

Technical Assistance Paper**312798****Tracking Student Performance****for the Florida Comprehensive Assessment Test® (FCAT) Waiver****Purpose**

The purpose of this document is to assist educators in the consistent implementation of the Enhanced New Needed Opportunity for Better Life and Education for Students with Disabilities (ENNOBLES) Act (HB 1739) by providing perspective on how individual educational plan (IEP) teams may determine the Florida Comprehensive Assessment Test® (FCAT) equivalent mastery of the grade 10 Sunshine State Standards (SSS) as required by criterion number four listed in section one on the FCAT waiver form. This document provides suggestions for procedures after a 10th grade student with a disability seeking a standard diploma does not pass the FCAT. The FCAT waiver form, which when completed must be filed along with required attachments in the student's cumulative folder, can be accessed at <http://www.firn.edu/doe/commhome/fcatasd.htm>.

Background

The 2003 Legislature passed the ENNOBLES Act (HB 1739). This law requires that school districts provide instruction to prepare students with disabilities to demonstrate proficiency in the skills and competencies necessary for successful grade-to-grade progression and high school graduation. Based on this law, IEP teams may waive the required passing score for one or both sections of the FCAT under specific circumstances for eligible students with disabilities for the purpose of receiving a standard high school diploma.

The FCAT with allowable accommodations provides an accurate measure of the abilities of students with 504 plans and most students with IEPs. The FCAT waiver process is meant for eligible students with disabilities who have mastered the grade 10 SSS and for whom the FCAT, even with allowable accommodations, is not an accurate assessment of their abilities.

In order for the FCAT graduation requirement to be waived, the IEP team must meet during the student's senior year to determine whether or not the FCAT can accurately measure the student's abilities, taking into consideration allowable accommodations. "Senior year" refers to the year that a student has enough credits to be classified as a senior and also applies to those students with disabilities who have elected to remain enrolled in order to seek a standard diploma. In accordance with the Individuals with Disabilities Education Act (IDEA), students with disabilities may receive services through the public school system through age 21 (i.e., until

REFER QUESTIONS TO:

Dawn Saunders
ESE Program Development & Services
325 West Gaines Street, Room 601
Tallahassee, FL 32399-0400
dawn.saunders@fldoe.org
850/245-0478



John L. Winn, Commissioner

TECHNICAL ASSISTANCE PAPERS (TAPs) are produced periodically by the Bureau of Exceptional Education and Student Services to present discussion of current topics. The TAPs may be used for inservice sessions, technical assistance visits, parent organization meetings, or interdisciplinary discussion groups. Topics are identified by state steering committees, district personnel, and individuals, or from program compliance monitoring.

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their 22nd birthday or, at the option of the school district, through the semester or the school year in which the student turns age 22) or until they graduate with a standard diploma, whichever occurs first. Consistent with the provisions of Section 1003.43(11)(a), F.S., any senior who has not achieved a passing score on the FCAT must receive intensive remediation. To help evaluate the effectiveness of such remediation and ensure each student has had every opportunity to pass the FCAT, the student must participate in the March administration of the FCAT during his/her senior year.

To be considered for a waiver from the FCAT graduation requirement, the student must:

1. be identified as having a disability as defined in Section 1007.02(2), F.S.
2. have a current individual educational plan (IEP)
3. be a senior or a student with disabilities who remains enrolled seeking a standard diploma for whom the FCAT is the required graduation test
4. have demonstrated mastery of the Grade 10 Sunshine State Standards (SSS)
5. have taken the Grade 10 FCAT with appropriate, allowable accommodations at least twice including March of the senior year or if not continuously enrolled in public school in Florida, at least once during each year of enrollment in grades 10, 11, or 12
6. have participated in intensive remediation for FCAT Reading and FCAT Mathematics if passing scores were not earned in the assessments
7. be progressing toward meeting the state's 24 credit/course and 2.0 cumulative grade point average (GPA) requirements and any other district requirements for graduation with a standard diploma

Students with a disability who transfer to Florida from another state in the 12th grade are eligible for the waiver. However, students must be provided with every opportunity to take and pass the FCAT. For example, a 12th grade student who enrolls in a Florida public school from another state at the beginning of the school year must take the FCAT during the October and March administrations. However, a 12th grade student who enrolls in a Florida public school in January may only take the March FCAT and still be considered for the waiver.

