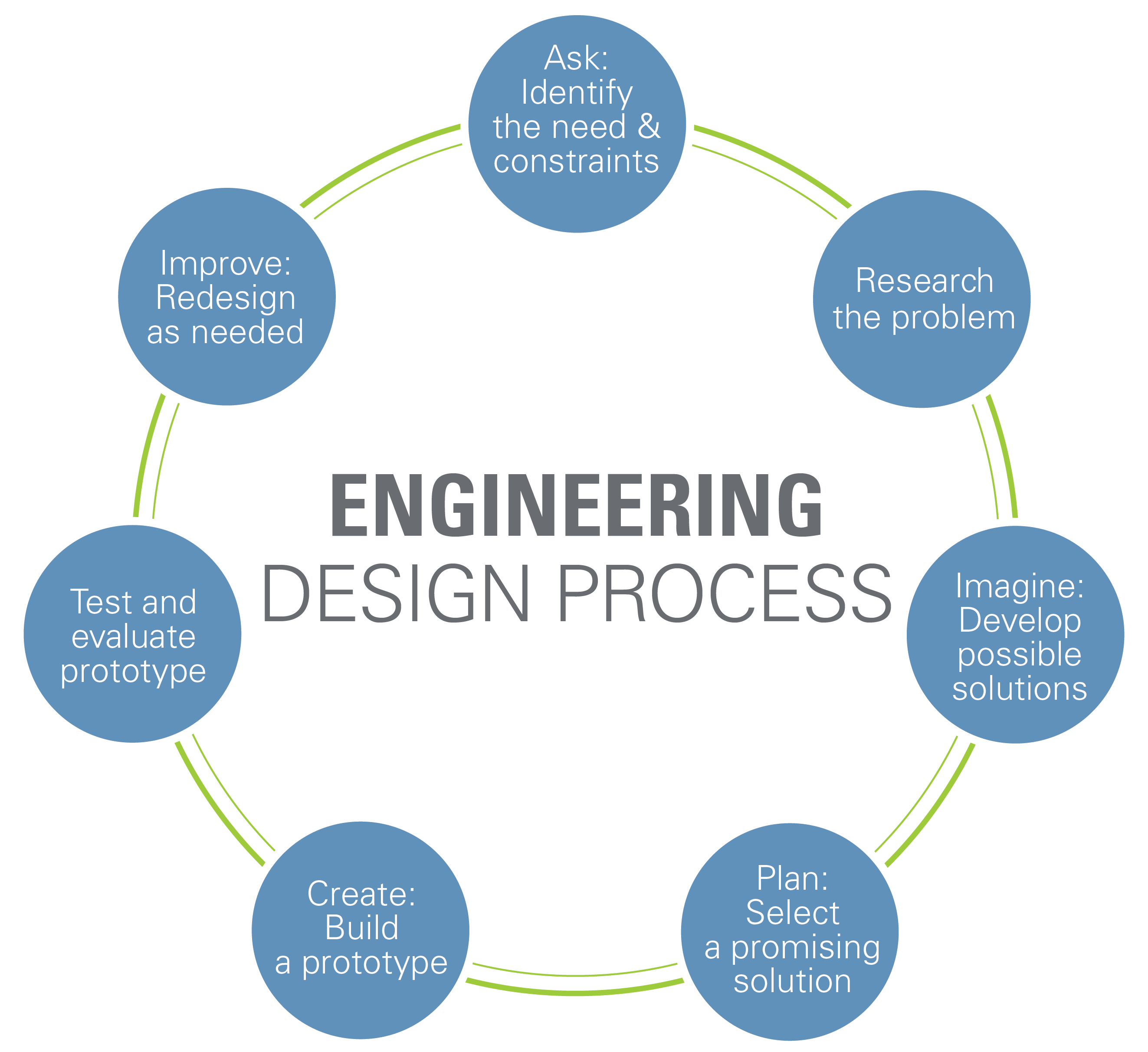
**Water Filtration Design Lab**



**Ask**: *How can I design a water treatment plant that is successful in filtering water?*

**Research:** *Water treatment plants go through a 5 step process in order to filter water so that it is drinkable: 1) coagulation, 2) sedimentation, 3) filtration, 4) disinfection/aeration, and 5) storage. Water treatment plants use common filtration materials, such as sand, gravel, and charcoal, to successfully create* ***potable*** *or* ***drinkable water****.*

**Imagine:** *As a group, give a description of how well you think each item filters (e.g. if you think the sand will not filter well, write* ***sand – probably won’t filter well****)*

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**Plan:** *Choose one of your solutions above to implement FIRST.*

**Create:** *Use the materials at your lab station to begin filtering. Write down what materials you used* ***in the order you used them****.*

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**Test & Evaluate:** *ONCE YOU HAVE BUILT YOUR DESIGN, you may now test out your results.*

***Procedure:***

1. Tighten the cap on the bottle before proceeding.
2. Place 2 coffee filters into the bottle.
3. Pour some the contents from one of your material cups into the bottle, making sure it is on the coffee filter.
4. Untighten the cap of the bottle, holding it upside-down over the clear cup so that the pond water drains into the cup.
5. Begin pouring the pond water into the bottle, making sure it filters through the material.
6. Allow the pond water to filter completely.
7. Take out the materials from the bottle and dump it into its designated cup. Dispose of the used coffee filter.
8. Repeat steps 1-7 for each material you use as a filter for the pond water.
9. Record your results.

What happened in your test? Was the water clearer? Write down STEP BY STEP what you did in your design process on the lines below.

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**Improve:** *What could you do to improve your results? Provide at least one idea you could do to make “cleaner” water:*

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