



## Characteristics of Skills

### Applied Mathematics

Level	Characteristics of Items	Skills
3	<ul style="list-style-type: none"> <li>• Translate easily from a word problem to a math equation</li> <li>• All needed information is presented in logical order</li> <li>• No extra information</li> </ul>	<ul style="list-style-type: none"> <li>• Solve problems that require a single type of mathematics operation (addition, subtraction, multiplication, and division) using whole numbers</li> <li>• Add or subtract negative numbers</li> <li>• Change numbers from one form to another using whole numbers, fractions, decimals, or percentages</li> <li>• Convert simple money and time units (e.g., hours to minutes)</li> </ul>
4	<ul style="list-style-type: none"> <li>• Information may be presented out of order</li> <li>• May include extra, unnecessary information</li> <li>• May include simple charts, diagrams, or graphs</li> </ul>	<ul style="list-style-type: none"> <li>• Solve problems that require one or two operations</li> <li>• Multiply negative numbers</li> <li>• Calculate averages, simple ratios, simple proportions, or rates using whole numbers and decimals</li> <li>• Add commonly known fractions, decimals, or percentages (e.g., <math>\frac{1}{2}</math>, .75, 25%)</li> <li>• Add three fractions that share a common denominator</li> <li>• Multiply a mixed number by a whole number or decimal</li> <li>• Put the information in the right order before performing calculations</li> </ul>
5	<ul style="list-style-type: none"> <li>• Problems require several steps of logic and calculation (e.g., problem may involve completing an order form by totaling the order and then computing tax)</li> </ul>	<ul style="list-style-type: none"> <li>• Decide what information, calculations, or unit conversions to use to solve the problem</li> <li>• Look up a formula and perform single-step conversions within or between systems of measurement</li> <li>• Calculate using mixed units (e.g., 3.5 hours and 4 hours 30 minutes)</li> <li>• Divide negative numbers</li> <li>• Find the best deal using one- and two step calculations and then comparing results</li> <li>• Calculate perimeters and areas of basic shapes (rectangles and circles)</li> <li>• Calculate percentage discounts or markups</li> </ul>

6	<ul style="list-style-type: none"> <li>• May require considerable translation from verbal form to mathematical expression</li> <li>• Generally require considerable setup and involve multiple-step calculations</li> </ul>	<ul style="list-style-type: none"> <li>• Use fractions, negative numbers, ratios, percentages, or mixed numbers</li> <li>• Rearrange a formula before solving a problem</li> <li>• Use two formulas to change from one unit to another within the same system of measurement</li> <li>• Use two formulas to change from one unit in one system of measurement to a unit in another system of measurement</li> <li>• Find mistakes in items that belong at Levels 3, 4, and 5</li> <li>• Find the best deal and use the result for another calculation</li> <li>• Find areas of basic shapes when it may be necessary to rearrange the formula, convert units of measurement in the calculations, or use the result in further calculations</li> <li>• Find the volume of rectangular solids</li> <li>• Calculate multiple rates</li> </ul>
7	<ul style="list-style-type: none"> <li>• Content or format may be unusual</li> <li>• Information may be incomplete or implicit</li> <li>• Problems often involve multiple steps of logic and calculation</li> </ul>	<ul style="list-style-type: none"> <li>• Solve problems that include nonlinear functions and/or that involve more than one unknown</li> <li>• Find mistakes in Level 6 items</li> <li>• Convert between systems of measurement that involve fractions, mixed numbers, decimals, and/or percentages</li> <li>• Calculate multiple areas and volumes of spheres, cylinders, or cones</li> <li>• Set up and manipulate complex ratios or proportions</li> <li>• Find the best deal when there are several choices</li> <li>• Apply basic statistical concepts</li> </ul>

### Locating Information

Level	Characteristics of Graphics	Skills
3	<ul style="list-style-type: none"> <li>• Elementary workplace graphics such as simple order forms, bar graphs, tables, flowcharts, maps, instrument gauges, or floor plans</li> <li>• One graphic used at a time</li> </ul>	<ul style="list-style-type: none"> <li>• Find one or two pieces of information in a graphic</li> <li>• Fill in one or two pieces of information that are missing from a graphic</li> </ul>
4	<ul style="list-style-type: none"> <li>• Straightforward workplace graphics such as basic order forms, diagrams, line graphs, tables, flowcharts, instrument gauges, or maps</li> <li>• One or more graphics are used at a time</li> </ul>	<ul style="list-style-type: none"> <li>• Find several pieces of information in one or more graphics</li> <li>• Understand how graphics are related to each other</li> <li>• Summarize information from one or more straightforward graphics</li> <li>• Identify trends shown in one or more straightforward graphics</li> <li>• Compare information and trends shown in one or more straightforward graphics</li> </ul>

