APPENDIX R

ANALYSIS AND REPORTING BUSINESS REQUIREMENTS

Analysis and Reporting Business Requirements

NextGen, Legacy, and Alt

This Analysis and Reporting Business Requirements document is considered DRAFT until the Massachusetts Department of Elementary and Secondary Education (ESE) sign off with approval. If there are rules that must be added, or removed, or modified, each rule shall require ESE sign off.

Version Number	Date	Updated Content Description	Updated by Name
1.0	01/09/2019	Initial Document	Keira Nevers
2.0	03/14/2019	Client Review Start V. Calculations to continue	Keira Nevers

Approval
I acknowledge that I have read this requirements document and have been informed of the contents of this document. By entering my name, title and date approved, I certify my approval. I have received a copy of this document for my records and understand that any further changes will require additional approvals as necessary.

Version	Name	Title	Date Approved

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I. OVERVIEW

This document details rules for analysis and reporting for the State of Massachusetts Comprehensive Assessment System. The final student level data used for analysis and reporting is described in the "Data processing Specifications" document.

Glossary	
MCAS	Massachusetts Comprehensive Assessment System
DESE	Elementary and Secondary Education
Schtype	School Type Fieldname
LEP	Limited English Proficiency (still used for perflev in megafile)
HS	High School
STE	Science and Technology/Engineering

Massachusetts Comprehensive Assessment System (MCAS) 2018-2019

163352 Spring 2019 MCAS	163352 June 2019 MCAS
Grade 3–8 ELA	High School STE Operational
Grade 10 ELA	High School STE Field Test
Grade 3–8 Mathematics	
Grade 10 Mathematics	
Grade 3–8 STE	
Alternate Assessment	

II. YEARLY CHANGE OVERVIEW

- Spring Grade 3 and 6 ELA and Mathematics moving to CBT
- Spring Grade 10 ELA and Mathematics Administrations moving to CBT
- Integrated test booklets ("test & answer booklets") for three Administrations:
  - o Spring Grade 3-8 ELA and Mathematics and grades 5 & 8 Science
  - o Grade 10 ELA
  - o Grade 10 Mathematics
- Form 00 for Braille forms to be added for the following
  - o Grade 4-8 ELA, Mathematics and Science
  - o Grade 10 ELA and Mathematics
- No separate Composition session for Grade 10 ELA
- Combined Grade 3-8 and 10 'Mega' manuals for Spring Administrations
- CBT Standalone High School STE Field Test
- All grade 9 students taking the operational high school Biology or Introductory Physics test are expected to take the field test in the same subject, with the exception of students who require certain accommodations. The participation of students in grade 10 is optional/at principals' discretion.

III. GENERAL INFORMATION

A. Reporting Test Administration(s)

Test Subject	Test Grade(s)	Test Type	Number of Sessions	Mode	Start Date	End Date
Alternate Assessment	03-08, HS	Alt		PBT	07/10/2018	03/29/2019
ELA (English Language Arts)	10	NextGen	2	PBT, CBT	03/26/2019	04/05/2019
Mathematics	10	NextGen	2	PBT, CBT	05/21/2019	05/31/2019
Operational HS STE: Biology, Chemistry, Introductory Physics, and Technology and Engineering	HS: 09, 10	Legacy	2	PBT	06/04/2019	06/12/2019
ELA (English Language Arts)	03-08	Next Gen	2	PBT, CBT	04/01/2019	05/06/2019
Mathematics	03-08	Next Gen	2	PBT, CBT	04/01/2019	05/28/2019
STE	05, 08	NextGen	2	PBT, CBT	04/01/2019	05/28/2019
Biology Field Test	09	Next Gen	1	CBT	05/28/2019	06/14/2019
Introductory Physics Field Test	09	Next Gen	1	CBT	05/28/2019	06/14/2019

B. Release Schedule

Admin ID	Release ID	Description	Test Grade(s)	Subject
4		Round 1 PAN Early Online Reporting (CBT machine-scored only)	3-8, 10	ELA (English Language Arts)
			3-8, 10	Mathematics
			5 & 8	STE
		Round 2 PAN Early Online Reporting (CBT & PBT machine-scored and human-scored)	3-8, 10	ELA (English Language Arts)
			3-8, 10	Mathematics
			5 & 8	STE
	3	Preliminary Reporting (July) without SS and achievement Levels	03-08, 10	ELA (English Language Arts)
			03-08, 10	Mathematics
			05, 08	STE
			HS: 09, 10	STE: Biology, Chemistry, Introductory Physics, or Technology and Engineering
	3	Preliminary Reporting (August) with SS and achievement levels	03-08, 10	ELA (English Language Arts)
			03-08, 10	Mathematics
			05, 08	STE
			HS: 09, 10	STE: Biology, Chemistry, Introductory Physics, or Technology and Engineering
	4	Post-Discrepancy /Final Reporting (September/Nov)	03-08, 10	ELA (English Language Arts)
			03-08, 10	Mathematics
			05, 08	STE
			HS: 09, 10	STE: Biology, Chemistry, Introductory Physics, or Technology and Engineering

C. Deliverables List

1. Client and internal deliverables for the standard assessment are listed based on reporting test administrations. Specifications for each deliverable are detailed in the Deliverable Specifications section.

   a. Early Online Reporting

      i. .csv files with raw scores
      ii. PDF roster reports

   b. ELA student Open Ended (OE)
   c. Preliminary Reporting

    i.   Questionnaire File

    ii.   Preliminary State Megafile (July 2019) without SS and achievement levels

    iii.   Preliminary State Megafile (August 2019) with SS and achievement levels

    iv.   Discrepancy Table

    v.   Student with both Alt and Standard Results

    vi.   Missing Grade Span List - file produced as needed

    vii.   Accommodations Files (by subject)

    viii.   Testing Time

    ix.   Item Statistics

    x.   Response Change Analysis

        (1)   Pearson handles producing this deliverable

    xi.   CBT released ELA essays from 3, 4, 5, 6, 7, 8, and 10

        (1)   Release of one essay for grades 3-8

        (2)   Release of two essays for grade 10

        (3)   Pearson handles producing this deliverable

    xii.   Item analyses in ABBI

  d.   Post Discrepancy Period Reporting

    i.   Discrepancy Data File

    ii.   Post-Discrepancy Official State Megafile

    iii.   November Rerun File (very likely)

    iv.   State Results File

    v.   Printed Reports

        (1)   Student Results Labels

        (2)   Student Reports (P/G Reports)

            (a)   Legacy gr. 9 HS Science - School Copy and Parent Copy

            (b)   Next Gen (gr. 3-8, gr. 10) - School Copy and Parent Copy

    vi.   Student Report Translation Counts

    vii.   High School Class Counts

D.   Processing Dependency on Alternate Assessment Data

1.   Students may test via the Standard Assessment or the Alternate Assessment for each subject required in their grade. For Preliminary Reporting, data from both methods are reconciled. Alternate Assessment results trumps Standard Assessment results; however, during the discrepancy period the ESE may override the Alternate Assessment results on an individual student basis and have their Standard Assessment results reported during Post-Discrepancy reporting. DESE does this for tests that earned a passing raw score.

2.   High School Science consists of four individual science subjects: Chemistry, Biology, Introductory Physics, and Technology and Engineering. Student level data is based on the individual science submitted and stored, as well as compiled into overall science determination fields.

IV. INTERNAL DATA SOURCES

A. Legacy Test Information and Item Banking (ABBI)

1. Test Design

Grade	Subject	Form(s)	Items included in Raw Score	Item Types
09, 10	STE Sciences	00 = common + Matrix forms	Common	MC, OR, SA

B. Next Gen Test Information and Item Banking (Test Map)

1. Test Design: Each form contains one of two possible common blocks. The common block items are included in the raw score. In general, paper, `paper_braille` and `online_accom` test mode forms contain one common block. The remaining online test mode forms contain the other common block. On occasion, an item is excluded from or can be swapped with another item to create a new common block for scoring (also referred to as a Scale Form).

   Additionally the operational online form 1 is split into batteries for delivery for the following accommodations: human reader and human signer.

Grade	Subject	Test Mode	Form(s)	Items included in Raw Score
03-08,HS	ELA	Paper Paper_Braille Online Online_Accom		OP Items
03-08,HS	Mat	Paper Paper_Braille Online Online_Accom		OP Items
05, 08	STE	Paper Paper_Braille Online Online_Accom		OP Items

2. Test Item QTI Interaction and Analysis Types: The test map item type will be loaded to ABBI and any meta data files to DESE. Analysis Item Type is only for internal MP processing

3. Items that are marked as a choice interaction with single cardinality in ABBI are treated as MC items for calculation of classical stats and psychometrics. All other items are treated as OR items. For the reporting item type additional testmaps are pulled out of ABBI that contain this information for each item.

4. Test Item

   a. An item consists of one or more student interactions. Items with more than one student interaction are composite items. A composite item is treated as one item for analysis and reporting

   b. Essays are scored on two traits. Each trait score is treated as a separate item for scaling and item statistics. Additionally, the writing sum of the trait scores is included in the megafile and statistics

5. Item Metadata (Next Gen)

   a. Pearson test maps will contain the item order and item metadata for reporting and analysis. The item order is used to order item scores for student test results data files and student report.

   b. Data also include flags indicating an item will be released

   c. Point values for items as well as reporting categories and item types are contained in these files.

6. School Information

   a. School

      i. Each school is identified by a unique 8 digit code.
      ii. Each school is assigned a district org type and school org type
      iii. The district associated with the school is defined by a 4 digit district code and district org type.
      iv. District codes stored in iCore will identify updated school org types as provided by the DESE.

   b. School Organization Type

      i. Organization Type is based on the official school code. Using the official school code, link to the MCAS org data file (accessed via iCore) and pull the org type (stored in ReportCode2)
      ii. Public Schools as designated as `OrgTypeCode` = 6 and 13. All others are considered non-public

7. Legacy and Next Gen PAN

   a. Both systems serve as sources for accommodations, not tested reasons and voided/invalidated student responses

8. Legacy Scanned Data

   a. Source for accommodations, absence, change of enrolment status, voided answer booklet

9. Next Gen TestNav v.8

   a. Test administration platform collecting student's item and test information for online testers

   b. Paper responses for Next Gen students are scanned and combined with online data from within TestNav and submitted together

10. Legacy Item Scoring

    a. Multiple Choice Scores – Scanning

i.   Valid multiple choice scores are A, B, C, D, *blank* and * = multiple responses. All responses except *blank* are considered a response attempt

ii.   Open Response / Short Answer Scores – Scoring

Raw Data Value	Reported Value	Description	Point Value	Response Attempted
0-max pts	Final score	Open Response / Short Answer	0-max	X
N	0	Not Scorable	0	X
B		Blank response	0	

11.   Next Gen Item Scoring

a.   Multiple Choice/Selected Response Scores (Analysis Item Type = MC)

     i.   Valid multiple choice responses are a QTI response identifier. All responses except "blank" are considered a response attempt. If the student's QTI response matches the QTI key, the student earns 1 point.

     ii.   Human readable response is determined by the order of responses within the QTI response string. For example, a MC item would have "A" as the first possible response, "B" as the second, and so forth

b.   Essay/Open Response/Constructed Response or Composite Items (Analysis Item Type = OR)

     i.   A student attempted an item if there is evidence of attempting at least one interaction for the item. The evidence depends on the scoring method for the interaction. An item could have multiple scoring methods

         (1)   If a student earned 1 or more points for the item, the student attempted the item.

         (2)   If at least one interaction has a human score and the condition code is not scored BL (blank), the student attempted the item.

