

Getting the most from your data . . .



**January 20, 2009
and
January 28, 2009**

***Miami-Dade County Public Schools
Student Assessment and Educational Testing***

Identify Need

- Reporting
 - Progress over time
 - Content mastery
- General trends
 - Common weaknesses
 - Particular strengths
- Specific students needing remediation



Identify Source

- Teacher-made tests
- Textbook chapter tests
- Interim Assessments
- DIBELS
- FCAT
- CELLA



Identify Data to be Examined

- Average overall scores
 - Number correct
 - Percent items correct
 - Scale scores
 - Achievement levels
- Summaries by student performance
 - Define criteria (i.e., scoring a certain percentage correct or achievement level)
 - Percent students meeting that criteria



What do you look at?

Data Sources

- Existing data reports
- Edusoft scoring / reports
- Self-analysis

Level of Analysis

- Student
- Class/Teacher
- School
- District

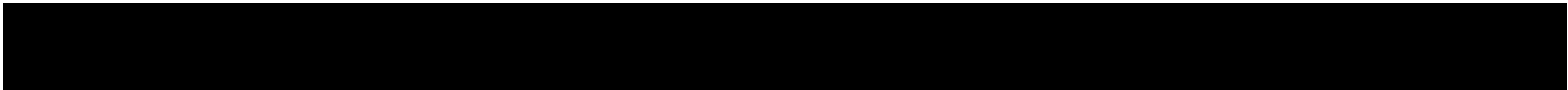
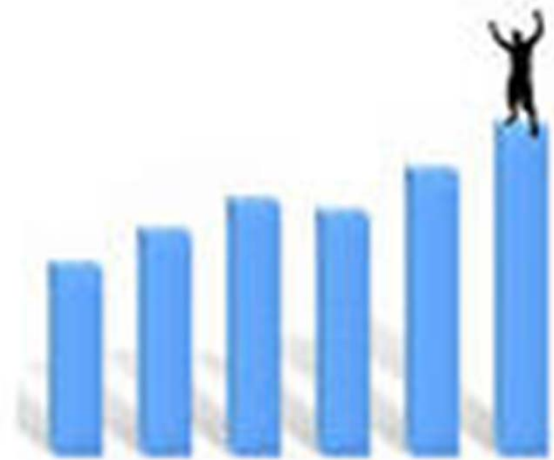


Goals for Screencast

- Introduce the ***Assess, Analyze, Act*** process
- Examine key data elements that help to make assessment results meaningful
- Model the ***Collaborative Debriefing*** process
 - Among school staff
 - In the classroom with students
- Increase capacity for using data to guide instruction.



Using Data to Guide Instruction



What do you hope to accomplish?

School – level decisions

- Diagnostics - determine students' strengths and weaknesses
- Instructional – spend more time on a skill, skip the review, or stick to the instructional plan
- Grading - end of unit test, midterm, or final exam
- Remediation
- Conference with student/parent

Student-level decisions

- Address needs indentified through progress reporting (School Improvement, Differentiated Accountability)
- Alter existing programs and strategies
- Development of individualized programs



Assess, Analyze, Act

- Collect and review common assessment data
- Disaggregate data by subgroup
- Analyze results
- Identify students' needs
- Implement academic focus or interventions



Assess

Administer appropriate measures

- Formative Assessment
 - Baseline Benchmark Assessments
 - Interim Assessments

- Summative Assessments
 - Florida Comprehensive Assessment Tests
 - Mid-term and Final Examinations