5	<ul style="list-style-type: none"> <li>• Complicated workplace graphics, such as detailed forms, tables, graphs, diagrams, maps, or instrument gauges</li> <li>• Graphics may have less common formats</li> <li>• One or more graphics are used at a time</li> </ul>	<ul style="list-style-type: none"> <li>• Sort through distracting information</li> <li>• Summarize information from one or more detailed graphics</li> <li>• Identify trends shown in one or more detailed or complicated graphics</li> <li>• Compare information and trends from one or more complicated graphics</li> </ul>
6	<ul style="list-style-type: none"> <li>• Very complicated and detailed graphs, charts, tables, forms, maps, and diagrams</li> <li>• Graphics contain large amounts of information and may have challenging formats</li> <li>• One or more graphics are used at a time</li> <li>• Connections between graphics may be subtle</li> </ul>	<ul style="list-style-type: none"> <li>• Draw conclusions based on one complicated graphic or several related graphics</li> <li>• Apply information from one or more complicated graphics to specific situations</li> <li>• Use the information to make decisions</li> </ul>

### Reading for Information

Level	Characteristics of Reading Materials and Items	Skills
3	<ul style="list-style-type: none"> <li>• Reading materials include basic company policies, procedures, and announcements</li> <li>• Reading materials are short and simple, with no extra information</li> <li>• Reading materials tell readers what they should do</li> <li>• All needed information is stated clearly and directly</li> <li>• Items focus on the main points of the passages</li> <li>• Wording of the questions and answers is similar or identical to the wording used in the reading materials</li> </ul>	<ul style="list-style-type: none"> <li>• Identify main ideas and clearly stated details</li> <li>• Choose the correct meaning of a word that is clearly defined in the reading</li> <li>• Choose the correct meaning of common, everyday and workplace words</li> <li>• Choose when to perform each step in a short series of steps</li> <li>• Apply instructions to a situation that is the same as the one in the reading materials</li> </ul>
4	<ul style="list-style-type: none"> <li>• Reading materials include company policies, procedures, and notices</li> <li>• Reading materials are straightforward, but have longer sentences and contain a number of details</li> <li>• Reading materials use common words, but do have some harder words, too</li> <li>• Reading materials describe procedures that include several steps</li> <li>• When following the procedures, individuals must think about changing conditions that affect what they should do</li> <li>• Questions and answers are often paraphrased from the passage</li> </ul>	<ul style="list-style-type: none"> <li>• Identify important details that may not be clearly stated</li> <li>• Use the reading material to figure out the meaning of words that are not defined</li> <li>• Apply instructions with several steps to a situation that is the same as the situation in the reading materials</li> <li>• Choose what to do when changing conditions call for a different action (follow directions that include “if-then” statements)</li> </ul>
5	<ul style="list-style-type: none"> <li>• Policies, procedures, and announcements include all of the information needed to finish a task</li> <li>• Information is stated clearly and directly, but the materials have many details</li> <li>• Materials also include jargon, technical terms, acronyms, or words that have</li> </ul>	<ul style="list-style-type: none"> <li>• Figure out the correct meaning of a word based on how the word is used</li> <li>• Identify the correct meaning of an acronym that is defined in the document</li> <li>• Identify the paraphrased definition of a technical term or jargon that is defined in the document</li> </ul>

	<p>several meanings</p> <ul style="list-style-type: none"> <li>• Application of information given in the passage to a situation that is not specifically described in the passage</li> <li>• There are several considerations to be taken into account in order to choose the correct actions</li> </ul>	<ul style="list-style-type: none"> <li>• Apply technical terms and jargon and relate them to stated situations</li> <li>• Apply straightforward instructions to a new situation that is similar to the one described in the material</li> <li>• Apply complex instructions that include conditionals to situations described in the materials</li> </ul>
<b>6</b>	<ul style="list-style-type: none"> <li>• Reading materials include elaborate procedures, complicated information, and legal regulations found in all kinds of workplace documents</li> <li>• Complicated sentences with difficult words, jargon, and technical terms</li> <li>• Most of the information needed to answer the items is not clearly stated</li> </ul>	<ul style="list-style-type: none"> <li>• Identify implied details</li> <li>• Use technical terms and jargon in new situations</li> <li>• Figure out the less common meaning of a word based on the context</li> <li>• Apply complicated instructions to new situations</li> <li>• Figure out the principles behind policies, rules, and procedures</li> <li>• Apply general principles from the materials to similar and new situations</li> <li>• Explain the rationale behind a procedure, policy, or communication</li> </ul>
<b>7</b>	<ul style="list-style-type: none"> <li>• Very complex reading materials</li> <li>• Information includes a lot of details</li> <li>• Complicated concepts</li> <li>• Difficult vocabulary</li> <li>• Unusual jargon and technical terms are used, but not defined</li> <li>• Writing often lacks clarity and direction</li> <li>• Readers must draw conclusions from some parts of the reading and apply them to other parts</li> </ul>	<ul style="list-style-type: none"> <li>• Figure out the definitions of difficult, uncommon words based on how they are used</li> <li>• Figure out the meaning of jargon or technical terms based on how they are used</li> <li>• Figure out the general principles behind the policies and apply them to situations that are quite different from any described in the materials</li> </ul>