DIBELS® Math
Preliminary Benchmark Goals and Composite Scores

June 10, 2014

Please note, the preliminary benchmark goals for third grade were removed because they were no longer applicable since the timing of the Computation measure changed starting with the 2014-2015 school year. Please use local normative information for third grade.

The benchmark goals for the Concepts and Applications measures, the Computation measures in third and sixth grade, and Composite scores for second through sixth grade are anticipated to be available for the 2015-2016 school year.

Benchmark Goals

DIBELS Math *benchmark goals* are empirically derived, criterion-referenced target scores that represent adequate early numeracy or computation progress for students in preschool. A benchmark goal indicates a level of skill where the student is likely to achieve the next DIBELS Math benchmark goal or early numeracy or computation outcome. Benchmark goals for DIBELS Math are based on research that examines the predictive validity of a score on a measure at a particular point in time, compared to later DIBELS Math measures and compared to external outcome assessments. If a student achieves a benchmark goal, then the odds are in favor of that student achieving later early numeracy or computation outcomes if he/she receives generally effective instructional support and learning opportunities.

Benchmark Goal Research

These DIBELS Math benchmark goals, cut points for risk, and Composite Scores were developed based upon a study conducted during the 2012-2013 school year. The goals represent a series of conditional probabilities of meeting later important early numeracy or computation outcomes. Two outcome criteria were used to develop and evaluate the benchmark goals and cut points for risk: (a) the Group Mathematics Assessment and Diagnostic Evaluation total raw score (G-MADE; Williams, 2004) administered at the end of the year; and (b) the DIBELS Math Composite or Computation score administered at the subsequent benchmark assessment time. The 40th percentile on the G-MADE total raw score was used as an indicator that the student was making adequate progress in acquisition of important early numeracy or computation skills. Data for the study were collected in 4 schools in 4 states. Participants in the study were 1,010 students across general education classrooms who were receiving English instruction, including students with disabilities and students who were English language learners provided they had the response capabilities to participate. The study included both students who were struggling in early numeracy or computation and those who were typically achieving. Additional information about the study will be included in the *DIBELS Math Technical Manual*, which will be available in the future.

Cut Points for Risk

The *cut points for risk* indicate a level of skill below which the student is unlikely to achieve subsequent early numeracy or computation goals without receiving additional, targeted instructional support. Students with scores below the cut point for risk are identified as likely to need intensive support. Intensive support refers to interventions that incorporate something more or something different from the core curriculum or supplemental support. Intensive support might entail:

- delivering explicit instruction in a smaller group,
- providing more instructional time or more practice,
- presenting smaller skill steps in the instructional hierarchy,
- providing more explicit modeling and instruction, and/or

- providing greater scaffolding and practice

Because students needing intensive support are likely to have individual and sometimes unique needs, we recommend that their progress be monitored more frequently and their intervention modified dynamically to ensure adequate progress. DIBELS Math progress monitoring every week or once every two weeks may be appropriate for students who are likely to need intensive instructional support.

Between a benchmark goal and a cut point for risk is a range of scores where the student's future performance is harder to predict. To ensure that the greatest number of students achieve later early numeracy or computation success, it is best for students with scores in this range to receive carefully targeted additional support in the skill areas where they are having difficulty, to be monitored regularly to ensure that they are making adequate progress, and to receive increased or modified support if necessary to achieve subsequent early numeracy or computation goals. This type of instructional support is referred to as strategic support. For students who are likely to need strategic support, DIBELS Math progress monitoring once every two weeks or monthly.

Table 1 provides the target or design odds of achieving later early numeracy or computation outcomes and the corresponding labels for likely need for support for each of the score levels. Benchmark goals and cut points for risk are provided for the DIBELS Math Composite Scores as well as for individual DIBELS Math measures.

Table 1. Design or Target Odds of Achieving Subsequent Early Numeracy or Computation Goals, DIBELS Math Benchmark Score Levels, and Likely Need for Support

Target odds of achieving subsequent early numeracy or computation goals	**Visual Representation**	**DIBELS Math Score Level**	**Likely need for support to achieve subsequent early numeracy or computation goals**
80% to 90%	■	At or Above Benchmark *scores at or above the benchmark goal*	Likely to Need Core Support
40% to 60%	◪	Below Benchmark *scores below the benchmark goal and at or above the cut point for risk*	Likely to Need Strategic Support
10% to 20%	□	Well Below Benchmark *scores below the cut point for risk*	Likely to Need Intensive Support

DIBELS Math Composite Score

The DIBELS Math Composite Score and the DIBELS Math Early Numeracy Composite Score are combinations of multiple DIBELS Math component scores that provide the best overall estimate of the student's early numeracy or computation skills. The DIBELSnet data management service will calculate the Math Composite Score and Early Numeracy Composite Score for you.

