**Design Process Quiz Key**

1. What is the first step in the design process?
   1. Design a solution
   2. Build
   3. Test ideas
   4. **Identify the challenge**
2. Why is the design process iterative?
   1. **To improve the design**
   2. Because no single process works for every design
   3. To keep it simple
   4. To allow for management input
3. In what step do you analyze the social and environmental effects of your design?
   1. The evaluate step
   2. **The research and brainstorm step**
   3. While you are building
   4. When you identify the challenge
4. When do you evaluate a design?
   1. Before construction
   2. After construction
   3. **At several stages of the process before, during, and after construction**
   4. When you prepare drawings and plans
5. When do you start building before you have some working drawings?
   1. When you already know exactly what you want to do
   2. Right after you have performed all of your research
   3. After you have identified the construction materials
   4. **Never**
6. How do leaders manage creativity?
   1. Creativity can never be managed
   2. **By defining a process for design**
   3. By allowing engineers to build whatever they want
   4. By changing requirements and assumptions during the design process

7. Why do engineers build something?

* 1. **To solve a problem**
  2. To test a design
  3. Because building is fun and cool
  4. To learn what construction methods are appropriate

1. Are designers ever concerned with cost?
   1. No, cost is only for managers to deal with
   2. Only when the design does not work
   3. Only if a design is easy to build
   4. **Yes, cost is one of the most important constraints**
2. What is the purpose of research?
   1. **To identify possible and alternative solutions**
   2. To determine the problem you are trying to solve
   3. To learn if your design is hard or easy to build
   4. To test your ideas
3. What is the purpose of a prototype?
   1. To identify possible and alternative solutions
   2. To determine the problem you are trying to solve
   3. To learn if your design is hard or easy to build
   4. **To test your ideas**
4. When do drawings become more detailed?
   1. To learn if a design is hard or easy to build
   2. **When you have settled on a design**
   3. Once you have determined your construction methods
   4. Once your prototype is built
5. When do you learn about different construction methods?
   1. While you are building
   2. Once you have settled on a design
   3. **During research and brainstorming**
   4. When you identify the challenge
6. What is KISS?
   1. Knowledge Is Simply Splendid
   2. Keep Issuing Simple Solutions
   3. **Keep It Simple Stupid**
   4. Kinematic Isentropic Scintillation Stupid
7. In order to have a plan, what must a designer do?
   1. Be able to write a few short statements that explains what the designer wants to do
   2. Prepare drawings and engineering plans
   3. Research and brainstorm possible solutions
   4. **All of the above**