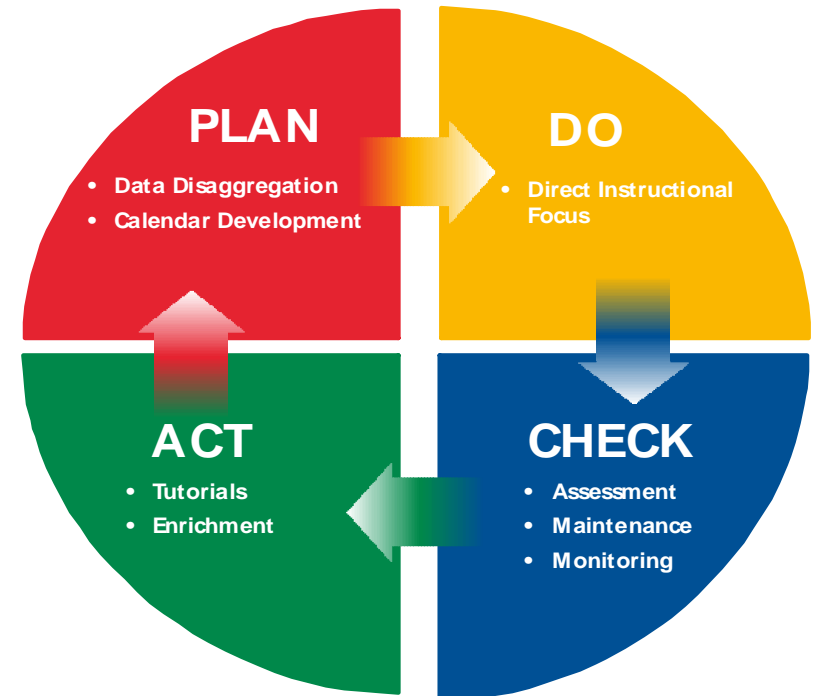
Assess: Snapshot of Data

- ❑ Retrieve and print school-wide reports for each subject area/ grade level and subgroup
- ❑ Generate summaries pertinent to your goal
 - Performance by strand and/or benchmark
 - Overall performance and percentage of mastery and non mastery
- ❑ Unit of analysis:
 - School-wide
 - Teacher/class
 - Individual student



Leadership Team

- Review assessment data by grade level and content
- Disaggregate data to discover trends
- Aggregate data from multiple tests to monitor student progress
- Analyze results
- Plan for enrichment, intervention, reteaching, and classroom assessment



No blame . . .



No shame . . .



No excuses . . .



Analyze

Collaborative Debriefing: Administration and Teachers

- Provide summary of school-wide findings
- Discuss test results as a two-way communication channel
- Consider what is important to the performance of the school, grade, and subgroup
- Provide teachers with their own classroom reports
- Request that teachers begin to look at their classroom data by:
 - Overall performance and percentage of mastery and non mastery (Performance Band Report)
 - Performance by strand, and/or cluster (Class List Report)
 - Individual item analysis (Item Analysis Report)



Structured Teacher Planning Time

Common planning time for each grade level/content areas to identify trends and sources of support.

Assemble materials for review:

- a. Summary of school-wide findings
- b. Classroom reports for each teacher (Class List Report, Item Analysis Report, and Item Response Report)
- c. Copies of test to examine items relating to problematic benchmarks
- d. Copies of “Unwrapping the Benchmark Learning Target Form”

Analysis tasks should include:

- Identify patterns and trends across classrooms using overall classroom reports
- Select representative problematic benchmark
- Conduct a distractor analysis
- Unwrap problematic benchmark



Identify Patterns and Trends

- ❑ Review and compare results across classrooms (and common assessments to determine similarities and differences
- ❑ Identify percentage of students in each performance group
- ❑ Determine acceptable level of student performance

Per Band Performance:

Band	Range	# Students	%	20	40	60	80
Insufficient Progress	0.00-23.99	20	27%	■			
Limited Progress	24.00-27.99	9	12%	■			
Satisfactory Progress	28.00-50.0	44	60%	■			



Select Representative Problematic Benchmark

- ❑ Identify target strands/standards
- ❑ Analyze strengths and weaknesses by benchmark using Item Analysis Report