Benchmark goals and cut points for risk for the DIBELS Math Composite Score are based on the same logic and procedures as the individual DIBELS Math measures; however, since the DIBELS Math Composite Score provides the best overall estimate of a student's skills, the DIBELS Math Composite Score should generally be interpreted first. If a student is at or above the benchmark goal on the DIBELS Math Composite Score, the odds are in the student's favor of reaching later important early numeracy or computation outcomes. Some students who score at or above the DIBELS Math Composite Score benchmark goal may still need additional support in one of the basic early numeracy or computation skills, as indicated by a below benchmark score on an individual DIBELS Math measure, especially for students whose composite score is close to the benchmark goal.

DIBELS Math Benchmark Goals and Cut Points for Risk for Kindergarten Children

DIBELS Math Measure	DIBELS Math Score Level	Likely Need for Support	Beginning of Year	Middle of Year	End of Year
DIBELS Math Early Numeracy Composite Score	At or Above Benchmark	Likely to Need Core Support	27+	48+	75+
	Below Benchmark	Likely to Need Strategic Support	11 - 26	31 - 47	51 - 74
	Well Below Benchmark	Likely to Need Intensive Support	0 - 10	0 - 30	0 - 50
Beginning Quantity Discrimination (BQD)	At or Above Benchmark	Likely to Need Core Support	5+	8+	11+
	Below Benchmark	Likely to Need Strategic Support	2 - 4	4 - 7	7 - 10
	Well Below Benchmark	Likely to Need Intensive Support	0 - 1	0 - 3	0 - 6
Number Identification Fluency (NIF)	At or Above Benchmark	Likely to Need Core Support	6+	13+	23+
	Below Benchmark	Likely to Need Strategic Support	3 - 5	7 - 12	13 - 22
	Well Below Benchmark	Likely to Need Intensive Support	0 - 2	0 - 6	0 - 12
Next Number Fluency (NNF)	At or Above Benchmark	Likely to Need Core Support	5+	10+	12+
	Below Benchmark	Likely to Need Strategic Support	1 - 4	6 - 9	9 - 11
	Well Below Benchmark	Likely to Need Intensive Support	0	0 - 5	0 - 8

The benchmark goal is the number provided in the At or Above Benchmark row. The cut point for risk is the first number provided in the Below Benchmark row. At the beginning and middle of year, the DIBELS Math Composite is 2 * BQD + 1 * NIF + 2 * NNF. At the end of year, the DIBELS Math Composite is 2 * BQD + 1 * NIF + 3 * NNF.

DIBELS Math Benchmark Goals and Cut Points for Risk for First Grade Children

DIBELS Math Measure	DIBELS Math Score Level	Likely Need for Support	Beginning of Year	Middle of Year	End of Year
DIBELS Math Composite Score	At or Above Benchmark	Likely to Need Core Support	116+	43+	51+
	Below Benchmark	Likely to Need Strategic Support	70 - 115	31 - 42	40 - 50
	Well Below Benchmark	Likely to Need Intensive Support	0 - 69	0 - 30	0 - 39
Number Identification Fluency (NIF)	At or Above Benchmark	Likely to Need Core Support	27+		
	Below Benchmark	Likely to Need Strategic Support	14 - 26		
	Well Below Benchmark	Likely to Need Intensive Support	0 - 13		
Next Number Fluency(NNF)	At or Above Benchmark	Likely to Need Core Support	12+		
	Below Benchmark	Likely to Need Strategic Support	7 - 11		
	Well Below Benchmark	Likely to Need Intensive Support	0 - 6		
Advanced Quantity Discrimination (AQD)	At or Above Benchmark	Likely to Need Core Support	10+	18+	20+
	Below Benchmark	Likely to Need Strategic Support	5 - 9	13 - 17	15 - 19
	Well Below Benchmark	Likely to Need Intensive Support	0 - 4	0 - 12	0 - 14
Missing Number Fluency (MNF)	At or Above Benchmark	Likely to Need Core Support	4+	7+	9+
	Below Benchmark	Likely to Need Strategic Support	2 - 3	5 - 6	7 - 8
	Well Below Benchmark	Likely to Need Intensive Support	0 - 1	0 - 4	0 - 6
Computation (Comp)	At or Above Benchmark	Likely to Need Core Support	5+	9+	13+
	Below Benchmark	Likely to Need Strategic Support	2 - 4	5 - 8	9 - 12
	Well Below Benchmark	Likely to Need Intensive Support	0 - 1	0 - 4	0 - 8