         (3)   If an interaction does not have a human score and the Response is not blank in the student item data, the student attempted the item

     ii.   Selected Field Test Items

         (1)   Field test items scores are included for reporting if both human-scored and machine-scored. In the event an item was machine-scored but was not human-scored, then the item score is blank

Raw Data Value	Description	Reported Value	Point Value	Response Attempted
0-Max Possible Points	Student Points Earned	Numeric Score	0-Max Possible Points	X
B	Blank response		0	

Raw Data Value	Description	Parent/Guardian Reported Value	Point Value	Response Attempted
0-Max Possible Points	Student Points Earned	Numeric Score	0-Max Possible Points	X
BL	Blank response		0	
UN	Unreadable	0	0	X
NE	Non-English	0	0	X
OT	Off Topic	0	0	X
DC	Direct Copy	0	0	X

C. External Data Sources

1. Breach List

    a. Students who are considered a security breach are provided by the ESE in the Breach List. Instructions for processing and reporting each security breach student test are provided

    b. Data Analysis reviews the breach list and adds necessary Amend flag values (> '1') and instructions to the Amend Code Definition Lookup for each distinct scenario on the Breach List.

    c. Data Processing applies any necessary changes to the raw student record based on the ESE instructions and applies the corresponding Amend Flag value from the lookup to the student for Data Analysis processing.

2. Technology Failure List

    a. The ESE will provide a list of students who could not complete the assessment based on a persistent technology issue with the testing platform. This file will be provided at the same time as the Breach List

    b. These students are processed as with an Amend code (`AmendCode`=13).

        i. If a student has a `PerfLevel` = 2, 3, or 4, the following information is reported:

            (1) Student's earned raw score, earned item scores, and earned `mfScaledScore`. These students will be reported as NTO

    c. If a student does not have a `PerfLevel` not equal to 2, 3, 4, then the student is reported as "INC" with their raw score and item scores reported. The student's `perf2`, `numin`, and assess values will all be blank

3. SIMS

   a. Student data are provided by the ESE for reporting use following the SIMS file layout (also provided by the ESE.)

   b. SIMS contains various demographic, historical scores, and accountability data field. The data populated depends on the time of year of the handoff

   c. Multiple handoffs occur during the year

      i. October SIMS Handoff – used for validation of PAN data for administration labels
      ii. March SIMS Handoff – used for release 3 (before Discrepancy Reporting)
      iii. June SIMS Handoff – used for release 4+ (official reporting and possible rerun(s))

   d. MP audits some SIMS data based on the current administration, as dictated by rules in this document.

   e. Occasionally, ESE provides a supplemental file to updates SIMS variables as needed

4. Current Year Student Growth Data

   a. Current year student growth percentiles (and corresponding standard errors) are provided for ELA and Math at the student level from the ESE based on preliminary results.

5. Grade Span Lookup

   a. The ESE provides a grade span lookup for all public official schools. It is used to assign "`SchType`" in the various megafile handoffs.

   b. Measured Progress will provide the ESE with a list of any public schools that have students assigned to them that are not included in the lookup, resulting in blank grade span data based on the Preliminary data release.

   c. All public schools must have a grade span for final post-discrepancy reporting. For earlier releases grade spans may be blank for schools missing from the lookup.

6. Discrepancy Site

   a. Data from preliminary reporting is posted to the discrepancy site for clean up by the field and the department.

   b. See the Discrepancy Site Requirements for more details on which fields are available for editing at each user level.

   c. Data Processing re-processes data post-discrepancy to incorporate the updated information and discrepancy resolutions from the ESE for DA for final reporting.

   d. During final processing all information from the discrepancy site is considered final and is maintained, however, changes to certain fields require additional data audits and/or recalculation of student participation status to ensure consistency. See the Data Reconciliation section for these details.

7. `Sprp_sch` and `Sprp_dis`: Exceptions List

   a. The ESE will provide this list to Data Analysis

   b. Supports the assigning of official student school and district (See Data Reconciliation Audits for details)

8. One School District List (`daSingleSchDisLookup`)

   a. The ESE will provide this list to Data Analysis

   b. Supports Aggregate calculations (see Aggregate Calculations for details)

D. Data Reconciliation Audits

1. The following cleanup will be performed on student level data prior to analysis once demographic data and reconciled test information are compiled to ensure consistency. Calculations are performed in the order listed below, and audited values are used in each subsequent check and for all analysis, reporting, and deliverables as applicable:

   a. Test Grade

      i. Each student can only be reported at one test grade across all assessments. DP reconciles the test grade within an assessment and between Alternate Assessment and General Assessment

   b. Summarize

      i. If test grade is in 03-08, summarize is defaulted to '1' for all students, regardless of SIMS value.

      ii. If test grade is '09' summarize is defaulted to '0' for all students, regardless of SIMS value.

      iii. If test grade is '10':

         (1) If student grade is ≤ '09':

            (a) If the student submitted both Math and ELA (Alt or Standard), then summarize = '1'.

            (b) Otherwise, summarize = '0'.

         (2) If student grade = '10','11','12', or 'SP' then summarize is taken from SIMS. If summarize is missing, or if student grade is missing, summarize is defaulted to '0'.

      iv. The same rules are applied post-discrepancy, except summarize is taken from the updated Discrepancy data instead of SIMS. If summarize is updated during discrepancy reporting the participation status is set to blank to be reassigned

   c. ELFirstYear

      i. ELFirstYear is provided in SIMS and will not be audited by Measured Progress

   d. EL

      i. EL is provided in SIMS and will be audited by Measured Progress as follows

         (1) If ELFirstYear = '1', update existing EL to '1'

   e. EL_formerEL

      i. EL_formerEL is provided in SIMS and will be audited by Measured Progress as follows:

         (1) If ELFirstYear = '1' OR if EL = '1', update existing EL_formerEL to '1'

   f. Official School and Official District Code

      i. Official District (sprp_dis)

         (1) If the student's testing discode+schcode is on the Exceptions List (System+School) then the official district is the sprp_dis from the Exceptions List.

    (2)   If the student's testing `orgtype` is 6, 13 or 22 then the official district is set to the `discode` concatenated with four zeroes.

    (3)   Otherwise the official district is the sending district from SIMS (`senddiscode`) if it exists, concatenated with four zeroes at the end. If `senddiscode` is blank the official district is set to '99999999'.

  ii.   Official School (`sprp_sch`)

    (1)   If the student's testing school (`discode+schcode`) is on the Exceptions List (System+School) then the official school is the `sprp_sch` from the Exceptions List.

    (2)   If a student is from a collaborative school (testing `OrgType` = 3 or 4) then the official school is = 05XX0000 where XX is the 3rd and 4th digit of the testing district code.

    (3)   If the student's testing `orgtype` is 25,31, or 50 then the official school is the official school code from SIMS (`simsDiscode` + `SimsSchcode`). If the `simsDiscode` and `simsSchcode` are blank the official school is set to the testing school code (`discode+schcode`). If the official school from SIMS turns out to be `orgtype` 22, then use the Exceptions list for official school.

    (4)   Otherwise the official school is the testing school (`discode+schcode`).

  iii.   Setting of `Orgtype`

    (1)   `Orgtype` is based on the official school code

    (2)   Using the official school code link to the MCAS org data file (DA use: `icore`) and pull the org type (DA use: `Reportcode2`).

    (3)   In the event that an `orgtype` is not assigned, default `orgtype` to 'X'. This is expected due to some SPRP schools not being in the Org data file

  iv.   The table below displays possible values for a school's `Orgtype`

Orgtype Code	Description
2	Special Education School
3	Collaborative
4	Collaborative
6	Public School
10	MA State Agency
11	Private School
13	Charter School
22	Charter School Program
25	ALT Ed Program
29	Out-of-State School
30	Adult Diploma Site
31	MCAS Test Site
34	SEIS Program
37	Adult Basic Education
50	School Program
95	Special Education Program

g. `YrsInSch` and `YrsInDis` (Preliminary and Final Reporting Releases Only)

   i. If `sprp_sch` or testing school (`discode`+`schcode`) = the official SIMS school code (`simsDiscode` + `simsSchcode`) then use `YrsInSch` value from SIMS. Otherwise set `YrsInSch` = '1'

   ii. If `sprp_dis` = SendDiscode+0000 from June SIMS then use the `YrsInDis` value from SIMS. Otherwise set `YrsInDis` = '1'

h. `OctEnrol` (enrolled in same location since October) (Preliminary and Final Reporting Releases Only)

   i. If `sprp_sch` or testing school (`discode`+`schcode`) = the official SIMS school code from June SIMS (`simsDiscode` + `simsSchcode`) then `OctEnrol` = `Oct_off` from SIMS. Otherwise set `OctEnrol`= '0'

i. `ConEnrol` (continuously enrolled for 2 years)

   i. Only populated for students in the grade 10 view, otherwise blank.

   ii. If `sprp_sch` or testing school (`discode`+`schcode`) = the official SIMS school code from June SIMS (`simsDiscode` + `simsSchcode`) then use `con_enr_sch` value from SIMS. Otherwise set `con_enr_sch` = blank.

   iii. If `sprp_dis` = SendDiscode+0000 from June SIMS then use the con_enr_dis value from SIMS. Otherwise set `con_enr_dis` = blank.

   iv. `ConEnr_sta` is taken from SIMS.

j. Historical Scores and Growth for Reporting Grade 3-8 (Yr1, Yr2, Yr3)

   i. If a student's historical `GradeYr3` is not the current test grade minus 1 year, then the Math and ELA `scaledscoreYr3` and `sgpYr3` are set to blank.

   ii. If a student's historical `GradeYr2` is not the current test grade minus 2 years, then the Math and ELA `scaledscoreYr2` and `sgpYr2` are set to blank.

   iii. If a student's historical `GradeYr1` is not the current test grade minus 3 years, then the Math and ELA `scaledscoreYr1` and `sgpYr1` are set to blank.

   iv. Example: if a student's grade is 08 and `gradeYr3` is not 07, `scaledscoreYr3` and `sgpYr3` are set to blank for Math and ELA. If `gradeYr2` is 06, `scaledscoreYr2` and `sgpYr2` are reported.

k. Historical Scores and Growth for Reporting (grade 10) (Yr1, Yr2, Yr3)

   i. If a student's historical `GradeYr3` is not the current test grade minus 2 years, then the Math and ELA `scaledscoreYr3` and `sgpYr3` are set to blank in `tblStudemo`.

   ii. If a student's historical `GradeYr2` is not the current test grade minus 3 years, then the Math and ELA `scaledscoreYr2` and sgpYr2 are set to blank in `tblStudemo`.

   iii. If a student's historical `GradeYr1` is not the current test grade minus 4 years, then the Math and ELA `scaledscoreYr1` and `sgpYr1` are set to blank in `tblStudemo`.

E. Student Participation and Reporting Status

1. Basic Definitions

   a. The following criteria are defined for use during the participation status assignment hierarchy. Students may meet the criteria for multiple definitions, but during the hierarchy are assigned a single final participation status.

      i. Standard Test Attemptedness (by subject)

         (1) A student is considered to have met attemptedness if they have a response attempt for at least one common item in each test session.

         (2) A student is considered to have partially attempted if they have a response attempt to at least one common item, but they do not have a common item attempted in every session (has at least 1 session with no common items attempted).

         (3) All other students are considered to have not attempted

      ii. Not Tested Indicators (by subject)

         (1) The following Not Tested reasons may be bubbled on the student's answer booklet or collected from PAN

            (a) Absent (ignored)
            (b) Medically Excused Absent (MED)

      iii. Transfer

         (1) The transfer bubbles (Added and Removed) on the SRB are ignored.

         (2) If `Active_Test` ≠ '1' the student is considered a transfer student

      iv. Tested Alternate Assessment (by subject)

         (1) For the purpose of determining student participation status, students in the Alternate Assessment data with the following participations statuses are considered Alternate Assessment during preliminary and final reporting:

            (a) `Alt PartStatus` = 'A': Tested Alternate Assessment.
            (b) `Alt PartStatus` = 'C': Tested Alternate Assessment Accountable Retester.
            (c) `Alt PartStatus` = 'W': Tested Alternate Assessment Not-Accountable Retester.
            (d) `Alt PartStatus` = 'N': Breach Alternate Assessment (Alt Amend Code = '26').

