The lists below are general examples, but they are not a complete list. Depending upon how the item is written, these descriptions may not always apply.

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| **Cognitive Skill** |  **Description** |
| ***Remembering***  | * **Identify or define a basic concept or term with little or no context**
* Recall facts with little or no context

*Does the item require recalling or remembering facts or definitions?* |
| ***Understanding*** | * **Describe, explain, or identify typical classroom examples for a tech/eng concept**
* Recognize or provide steps or components of a process or a system (e.g., engineering design process, communication system, manufacturing processes) in a typical situation
* Recognize appropriate use of tools and safety precautions for a given situation
* Solve simple quantitative problems using one formula with three variables (including data from simple series circuit diagrams), simple scale and proportion problems, and simple live, dead, and total load problems.
* Recognize and differentiate representations and descriptions of familiar models of engineering concepts

 *Does the item require the recognition or a description of a familiar concept?* |
| ***Applying*** | * **Describe, explain, or identify a technology/engineering concept for a novel situation**
* Draw conclusions and make predictions by comparing and contrasting information/data in novel situations
* Draw conclusions by interpreting information/data (including graphs and tables) or make predictions based on data (does not include “critical examination” of data, as is done for analyzing)
* Solve complex quantitative problems requiring more than one formula or problems with more than three variables (including calculations for hydraulic systems, complex series circuits, and complex resultant force problems)
* Describe or explain multiple processes or system components (e.g., engineering design process, communication system, and manufacturing processes) in a novel situation

The following apply to open-response items:* Describe or explain an engineering concept using familiar models in a novel situation
* Describe or explain appropriate use of tools and safety precautions

*Does the item require drawing conclusions based on novel information or solving complex problems?* |
| ***Analyzing*** | * **Critically examine and interpret data** (e.g., graphs with lines with differing slopes or tables with multiple variables), complex diagrams (e.g., parallel circuits), and novel engineering drawings to draw conclusions based on given information (Note: An item with a graph/table/diagram is not necessarily analyzing—it depends on how the information needs to be interpreted.)
* *Does* *the item require critical examination of information to make conclusions?*
 |
| ***Creating***  | * **Generate an explanation/conclusion** by combining **two or more technology/engineering concepts** or skills in a novel situation
* **Construct** models, graphs, charts, drawings, or diagrams **and generate explanations** or conclusions based on the information
* Propose solution(s) to a tech/eng problem based on given criteria and constraints and generate an explanation for the solution(s)

*Does the item require the synthesis of different concepts or skills to generate a solution?* |
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