The benchmark goal is the number provided in the At or Above Benchmark row. The cut point for risk is the first number provided in the Below Benchmark row. At the beginning of year, the DIBELS Math Composite is 1 * NIF + 3 * NNF + 2 * AQD + 5 * MNF + 4 * Comp. At the middle of year, the DIBELS Math Composite is 1 * AQD + 2 * MNF + 1 * Comp. At the end of year, the DIBELS Math Composite is 1 * AQD + 2 * MNF + 1 * Comp.

DIBELS Math Benchmark Goals and Cut Points for Risk for Second Grade Children

DIBELS Math Measure	DIBELS Math Score Level	Likely Need for Support	Beginning of Year	Middle of Year	End of Year
DIBELS Math Computation (Comp)	At or Above Benchmark	Likely to Need Core Support	7+	10+	13+
	Below Benchmark	Likely to Need Strategic Support	4 - 6	7 - 9	10 - 12
	Well Below Benchmark	Likely to Need Intensive Support	0 - 3	0 - 6	0 - 9

The benchmark goal is the number provided in the At or Above Benchmark row. The cut point for risk is the first number provided in the Below Benchmark row.

DIBELS Math Benchmark Goals and Cut Points for Risk for Third Grade Children

The third grade goals are no longer applicable since the timing of the Computation measure changed starting with the 2014-2015 school year. Please use local normative information.

DIBELS Math Benchmark Goals and Cut Points for Risk for Fourth Grade Children

DIBELS Math Measure	DIBELS Math Score Level	Likely Need for Support	Beginning of Year	Middle of Year	End of Year
DIBELS Math Computation (Comp)	At or Above Benchmark	Likely to Need Core Support	18+	29+	42+
	Below Benchmark	Likely to Need Strategic Support	13 - 17	21 - 28	31 - 41
	Well Below Benchmark	Likely to Need Intensive Support	0 - 12	0 - 20	0 - 30

The benchmark goal is the number provided in the At or Above Benchmark row. The cut point for risk is the first number provided in the Below Benchmark row.

DIBELS Math Benchmark Goals and Cut Points for Risk for Fifth Grade Children

DIBELS Math Measure	DIBELS Math Score Level	Likely Need for Support	Beginning of Year	Middle of Year	End of Year
DIBELS Math Computation (Comp)	At or Above Benchmark	Likely to Need Core Support	29+	48+	53+
	Below Benchmark	Likely to Need Strategic Support	16 - 28	31 - 47	37 - 52
	Well Below Benchmark	Likely to Need Intensive Support	0 - 15	0 - 30	0 - 36

The benchmark goal is the number provided in the At or Above Benchmark row. The cut point for risk is the first number provided in the Below Benchmark row.

Odds of Achieving Important Early Numeracy Outcomes from Benchmark Goal Research for Kindergarten Children

DIBELS Math Measure	DIBELS Math Score Level	Odds of being on track on the middle of year DIBELS Math Early Numeracy Composite Score based on the beginning of year DIBELS Math measure	Odds of being on track on the end of year DIBELS Math Early Numeracy Composite Score based on the middle of year DIBELS Math measure	Odds of being on track on the end of year G-Made total raw score based on the end of year DIBELS Math measure
DIBELS Math Early Numeracy Composite Score	At or Above Benchmark	87%	89%	80%
	Below Benchmark	42%	38%	53%
	Well Below Benchmark	13%	9%	21%
Beginning Quantity Discrimination (BQD)	At or Above Benchmark	78%	83%	81%
	Below Benchmark	48%	48%	67%
	Well Below Benchmark	26%	23%	14%
Number Identification Fluency (NIF)	At or Above Benchmark	81%	86%	80%
	Below Benchmark	40%	39%	72%
	Well Below Benchmark	11%	19%	32%
Next Number Fluency (NNF)	At or Above Benchmark	83%	84%	72%
	Below Benchmark	43%	38%	70%
	Well Below Benchmark	18%	13%	52%

Note. This table shows the odds of being on track for the DIBELS Math Early Numeracy Composite Score at the middle and end of the year, based on the student's DIBELS Math Scores at the beginning and middle of the year. At the beginning and middle of year, the DIBELS Math Composite is 2 * BQD + 1 * NIF + 2 * NNF. At the end of year, the DIBELS Math Composite is 2 * BQD + 1 * NIF + 3 * NNF.

