**Engineering Design Quiz Answers**

1. **In engineering, the design process begins when…**
	1. information about an existing product is gathered by an engineer
	2. an engineering design team comes up with ideas for a new product
	3. a design engineer recognizes the need for a solution to a problem
2. **Identifying the “target population” or “target audience” occurs during which step of the engineering design loop?**
	1. Identify the Need
	2. Research the Problem
	3. Develop Possible Solutions
3. **Engineers must understand the difference between requirements and constraints. Let’s say a team of engineers is asked to design a pair of kids’ tennis shoes for less than $20. They determine that the only way to manufacture shoes for this price is to use recycled materials. What is the team’s *constraint*?**
	1. The shoes must be designed for kids
	2. The shoes must be made out of recycled materials
	3. The shoes must cost less than $20 to manufacture
4. **During a brainstorming session we want to focus *more* on:**
	1. quantity of ideas rather than quality
	2. quality of ideas rather than quantity
5. **Which step of the engineering design loop distinguishes an engineer from a technician?**
	1. Construct a Prototype
	2. Test and Evaluate a Prototype
	3. Redesign
6. **Although the terms “model” and “prototype” are often used interchangeably, they are not the same thing. A \_\_\_\_\_\_\_ is used to test different aspects of a product before the design is finalized. A \_\_\_\_\_\_ is used to demonstrate or explain how a product will look or function.**
	1. model, prototype
	2. prototype, model
7. **When following the engineering design loop, the different stages can occur in which direction?**
	1. clockwise
	2. counter-clockwise
	3. both clockwise and counter-clockwise
	4. in any direction, including shortcuts
8. **The engineering design process is iterative. This allows engineers to…**
	1. become proficient at different engineering software applications
	2. find the most optimal solution to a design problem
	3. Incorporate both math and science concepts into a design problem
9. **When finding the solution to an engineering design problem, there is/are usually…**
	1. only one possible correct solution
	2. a very limited number of possible correct solutions
	3. many possible correct solutions