

## Calculating Question (Item) Level of Difficulty

If you do not have access to WNYRIC's **Question Analysis Report**, you can probably calculate the values using information from your regional information center. Most RICs have a Regional Benchmark Cut Point Report that will allow one to go through this process. WNYRIC's looks like this:

### Regional Benchmark (Cutpoints) - Regents - MC Analysis

This report shows the percentage of students who got each question correct at various cutpoint levels, for the selected school year and assessment.

2017		Assessment: Regents Phy Set/Earth Sci - Jun									
Key Idea	Performance Indicator	Question	District Success Rate	Regional Success Rate (N=33098)	Regional High 1 SS=54 RS=41 (N=269)	Regional Low 2 SS=55 RS=42 (N=293)	Regional High 2 SS=64 RS=50 (N=360)	Regional Low 3 SS=65 RS=51 (N=487)	Regional High 3 SS=84 RS=74 (N=981)	Regional Low 4 SS=85 RS=78 (N=789)	Regional High 4 SS=100 RS=101 (N=44)
The Earth and celestial phenomena can be described by principles of relative motion and perspective.	Describe current theories about the origin of the universe and solar system.	A-09	77%	68%	47%	50%	54%	55%	75%	74%	100%
		A-12	85%	76%	52%	53%	64%	66%	85%	88%	100%
		A-26	64%	47%	14%	13%	21%	20%	54%	57%	100%
		B1-39	63%	54%	32%	38%	36%	39%	56%	58%	100%
		B1-41	65%	53%	23%	28%	36%	36%	58%	63%	100%
		B1-42	62%	44%	19%	18%	16%	17%	49%	53%	100%

We're mainly concerned with three columns in this thing; the item number, the low 3 cut values, and the low 4 cut values. (If you have an urge to figure out the difference between Level 1 and Level 2 question, you could use the low 2 cut values as well, but I'm not certain that really provides much particularly useful information.)

In the low 4 column, highlight all of the values that are LOWER than .67. Those will be your Level 4 questions — questions intended to be challenging for those top students. Do the same thing with the low 3 column — don't change the questions already marked as Level 4 questions. This second set of questions, the Level 3 questions, will be challenging for students at Level 3. Everything that's not highlighted is either a Level 2 or a Level 1 question. Proficient students should be able to answer most of the Level 1 and Level 2 questions without too much difficulty. Here's how that should look:

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		A-26	64%	47%	14%	13%	21%	20%	54%	57%	100%
		B1-39	63%	54%	32%	38%	36%	39%	56%	58%	100%
		B1-41	65%	53%	23%	28%	36%	36%	58%	63%	100%
		B1-42	62%	44%	19%	18%	16%	17%	49%	53%	100%
Explain complex phenomena, such as tides, variations in day length, solar insolation, apparent motion of the planets, and annual traverse of the constellations.		A-06	79%	70%	50%	51%	54%	54%	76%	80%	100%
		A-07	58%	49%	31%	32%	33%	34%	51%	48%	100%
		A-11	78%	64%	28%	32%	42%	41%	77%	77%	100%
		A-14	80%	64%	29%	35%	40%	43%	74%	78%	100%
		A-32	55%	48%	25%	24%	37%	35%	51%	54%	100%
		B1-36	84%	76%	59%	63%	65%	67%	82%	82%	100%
		B1-37	77%	69%	38%	40%	51%	47%	79%	80%	100%
		B1-38	71%	56%	27%	32%	37%	36%	61%	63%	100%

The above describes the process for assessments having four levels. The newer common core regents exams have five levels. The calculation process is identical except that the first selection (for level 5 items) begins by examining student performance at the level 5 cut point.