Multiple Choice Item Analyzers
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There are two parts to every multiple choice item:
complexity of task and
complexity of text.

Complexity of Text: A valid and reliable reading test will use a text that is at the comprehension level a student in a grade level can understand. Levels of text complexity are difficult to determine—it's not just sentence length, number of syllables, length of a passage. "Concept load"—the level of abstractness of a text—is impossible to measure with a formula. For example, "To be, or not to be," is at the 2nd grade level. But a 7-year-old won't comprehend the intended meaning of that phrase.

Complexity of TASK
You can figure out the complexity of a task—the level of skill required—by analyzing what the student needs to do to respond to it correctly.

A multiple choice question is a simple single step process if students can answer it by recalling information or locating literal information.

TEXT: A penguin is a bird. It has feathers. It does not fly. But it does have wings. Those wings are very short. Penguins use the wings to swim not to fly. Penguins eat fish. Penguins live in places near water so they can get food.

1. Penguins have
    a. bird   b. fish   c. feathers   d. big wings

What steps would a student need to take to answer question 1?

A question is a **multi-step/multi-skill** sequence if students need to apply one or more of these skills to process the text:
Apply a rule or pattern   Analyze   Infer   Evaluate   Synthesize

2. If a penguin is hungry, the penguin will get to its food by
    a. flying   b. swimming   c. looking   d. eating

What steps would a student need to take to answer question 2?

Bloom's Taxonomy can be used to identify level of challenge.

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LEVEL	Actions	Products
Knowledge	define, describe, duplicate, label, locate, list, memorize, recall, repeat, reproduce, state	glossary, list
Comprehension	classify, collect, describe, explain, identify, illustrate, paraphrase, recognize, report, restate, translate	chart, drawing, sequence chart, timeline
Application	adapt, change, choose, demonstrate, employ, illustrate, interpret, operate, schedule, sketch, solve, use	illustration, model, report
Analysis	categorize, compare, contrast, differentiate, discriminate, distinguish, examine, experiment, predict, organize, question, select	diagram, flowchart, presentation, report
Evaluation	appraise, argue, criticize, defend, evaluate, judge, rank, select, sort, support, value	editorial, rating, report, speech
Synthesis	combine, connect, integrate, relate	artwork, article, booklet, exhibit, poem, report, speech, story
Synthesis with Creativity *New category added in the 1990s.*	assemble, construct, create, design, develop, dramatize, formulate, invent	artwork, booklet, exhibit, poem, report, speech, story

You can use Depth of Knowledge to identify level of challenge.

Depth of Knowledge (DOK)
Source: Colorado Department of Education

Level 1
• Requires students to recite or recall of information including fact, formula, or simple procedure.
• May be asked to demonstrate a rote response, use a well-known formula, follow a set procedure (like a recipe), or perform a clearly defined series of steps.

Level 2
• Requires some mental processing beyond a habitual response.
• Requires students to make some decisions on how to approach a task or problem

Level 3
• Requires reasoning, planning, using evidence and in most cases to "explain their thinking."
• Requires students to go beyond; to explain, to generalize, or connect ideas

Level 4 -
• Requires some complex reasoning, planning, developing and thinking over an extended period of time.
• May be asked to develop a hypothesis and perform complex analysis

Analyze the Task Complexity of an NWEA item.

Choose an item from their practice test.

https://warmup.nwea.org/map_student_menu.html

Skill Sequence: What steps does a student need to take to answer it?

Teacher Support:
How would you guide a student who chooses the wrong answer?

Skill Sequence: What steps does a student need to take to answer it?