In accordance with House Bill 7087, otherwise known as the A++ Bill, which was signed into law on June 5, 2006, students who have received instructional accommodations in the classroom that are non-allowable on the FCAT may be considered for the waiver from the FCAT graduation requirement if the student meets all seven of the exemption criteria. For example, a student who has been provided literature via audio tape in order to complete assignments and assessments to demonstrate comprehension skills in an English course, which is a non-allowable accommodation on the FCAT, may still be considered for the FCAT waiver if the IEP team determines that all seven criteria have been met.

Current Practices

According to district reporting, significant variance of procedures, practices, and perspectives related to the FCAT waiver exists in Florida. The most prevalent request for assistance has been related to criterion number four: "...have demonstrated mastery of the Grade 10 Sunshine State Standards (SSS)." A workgroup with members representing seven districts of various sizes met in April 2006 to share common practices, concerns, and desired assistance in achieving a higher

level of consistency and reliability as IEP teams strive to make appropriate decisions for students being considered for the FCAT waiver.

Typically, IEP teams review report card grades and attendance records at the end of the senior year in order to determine mastery of the SSS for consideration of the FCAT waiver. Some districts report a high degree of confidence that report card grades accurately reflect mastery. Based on this claim, some teams look no further than the report card if a passing grade in the most current relevant courses is evident. Others seek teacher input and work samples verifying mastery if the most recent grade is below C. Still others report concern that course grades are not consistent or equivalent to the grade 10 FCAT score and, therefore, may require a higher or lower degree of mastery from the student with a disability in order to be eligible for the FCAT waiver. Each district's current approach in this effort is acceptable in terms of legal compliance; however, careful evaluation of current procedures to refine and plan accordingly is encouraged.

To address this concern, several districts have established procedures for collecting evidence of mastery and or tracking student progress toward alternate demonstration of mastery on the required standards beginning immediately after the first failed attempt at passing the grade 10 FCAT. The reported benefit of establishing a procedure that incorporates tracking of progress toward mastery into the IEP process prior to the end of the senior year is that keeping cumulative documentation helps guide service and instructional decisions to increase positive student outcomes. An important caution is that procedures should be in alignment with paperwork reduction efforts. Information and recommendations of the paperwork reduction task force can be accessed at <http://www.fldoe.org/PaperReduction/>.

Depending on district size and the preferences of teachers within a district, cumulative documentation of mastery ranges from a simple checklist in which teachers initial and date each required standard at the time that mastery is demonstrated to a more elaborate portfolio featuring work samples reflecting mastery of each required standard. To make appropriate decisions about what practice best meets the needs of IEP teams for this purpose, districts should consider the following questions:

1. Does our district-wide grading policy ensure reliable and consistent reporting of the standards assessed by the grade 10 FCAT?
 - a. Is our grading policy implemented with integrity across settings and grade levels?
 - b. Do site-based administrators in our district take responsibility for enforcing accountability for consistent use of the grading policy?
 - c. Are our teachers continually trained and supported in consistent use of the grading policy?
 - d. Does our grading policy clearly report student progress to both students and parents so that they are able to understand performance as compared to the established criteria (SSS), growth rate from the student's baseline performance, participation, and conduct?

For additional information regarding effective grading policies, refer to Technical Assistance Paper (TAP) Number FY 2006-11, 312775, entitled *Grading Policies for Students with Disabilities*, accessible for download via the following link: <http://www.firn.edu/doe/commhome/tap-home.htm>.

2. Are existing data sources other than report card grades readily available for IEP team review in our district such as Stanford Achievement Test (SAT)/American College Testing (ACT) Program scores, transcripts showing coursework history, attendance records, and/or standard test results?
3. Do IEP team members in our district express a need to more objectively validate their decisions for granting the FCAT waiver using substantial evidence and clear criteria beyond the most recent report card grades?

