**Tower Masters Research Worksheet (Gr3-5) Answer Key**

1. **Define:**

**Engineer:** An engineer is a person who applies his or her understanding of science and mathematics to create something to solve a problem that helps people and benefits our world.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Civil engineer**: A civil engineer is a person who designs buildings as well as bridges, dams and other structures.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Compare and contrast observations:** List features that are common to the world’s tallest towers.

1. Taller towers are larger at the base than at the top.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Taller towers have antennas.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Taller towers are shaped like triangles rather than rectangles.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **What is the engineering design process?**

The **engineering design process** isa series of steps that guides engineers as they design and redesign structures and other inventions without wasting a lot of money, time and materials.\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Ask:

Identify needs and constraint

Research the problem

Improve:

Redesign as needed

**Engineering Design Process**

Imagine:

Develop possible solutions

Test and evaluate prototype

Plan:

Select a promising solution

Create:

Build a prototype