         (2) If a student is listed in the Alternate Assessment Override, the Alternate Assessment Amend Code is set to suppress the Alternate Assessment results and set the `Alt PartStatus` to 'Z'. This allows for the Standard Assessment results to be reported.

      v. Void (by subject)

         (1) Students whose only answer booklet (or from data provided in PAN) has been voided (`Void[sub]` = '1') are considered Void. Booklets that remain void post-discrepancy are suppressed along with all corresponding data.

         (2) For grades 05 and 08 Science the void indicator is VoidMat because Math and Science share a single answer document

vi.   Prior Results (by subject)

(1)   Prior results currently only apply to HS Science.

(a)   No Prior Results

(i)   Students with a blank `High_sPerf` and s`ciNTL` ≠ '1' from SIMS are considered to not have prior results.

(b)   Previously Passed

(i)   Students with a `High_sPerf` from SIMS in ('A', 'P', 'NI',, 'A_A', 'P_A', or 'NIA') are considered to have previously passed the subject, regardless of `sciNTL` value.

(c)   Previously Failed

(i)   Students with a `High_sPerf` from SIMS in ('F', 'PRG', 'EMG', 'AWR', and 'INP') are considered to have previously failed the subject.

(d)   Previously First Year LEP

(i)   Students with `SciNTL` = '1' from SIMS are considered to have previously participated in science as a First Year LEP student.

[a]   If `High_sPerf` is not a Previously Passed status and `SciNTL` = '1', the student is considered Previously Failed

2.   Participation Status Assignment Hierarchy (by subject)

a.   Breach List (Amend Flag > '1' assign participation status per standard hierarchy, all rules are then trumped by specific breach instructions)

b.   Void

i.   (Preliminary `Partstatus` = 'H')

ii.   Data from booklets that remain void post-discrepancy are suppressed from final reporting.

c.   Multiple Answer Booklets (Amend='1')

i.   (Preliminary `PartStatus`='I').

ii.   (Final `PartStatus`='N').

d.   Summarize = '1' or `TestGrade` = '09':

i.   Tested Alternate Assessment - the student's participation status is taken from the Alternate Assessment Data:

(1)   Breach Alternate Assessment (`PartStatus` = 'N').

(2)   Tested Alternate Assessment (`PartStatus` = 'A').

(3)   Tested Alternate Assessment Accountable Retester (`PartStatus` = 'C')

ii.   Without prior results:

(1)   If the student meets attemptedness then: Tested (`PartStatus` = 'Z').

(2)   If the student partially attempted or did not attempt:

(a)   If subject = 'ELA' and First Year LEP then: Not Tested LEP (`PartStatus`='F').

      (b)   Otherwise if the student is a Transfer student then: Not Tested Transfer (`PartStatus`='D').

      (c)   Otherwise if MED then: Not Tested Medically Excused (`PartStatus`='G').

      (d)   Otherwise: Did Not Test (`Partstatus`='J') (this applies to HS, sci/ela/mat only)

      (e)   Otherwise: Not Tested Absent (`PartStatus`='E').

   iii.   Previously Failed:

      (1)   If the student meets attemptedness then: Tested Accountable Retest (`PartStatus`='Y').

      (2)   If the student partially attempted or did not attempt then: Not Tested Accountable Retest (`PartStatus`='L').

   iv.   Previously Passed:

      (1)   (Preliminary processing only) If the student meets attemptedness or partially attempted then: Ineligible Accountable Retest, Previously Passed (`PartStatus`='P').

      (2)   If the student did not attempt (or during final processing: if the student did not attempt, partially attempted or meets attemptedness) then: Previously Passed (`PartStatus` = 'K')

e.   Summarize = '0' (regardless of any prior test results):

   i.   Tested Alternate Assessment then the student's participation status is taken from the Alternate Assessment data: Tested Not Accountable Alternate Assessment (`PartStatus` = 'W') or Breach Alternate Assessment (`PartStatus` = 'N').

   ii.   Otherwise, if the student meets attemptedness then: Tested Not Accountable (Retest) (`PartStatus` = 'R').

   iii.   Otherwise, if the student partially attempted then: Partially Tested Not Accountable (Retest) (`PartStatus` = 'B').

   iv.   Otherwise if the student did not attempt then: Not Tested Not Accountable (Retest) (`PartStatus` = 'J').

3. Participation Status Summary

Summarize	Prior Results	Description	Part Status	Test Stat*	Discrepancy Site	
					Code	**Text**
n/a	*n/a*	Breach	*Breach Instructions are applied at the student level regardless of participation status and are identified by Amend > '1'*			
		Void *(Preliminary Only)*	H	NTO	VAB	Void Answer Booklet
		Multiple Answer Documents *(Security Breach)*				
		Preliminary	I	NTO	DUP	Multiple Answer Booklets
		Final	N	NTO	*n/a*	*n/a*
		Invalidated *(Only assigned via Breach List)*	N	NTO	INV	Invalidated
1 (or Grade=09)	*n/a*	Tested Accountable Alternate Assessment	A	T	ALT	Tested Alternate Assessment
		Tested	Z	T	STD	Tested Standard
		Not Tested (/Partially Tested) – LEP *(ELA Only)*	F	NTL	LEP	Not Tested First Year LEP
		Not Tested (/Partially Tested) - Transfer	D	NTO	TRN	Transferred
		Not Tested (/Partially Tested) – Medically Excused Absent	G	NTM	MED	Medically Excused
		Not Tested (/Partially Tested) - Absent	E	NTA	ABS	Absent
		Incomplete	S	NTO	INC	Incomplete
	Prev. Failed	Tested Alternate Assessment Accountable Retest	C	TR	ALR	Retested Alternate Assessment
	Prev. Failed	Tested Accountable Retest	Y	TR	RET	Retested
	Prev. Failed	Previously Failed (Not Tested /Partially Tested Accountable Retest)	L	NTO	PRF	Previously Failed
	Prev. Passed	Ineligible Accountable Retest – Previously Passed & Retested *(Preliminary Only- final see K)*	P	NTO	PPR	Previously Passed & Retested
	Prev. Passed	Previously Passed	K	NTO	PAS	Previously Passed
0	*Any*	Tested Not Accountable Alternate Assessment (Retest)	W	TR	ALN	Retested Alternate Assessment Not Aggregated
		Tested Not Accountable (Retest)	R	TR	REN	Retested Not Aggregated
		Partially Tested Not Accountable (Retest)	B	NTO	INC	Incomplete
		Not Tested Not Accountable (Retest)	J	NTO	DNT	Did Not Test

* Student results achieved while First-year EL, or students currently First-year EL (see rptLEPFirst calculation) are reported with TestStat = "NTL" in place of listed TestStat (all subjects). See Calculations by Participation Status Summary Table for more details.

4. Post-Discrepancy Participation Status Assignment

    a. DA only "recalculates" participation statuses for students with a blank participation status during post-discrepancy processing. All other participation statuses are maintained as they are provided from the discrepancy data.

    b. DP will reset participation statuses to blank prior to final processing for the following discrepancy events so DA will recalculate a new status:

        i. Student test grade is changed.

        ii. Summarize is changed (not applicable in unchanged grades 03-08, 09).

        iii. First year LEP status is changed.

        iv. Test is still void (entire book is suppressed).

        v. Tests are added or removed for a student.

        vi. Prior results (`high_xPerf, sciNTL`) are changed for a student.

        vii. Amend codes are updated

V. CALCULATIONS

A. Rounding Rules

Calculation	Rounded (to the nearest)
Student Counts	Whole Number
Percentages	Whole Number
Mean Growth Percentile	Whole Number

B. Psychometric Input

1. Item Analysis Interactions Specific for MCAS

    a. Below are MCAS-specific conditions programmed within the standard Item Analysis System (DAMS). Any changes to the handling of these cases need to be vetted against this system to ensure accurate scoring and item calculations

    b. Item Analysis Student Inclusion/Exclusion (Ex[sub]) & Matrix Files

        i. Only first time accountable test takers that are not first-year LEP (`Partstatus` = 'Z' and `rptLEP[sub]` are included for item analysis and psychometric equating files (`Ex[sub]` = '0').

        ii. All other students are excluded (`Ex[sub]` = '1').

        iii. All analysis will be based off CBT tests for Next Gen

        iv. For Next Gen tests due to the way some accommodations cannot be spiraled. The accommodations listed below will have the following special handling

            (1) Students with unique accommodations to be excluded include: paper-based testing, text-to-speech (TTS), Braille, Spanish, human reader, screen reader, ASL, and assistive technology);

            (2) At DESE's discretion data will be provided to psychometrics to study mode effects. However, this data will not be expected to determine operational results in 2019.

            (3) Students with these accommodations will be excluded from all matrix files

            (4) Students with these accommodations will be excluded from CTT and dif calculations from for matrix items but will be included for scaling items.

        v. For High School Science (STE's) if an included student does not attempt at least one of the first 10 items (common or matrix/field-test) they are excluded (`Exsci` = '1').

        vi. For High School STE in addition to the rules outlined above, students with `stugrade` in ('11','12') are excluded.

C. Scaling, Equating and Item Statistics

1. Dif Stats Threshold

    a. 07 Math

        i. 90 for nonformerEL vs. formerEL
        ii. 100 for all other combinations

    b. 08 Math

  i.   75 for non-EL_formerEL vs. EL_formerEL

  ii.   100 for all other combinations

 c. All other 03-08 Grades/Subjects

  i.   100 for all combinations

 d. HS Sciences (09 and 10 combined):

  i.   50 for all combinations.

 e. HS ELA and Math

  i.   50 for non-EL_formerEL vs. EL_formerEL

  ii.   100 for all other combinations

2. Legacy Scaling

 a. Scaling is done using a lookup table provided by psychometrics and the student's overall raw score (by subject).

 b. The scaled score lookup achievable scaled scores are always even numbers and are between 200 and 280 every year.

 c. Psychometrics provides the High School Science lookup for Grade 09 and 10 in each subject. The grade 09 lookups are identical to the grade 10 lookups.

