Name: Date: Period:

Module: Engineering Design	Unit: Predictive Analytics - POM	EXPLAIN

Entrance Ticket: EDP Challenge

Learning Target:
I can understand the Engineering Design Process and apply that process to an Engineering design and build challenge.

Instructions:
Complete the following entrance quiz. Once you have scored all 9 questions correct and you feel comfortable and confident, then you may move on to the EDP: Design and Build Challenge.

Engineering Design Process (EDP)

1. In engineering, the design process begins when...
   a. information about an existing product is gathered by an engineer
   b. an engineering design team comes up with ideas for a new product
   c. 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?
   a. Identify the Need
   b. Research the Problem
   c. 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*?
    a. The shoes must be designed for kids
    b. The shoes must be made out of recycled materials
    c. The shoes must cost less than $20 to manufacture
4. During a brainstorming session we want to focus *more* on:
    a. quantity of ideas rather than quality
    b. quality of ideas rather than quantity
5. Which step of the engineering design loop distinguishes an engineer from a technician?
    a. Construct a Prototype
    b. Test and Evaluate a Prototype
    c. 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.
    a. model, prototype
    b. prototype, model
7.

8. When following the engineering design loop, the different stages can occur in which direction?
    a. clockwise
    b. counter-clockwise
    c. both clockwise and counter-clockwise
    d. in any direction, including shortcuts
9. The engineering design process is iterative. This allows engineers to...
    a. become proficient at different engineering software applications
    b. find the most optimal solution to a design problem
    c. Incorporate both math and science concepts into a design problem
10. When finding the solution to an engineering design problem, there is/are usually...
    a. only one possible correct solution
    b. a very limited number of possible correct solutions
    c. many possible correct solutions