Per Standard Performance

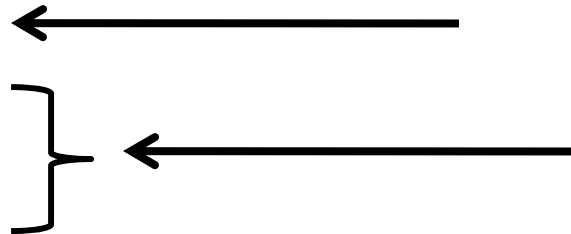
Standard	Avg Score:	
MA.A.1.2: MA.A.1.2.1	2.67/4 (67%)	N/A
MA.A.1.2: MA.A.1.2.2	2.53/4 (63%)	N/A
MA.A.2.2: MA.A.2.2.1	2.77/4 (69%)	N/A
MA.A.3.2: MA.A.3.2.1	3.76/6 (63%)	N/A
MA.A.3.2: MA.A.3.2.2	2.65/4 (66%)	N/A
MA.A.4.2: MA.A.4.2.1	1.65/4 (41%)	N/A
MA.B.1.2: MA.B.1.2.2	2.03/4 (51%)	N/A
MA.B.2.2: MA.B.2.2.2	2.05/4 (51%)	N/A
MA.B.3.2: MA.B.3.2.1	1.56/4 (39%)	N/A
MA.C.1.2: MA.C.1.2.1	1.67/4 (42%)	N/A
MA.D.1.2: MA.D.1.2.1	2.54/4 (63%)	N/A
MA.E.1.2: MA.E.1.2.1	2.17/4 (54%)	N/A

-MA.B.3.2: MA.B.3.2.1 - The student solves real-world problems involving estimates of measurements, including length, time, weight, temperature, money, perimeter, area, and volume.

Multiple-Choice: 10, 13, 22, 24, 29

-MA.A.4.2: MA.A.4.2.1 - The student uses and justifies different estimation strategies in a real-world problem situation and determines the reasonableness of results of calculations in a given problem situation.

Multiple-Choice: 26, 36, 40, 46



Analyze Strengths and Weaknesses

Question Group Performance:

Question Group	Avg Score:	Band:
A. Number Sense, Concepts, and Operations	16.03/26 (62%)	N/A (0.00-26.0)
B. Measurement	5.65/12 (47%)	N/A (0.00-12.0)
C. Geometry and Spatial Sense	1.67/4 (42%)	N/A (0.00-4.0)
D. Algebraic Thinking	2.54/4 (63%)	N/A (0.00-4.0)
E. Data Analysis and Probability	2.17/4 (54%)	N/A (0.00-4.0)


Item Analysis:

Multiple-Choice

Question #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Average Points	0.50	0.67	0.70	0.54	0.41	0.41	0.52	0.54	0.56	0.72	0.66	0.35	0.73	0.62	0.61	0.80	0.58	0.61	0.67	0.93	0.75	0.61	0.35	0.32	0.73
Points Possible	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Most Freq. Incorrect	C	I	B	H	B	I	C	H	B	I	A	F	D	F	A	H	A	I	D	I	B	G	A	G	C
Correct Answer	B	H	C	I	A	G	B	G	C	H	B	G	C	H	B	G	D	G	B	F	A	H	C	H	D
Question #	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Average Points	0.39	0.60	0.46	0.12	0.52	0.50	0.56	0.67	0.75	0.78	0.37	0.65	0.63	0.44	0.53	0.61	0.35	0.69	0.58	0.37	0.36	0.67	0.54	0.73	0.29
Points Possible	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Most Freq. Incorrect	H	A	I	D	H	A	F	D	H	C	G	A	G	D	G	C	H	A	G	D	H	A	I	A	F
Correct Answer	I	C	G	A	I	B	G	B	I	A	H	B	F	C	H	D	G	C	I	C	I	B	F	D	G