3. Next Gen Scaling

 a. Scaling is completed using a lookup table provided by Psychometrics. Scales are based on student's test mode, scaleform, and raw scores

4. Achievement Level Coding for G10 Legacy Tests (i.e. HS Science only this year)

 a. The MCAS Standard Assessment has four possible achievement levels, assigned to students using the raw to scale score lookup provided by psychometrics.

 b. Alternate Assessment achievement levels are translated to their corresponding standard assessment achievement level prior to computing any aggregate calculations that include alternate assessment achievement level results as shown below

5. Achievement Level Coding – NextGen Tests

MCAS Achievement Level	MCAS Description	MCAS Alt Achievement Level	MCAS Alt Description
1		7	Incomplete Portfolio (INP)
		8	Awareness (AWR)
	HS STE: Failing (F)	9	Emerging (EMG)
	Not Meeting Expectations (NM)	10*	Progressing (PRG)
2	Needs Improvement (NI)	11	Needs Improvement (NIA)
	Partially Meeting Expectations (PM)	14*	Partially Meeting Expectations-Alt (PM_A)
3	Proficient (P)	12	Proficient (P_A)
	Meeting Expectations (M)	15*	Meeting Expectations-Alt (M_A)

4	Advanced (A)	13	Advanced (A_A)
	Exceeding Expectations (E)	16*	Exceeding Expectations-Alt (E_A)

*used only for grade 03-08,10 ELA and Math and 5 & 8 Science

D. Student Level Calculations

Calculations by

Prior Results	Description	Part Stat	rptLEP[sub]¹	Test Stat	Raw Scores	Item Scores	rScaled Score (MP Reports)	Achievement Level (rPerfLevel, mfPerfLev)	mfScaledScore	Achievement Level (Perf2/mfPerf2)	CPI / Numin	Assess ²
							('---'indicates data are blank)					
	Breach			*Breach Instructions are applied at the student level regardless of participation status and are identified by Amend > '1'*								
	Void *(Preliminary Only)*	H	*any*	NTO	earned	earned	---	VAB	---	---	---	0 ³
	Multiple Answer Documents (Security Breach):											
	Preliminary	I	*any*	NTO	earned	earned	---	DUP	---	---	---	---
	Final	N	*any*	NTO	---	---	---	INV	---	---	---	---
	Tested Alternate Assessment	A	0	T	---	---	---	earned (Alt)	---	earned (Alt)	X	1
			1	NTL					---	---	---	1
	Tested	Z	0	T	earned	earned	earned	earned	earned	earned	X	1
			1	NTL			*Pass:* earned *Else:* ---	*Pass:* earned *Else:* LEP	*Pass:* earned *Else:* ---	---	---	1
	Not Tested /Partially Tested – LEP (ELA Only)	F	1	NTL	Earned		*HS Pass:* earned *Else:* ---	*HS Pass:* earned *Else:* LEP	*HS Pass:* earned *Else:* ---	---	---	1
	Not Tested /Partially Tested - Transfer	D	0 (M/S 1)	NTO				*HS Pass:* earned *Else:* TRN		---	---	---
	Not Tested /Partially Tested – Medically Excused Absent	G	0 (M/S 1)	NTM				*HS Pass:* earned *Else:* MED		---	---	0
	Not Tested /Partially Tested - Absent	E	0 (M/S 1)	NTA				*HS Pass:* earned *Else:* ABS		---	---	0
F	Tested Alternate Assessment Accountable Retest	C	0	TR	---	---	---	earned (Alt)	---	highest (Alt)	X	1
			1	NTL					---	---	---	1
F	Tested Accountable Retest	Y	0	TR	earned	earned	earned	earned	highest	highest	X	1
			1	NTL			*Pass:* earned *Else:* ---	*Pass:* earned *Else:* LEP	*Pass:* highest *Else:* ---	---	---	1

1 (or grade=09)* applies to the lower grouping of rows.

F	Previously Failed (Not Tested /Partially Tested Accountable Retest)	L	0	NTO	*Pass:* earned *Else:* ---	*Pass:* earned *Else:* ---	*Pass:* earned *Else:* ---	*Pass:* earned *Else:* PRF	highest	highest	X	1
			1	NTL				*Pass:* earned *Else:* LEP	*Pass:* highest *Else:* ---	---	---	1
P	Ineligible Accountable Retest – Previously Passed & Retested *(Preliminary Only)*	P	0	NTO	earned	earned	---	INE	prior	prior	X	1
			1	NTL					prior	---	---	1
P	Previously Passed	K	0	NTO	---	---	---	PAS	prior	prior	X	1
			1	NTL					prior	---	---	1
0	Tested Not Accountable Alternate Assessment (Retest)	W	0	TR	---	---	---	earned (Alt)	---	---	---	---
			1	NTL								
	Tested Not Accountable (Retest)	R	0	TR	earned	earned	earned	earned	earned	---	---	---
			1	NTL			*Pass:* earned *Else:* ---	*Pass*: earned *Else:* LEP	*Pass:* earned *Else:* ---			
	Partially Tested Not Accountable (Retest)	B	*any*	NTO	earned	earned	*Pass:* earned *Else:* ---	*Pass:* earned *Else:* INC	*Pass:* earned *Else:* ---	---	---	---
	Not Tested Not Accountable (Retest)	J	*any*	NTO	---	---	---	DNT	---	---	---	---

[1] rptLEP is LEPFirst for all grades/subjects/participation statuses that do not have prior results. It is a calculated combination of LEPFirst and prior LEP First status for Accountable partstatuses with prior results. See calculations section for details.

[2] Assess exceptions for ELA: there is an additional condition of participation on the Access test. See calculation specifics for details.

[3] If Summarize = 1 then Assess = 0. If Summarize = 0 then Assess is blank.

*Grade = 09 students are assigned participation statuses as if Summarize = '1'. Perf2, CPI, Numin, and Assess are populated for calculations but set to blank in the Megafile deliverable.

Note: "(M/S 1)" indicates that rptLEP[sub] may also be '1' in Math and Science for the listed participation statuses.

1. StudentID

    a. StudentID = rptStudentID from DPRaw (verified SASID)

    b. For non-demonstration students, if StudentID does not begin with '10' it was generated by DP for linking purposes, and will be set to blank for reporting

2. Accommodations and Accommodation Footnotes

    a. If a student did not attempt any items in a subject, the corresponding raw accommodation indicators (from DPRaw) are ignored during the determination of accommodations and footnotes for reporting. Otherwise, if a student attempts at least one item in a subject, the corresponding raw accommodation indicators are evaluated:

        i. For ELA and Math accommodation all items (common, matrix, and field-test) are considered.

        ii. All of the underlying accommodation fields in DPRaw are maintained as provided, regardless of student attempt status.

b. Standard Accommodations

 i. `Accom_e` = '1' if the student received any accommodations (except color contrast & answer masking, non-IEP/non-504) in ELA, otherwise set it to blank.

 ii. `Accom_m` = '1' if the student received any accommodations in Math (except color contrast & answer masking, non-IEP/non-504), otherwise set it to blank.

 iii. `Accom_s` = '1' if the student received any accommodations in Science (except color contrast & answer masking, non-IEP/non-504), otherwise set it to blank.

c. Special Access ELA Accommodations

 i. Human Read-Aloud as a special access Accommodation is indicated then `Accom_ReadAloud`='H'

 ii. If Text to Speech accommodation is indicated then `Accom_ReadAloud`='T'

 iii. If Kurzweil special access Accommodation is indicated then set `Accom_Readaloud`='K'

 iv. If Human Scribe special access Accommodation is indicated then `Accom_Scribe`='H'

 v. If Speech to Text Non Standard Accommodation is indicated then `Accom_Scribe`='S'

d. Special Access Math Accommodation

 i. If calculation Device Accommodation is indicated then `Accom_Calculator`='1'

e. For special access Accommodation Student Report text based on `elaNSAFootnote` and `matNSAFootnote` see table Special Access Accommodation Footnote Text (Student Report)

3. Reporting First Year LEP Status

a. `RptLEP` is determined for each subject based on current year `partstatus`, test attemptedness, First Year LEP status, and Prior First Year LEP Status (where applicable) in order to determine if a student's results should be considered achieved while under First-Year LEP status or as currently First-year LEP. This takes into consideration the prior status of the student when prior results are eligible for accountability (currently only allowed in Science)

b. For all participation statuses that are considered Not Accountable `rptLEP`[sub] = `LEPFirst`.

c. Otherwise if the student is considered Accountable then:

 i. If the student has prior results:

  (1) If the student meets attemptedness this year then: `rptLEP[sub]` = `LEPFirst`.

  (2) If the student partially attempts or does not attempt this year then:

   (a) `rptLEP[sub]` = '1' if either `LEPFirst` = '1' or `[sub]NTL` = '1

   (b) Otherwise `rptLEP[sub]` = '0

    (i) If the student does not have prior results then `rptLEP[sub]` = `LEPFirst`

4. Alt

    a. `[e/m/s]Alt` is set to '1' if a student is considered Tested or Retested Alternate Assessment (accountable or not accountable; `PartStatus` in 'A','C','W'). Otherwise it is set to '0'.

5. SpecialEd

    a. If a student is considered Tested or Retested Alternate Assessment (accountable or not accountable) in any subject (`eAlt`, `mAlt`, or `sAlt` = '1') then `SpecialEd` = '1'. Otherwise it is taken from IEP in SIMS. If it is blank it is defaulted to '0'.

6. Sims CD

    a. The latest CD value from SIMS for Math, ELA, and Science is stored for each student as-is, without any additional formatting as `SIMS_[sub]CD`

7. SSubject

    a. `SSubject` is set to the science subject that is used for reporting
    b. Data Processing will provide the science subject for the current test as well as science subject for prior results
    c. If a student took alt then the alt science subject is reported
    d. If a student is reported using their prior results then the prior science subject will be reported.
    e. Otherwise the current science subject will be reported.
    f. Released = `daIref.Released` (where '1' = released item, '0' = unreleased item)
    g. `RepCatCode` is the 2-character reporting category code for each item:

        i. Assigned by Item Number for Math and ELA using `daReportingCategoriesCrosswalk`.
        ii. Assigned by daIref.Cat2 for Science using `daSciRepCatCodes`

8. Raw Scores

    a. Overall Raw Score

        i. The student's overall raw score is the sum of scores for all scaling items
        ii. If a student has a `partstatus` that does not receive reported raw scores or if the student did not attempt any items (`Attempt[sub]` ='N') then the raw score is set to blank after all subsequent calculations are complete.

9. Points Earned

    a. `MCpts` are based on common, scaling multiple choice or selected response items with point values stored in item metadata tables.
    b. `ORpts` are based on non-MC or involving open-response and constructed response(including essay scores). Item point totals are calculated based on item metadata tables.
    c. If a student does not receive reported raw scores these calculations are set to blank.

10. Reporting Category Points Earned

    a. The total points earned and the percent of possible points earned by the student are calculated by reporting category.
    b. Calculations include all scaling items.

c. If a student does not receive reported raw scores the number of points earned and the percent of possible points earned are set to blank

11. Legacy Item Responses

   a. If a student has a participation status that does not receive reported item scores, or does not receive item scores because of attempt status, pass requirements or `rptLEP` conditions, all item responses will be blanked out (NULL) after raw score calculations are complete.

   b. Otherwise, re-formatted and re-ordered (by released item order) responses to all common items are reported to support the student report and megafile deliverables (excluding the State File, which includes all items):

      i. Released and unreleased OR items: the item score or not scorable code is reported. Responses of 'B' (blank) are set to NULL.

      ii. Released MC items: the plus-data from `daPlusData` is stored, where a "+" indicates a correct response and an alpha character (A,B,C,D,*) indicates an incorrect response choice.

      iii. Unreleased MC items: the plus-data from `daPlusData` is stored after re-formatting such that a "+" indicates a correct response, and "-"indicates a masked incorrect response choice (multiple responses ("*") remain unmasked).

12. Next Gen Item Responses

   a. Students with a participation status that does not receive reported item scores and those who do not receive item scores due to test attempt status, passing status, or `rptLEP` conditions will have scores blanked out (NULL) after raw scores have been calculated, if applicable.

   b. Otherwise, re-formatted and re-ordered responses to all scaling items are reported and stored to support the student report and megafile deliverables (excluding the State File, which includes all items):

      i. Released Essays: see the Essay Total Score calculations.

      ii. OR and MC items: the item score or not scorable code is reported. Responses of 'B' (blank) are set to NULL.