Suggestions for Parent Involvement

As an integral member of any IEP team, the parent(s) should be made aware of the possibility of an FCAT waiver if and when the student does not pass the spring administration of the grade 10 FCAT. At that time, an emphasis should be placed on ensuring that the student and parent(s) understand that the school will continue to provide intensive remediation, multiple opportunities to retake the FCAT, and appropriate instructional and assessment accommodations as specified by the student's IEP until the student earns a passing score on the FCAT, or receives a standard diploma, or the student turns 22 or the end of the semester or school year in which the student turns 22, in accordance with the school district's policy, whichever occurs first. Students must understand that, although they may not ultimately earn a passing score on the FCAT, mastery of the standards is necessary to be considered for the FCAT waiver.

It may also be helpful to provide information to parents and students about concordant SAT/ACT scores that can be used by all students as an alternative to a passing FCAT score. Section 1008.301, Florida Statutes (FCAT equivalency; concordance study), authorizes the State Board of Education to conduct a concordance study to determine if crosswalk scores can be determined to be equivalent to those required on the FCAT. In cases in which such equivalencies can be determined, the State Board is authorized to adopt those scores as meeting the graduation assessment requirement in lieu of the FCAT passing score. Each time the score is changed, new equivalencies must be determined. To access current concordant scores and procedures related to this option, you may contact the Florida Department of Education, Office of Assessment and School Performance, by telephone at 850.245.0513 or download FCAT Graduation Requirements at <http://www.firn.edu/doe/sas/fcat/pdf/fcatpass.pdf>.

When communicating with parents about students' progression toward mastery of the standards, it is important to clearly and concisely illustrate the criteria and the student's performance in relation to the established criteria. Growth toward mastery of the standards can be illustrated in graphic form so that parents and students can also see the rate of growth from the student's baseline performance. If the growth rate is not adequate to achieve mastery of the required SSS within the intended time-frame, an adjustment in the instruction and intervention(s) should be implemented. By approaching communication with parents and students in this way, all parties are assured of the school's commitment to continue intensive remediation efforts so that mastery of the SSS becomes a reality.

Suggestions for Tracking Progress

Students with disabilities as defined in Section 1007.02(2), F.S., who do not earn a passing

score on the grade 10 FCAT potentially benefit from a tracking system designed to monitor their progress toward mastery of the standards measured by the grade 10 FCAT. If the IEP team, including the student's teachers and parent(s), are intentionally made aware of which specified standards have been mastered and which ones are still in need of remediation over the course of time after the grade 10 FCAT administration and before the time of graduation, then they will be able to adjust services and instruction to meet the student's needs. Also, the IEP team will have more clear and objective justification for their decisions about granting the FCAT waiver at the end of the student's senior year. Sample formats for tracking progress are provided as follows:

- Appendix A for reading and Appendix C for math are sample layouts for tracking forms that include documentation of FCAT waiver reference information, each opportunity for retaking the FCAT, intensive remediation activities, and related parent correspondence in an "at-a-glance format."
- Appendix B for reading and Appendix D for math are sample layouts for tracking forms that include the specific standards to be mastered, space for teachers to date and sign verifying mastery of each standard, resources that students and parents can access for independent practice, and a key for understanding how to reference each specified standard. Currently there are a total of nine reading standards and twenty-one mathematics standards. As these are subject to change, please verify that the standards listed do indeed reflect the grade 10 FCAT when developing and using similar tracking forms.

After reviewing the information contained in this document and analyzing the effectiveness and reliability of its current practices and procedures, a district may take a position including, but not limited to the following:

- A district may determine that its grading policy is designed and implemented in such a way that mastery of the required SSS can reliably be determined based on specific course report card grades and that the report card grades provide the IEP team with the information it needs to objectively justify an FCAT waiver decision at the time of consideration.
- A district may determine that IEP teams, teachers, students, and parents would benefit from a system of tracking remedial efforts, multiple attempts for earning a passing FCAT score, and progress toward mastery of the SSS. In this case, the sample formats in appendix A–D of this document can be modified and/or personalized for district use.
- A district may determine that IEP teams, teachers, students, and parents would benefit from a system of tracking remedial efforts, multiple attempts for earning a passing FCAT score, progress toward mastery of the SSS, and actual work samples reflecting mastery of each standard assessed by the grade 10 FCAT.