Odds of Achieving Important Early Numeracy Outcomes from Benchmark Goal Research for First Grade Children

DIBELS Math Measure	DIBELS Math Score Level	Odds of being on track on the middle of year DIBELS Math Composite Score based on the beginning of year DIBELS Math measure	Odds of being on track on the end of year DIBELS Math Composite Score based on the middle of year DIBELS Math measure	Odds of being on track on the end of year G-Made total raw score based on the end of year DIBELS Math measure
DIBELS Math Composite Score	At or Above Benchmark	85%	91%	80%
	Below Benchmark	36%	44%	50%
	Well Below Benchmark	10%	9%	19%
Number Identification Fluency (NIF)	At or Above Benchmark	85%		
	Below Benchmark	41%		
	Well Below Benchmark	11%		
Next Number Fluency(NNF)	At or Above Benchmark	81%		
	Below Benchmark	43%		
	Well Below Benchmark	16%		
Advanced Quantity Discrimination (AQD)	At or Above Benchmark	82%	86%	81%
	Below Benchmark	38%	44%	38%
	Well Below Benchmark	11%	13%	26%
Missing Number Fluency (MNF)	At or Above Benchmark	78%	83%	76%
	Below Benchmark	37%	41%	54%
	Well Below Benchmark	14%	15%	22%
Computation (Comp)	At or Above Benchmark	79%	82%	79%
	Below Benchmark	43%	44%	47%
	Well Below Benchmark	31%	18%	17%

Note. This table shows the odds of being on track for the DIBELS Math Composite Score at the middle and end of the year, based on the student's DIBELS Math Scores at the beginning and middle of the year. At the beginning and middle of year, the DIBELS Math Composite is 1 * NIF + 3 * NNF + 2 * AQD + 5 * MNF + 4 * Comp. At the middle of year, the DIBELS Math Composite is 1 * AQD + 2 * MNF + 1 * Comp. At the end of year, the DIBELS Math Composite is 1 * AQD + 2 * MNF + 1 * Comp.

Odds of Achieving Important Early Numeracy Outcomes from Benchmark Goal Research for Second Grade Children

DIBELS Math Measure	DIBELS Math Score Level	Odds of being on track on the middle of year DIBELS Math Computation based on the beginning of year DIBELS Math measure	Odds of being on track on the end of year DIBELS Math Computation based on the middle of year DIBELS Math measure	Odds of being on track on the end of year G-Made total raw score based on the end of year DIBELS Math measure
DIBELS Math Computation (Comp)	At or Above Benchmark	80%	83%	84%
	Below Benchmark	49%	41%	71%
	Well Below Benchmark	20%	21%	10%

Note. This table shows the odds of being on track for the DIBELS Math Computation at the middle and end of the year, based on the student's DIBELS Math Scores at the beginning and middle of the year.

Odds of Achieving Important Early Numeracy Outcomes from Benchmark Goal Research for Fourth Grade Children

DIBELS Math Measure	DIBELS Math Score Level	Odds of being on track on the middle of year DIBELS Math Computation based on the beginning of year DIBELS Math measure	Odds of being on track on the end of year DIBELS Math Computation based on the middle of year DIBELS Math measure	Odds of being on track on the end of year G-Made total raw score based on the end of year DIBELS Math measure
DIBELS Math Computation (Comp)	At or Above Benchmark	81%	83%	82%
	Below Benchmark	40%	41%	38%
	Well Below Benchmark	17%	17%	27%

Note. This table shows the odds of being on track for the DIBELS Math Computation at the middle and end of the year, based on the student's DIBELS Math Scores at the beginning and middle of the year.

Odds of Achieving Important Early Numeracy Outcomes from Benchmark Goal Research for Fifth Grade Children

DIBELS Math Measure	DIBELS Math Score Level	Odds of being on track on the middle of year DIBELS Math Computation based on the beginning of year DIBELS Math measure	Odds of being on track on the end of year DIBELS Math Computation based on the middle of year DIBELS Math measure	Odds of being on track on the end of year G-Made total raw score based on the end of year DIBELS Math measure
DIBELS Math Computation (Comp)	At or Above Benchmark	84%	84%	81%
	Below Benchmark	46%	41%	55%
	Well Below Benchmark	23%	9%	22%

Note. This table shows the odds of being on track for the DIBELS Math Computation at the middle and end of the year, based on the student's DIBELS Math Scores at the beginning and middle of the year.