13. Current-Year Reporting Results

   a. Information stored in `ScaledScore`, `Perflevel`, `rScaledScore`, and `rPerflevel` are based on current year test results only. See the Calculations by Participation Status Summary table for details.

   b. `ScaledScore`

      i. Current-year scaled score results that are eligible to earn a current year scaled score. Conditions based on pass/fail, `rptLEP` or breach codes are not applied. This is an internal MP field that is not directly reported.

      ii. Blank for alternate assessment students and students not eligible to receive a scaled score based solely on participation status.

   c. PerfLevel

      i. Earned current-year achievement level based on `scaledscore` (1-4). Conditions based on pass/fail, `rptLEP`, or breach codes are not applied.

      ii. For Alternate Assessment students the un-translated `PerfLevel` from the Alternate Assessment data table StuPL is stored (7-16).

      iii.   If the student does not receive an achievement level based solely on `partstatus PerfLevel` is blank.

      iv.   Valid Values: numeric achievement levels (1-4, 7-16) or blank. Internal MP field that is not directly reported.

  d.   `rScaledScore` (MP reporting – labels and student report)

      i.   `rScaledScore` is the current year earned scaled score for MP reporting purposes.

      ii.   `rScaledScore` = `ScaledScore`, with suppression based on pass/fail status, `rptLEP`, or breach codes applied from the participation status summary table.

  e.   `rPerfLevel` (MP reporting – labels and student report, `mfPerfLev`)

      i.   `rPerfLevel` is the current year achievement level or `partstatus` code for MP reporting purposes.

      ii.   `rPerfLevel` = `Perflevel`, modified based on pass/fail status, `rptLEP`, or breach codes for reporting as follows:

        (1)   If `perflevel` = '1' and `rptLEP`[sub] = '1' and the student has a `partstatus` that receives the text "LEP" in place of a non-passing achievement level then `rPerfLevel` = 'F'. This is applied by subject for all subjects.

        (2)   Otherwise if `perflevel` is blank then `rPerflevel` = `partstatus`.

        (3)   If a student has a breach code then `rPerfLevel` is assigned per the breach instructions to override any other standard rules.

      iii.   Valid values: numeric achievement levels (1-4, 7-16) and `partstatus` codes.

  f.   `mfPerfLev` (megafile: [`e/m/s`]`PerfLev`)

      i.   Formatted `rPerfLevel` (current year reporting results) to contain either the student's achievement level abbreviated text (Standard or Alt), or 3-character participation status code for all students (e.g. 'P' or 'P_A' or 'LEP' or 'TRN').

14.   Aggregation/Accountability Results

  a.   Aggregation and Accountability Results combine prior and current results, where applicable. See the Calculations by Participation Status Summary table for details.

  b.   `mfScaledScore` (megafile: [`e/m/s`]`scaleds`)

      i.   For Accountable or Grade 09 students `mfScaledScore` is populated with either the current year scaled score, or prior scaled score as applicable for accountability. For Not-Accountable students `mfScaledScore` is populated with current year results as applicable.

      ii.   `mfScaledScore` is populated as follows for Accountable students (or Grade 09):

        (1)   `mfScaledScore` = `rScaledScore` for First Time Testers and First Time Testers that did not meet attemptedness (ABS, MED, TRN, LEP).

        (2)   `mfScaledScore` = Highest between `rScaledScore` and the prior highest `ScaledScore` ([`sub`]`ScaledScore` from `DPRaw`) for Accountable Retest Students.

        (3)   `mfScaledScore` = Prior highest scaled score for Previously Passed students ([`sub`]`ScaledScore`] from `DPraw`).

(a) Note: if `[sub]ScaledScore` is blank for the above scenario, the student passed via appeals and an accurate scaled score may not be available. `mfScaledScore` is left blank.

(4) Otherwise `mfScaledScore` is blank

iii. If `rptLEP` = '1' and the student's `mfScaledScore` (as determined above) is considered Failing, then `mfScaledScore` is set to blank.

iv. `mfScaledScore` = `rScaledScore` for Not-Accountable students.

c. Perf2 (MP aggregate calculations)

i. Populated with the achievement level for MP aggregate calculations and to support the megafile Perf2 using current year and prior results as applicable.

ii. Perf2 is blank for all students with `rptLep`[sub] = '1'.

iii. Otherwise Perf2 is populated as follows for Accountable or Grade 09 students:

(1) Perf2 = `rPerfLevel` for First Time Testers (1-4, '6' is translated to '1').

(2) Perf2 is blank for First Time Testers that did not meet attemptedness (ABS, MED, TRN, LEP).

(3) Perf2 = Highest achievement level between `rPerfLevel` and `High_xPerf` for Accountable Retesters (science only).

(4) Perf2 = Highest prior achievement level (`High_sPerf`) for Previously Passed students.

(5) Perf2 = Translated Alternate Assessment Perf2 for students Tested Alternate Assessment or Accountable Retested Alternate Assessment. Translation is done from Alternate Assessment Achievement Levels of 7-16 to Standard Achievement Levels 1-4

iv. Otherwise perf2 is blank. Perf2 is blank for all Not-Accountable students except for grade 09 (available for grade 09 specific MP aggregations).

d. `mfPerf2` (megafile: `[e/m/s]Perf2`)

i. `Perf2` formatted to contain the student's achievement level abbreviated text (using Standard Assessment text only, e.g. 'P' or 'A'). Blank if Perf2 is blank.

ii. mfPerf2 is set to blank for grade 09 students in the megafile export.

15. Competency: Updating `ELA_CD`, `Mat_CD`, and `Sci_CD`

a. These variables represent whether or not a student has met the testing graduation requirement for the subject, combining prior CD information from SIMS with the current test results.

b. The updated `mfCD` fields begin with the prior CD value from SIMS (`studemo SIMS_[sub]CD`) for all students, regardless of participation status on this year's test. The prior value may be blank for students that have not previously tested in a subject.

c. The `mfCD` fields are then updated using current year scaled score results (`rscaledscore`) if and only if the CD value increases, otherwise the prior value is retained:

d. For Legacy-equivalent `nextGen` Math and ELA: cut-offs will be available in August

i. If legacy-equivalent scaled score is ≥ XXX and scaled score is ≤ YYY then CD = '1'.

ii. Otherwise if legacy-equivalent scaled score ≥ ZZZ then CD = '2'.

       iii.   Otherwise CD is '0'.

   e.   For Science:

       i.   If scaled score ≥ 220 then CD = '1'.
       ii.   Otherwise CD is '0'.

   f.   For students tested via the Alternate Assessment (`Partstatus` in 'A', 'C', or 'W') the CD field is taken from the current-year updated CD field in the alternate assessment data (`tblStuPL.mfCD`) and is not re-calculated.

16.   Graduation Requirement Footnote (`CDFootnote`) (`tblScoredItem`)

   a.   The graduation requirement footnote is for High School students and indicates if a student has met, previously met, or still needs to meet the testing requirements for graduation.

   b.   Using the previous CD value from SIMS (`tblstudemo.SIMS_[sub]CD`) and the updated CD value incorporating current test results (`tblScoredItem.mfCD`) for each subject:

       i.   If `SIMS_[sub]CD` is '1' or '2' then CDFootnote = '4' (Already Met).
       ii.   Otherwise:

           (1)   If `mfCD` = '0' then CDFootnote = '1' (Not Met).
           (2)   If subject is ELA or Math:

               (a)   and `mfCD` = '1' then `CDFootnote` = '2' (Met but requires proficiency plan).
               (b)   And `mfCD` = '2' then CDFootnote = '3' (Met.)

           (3)   If subject is Science and `mfCD` = '1' then `CDFootnote` = '3' (Met).

       iii.   For Student Report text see Appendix F.

17.   Legacy Composite Performance Index (CPI) Points

   a.   CPI Points are assigned based on results used for Aggregations and Accountability.
   b.   For students whose accountability results are from the Standard MCAS Assessment:

       i.   CPI points are assigned based on their Accountability Scaled Score (`mfScaledScore`) per the following table:

Test	mfScaledScore Range	CPI Points
Standard MCAS	240-280	100
	230-238	75
	220-228	50
	210-218	25
	200-208	0

ii.   If `PartStatus` is in ('K','P') and `mfscaledscore` is missing:

    (1)   If `mfperf2` is "NI" (Standard Assessment) set CPI = 50 to indicate the student passed via appeals.

    (2)   Otherwise, mfPerf2 is from a prior year Alternate Assessment. CPI points are set per the following table in `tblScoredItem`:

Test	Alt Perf2:	CPI Points
Alternate Assessment	A_A	100
(Only when re-assigning based on prior-year Alt Results for Accountability)	P_A	
	PRG	
	EMG	75
	NIA	
	AWR	50
	INP	25

    c.   For Accountable Alternate Assessment students (Tested Alt or Accountable Retested Alt) CPI points are taken from the Alternate Assessment data

18.   Next Gen Composite Performance Index (CPI) Points

    a.   Not Calculated

19.   NumIn

    a.   See the calculations by participation status summary for a list of statuses that receive CPI points and `numin` = '1'. Otherwise it is '0'

20.   Assess

    a.   The subject specific Assess field is populated to indicate whether or not Accountable students have met the participation requirement this year based on the Calculations by Participation Status Summary table.

    b.   Exception for ELA only, when Assess = '1': If `LEP_off` = '1' and `ACCESS_Part` = '0' then Assess = '0'.

    c.   Fields are prefixed with e/m/s in the megafile.

21.   Student Growth Percentile (GP)

    a.   Student growth percentiles (and standard error range) are reported for accountable first-time test takers that are not considered First Year LEP (`PartStatus` = 'Z' and `LEPFirst`[sub] = '0') in year 2 (students must receive test scores in consecutive grades two years in a row, or have test scores in grade 8 and grade 10 over three years).

    b.   For all other students, GP is blank.

    c.   Growth is provided by the ESE for students in Math and ELA, in grades 4-8 & 10.

    d.   After the discrepancy period, any student with changes to their preliminary raw score, perf2, `partstatus`, or `StudentID` will have growth data suppressed.

22.   Complexity is populated with the student's alternate assessment composite complexity score for all students Tested or Retested (accountable or not-accountable) Alternate Assessment.

E. Aggregate Calculations

1. Aggregation Summary

    a. These rules are applied to all aggregate calculations. Any additional rules specific to a particular calculation will be listed under the rules for the calculation.

        i. All reporting levels (sch/dis/sta): Only students eligible for accountability (Summarize = '1') are included in aggregate calculations, with the exception of Grade 09 specific calculations.

        ii. Incomplete (INC) students are not included in any aggregations, even if their Summarize =1.

        iii. Students are aggregated to their official school (`sprp_sch`) and official district (`sprp_dis`), unless their `sprp_dis` is in d`aSingleSchDisLookup`, in which case they are aggregated to the school associated with their `sprp_dis` and inclusion rules are dictated by the district (school and district calculations must match).

        iv. Students with an SPRP `Orgtype` of 6 or 13 are used for school-level aggregations.

        v. For district aggregations, if `sprp_dis` = '99999999' then delete.

        vi. Exclusions based on `OctEnrol` are not applied to one-school district school or district level calculations.

    b. Number and Percent of Students by Achievement Level

        i. Calculated by grade and subject at the school, district, and state level.

        ii. Legacy Grades 09 and 10 Science subjects will be aggregated together and displayed as "Science and Technology/Engineering" Both grades 9 & 10 STE will show grade 10 students with perf2 populated.

        iii. Calculations are performed using Perf2. All students with a non-blank Perf2 are eligible to be included in the calculations, including Alternate Assessment students (Achievement Levels are already translated to Standard-Assessment Achievement Level codes in Perf2).

        iv. The following exclusions are applied to the pool of eligible students:

            (1) Next Gen - Grade 05, 08 (SCI), 03-10 Math and ELA:

                (a) Students with `OctEnrol` ≠'1' are excluded at the school level, unless they are in a one-school district

            (2) Legacy - Grade 10 Science (HS STE's):

                (a) Students with `ConEnr_Sch` ≠ '1' are excluded at the school level, unless they are in a one-school district, in which case students with `ConEnr_Dis` ≠ '1' are excluded.

                (b) Students with `ConEnr_Dis` ≠ '1' are excluded at the district level (as well as at the school level for one-school districts).

                (c) Students with `ConEnr_Sta` ≠ '1' are excluded at the state level.

        v. N = the total number of students included in the calculation of the number of students at each achievement level (n1-n4), and is the denominator for the calculation of the percent of students at each achievement level (p1-p4).

        vi. Minimum N-Requirement: if N < 10 for a school or district results are calculated but suppressed from reports.

c. P34

    i. This is the sum of the percent of students in the Proficient Achievement Level (p3) and the students in the Advanced Achievement Level (p4) in each school, district or state as calculated above in Number and Percent of Students by Achievement Level

d. Growth Aggregations

    i. All students with tblScoredItem.GP populated are eligible to be included in the calculations.

    ii. The following exclusions are applied to the pool of eligible students:

        (1) Students with `OctEnrol` ≠ '1' are excluded at the school and district level, unless they are at a one-school district.

    iii. State Mean growth is defaulted to 50 (after computing `MeanIncluded` at the state level) for Math and ELA, all grades.

    iv. Minimum N-Requirement: if N < 20 for a school or district results are calculated but suppressed from reports.

e. Legacy State Reporting Category Performance Comparison

    i. The average number of points earned (`nPoints`) and the percent of total possible points earned (`pPoints`) by students at the "low end of the Proficient level" is calculated for each reporting category at the state level, stacked by subject and `reporder`. The student group used must be greater or equal to 200.

    ii. Standard assessment students with `partstatus` = 'Z' and a `scaledscore` = '240' are included.

    iii. Include students in both grade 9 and 10 first time test takers.

f. Next Gen Reporting Category Calculations

    i. Paper and Online tests are aggregated together.

    ii. Students near Meeting Expectations

        (1) The average number of points earned (`nPoints`) and the percent of total possible points earned (`pPoints`) by students at the "low end of the Meeting Expectations level" is calculated for each reporting category at the state level, stacked by subject and `reporder`. The student group used must be greater or equal to 200; if not, students from the next (higher) scaled score will be included in the analysis,

        (2) If any test/mode at a grade/content level does not reach the 200-student threshold within the scaled score range of 500-505, the student's report will not include the percent possible points for students scoring near Meeting Expectations for the reporting categories.

    iii. Average Points Earned

        (1) Calculate average points earned for School, District and State

VI. DATA DELIVERABLES SPECIFICATIONS

A. MegaFile(s)

1. Generic Details

   a. Megafile deliverables are posted by grade to the FTP site for the state and contain data for all processed students.

   b. All MegaFile deliverables follow the most recent layout: MCAS 2018-19 File Layout_spring test.xlsx.

   c. Test-result based fields that are not applicable to particular deliveries are left blank. SIMS based fields are populated for all releases, where available.

   d. Amend

      i. If a student receive an amend code for the General or Alternate Assessment, then the amend field will contain the first letter of that test (e.g., A value of "EM" indicates the student received an amend code in ELA and Math).

   e. DataChanged

      i. DataChanged indicates if a student's record has changed since a prior release of the file. It is defaulted to '0' for all students.

      ii. Students whose record changes during the discrepancy period are flagged as datachanged = '1' (first full revision) in the post-discrepancy reporting file (release 4).

      iii. Only use the following fields when calculating datachanged

         (1) sprp_dis
         (2) sprp_sch
         (3) e/m/steststat
         (4) e/m/srawsc
         (5) e/m/sscaleds
         (6) e/m/sperflev
         (7) e/m/sperf2
         (8) e/m/scpi
         (9) e/m/snumin
         (10) e/m/sassess

   f. Commas are suppressed from school and district names, and student names.

   g. If [e/m/s]Alt. = '0' then set to blank.

   h. If LEPFirst = '0' then set to blank.

   i. For the following Accommodation variables, if the accommodation equals '0', then set to blank: Accom_readaloud, accom_scribe, accom_calculator.

   j. [e/m/s]ScaledS is the combined current year and prior year official scaled score results for students included in aggregations and accountability.

   k. [e/m/s]Perflev is the formatted current year achievement level or code.

   l. [e/m/s]Perf2 is the formatted combined current and prior year achievement level results for accountability and aggregations. Set to blank for Grade = '09'.

   m. [e/m/s]_CD is updated with current-year results.

   n. [e/m/s]SGP is the reported current-year student growth percentile.

   o. If Grade = '09' then the following accountability fields are set to blank:

   i.   sPerf2
   ii. sCPI
   iii. sNumin
   iv. sAssess
   v.   (Grade 09 test results are not included in DESE aggregate calculations until their accountability year)

2.   Preliminary Release Specifics

   a.   File Name:MCASYYYY_XX.dat
   b.   Where YYYY = 4-digit test year (e.g. 2019), XX = 2-digit test grade.
   c.   Files are produced for grades 03-08 and HS (includes test grade 09 and 10 data).
   d.   DataChanged is taken from the Preliminary Release file. If a student record is new or was modified during the discrepancy period, datachanged is set to '1'. For any subsequent updates the datachanged flag will be maintained and incremented as necessary.
   e.   MCASRowID
        The mcasrowid is a 15 digit alpha-numeric field created in the following manner:

        i.   2 digits = administration year (ie: 19 for the 2019 test)
        ii.   2 digits = file grade (03-08 or HS)
        iii. 1 digit = test (1 = Standard)
        iv.   10 digits = bookletnumber (derived by DP from the student's SASID or submitted answer document)

B.   Assigned Accommodations Data File(s)

1.   File Name: [sub]Accom.csv
2.   One file is produced by subject including all students in all grades and posted to the FTP.
3.   The file contains grade (tested grade), UniqueID, sprp_dis, sprp_sch, testschoolcode, sasid, IEP, Plan504, smode, EL, and the subject-specific accommodations (renamed per the ESE naming conventions found in the State File Layout) from DPRaw. These are all post-discrepancy data.

C.   Accessed Accommodations Data File(s)

1.   File Name: [sub]AccomByItem.csv
2.   One file is produced by subject including all students in all grades and posted to the FTP.
3.   For each test the file is stacked by item UIN and indicates which accommodations were accessed for that item.
4.   Items with no accommodations accessed are not included in the file. If a student has not accessed any accommodations on the test this will result in that student not being included in the file.

D.   Questionnaire Data File(s)

1.   File Name: Questionnaire Data GrXX.csv where XX = 2-digit grade
2.   Layout: MCAS[4-digit year]Questionnairelayout.xlsx
3.   Files are produced for Grades 04, 05, 08, and 10 and posted via FTP.

4. All students are included regardless of responses to questionnaire items, listed by SASID (StudentID), and g5/8 STest UUID & g4/10 math UUID.
5. Questionnaire responses are taken as-is from `DPRaw`.

E. Alt & Standard Results Data Files

1. One file is produced including students in all grades that took both the Alternate Assessment and Standard Assessment in the same subject. This file provides score and achievement level information for the ESE to determine if any students should have their Standard Assessment results override their Alternate Assessment results. This file is posted to the FTP.

F. Missing Grade Span Data File

1. File will list all public `sprp_sch` codes that are in the Preliminary data (release 3) that are not listed in the Grade Span Lookup provided by the ESE.
2. This file is only produced if needed and will be posted to the FTP. The ESE will provide an updated Grade Span lookup prior to final reporting to ensure all official schools have an associated grade span.
3. Public scores are coded as `OrgTypeCode` = 6.

G. State Student Results Data File

1. File Name: MCASYYYYStateFile_XX[sub].dat
2. Layout Name: 'MCAS Spring YYYY State File Layout.xls'
3. Where YYYY = 4-digit test year (e.g. 2013), XX = 2-digit test grade.
4. Files are produced for grades 03-08 and HS (includes test grade 09 and 10 data).
5. For each grade and subject Measured Progress will generate an item list that includes all items across all forms along with indicators for scaling and equating status.
6. The state student file will have one record per test and the scored data for each item will be in the sequence order dictated by the item list.

H. Student Report Translation Counts

1. File Name: MCASYYYY Interp Lang Counts.xls
2. One file is produced by listing all schools and districts receiving student reports with a count of the number of students in each language
   a. This list is subject to change based on the top ten languages reported

DPRaw. FirstLanguage	Language	iCore Shipping Form
135	Arabic	01
001	Cape Verdean	02
002	Chinese	03
200		
520		
225	Haitian Creole	04
430	Khmer	05
445	Korean	06
006	Portuguese	07
665	Russian	08
007	Spanish	09
825	Vietnamese	10

3. Guides are provided in the 03-08, 10 report format, or grade 09 report format. Grade 03-08 and 10 students receive the 2-3 subject report templates are counted together for the 03-08, 10 counts. Grade 09 students and Grade 10 students receiving science-only reports are counted together for the Grade 09 template. The same list will apply to both General and Alternate assessments.

4. Data are based on a frequency distribution of first languages reported in the SIMs extract

I.   Discrepancy Table

1. Table Name: `tblDiscrepancy`
2. Layout: MCASYYYYDiscrepancy.xls
3. Contains all data from `tblDiscrepancy` after the discrepancy period has closed with the edits from the field, ESE users, and MP users. Only students that had an update made are included (Edit = 'U', `DESEflag` = 1, or `MPflag` = 1, or `DESEReviewed` = 1).

J.   Testing Times

1. Filenames : MANEXTGENYYYYTestingTime_PassageItem.dat and MANEXTGENYYYYTestingTime_Section.dat
2. Layout: MANextGenYYYYTestingTimeLayout.xlsx
3. Contains the total number of seconds each student spent on each question, session, time spent reading each passage for math and ELA for MCAS 2.0 and total testing time.
4. Sources:

a. Datafile received from Pearson

K.   Item Statistics

cognia™

1. Data Analysis will provide item statistics to Psychometric. The initial handoff involves statistics for equating and key verification. Once the test has been administered, the IRT values will be added to the item's statistics.

L.   High School Class of 20YY Counts

1. Filename: MCASYYYYLetterCounts.xlsx
2. Layout: No formal layout. File contains `Discode`, `SchCode`, and `nStudents` and is used by shipping to know how many letters to send with the parent report shipment.
3. This spreadsheet contains the counts of the grade 10 students tested at each school

VII.   REPORT DELIVERABLES SPECIFICATIONS

A.   Definitions

1.   The following terms will be used to describe certain formats/behaviour:

a.   Next Gen Online suppression rules

i.   If a student does not receive a student report, then no label is printed for the student

ii.   If all tested subjects for the student are under the Alternate Assessment, then students will not receive a label or student report.

B.   Student Labels

1.   Templates

a.   There are three different label templates that differ depending on the number of subjects reported for the tested grade:

i.   One subject – grade 09, grade 10 where summarize='0' and both math and ela tests were not submitted.

ii.   Two subjects – grades 03, 04, 06, 07

iii.   Three subjects – grades 05, 08, 10

2.   Label Displays

a.   Student Name (Section1a)

i.   Presented as: `FName MI`. `LName` (with a period after the middle initial when the middle initial is not blank). Examples: JOHN T. SMITH or JENNY JONES

ii.   This section requires special formatting when one or more of the names are missing:

(1)   If `Lname` is blank and `Fname` is blank, then section = "BLANK NAME"

(2)   If `Lname` is blank and `Fname` is not blank, then section = "Fname BLANK"

(3)   If `Lname` is not blank and `Fname` is blank then section = "BLANK Lname"

b.   Grade

i.   If grade='10' and summarize = 0 and `StuGrade` <> 'SP' then use the use `StuGrade` from SIMS.

ii.   Otherwise use the Test Grade and remove any leading zeroes.

c.   SASID – Student ID from SIMS, no special formatting applied.

d.   School Name, School Code, and District Name – School and District names and School Code from iCore based on testing school (`discode`,`schcode`). No special formatting applied.

e.   Birth Date – DOB from SIMS, no special formatting applied. Stored in `tblStudemo.DOB`. Must be equal to 10 characters in length (MM/DD/YYYY).

f.   Test Date: "Spring 20YY" where 20YY = test year, e.g. 2013.

g.   Subject Title (Section1i, Section1l, Section1o) – Formatted with the following values:

i.   If subject = 'ela' then 'English Language Arts'

      ii.   If subject = 'mat' then 'Mathematics'

      iii.   If subject = 'sci' then and grade is 05 or 08 then 'Science and Technology/Engineering'

      iv.   Otherwise if subject = 'sci' and grade is 09 or 10 (HS STE's) then:

          (1)   If `rptSciTry` = '1' then 'Biology'

          (2)   If `rptSciTry` = '2' then 'Chemistry'

          (3)   If `rptSciTry` = '3' then 'Introductory Physics'

          (4)   If `rptSciTry` = '4' then 'Technology/Engineering'

h.   Scaled Score – student earned scaled score stored as `rScaledScore`. If a student did not earn a scaled score for a tested subject (`rScaledScore` is NULL) the display is formatted as "---".

i.   Achievement level contains either the achievement level text or the not-tested statement stored in `tblPerfLevelLookup` (see Appendix A- Description). This is set using the student's `rPerfLevel`. This is always populated if the subject existed at the tested grade.

C.   Legacy HS Student Report Template

1.   The following sections discuss the formatting of the various displays presented on the legacy high school student report. All calculations and aggregation rules can be found in earlier sections of this document. Please note that all details mentioned below cover reporting of tested students as outlined in Test Administration Table. These sections will refer to the following schema notation files when necessary for providing information for specific report templates:

    a.   MCASYYYYStudentReportSchemaNotation09.pdf (templates for test grades 09)

2.   Cover Page

    a.   Title (Section1a) – "Spring 20YY MCAS Tests" where 20YY = test year, e.g. 2019.

    b.   Student Name – Presented as: `LName`, `FName` MI. (with a period after the middle initial when the middle initial is not blank). Examples: SMITH, JOHN T. or JONES, JENNY

    c.   This section requires special formatting when one or more of the names is missing:

      i.   If `Lname` is blank and `Fname` is blank, then section = "BLANK NAME"

      ii.   If `Lname` is blank and `Fname` is not blank, then section = "BLANK, Fname"

      iii.   If `Lname` is not blank and `Fname` is blank then section = "Lname, BLANK"

    d.   SASID – Student ID from SIMS, no special formatting applied.

    e.   School Name and District Name – School and District names from iCore based on testing school. No special formatting applied.

    f.   Grade

      i.   Test Grade and remove any leading zeroes.

    g.   DOB – DOB from SIMS, no special formatting. Must be equal to 10 characters in length (MM/DD/YYYY).

3.   Reporting Category Display

    a.   Subject (Section6a) – Formatted with the following values:

    i.   If `rptSci` = '1' then 'Biology'
    ii.   If `rptSci` = '2' then 'Chemistry'
    iii.   If `rptSci` = '3' then 'Introductory Physics'
    iv.   If `rptSci` = '4' then 'Technology/Engineering'

  b.   Reporting category text and two-character codes for the approved text and codes see Appendix D.

  c.   Reporting category results and state comparisons are displayed only for students who are Tested .

  d.   Points earned by your child is the points earned by the student in that reporting category.

  e.   Possible Points – points possible for that reporting category.

  f.   Percent of points earned by your child is points earned by child/points possible times 100. Place % symbol immediately after the number. Example: 15%.

  g.   Percent of points earned by minimally proficient kids. Place % symbol immediately after the number. Example: 15%.

    i.   This data is always displayed when the grid is displayed, regardless of whether or not the individual student has earned reporting category points.

    ii.   For HS STE's join to `tblRepCatSummary` based on the subject associated with the student's `rptSciTry` (if a student's `rptSciTry` = '2' then `pPoints` summarizing minimally proficient students in Chemistry is displayed).

  h.   Students identified as Suppress do not have this display on the report (all subjects).

4.   4) Released Item Display

  a.   Subject Title (Section7a) – Formatted with the following values:

    i.   Otherwise if subject = 'sci' and grade is 09 or 10 (HS STE's) then:

     (1)   If `rptSci` = '1' then 'Biology'
     (2)   If `rptSci` = '2' then 'Chemistry'
     (3)   If `rptSci` = '3' then 'Introductory Physics'
     (4)   If rptSci = '4' then 'Technology/Engineering'

  b.   Order of rows within each grid: The following definitions are used to both describe what appears and also what is printed in Section7b.

    i.   1 = "Question Number" – this is the released item order number.
    ii.   2 = "Reporting Category" – this is the two-character reporting category code.
    iii.   3 = "Your Child's Score" - this is the response provided by the student.

  c.   Formatting of Student Responses

    i.   If the student correctly responded for all MC items, this is translated to a 'P' in the reporting data so that a check mark is displayed.

    ii.   Incorrect MC items are already formatted to display the student's incorrect response option.

    iii.   Otherwise for all other items the points earned by the student from tblStuScore is presented along with the possible points for the item separated by a "/". Examples: 2/4 or 7/12.

  d.   Students identified as `NoScience` do not have the science grid portion of the display.

e.   Item responses are blanked out in `tblstuitem` for students that should not receive reported item responses in the display

5.   Student Achievement Level and Scaled Score Statements (inside Section 2)

    a.   Achievement level (Section2a, Section2g, Section2n) – contains either the achievement level text or the not-tested statement stored in `tblPerfLevelLookup` (see Appendix A- Description). This is set using the `rPerfLevel`

    b.   Score (Section2c, Section2i, Section2p) – contains the reported scaled score

    c.   For HS students where Attempt ne F, scaledscores are displayed if earning a passing raw score ("Needs Improvement" or higher)

    d.   State results will only include students who fully attempted.

    e.   Graduation requirement footnotes

       i.   If student has `cd`='0' then print "Your child has not met the MCAS graduation requirement in this subject."

       ii.   If student has `PartStatus`='K' then print "Your child has already met the MCAS graduation requirement in this subject."

       iii.   If student has `cd`='1' then print "Your child has met the MCAS graduation requirement in this subject."

6.   Scaled Score / Achievement Level Bar Graph Display

    a.   Current year scaled scores

       i.   Use `rScaledScore`

       ii.   Contains standard error bar (`lowScaledScore` and `highScaledScore`)

7.   Achievement Level Comparison Table

    a.   Your child column – a check mark is placed in the row associated with the earned achievement level based on the data stored in the `rPerfLevel`.

       i.   Students who participated through the Alternate assessment are included in the row where they are counted for aggregations.

       ii.   Students who did not earn an achievement level on this year's test do not receive a checkmark.

    b.   School/District columns – the school and district achievement level percentages from `tblSummary` based on the student's official school and district (`sprp_sch` and `sprp_dis` respectively).

    c.   State column – the state achievement level percentages from `tblSummary`.

    d.   Percentages are formatted with a % directly after the number. Example: 15%

    e.   Display is not shown on reports for students identified as Suppress = 1 or 2.

    f.   If the display is shown, the school, district, and state data are displayed regardless of whether or not the student earned an achievement level.

8.   Student Growth Percentile Display

    a.   Your Child – presents the student's growth percentile

       i.   GP is used to mark the location of the circle with score.

       ii.   `lowGP` and `highGP` are used to draw a standard error bar behind the student score circle.

b. School/District – Mean value from `tblSummary` for school/district based on official school and district (`sprp_sch` and `sprp_dis`).

c. School/District Means are displayed regardless of whether or not the student has a growth percentile displayed

D. Next Gen Student Report Template (note that this also includes legacy HS science information in the report)

The following sections discuss the formatting and displays presented on the Next Gen P/G Student Report. All calculations and aggregation rules can be found in earlier sections of this document. These sections will refer to the following schema notation files when necessary for providing information for specific report templates:

MANextGen[YYY}StudentReportSchemaNotation.pdf (templates for 03-08,10 ELA and Math, 05 and 08 Science)

    1.   4Definitions - The following terms will be used to describe certain formats/behavior:

a. Tested v. Not tested – Students who fully attempt are considered tested. Otherwise, students who are partially or did not attempt the test are considered "Not Tested." These two distinctions have separate impacts on information displayed on the student's report as explained below.

b. Suppression - If all tested subjects for the student are under the Alternate Assessment, then students will not receive a student report or label.

c. Test mode – Displayed is which mode of test the student used

    i.   "Paper-based test" or "Computer-based test" or "Computer-accommodated test"

    ii.   If a student is not-tested (test attempt=N), then test mode will be blank on the student's report.

  2.   Cover Page

a. Test Grade reference – "Your Child's Overall Results in Grade [GG]" (where grade = student's tested grade)

b. Title (Section1a) – "Spring 20YY MCAS Tests Parent Guardian Report" where 20YY = test year, e.g. 2019.

c. Student Name – Presented as proper case based on `LName`, `FName` MI. (with a period after the middle initial when the middle initial is not blank). Examples: Smith, John T. or Jones, Jenny

    i.   This section requires special formatting when one or more of the names is missing:

        (1)   If `Lname` is blank and `Fname` is blank, then section = "Blank Name"

        (2)   If `Lname` is blank and `Fname` is not blank, then section = "Blank, Fname"

        (3)   If `Lname` is not blank and `Fname` is blank then section = "Lname, Blank"

d. SASID – Student ID from SIMS, no special formatting applied.

e. School Name and District Name – School and District names are trunc names from iCore based on testing school. No special formatting applied.

f. Grade – Student's tested grade will be used for reports

g. DOB – DOB from SIMS, no special formatting. Must be equal to 10 characters in length (MM/DD/YYYY).

h. Achievement level– contains either the achievement level text or the not-tested statement stored in `tblPerfLevelLookup` (see Appendix A- Description). This is set using the `rPerfLevel` variable from `tblStuTest`

    i. High School:

        (1) If student is not tested then print not tested text

        (2) If Student has `cd`=2 then print text "PASSED and met the MCAS graduation requirement in this subject"

        (3) If student has `cd`=1 then print text "PASSED but requires an Educational Proficiency Plan in this subject"

        (4) If student has `cd`=0 then print "HAS NOT MET the MCAS graduation requirement in this subject"

i. Print Student Growth Percentile under scaled score information

3. Reporting Category Display

    a. Subject– Formatted with the following values:

        i. If subject = 'ela' then 'English Language Arts'

        ii. If subject = 'mat' then 'Mathematics'

        iii. If subject = 'sci' and grade is 05 or 08 then 'Science and Technology/Engineering'

        iv. Otherwise if subject = 'sci' and grade is 09 or 10 (HS STE's) then:

            (1) If `rptSciTry` = '1' then 'Biology'

            (2) If `rptSciTry` = '2' then 'Chemistry'

            (3) If `rptSciTry` = '3' then 'Introductory Physics'

            (4) If `rptSciTry` = '4' then 'Technology/Engineering'

    b. Order of the Grids

        i. The inner pages of the report display ELA on the left side of the page and Math on the right side of the page.

        ii. If grade is 05 or 08, then STE results are displayed on the back page

    c. Reporting category text, two-character codes, and report display ordering – refer to `daRepCatTextLookup` for the approved text and codes .

    d. Reporting categories are sorted in the order listed in the appendix.

    e. Reporting category results and state comparisons are displayed only for students who are Tested. State results include only students who are Tested.

    f. Percent of points earned by your child– `pRawScore` variables from `tblStuRepCatPoints`, no special formatting with `RepCatID` indicating the Reporting category `RepOrder` in `daPointsPossible`. Values are then concatenated with the % symbol immediately after the number. Example: 15%.

    g. "Percent of points earned by" and "Average number of points earned by" comparisons

        i. For ELA, Math, 05 and 08 Science, the comparison is "Average number of points earned by Meeting Expectation students who scored close to 500"

            (1) Prior to calculation, the pool of students used must be no less than 200. If there are less than 200 students at the 500 level, increment the scaled score by one point up to 505 until a minimum n of 200 students is reached, only considering students within the same test mode and scaleform.

(2)   For any mode at a grade/content level that does not reach the 200-student threshold within the scaled score range of 500-505, the student's report will not include the average points for the reporting categories.

(3)   Data displaying averages in the scaled score table should include data from the full population, and not separated out by test mode.

(4)   For students who are scored using a non-standard scaleform, the reporting category for which the reduced number of points is associated, display "N/A".

     ii.   For High School STE, the text reads "Percent of Possible Points Earned by Students Who Performed At the Low End of the Proficient Level"

(1)   Data pulled from `tblrepcatsummary.points` where `replevel` = 'sta' joined on subject and grade. Place % symbol immediately after the number. Example: 15%.

(2)   The average number of points earned (`nPoints`) and the percent of total possible points earned (`pPoints`) by students at the "low end of the Proficient level" is calculated for each reporting category at the state level, stacked by subject and `reporder`.

(3)   Standard assessment students with `partstatus` = 'Z' and a `scaledscore` = '240' are included.

4.   Released Item Display

     a.   Subject Title and Subject Ordering follow the same rules as above.

     b.   Order of rows within each grid - The following definitions are used to both describe what appears and also what is printed in item tables.

     i.   1 = "Question Number" – this is the released item order number.

     ii.   2 = "Reporting Category" – this is the two-character reporting category code. This is displayed for HS Science students only

     iii.   3 = "Your Child's Score" - this is the response provided by the student.

     c.   Order of items

     i.   Items are ordered from left to right in order specified in the test maps.

     ii.   Item responses in `tblStuItem` are already ordered by released item order

     iii.   For essays points for each trait will be printed separately on the report in released item and trait order.

     d.   Formatting of Student Responses

     i.   Formatting of the items for the Student Report is completed in `tblStuItem`

     ii.   HS Science data will include the following

(1)   Check marks for correct answers

(2)   The letter answer displayed if a student answered incorrectly

(3)   An asterisk for more than one answer provided

(4)   A dash if a student incorrectly answered an unreleased item

(5)   Open response items are displayed with the number of points earned out of the total possible points (Ex. 3/4 or 0/1).

     iii.   ELA and Math and 5&8 STE data are displayed as the number of points earned out the total points possible (Ex. 1/1 or 0/3).

     iv.   If a student did not answer an item, that cell will be blank.

5. Student Achievement Level and Scaled Score Statements

   a. Achievement level – contains either the achievement level text or the not-tested statement stored in `tblPerfLevelLookup` (see Appendix A- Description). This is set using the `rPerfLevel` variable from `tblStuTest`.

      i. High School:

         (1) If Student has `cd=1` then print text "Note: Based on the passing standard in place during the transition to next-generation MCAS tests, your child's score meets the high school graduation requirement. However, your child requires an Educational Proficiency Plan (EPP). Information on EPP requirements is available at www.doe.mass.edu/ccr/epp/"

         (2) If student has `cd=2` then print text "Note: Based on the passing standard in place during the transition to next-generation MCAS tests, this score meets the high school graduation requirement"

   b. Score (Section2c/5c/8c) – contains the reported scaled score, the `rScaledScore` variable from `tblStuTest`.

   c. First-year EL students

      i. Students who are not Tested do not receive scaled scores

      ii. Otherwise, if `TestStat` = NTL:

         (1) Scaled scores printed for ELA and Math and 05&8 STE if earned Achievement Level is PM or above.

         (2) Scaled scores printed for HS Science students earning an achievement level of NI or above.

   d. State results will only include students who fully attempted.

   e. For Special Access Accommodation Student Report text based on table Non-Standard Accommodation Footnote Text (Student Report).

6. Average Scaled Scores and Prior Scaled Scores

   a. Display current year average scaled score based on `sprp` school and district

   b. Prior grades and scaled scores will be pulled from the post discrepancy SIMS data after grade audits have been applied

7. Achievement Level Comparison Table

   a. This appears for the grade 10 STE section only for current reporting year.

   b. Your child column – a check mark is placed in the row associated with the earned achievement level based on the data stored in the Perf2 column in `tblStuItem`.

      i. Students who participated through the Alternate assessment are included in the row where they are counted for aggregations.

      ii. Students who did not earn an achievement level on this year's test do not receive a checkmark.

   c. School/District columns – the school and district achievement level percentages from `tblSummary` based on the student's official school and district (`sprp_sch` and `sprp_dis` respectively).

   d. State column – the state achievement level percentages from `tblSummary`.

   e. Percentages are formatted with a % directly after the number. Example: 15%

      f.   If the display is shown, the school, district, and state data are displayed regardless of whether or not the student earned an achievement level.

8.   Student Growth Percentile Display

      a.   Growth is provided by DESE

      b.   If a student's test status changes to Not Tested then growth will be blanked out

      c.   Median growth is based on `sprp` school and district

VIII. APPENDIX

A. Legacy and Next Gen PerfLevel Lookup for MegaFile codes (PerfLev, Perf2)

1. For reformatting `tblScoredItem rPerfLevel` to `mfPerfLevel` and `Perf2` to `mfPerf2`.

Achievement Level	Mega File Code	Description
1	HS STE: F	Failing
	Next Gen: NM	Not Meeting Expectations
2	HS STE: NI	Needs Improvement
	Next Gen: PM	Partially Meeting Expectations
3	HS STE: P	Proficient
	Next Gen: M	Meeting Expectations
4	HS STE: A	Advanced
	Next Gen: E	Exceeding Expectations
7	INP	Incomplete Portfolio
8	AWR	Awareness
9	EMG	Emerging
10	PRG	Progressing
11	NIA	Needs Improvement-Alt
12	P_A	Proficient-Alt
13	A_A	Advanced-Alt
14	PM_A	Partially Meeting Expectations -Alt
15	M_A	Meeting Expectations -Alt
16	E_A	Exceeding Expectations -Alt
B	INC	Incomplete
D	TRN	Transferred
E	ABS	Absent
F	LEP	First-year LEP
G	MED	Absent—Medically Documented
H	VAB	Void
I	DUP	Invalidated
J	DNT	Did Not Test
K	PAS	Previously Passed
L	PRF	Previously Failed
N	INV	Invalidated

B. Reporting Categories Lookup Legacy

1. This table lists the possible item reporting categories by subject. The actual reporting categories that exist may vary by grade and year. The provided sort order is the generic hierarchy of appearance when a reporting category exists for a grade:

Subject	Generic Sort Order	Item Display Code: (RepCatCode)	Student Report Text: (RepCatText)
bio	1	BC	Biochemistry and Cell Biology
	2	GE	Genetics
	3	AP	Anatomy and Physiology
	4	EV	Evolution and Biodiversity
	5	EC	Ecology
che	1	TH	Properties of Matter and Thermochemistry
	2	AS	Atomic Structure and Periodicity
	3	BR	Bonding and Reactions
	4	SO	Solutions, Equilibrium, and Acid-Base Theory
phy	1	MF	Motion and Forces
	2	HT	Heat and Heat Transfer
	3	WV	Waves and Radiation
	4	EM	Electromagnetism
tec	1	ED	Engineering Design
	2	CM	Construction and Manufacturing
	3	FL	Fluid and Thermal Systems
	4	EL	Electrical and Communication Systems

C.   MCAS Next Gen Reporting Category Lookup

1.   This table lists the updated item reporting categories by subject. The actual reporting categories that exist do vary by grade and possibly year. These categories are sorted alphabetically and do not necessarily reflect position or sort order within a grade.

Subject	Grade	RepCat Sort Order	Student Report Text: (RepCatText)
ela	03-08, 10	1	Reading
		2	Language
		3	Writing
mat	03-05	1	Operations and Algebraic Thinking
		2	Number and Operations in Base Ten
		3	Number and Operations-Fractions
		4	Measurement and Data
		5	Geometry
	06-07	1	Ratios and Proportional Relationships
		2	The Number System
		3	Expressions and Equations
		4	Geometry
		5	Statistics and Probability
	08	1	The Number System and Expressions and Equations
		2	Functions
		3	Geometry
		4	Statistics and Probability
	10	1	Number and Quantity
		2	Algebra and Functions
		3	Geometry
		4	Statistics and Probability
ste	05,08	1	Earth and Space Science
		2	Life Science
		3	Physical Science
		4	Technology/Engineering

D. Special Access Accommodation Footnote Text (Student Report)

Accommodation	2018 SR/PNP column	Grade	Subject	Text
Calculator (Special Access)	AL	3-8, 10	Mathematics	"Information provided by the school indicates your child received a special access accommodation (your child used a calculator for the non-calculator session of the Mathematics test) as required by their IEP or 504 plan."
Human Read Aloud (Special Access)	Z	3-8, 10	ELA	"Information provided by the school indicates your child received a special access accommodation (the ELA Reading test was read aloud to your child) as required by their IEP or 504 plan."
Text-to-Speech (Special Access)	AC	3-8, 10	ELA	"Information provided by the school indicates your child received a special access accommodation (the ELA test was read aloud to your child) as required by their IEP or 504 plan."
Human Scribe (Special Access)	AH	3-8, 10	ELA Composition	"Information provided by the school indicates your child received a special access accommodation (your child used a scribe for the ELA test) as required by their IEP or 504 plan."
Speech-to-text (Special Access)	AJ	3-8, 10	ELA	"Information provided by the school indicates your child received a special access accommodation (your child used a scribe for the ELA test) as required by their IEP or 504 plan."
American Sign Language		10	Mathematics	G10: "The grade 10 math ASL items your child took are shown in the CBT released items document, except for item X, which is shown in the PBT released items document."

E. Graduation Requirement Status Footnote Text (Legacy Student Report)

CDFootnote	Text
1	Your child has not met the MCAS graduation requirement in this subject.
2	Your child has met the MCAS testing requirement in this subject for graduation but requires an Educational Proficiency Plan.
3	Your child has met the MCAS graduation requirement in this subject.
4	Your child has already met the MCAS graduation requirement in this subject.

New in 2019: some g10 student who gets "not meeting expectations" on ELA and math will meet CD requirement (cutoffs will be determined in standard setting).

ADDENDA 09/10/2019 - AGGREGATIONS

For State Aggregations: use State Code "MA"

For District Aggregations: use `sprp_dis`

For School Aggregations: use `sprp_sch`, except if students `sprp_dis` is a single school district, use the school in the one school district lookup table for the student's `srpr_dis`

For one school district School level aggregations: Use the district level exclusion rules. The school level aggregate data for one school district must match the district level aggregations. District exclusion rules trump for one school district school aggregation.

From all aggregations:

Exclude Summarize = 0 and grade is not 09

Exclude INC (`PartStatus` = B)

From school aggregations,

Exclude org type 6, 13

From District aggregations,

Exclude district 99999999

From State aggregations,

Exclude Demo kids

From Performance Level Aggregations: (use `Perf2` - for NextGen this is current perf level; for Legacy this is mixed current and prior)

Exclude students who do not have Perf2

For Legacy, Exclude students who are not continuously enrolled in the school from School level aggregations "`contenr_sch`"

For Legacy, Exclude students who are not continuously enrolled in the district from District level aggregations "`contenr_dis`"

For Legacy, Exclude students who are not continuously enrolled in the state from state level aggregations "`contenr_sta`"

For Next Gen, Exclude students who are not enrolled in Oct from School level aggregations "`OctEnrol`" (do not use `OctEnrol` for district and state performance level aggregations)

From Scaled Score and `Repcat` aggregations: (use ScaledScore – this is current scaled score only; `Repcat` scores are raw scores for current test; note: vg scaled score not reported for HS sci)

Use same exclusions as Performance Level

Exclude students who don't have scaled score

Growth Aggregations

Exclude if GP is null

not applicable for Legacy.

For next gen exclude students who are not enrolled in Oct from school and district growth calculations

Other addenda:

French was added to the translations list for the student report.

Student Report HS Science subject must match what is reported in the megafile.