Conclusion

For students seeking a standard diploma, all parties involved must be committed to continual efforts toward the student's mastery of the SSS in order to earn a standard diploma via a passing

score on the FCAT, concordant scores on alternative assessments (ACT and SAT), or granting of an FCAT waiver. Ultimately for students under consideration for the FCAT waiver, IEP teams must be confident in their objective justification for their decision to grant or not grant the waiver at the time of consideration.

Appendix A
FLORIDA COMPREHENSIVE ASSESSMENT TEST® (FCAT) TRACKING SYSTEM

DOB _____ # _____ School _____ Student Name _____ Student ID# _____

Is the student enrolled in courses leading to a standard diploma? YES / NO

Disability (indicate all areas that apply)

- Autism
- Mental Retardation
- Orthopedic Impairment
- Speech Impairment
- Language Impairment
- Hearing Impairment, including deafness
- Visual Impairment, including blindness
- Emotional Handicap
- Serious Emotional Disturbance
- Specific Learning Disability, including but not limited to dyslexia, dyscalculia, or developmental aphasia
- Traumatic Brain Injury
- Other Health Impairment

In order to be considered for the waiver from the FCAT graduation requirement, the student must 1) be identified as a student with a disability, as defined in section 1007.02(2), Florida Statutes; 2) have an individual educational plan (IEP); 3) be a senior or student with disabilities who remains enrolled seeking a standard diploma for whom the FCAT is the graduation test; 4) have demonstrated mastery of the Grade 10 Sunshine State Standards; 5) have taken the FCAT with appropriate allowable accommodations at least twice including March of the senior year, or if not continuously enrolled in public school in Florida, at least once during each year of enrollment in grades 10, 11 or 12; 6) have participated in intensive remediation for FCAT Reading and/or FCAT Mathematics, if passing scores were not earned; and 7) be progressing towards meeting the state's 24 credit/course and 2.0 cumulative grade point average (GPA) requirements and any other district requirements for graduation with a standard diploma.

READING GRADE 11

Fall Administration
Date of meeting: _____ Score _____
Accommodations: _____

Remedial Activities:
Intensive Reading Semester 1 yes / no Grade earned _____
Intensive Reading Semester 2 yes / no Grade earned _____
Reading test administered _____
Date _____ Score _____
Additional Remedial Activities: yes / no Dates and descriptions of additional remedial activities: _____

Recommendations:
Parent rec'd copy of Sunshine State Standards (initial) _____

Spring Administration
Date of meeting: _____ Score _____
Accommodations: _____

Remedial Activities:
Intensive Reading Semester 1 yes / no Grade earned _____
Intensive Reading Semester 2 yes / no Grade earned _____
Reading test administered _____
Date _____ Score _____
Additional Remedial Activities: yes / no Dates and descriptions of additional remedial activities: _____

Recommendations:
Parent rec'd copy of Sunshine State Standards (initial) _____

READING GRADE 12

Fall Administration Most Recent Evaluation
Date of meeting: _____ Score _____
Accommodations: _____

Remedial Activities:
Intensive Reading Semester 1 yes / no Grade earned _____
Intensive Reading Semester 2 yes / no Grade earned _____
Reading test administered _____
Date _____ Score _____
Additional Remedial Activities: yes / no Dates and descriptions of additional remedial activities: _____

Recommendations:
Parent rec'd copy of Sunshine State Standards (initial) _____

Spring Administration
Date of meeting: _____ Score _____
Accommodations: _____

Remedial Activities:
Intensive Reading Semester 1 yes / no Grade earned _____
Intensive Reading Semester 2 yes / no Grade earned _____
Reading test administered _____
Date _____ Score _____
Additional Remedial Activities: yes / no Dates and descriptions of additional remedial activities: _____

Recommendations:
Parent rec'd copy of Sunshine State Standards (initial) _____

Appendix C
FLORIDA COMPREHENSIVE ASSESSMENT TEST® (FCAT) TRACKING SYSTEM

_____ School _____ Student Name _____ Student ID# _____

DOB _____

Is the student enrolled in courses leading to a standard diploma? YES / NO

Disability (indicate all areas that apply)