Item Analysis Quick Reference Sheet

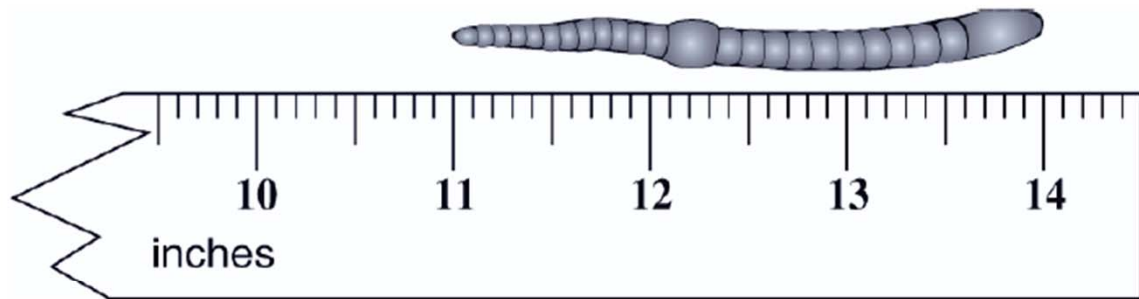
Question Group	Item	% Correct	Discrimination	A	B	C	D	F	G	H	I	OMITTED
Main Idea, Plot, and Purpose	Section 1 -> 16	44% 	1.00	0	0	0	0	44.4*	22.2	5.6	16.7	11.1

Terminology	Meaning	Interpretation	Item Statistic	Indicator	Instructional Focus Question(s)
% Correct –P-value (Difficulty index)	Measure of the percentage of students answering an item correctly.	<ul style="list-style-type: none"> 44%, or nearly half of the students answered this item correctly The difficulty level (P-value) of the item is 0.44 	<ul style="list-style-type: none"> P-value < 0.25 indicates a difficult item P-value > 0.95 indicates an easy item 	<ul style="list-style-type: none"> Relevant for determining whether students have learned the concept being tested. Adequate numbers of easy and difficult items allow students with achievement levels of both extremes to be measured. 	<ul style="list-style-type: none"> Was the item easy or difficult for the examinees? Are the results for other items from this benchmark/strand similar? Was the content covered adequately?
Discrimination (Point-Biserial)	Correlation of a student's response to that item and their total score. The discrimination index is a measure of the question's ability to differentiate between high and low scorers on the test.	<ul style="list-style-type: none"> This item answered correctly by students who have the general knowledge/skill being measured by the test 	<ul style="list-style-type: none"> Items with Point-Biserial >.30 discriminate sufficiently between low and high abilities. 	<ul style="list-style-type: none"> Positive Point-Biserial indexes indicate students having high test scores on the test performed well on the item. Negative Point-Biserial indexes indicate that students having low test scores answered the item correctly, while higher scoring students answered it incorrectly. Denotes misunderstanding or mis-learning of the content. 	<ul style="list-style-type: none"> Is there a common misunderstanding of the content among students? How might the content be presented to clear up misconceptions?
Distractors (Answer Choices)	A comparison of the proportion of students choosing each response option.	<ul style="list-style-type: none"> Nearly half chose the correct answer, "F", but almost ¼ chose a distractor, "G". In-depth view of how students responded to the test item 	<ul style="list-style-type: none"> The percent of students selecting the correct answer (denoted with an asterisk) is the same as the P-value. Percentage of students selecting incorrect options (distractor) is displayed under the corresponding letter (A-I). 	<ul style="list-style-type: none"> Incorrect answer options are clues to students' misunderstanding of the content and thus should guide appropriate remediation. About an equal selection of all options is an indication of guessing. 	<ul style="list-style-type: none"> Why might students have chosen the distractor over the correct response? What common type of error is represented by each "popular" distractor? How would you re-teach the concept to address the misconception?
Omitted (Omit Rate)	Measure of the percentage of students not responding or marking options.	<ul style="list-style-type: none"> 11.1% of the students selected one (and only one) option 	<ul style="list-style-type: none"> Omit rate of over 5% should be reviewed. 	<ul style="list-style-type: none"> High omission rates could mean that students were not familiar with the item content. High omission rates on items at the end of a test could indicate that students did not have sufficient time to finish or were unmotivated. 	<ul style="list-style-type: none"> Did students have sufficient time to complete the assignment? Were students familiar with the content? Were they motivated?