- Autism
- Mental Retardation
- Orthopedic Impairment
- Speech Impairment
- Language Impairment
- Hearing Impairment, including deafness
- Visual Impairment, including blindness
- Emotional Handicap
- Serious Emotional Disturbance
- Specific Learning Disability, including but not limited to dyslexia, dyscalculia, or developmental aphasia
- Traumatic Brain Injury
- Other Health Impairment

In order to be considered for the waiver from the FCAT graduation requirement, the student must 1) be identified as a student with a disability, as defined in section 1007.02(2), Florida Statutes; 2) have an individual educational plan (IEP); 3) be a senior or student with disabilities who remains enrolled seeking a standard diploma for whom the FCAT is the graduation test; 4) have demonstrated mastery of the Grade 10 Sunshine State Standards; 5) have taken the FCAT with appropriate allowable accommodations at least twice including March of the senior year, or if not continuously enrolled in public school in Florida, at least once during each year of enrollment in grades 10, 11 or 12; 6) have participated in intensive remediation for FCAT Reading and/or FCAT Mathematics, if passing scores were not earned; and 7) be progressing towards meeting the state's 24 credit/course and 2.0 cumulative grade point average (GPA) requirements and any other district requirements for graduation with a standard diploma.

Spring Administration

Date of meeting: _____ Score _____
Accommodations: _____

REMEDIAL ACTIVITIES: MATH GRADE 10

Intensive Math Semester 1: yes / no Grade earned _____
Intensive Math Semester 2: yes / no Grade earned _____
Math test administered: _____
Date: _____

Additional Remedial Activities: yes / no Dates and descriptions of additional remedial activities: _____

Recommendations: _____
Parent rec'd copy of Sunshine State Standards (initial) _____

MATH GRADE 11

Fall Administration

Date of meeting: _____ Score _____
Accommodations: _____

Remedial Activities:
Intensive Math Semester 1: yes / no Grade earned _____
Intensive Math Semester 2: yes / no Grade earned _____
Math test administered: _____
Date: _____

Additional Remedial Activities: yes / no Dates and descriptions of additional remedial activities: _____

Recommendations: _____
Parent rec'd copy of Sunshine State Standards (initial) _____

Spring Administration

Date of meeting: _____ Score _____
Accommodations: _____

Remedial Activities:
Intensive Math Semester 1: yes / no Grade earned _____
Intensive Math Semester 2: yes / no Grade earned _____
Math test administered: _____
Date: _____

Additional Remedial Activities: yes / no Dates and descriptions of additional remedial activities: _____

Recommendations: _____
Parent rec'd copy of Sunshine State Standards (initial) _____

MATH GRADE 12

Fall Administration

Date of meeting: _____ Score _____
Accommodations: _____

Remedial Activities:
Intensive Math Semester 1: yes / no Grade earned _____
Intensive Math Semester 2: yes / no Grade earned _____
Math test administered: _____
Date: _____

Additional Remedial Activities: yes / no Dates and descriptions of additional remedial activities: _____

Recommendations: _____
Parent rec'd copy of Sunshine State Standards (initial) _____

Spring Administration

Date of meeting: _____ Score _____
Accommodations: _____

Remedial Activities:
Intensive Math Semester 1: yes / no Grade earned _____
Intensive Math Semester 2: yes / no Grade earned _____
Math test administered: _____
Date: _____

Additional Remedial Activities: yes / no Dates and descriptions of additional remedial activities: _____

Recommendations: _____
Parent rec'd copy of Sunshine State Standards (initial) _____

Summer Administration

Date of meeting: _____ Score _____
Accommodations: _____

Remedial Activities:
Intensive Math Semester 1: yes / no Grade earned _____
Intensive Math Semester 2: yes / no Grade earned _____
Math test administered: _____
Date: _____

Additional Remedial Activities: yes / no Dates and descriptions of additional remedial activities: _____

Recommendations: _____
Parent rec'd copy of Sunshine State Standards (initial) _____

Florida Comprehensive Assessment Test® (FCAT) Tracking System

GRADE 10 MATH

<p>Understands the relative size of integers, rational numbers, irrational numbers, and real numbers. Grade _____ Date of Mastery _____ Name of School _____ Work Sample Attached-labeled as M1 (Teacher signature) _____ Teacher signature _____</p>
<p>Understands that numbers can be represented in a variety of equivalent forms, including integers, fractions, decimals, percents, scientific notation, exponents, radicals, absolute value, and logarithms. (Includes MA.A.1.4.1 Associates verbal names, written word names, and standard numerals with integers, rational numbers, irrational numbers, real numbers, and complex numbers; and MA.A.1.4.3 Understands concrete and symbolic representations of real and complex numbers in real-world situations.) Grade _____ Date of Mastery _____ Name of School _____ Work Sample Attached-labeled as M2 (Teacher signature) _____ Teacher signature _____</p>
<p>Understands and explains the effects of addition, subtraction, multiplication, and division on real Numbers, including square roots, exponents and appropriate inverse relationships. (Includes MA.A.2.4.2 Understands and uses the real number system.) Grade _____ Date of Mastery _____ Name of School _____ Work Sample Attached-labeled as M3 (Teacher signature) _____ Teacher signature _____</p>
<p>Selects and justifies alternative strategies, such as using properties of numbers, including inverse, identity, distributive, associative, and transitive, that allow operational shortcuts for computational procedures in real-world or mathematical problems. (Includes MA.A.2.4.2 understands and uses the real number system.) Grade _____ Date of Mastery _____ Name of School _____ Work Sample Attached-labeled as M4 (Teacher signature) _____ Teacher signature _____</p>
<p>Adds, subtracts, multiplies, and divides real numbers, including square roots and exponents, using appropriate methods of computing, such as mental mathematics, paper and pencil, and calculator. (Includes MA.A.2.4.2 understands and uses the real number system.) Grade _____ Date of Mastery _____ Name of School _____ Work Sample Attached-labeled as M5 (Teacher signature) _____ Teacher signature _____</p>
<p>Uses estimation strategies in complex situations to predict results and to check the reasonableness of results. (Includes MA.B.3.4.1 Solves real-world and mathematical problems involving estimates of measurements, including length, time, weight/mass, temperature, money, perimeter, area, and volume, and estimates the effects of measurement errors on calculations.) Grade _____ Date of Mastery _____ Name of School _____ Work Sample Attached-labeled as M6 (Teacher signature) _____ Teacher signature _____</p>
<p>Uses concrete and graphic models to derive formulas for finding perimeter, area, surface area, circumference, and volume of two- and three- dimensional shapes, including rectangular solids, cylinders, cones, and pyramids. Grade _____ Date of Mastery _____ Name of School _____ Work Sample Attached-labeled as M7 (Teacher signature) _____ Teacher signature _____</p>