Interpreting Student Responses

Item	% Correct	Discrimination	A	B	C	D	F	G	H	I	OMITTED
Multiple-Choice -> 29	11%	0.13	<u>10.9*</u>	<u>23.5</u>	<u>18.7</u>	<u>46.2</u>	0	0	0	0	<u>0.8</u>

29. Peter found a worm like the one shown below.



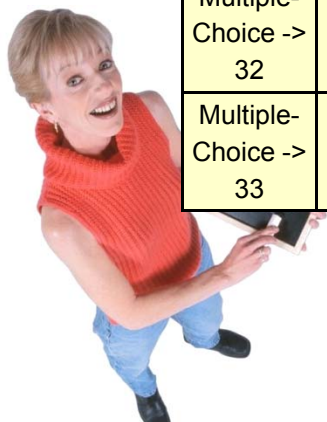
Which BEST represents the length of the worm?

- A. 3 inches
- B. 4 inches
- C. 11 inches
- D. 14 inches



Teacher Investigation Item Analysis

Item	% Correct	Discrimination	A	B	C	D	F	G	H	I	OMITTED
sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by
Multiple-Choice -> 29	11%	0.13	<u>10.9*</u>	<u>23.5</u>	<u>18.7</u>	<u>46.2</u>	0	0	0	0	<u>0.8</u>
Multiple-Choice -> 30	54%	0.27	0	0	0	0	<u>16.3</u>	<u>9</u>	<u>19.4</u>	<u>54.5*</u>	<u>0.8</u>
Multiple-Choice -> 31	57%	0.43	<u>21.3</u>	<u>57.1*</u>	<u>10.6</u>	<u>10.2</u>	0	0	0	0	<u>0.8</u>
Multiple-Choice -> 32	61%	0.52	0	0	0	0	<u>24.2</u>	<u>60.6*</u>	<u>7.3</u>	<u>7</u>	<u>0.9</u>
Multiple-Choice -> 33	73%	0.61	<u>5.1</u>	<u>73.3*</u>	<u>9.3</u>	<u>11</u>	0	0	0	0	<u>1.3</u>



Compare Results Across Classrooms

1. Janice wrote a number with a 6 in the tens place, a 0 in the ones place, and a 3 in the hundreds place. What number did she create?

- A. three hundred six
- B. three hundred sixty
- C. six hundred three
- D. six hundred thirty

Item	% Correct	Discrimination	A	B	C	D	F	G	H	I	OMITTED
sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by
Multiple-Choice -> 1	83%	0.40	<u>5.6</u>	<u>83.3*</u>	<u>5.6</u>	<u>5.6</u>	0	0	0	0	0

Item	% Correct	Discrimination	A	B	C	D	F	G	H	I	OMITTED
sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by
Multiple-Choice -> 1	18%	0.60	<u>47.1</u>	<u>17.6*</u>	<u>29.4</u>	0	0	0	0	0	<u>5.9</u>

Item	% Correct	Discrimination	A	B	C	D	F	G	H	I	OMITTED
sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by	sort by
Multiple-Choice -> 1	86%	0.50	0	<u>85.7*</u>	<u>14.3</u>	0	0	0	0	0	0



Analyze students' performance

Item Response

Question #	29	30	31	32	33	34	35		
% of Correct Responses	7%	33%	53%	53%	60%	80%	67%		
Total Points Possible	1	1	1	1	1	1	1		
Correct Response	A	I	B	G	B	I	A		
Student Name	Raw Score	% Correct							
Vladyne	29	58%	C	H	√	√	C	H	√
Marcus	29	58%	C	H	√	I	C	√	√
Jordan	30	60%	D	√	√	F	√	√	√
Keshler	18	36%	C	H	D	I	A	√	B
Natalie	34	68%	B	F	√	√	√	√	√
Jasmine	22	44%	D	G	√	√	—	√	√
Donovan	37	74%	D	H	√	√	√	√	√
Brianna	26	52%	D	G	√	F	√	H	√
Edwine	11	22%	C	G	A	√	C	√	C
Kendrea	30	60%	B	√	√	H	√	√	B
Rachel	27	54%	D	√	D	√	√	√	√
Bryan	20	40%	D	√	D	√	√	√	√
Thalia	11	22%	C	G	D	H	A	√	B
Brianna	18	36%	D	F	C	√	√	√	√
Juan	11	22%	√	√	C	H	√	H	C



Collaborative Debriefing: Teacher and Students

- Provide students with their test and answer sheet
- Review the test with your students
- Discuss any items identified as problematic for the class as a whole
- Listen to students comments and reactions
- Make notes on follow-up actions
- Re-teaching
- Individualized remediation



Unwrapping Essential Benchmarks

Unwrapping Benchmarks



Department/Grade: _____ Content Strand/Cluster: _____ Benchmark No.: _____

Text of the Benchmark: _____

Cognitive Level: _____

Sample Test Items for this Benchmark: _____

<p style="text-align: center;">Prerequisite Skills</p> <p>What knowledge, understanding, or reasoning is required to achieve this standard?</p> <ul style="list-style-type: none"> • • • 	<p style="text-align: center;">Vocabulary</p> <p>What vocabulary needs to be understood to achieve this standard?</p> <ul style="list-style-type: none"> • • •
<p style="text-align: center;">Achievement Criteria</p> <p>What performance skills or product skills are required to demonstrate achievement on this standard?</p> <ul style="list-style-type: none"> • • 	<p style="text-align: center;">Extending Learning</p> <p>How will instruction be differentiated to extend the learning of the standard?</p> <ul style="list-style-type: none"> • •
<p style="text-align: center;">How Will You Assess Achievement?</p> <p>What test or performance will give you data about student progress toward achievement of this standard?</p> <ul style="list-style-type: none"> • • 	<p style="text-align: center;">Text Support Material</p> <p>Which chapters or pages directly provide instructional support to teach this standard?</p> <ul style="list-style-type: none"> • •
<p>Technology</p> <p>What technology resources will provide support to teach this standard?</p> <ul style="list-style-type: none"> • • 	



Phase 2
1/07

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Unwrapping Problematic Benchmarks/Standards

Dissect standard(s) to determine essential concepts and skills to be taught and learned.

- Identify the cognitive level of the benchmark
- Identify prerequisite skills
- Identify important vocabulary
- Determine how achievement will be assessed
- Differentiate the benchmarks to meet the needs of all learners
- Identify support materials/resources
- Identify technology resources



Act

Target Specific Areas for Instruction

- Identify strategies that are working effectively and those that must be changed, modified, or abandoned
- Focus on specific areas of instruction identified through data analysis
- Focus on differentiating the learning by students' needs
- Identify students for individualized or small group intervention by needs and abilities
- Develop a plan that encompass four weeks of intensive and focused strategies
- Identify available school site resources
- Identify professional development needs
- Implement targeted instruction plan and reassess



Identify Available Resources

- Staff in school for modeling/observation/support
- Text and support materials
 - Appropriate for each learning style
- Tutoring/Supplemental Educational Services (SES)
- Technology
 - Web sites available to support student work and practice
 - Web sites or tools for teacher
 - Assemble lesson, gather research



Resources

Interim Assessment Home Page

<http://oada.dadeschools.net/IAP/IAP.asp>

Protocol for Guiding Structured Teacher Planning Time

<http://oada.dadeschools.net/IAP/IAP.asp>

Best Practices in Constructing Assessments

<http://oada.dadeschools.net/IAP/IAP.asp>

Examview Test Generator

<http://it.dadeschools.net/examview.htm>

Edusoft

<http://www.edusoft.com>