GRADE 10 MATH

<p>Uses concrete graphic models to derive formulas for finding rate, distance, time, angle measures, and arc lengths. Grade _____ Date of Mastery _____ Name of School _____ Teacher signature _____ Work Sample Attached-labeled as M8 (Teacher signature) _____</p>
<p>Selects and uses direct (measured) or indirect (not measured) methods of measurement as appropriate. Grade _____ Date of Mastery _____ Name of School _____ Teacher signature _____ Work Sample Attached-labeled as M9 (Teacher signature) _____</p>
<p>Solves real-world problems involving rated measures (miles per hour, feet per second). Grade _____ Date of Mastery _____ Name of School _____ Teacher signature _____ Work Sample Attached-labeled as M10 (Teacher signature) _____</p>
<p>Uses properties and relationships of geometric shapes to construct formal and informal proofs. Grade _____ Date of Mastery _____ Name of School _____ Teacher signature _____ Work Sample Attached-labeled as M11 (Teacher signature) _____</p>
<p>Understands geometric concepts such as perpendicularity, parallelism, tangency, congruency, similarity, reflections, symmetry, and transformations including flips, slides, turns enlargements, rotations, and fractals. (Includes MA.B.1.4.3 Relates the concepts of measurement to similarity and proportionality in real-world situations; and MA.C.3.4.1 Represents and applies geometric properties and relationships to solve real-world and mathematical problems including ratio, proportion, and properties of right triangle trigonometry.) Grade _____ Date of Mastery _____ Name of School _____ Teacher signature _____ Work Sample Attached-labeled as M12 (Teacher signature) _____</p>
<p>Analyzes and applies geometric relationships involving planar cross-sections (the intersection of a plane and a three-dimensional figure). Grade _____ Date of Mastery _____ Name of School _____ Teacher signature _____ Work Sample Attached-labeled as M13 (Teacher signature) _____</p>
<p>Using a rectangular coordinate system (graph), applies and algebraically verifies properties of two- and three-dimensional figures, including distance, midpoint, slope, parallelism, and perpendicularity. (Includes MA.D.2.4.1 Represents real-world problem situations using finite graphs, matrices, sequences, series, and Recursive relations.) Grade _____ Date of Mastery _____ Name of School _____ Teacher signature _____ Work Sample Attached-labeled as M14 (Teacher signature) _____</p>
<p>Describes, analyzes, and generalizes relationships, patterns, and functions using words, symbols, Variables, tables, and graphs. Grade _____ Date of Mastery _____ Name of School _____ Teacher signature _____ Work Sample Attached-labeled as M15 (Teacher signature) _____</p>
<p>Determines the impact when changing parameters of given functions. Grade _____ Date of Mastery _____ Name of School _____ Teacher signature _____ Work Sample Attached-labeled as M16 (Teacher signature) _____</p>

GRADE 10 MATH

Uses systems of equations and inequalities to solve real-world problems graphically, algebraically, and with matrices. (Includes MA.D.2.4.1 Represents real-world problem situations using finite graphs, matrices, sequences, series, and recursive relations.)

Grade _____ Date of Mastery _____ Name of School _____ Teacher signature _____
Work Sample Attached-labeled as M17 (Teacher signature) _____

Interprets data that have been collected, organized, and displayed in charts, tables, and plots, (Includes MA.E.1.4.3 Analyzes real-world data and makes predictions of larger populations by applying formulas to calculate measures of central tendency and dispersion using the sample population data, and using appropriate

technology, including calculators and computers.)
Grade _____ Date of Mastery _____ Name of School _____ Teacher signature _____
Work Sample Attached-labeled as M18 (Teacher signature) _____

Calculates measures of central tendency (mean, median, and mode) and dispersion (range, standard deviation, and variance) for complex sets of data and determines the most meaningful measure to describe the data. (Includes MA.E.1.4.3 Analyzes real-world data and makes predictions of larger populations by applying formulas To calculate measures of central tendency and dispersion using the sample population data, and using appropriate technology, including calculators and computers.)

Grade _____ Date of Mastery _____ Name of School _____ Teacher signature _____
Work Sample Attached-labeled as M19 (Teacher signature) _____

Determines probabilities using counting procedures, tables, tree diagrams, and formulas for permutations and combinations. (Includes MA.E.2.4.2 Determines the probability for simple and compound events as well as independent and dependent events.)

Grade _____ Date of Mastery _____ Name of School _____ Teacher signature _____
Work Sample Attached-labeled as M20 (Teacher signature) _____

Designs and performs real-world statistical experiments that involve more than one variable, then Analyzes results and reports findings. (Includes MA.E.3.4.2 Explains the limitations of using statistical techniques and data in making inferences and valid arguments.)

Grade _____ Date of Mastery _____ Name of School _____ Teacher signature _____
Work Sample Attached-labeled as M21 (Teacher signature) _____

Adapted from St. Lucie County Public Schools
Contact: Eileen Orr (772) 429-4570

Websites students can utilize for FCAT practice:

www.fcatparentnetwork.com

www.firn.edu/doe/sas/fcat.htm

www.fcatexplorer.com

www.facts.org. (select High School Planning)-(select FCAT Resources)

Additional resources are available at your bookstores or online book distributors.

Community Resources: _____

These standards are subject to change. Please verify the standards assessed by the FCAT at: