Draft
02/23/17

El Monte Union High School District

Course Outline

High School District-Wide

Title: Adapted Integrated Math 1A

Transitional*_____(Eng. Dept. Only)

Sheltered (SDAIE)*____Bilingual*___

AP** Honors**

Department: Special Education

Grade Level (s): 9th -12th

Semester Year X

Based on Mathematics CCSS

This course meets graduation requirements:

( ) English
( ) Fine Arts
( ) Foreign Language
( ) Health & Safety
(X) Math
( ) Physical Education
( ) Science
( ) Social Science
(X) Elective

Department/Cluster Approval	Date
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*Instructional materials appropriate for English Language Learners are required.

1. **Prerequisite(s):** An active Individualized Education Program (IEP) with this course name or inferred by the IEP team in accordance to each student's educational needs.

2. **Short description of course which may also be used in the registration manual**:
   This course follows an approach typically seen internationally (integrated) that consists of a sequence of three courses (Integrated Math 1, Integrated Math 2, and Integrated Math 3), each of which includes number, algebra, geometry, probability and statistics. The fundamental purpose of Integrated Math I is to formalize and extend the mathematics that students learned in the middle schools. The critical areas, organized into units, deepen and extend understanding of linear relationships in part by contrasting them with exponential phenomena, and in part by applying linear models to data that exhibit a linear trend. Integrated Math I uses properties and theorems involving congruent figures to deepen and extend understanding of geometric knowledge from prior grades. The Mathematical Practice Standards apply throughout each

course and together with the content standards, prescribe that students experience mathematics as a coherent, useful and logical subject that make use of their ability to make sense of problem situations. **Adapted Integrated Math 1A is a one-year course that covers Quantitative Reasoning, Algebraic Models, and Functions and Models from the regular Integrated Math 1 curriculum. This curriculum is designed with a tiered intervention approach to provide Special Education students with an individualized course of study. This will also allow Special Education students access to the core curriculum in preparation for the regular Integrated Math 1 course.**

3. **Describe how this course integrates the schools SLO's (School-wide Learning Outcomes): This section may be replaced with specific site SLO's**
   This course integrates the school's SLOs by allowing students to critically think, problem solve, develop better communication skills and allow them to transfer the knowledge into "real world" situations.

4. **Describe the additional efforts/teaching techniques/methodology to be used to meet the needs of English Language Learners:**
   The special needs of English language learners are met throughout the course in a number of ways:
   a. by using the Sheltered Instruction Observation Protocol (SIOP) or other researched based strategies that engage students in learning and communicating their thoughts in the four language domains
   b. by probing prior knowledge to connect existing knowledge with knowledge to be learned
   c. by teaching concepts for which English learners may not have a cultural reference, including obscure terms, and academic vocabulary
   d. by defining abstract concepts in concrete terms, and using specific examples
   e. by using graphic organizers and rubrics to set expectations and facilitate organization of thought
   f. by using a variety of other audio/visual aids during instruction, such as pictures, films, and realia
   g. by encouraging students to express themselves in a variety of modalities
   h. by satisfying student needs as outlined by each student's active IEP.

5. **Describe the interdepartmental articulation process for this course:**
   The study of mathematics in each year of high school leads directly to preparedness for college and career readiness. The skills learned in math are applied to other courses of study including science, social science, and Career Technical Education (CTE). Problem solving, communicating reasoning, modeling and data analysis that are used in mathematics prepare students to apply those same skills in all courses and in real-world scenarios. Additionally, there will be on-going collaboration amongst Special Education teachers and General Education teachers to ensure success for every student.

6. **Describe how this course will integrate academic and vocational concepts, possibly through connecting activities. Describe how this course will address work-based learning/school to career concepts:**
   Student's needs are addressed on an individual basis. Academic and vocational goals may vary from basic life skills to preparing the student for post high school study. For career concepts,

this course will follow the goals and objectives and Individualized Transition Plan (I.T.P.), stated in each student's IEP. Also, word problems will integrate vocational concepts that lead students to critically analyze real world problems.

7. **Materials of Instruction (Note: Materials of instruction for English Language Learners are required and should be listed below.)**

A. Textbook(s) and Core Reading(s):
- Integrated Mathematics 1 (Houghton Mifflin Harcourt) Teacher's Edition Student Textbook

B. Supplemental Materials and Resources:
- Examview generated resources
- Modified worksheets/resources from my.hrw.com
- Teacher made resources
- Overhead transparencies or documents for projection
- Teacher made resources and manipulatives
- Materials found on-line: projects; performance tasks, problems of the week…
- Teacher made warm-ups/exit tickets
- Math Games
- HAKE resources
- Additional resources from various textbooks:
  - McDougal Littell Algebra 1
  - Math180

C. Tools, Equipment, Technology, Manipulatives, Audio-Visual:
- Protractors/rulers/compasses
- Graphing Calculators
- Projectors
- Document Readers
- Smartboards
- iPads
- Projects/Posters/Diagrams
- Khan Academy (https://www.khanacademy.org)
- Math180

8. **(see below and attached)**

▪ **Objectives of Course:**
The objective of this course is to extend the mathematics students learned in middle school. The Mathematical Practice Standards will be infused throughout the course together with the CCSS for mathematics:
Common Core Math Practice Standards
1. Make Sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.

4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

This attention to the Practice Standards as well as the Content Standards will ensure that students experience mathematics as coherent, useful, and logical and make use of the student's ability to make sense of problem situations.

- **Unit detail including projects and activities including duration of units (see attached)**

  SEE ATTACHED DOCUMENT

- **Indicate references to state framework(s)/standards (If state standard is not applicable then national standard should be used)**

- **Student performance standards**

  Guidelines for grading are:

  A 90 – 100%
  B 80 – 89%
  C 65 – 79%
  D 50 – 64%

  The suggested weight distribution is:

  Test and Quizzes 30%
  Classwork and Homework 30%
  Portfolio and/or Projects 30%
  Attendance and Participation 10%

- **Evaluation/assessment/rubrics**
  Tests will be administered at the end of the chapters. Teacher will generate additional tests/quizzes to administer at the end of 6-week grading periods. Points are given for classwork, homework, portfolio, projects, quizzes, and tests.

- **Include minimal attainment for student to pass course**

  Students must attain at least 50% of the points for homework, classwork, alternative assessment, portfolio, projects, quizzes, and tests in order to pass this course.

SUGGESTED ADAPTED INTEGRATED MATH 1A CURRICULUM GUIDE

Common Core Standards	Topics	Est. Weeks
Unit 1: Quantities and Modeling (27 Days Total)		
A-REI.1, N-Q.2, MP.7	1.1: Solving Equations	4
N-Q.2, N-Q.1, MP.2	1.2: Modeling Quantities	4
A-SSE.1a, A-SSE.1b, N-Q.2, MP.6	2.1: Modeling with Expressions	3
A-CED.1, A-CED.3, A-REI.3, MP.5	2.2: Creating and Solving Equations	4
A-CED.4, A-REI.3, MP.8	2.3: Solving for a Variable	3
A-CED.3, A-CED.1, A-REI.3, MP.4	2.4: Creating and Solving Inequalities	3
A-CED.1, A-REI.3, MP.2	2.5: Creating and Solving Compound Inequalities	3
Unit 2: Understanding Functions (21 Days Total)		
F-IF.4, MP.4	3.1: Graphing Relationships	3
F-IF.1, MP.6	3.2: Understanding Relations and Functions	3
F-IF.2, F-IF.1, A-CED.2, MP.4	3.3: Modeling with Functions	3
F-IF.1, F-IF.2, MP.6	3.4: Graphing Functions	3

***Estimated weeks may include the implementation of Tier 2, Tier 3, and Foundational Skills as part of instruction. (Refer to “Adapted Integrated Math 1A Curriculum Matrix” below for details)

Adapted Integrated Math 1A Curriculum Matrix

Practice	Tier 1 Reteach	Tier 2 Skills	Tier 3 Skills	Foundational Skills
1.1 Solving Equations	1-1 Reteach	• Skill 13 Change Units • Skill 27 Evaluate Expressions • Skill 52 Inverse Operations • Skill 93 Solve One-Step Equations • Skill 92 Solve Multiplication Equations • Skill 21 Two-Step Equations	• Whole Number Operations • Words for Operations • Exponents • Evaluate Powers • Order of Operations • Understand Integers • Add and Subtract Integers • Multiply and Divide Integers • Integer Operations	• Write a Mixed Number as an Improper Fraction • Simplify Fractions • Add and Subtract Like Fractions • Add and Subtract Fractions • Multiply Fractions • Multiply and Divide Fractions • Operations with Fractions • Multiply with Fractions and Decimals • Write Ratios • Measure with Customary and Metric Units • Round Whole Numbers • Round Decimals • Rounding and Estimation • Write Fractions as Decimals • Fractions, Decimals, and Percents • Compare and Order Real Numbers • Graph Points on a Number Line
1.2 Modeling Quantities	1-2 Reteach			
2.1 Modeling with Expressions	2-1 Reteach	• Skill 2 Algebraic Expressions • Skill 14 One-Step Inequalities • Skill 22 Two-Step Inequalities	• Combine Like Terms • Simplify Algebraic Expressions • Distributive Property • Multiplication Properties • Solve Two-Step Equations • Solve Proportions • Locate Points on a Number Line • Solve and Graph Inequalities • Write an Inequality for a Graph • Connect Words and Equations • Connect Words and Algebra	
2.2 Creating and Solving Equations	2-2 Reteach			
2.3 Solving for a Variable	2-3 Reteach			
2.4 Creating and Solving Inequalities	2-4 Reteach			
2.5 Creating and Solving Compound Inequalities	2-5 Reteach			
3.1 Graphing Relationships	3-1 Reteach	• Skill 6 Graphing Linear Nonproportional Relationships • Skill 7 Graphing Linear Proportional Relationships • Skill 10 Linear Functions	• Graph Ordered Pairs (First Quadrant) • Graph Ordered Pairs (All Quadrants) • Function Tables • Generate Ordered Pairs	
3.2 Understanding Relations and Functions	3-2 Reteach			
3.3 Modeling with Functions	3-3 Reteach			
3.4 Graphing Functions	3-4 Reteach			

Houghton Mifflin Harcourt
***Integrated Math I* ©2015**

correlated to the

Common Core State Standards for Mathematics
Mathematics I

Standards	Descriptor	Citations
Standards for Mathematical Practice		
SMP.1	Make sense of problems and persevere in solving them.	*Integrated throughout the book. Examples:* SE: 15, 16, 40, 42, 53, 60-61, 66, 97–99
SMP.2	Reason abstractly and quantitatively.	*Integrated throughout the book. Examples:* SE: 5, 7–8, 13–14, 27-38, 52, 65, 67, 70, 98–99
SMP.3	Construct viable arguments and critique the reasoning of others.	*Integrated throughout the book. Examples:* SE: 31, 35, 52, 65, 125, 147, 156, 167, 201, 279
SMP.4	Model with mathematics.	*Integrated throughout the book. Examples:* SE: 45-54, 55-66, 127-136, 175-186, 301-308, 451-466
SMP.5	Use appropriate tools strategically.	*Integrated throughout the book. Examples:* SE: 27–29, 140, 269, 309, 456–457, 777-778, 781, 789
SMP.6	Attend to precision.	*Integrated throughout the book. Examples:* SE: 17–18, 27–38, 68, 179-180, 615–616
SMP.7	Look for and make use of structure.	*Integrated throughout the book. Examples:* SE: 45–46, 53, 138–139, 175–186, 188, 199–200
SMP.8	Look for and express regularity in repeated reasoning.	*Integrated throughout the book. Examples:* SE: 138–139, 156-160, 221-226, 637–640

Standards	Descriptor	Citations
Standards for Mathematical Content		
N-Q	**Quantities**	
Reason quantitatively and use units to solve problems		
N-Q.A.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	SE: 15–26, 27–38, 301–308, 389–400, 401–416, 417–428
N-Q.A.2	Define appropriate quantities for the purpose of descriptive modeling.	SE: 5–14, 15–26, 45–54, 301–308
N-Q.A.3	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	SE: 27–38
A-SSE	**Seeing Structure in Expressions**	
Interpret the structure of expressions		
A-SSE.A.1	Interpret expressions that represent a quantity in terms of its context.*	SE: 45–54
A-SSE.A.1a	Interpret parts of an expression, such as terms, factors, and coefficients.	SE: 45–54
A-SSE.A.1b	Interpret complicated expressions by viewing one or more of their parts as a single entity.	SE: 45–54
Write expressions in equivalent forms to solve problems		
A-SSE.A.3	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.	SE: 655–666
A-SSE.A.3c	Use the properties of exponents to transform expressions for exponential functions.	SE: 655–666

Standards	Descriptor	Citations
A-CED	**Creating Equations**	
Create equations that describe numbers of relationships		
A-CED.A.1	Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*	SE: 55–66, 73–80, 81–92, 709–720
A-CED.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	SE: 127–136, 239–248, 249–260, 261–268, 735–748
A-CED.A.3	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.	SE: 55–66, 73–80, 301–308, 323–334, 533–546, 547–556, 557–570
A-CED.A.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.	SE: 67–72
A-REI	**Reasoning with Equations and Inequalities**	
Understand solving equations as a process of reasoning and explain the reasoning.		
A-REI.A.1	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	SE: 5–14, 815–826
Solve equations and inequalities in one variable		
A-REI.B.3	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	SE: 55–66, 67–72, 73–80, 81–92

Standards	Descriptor	Citations
Solve systems of equations.		
A-REI.C.5	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.	SE: 515–526
A-REI.C.6	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.	SE: 479–490, 491–502, 503–514, 515–526
Represent and solve equations and inequalities graphically.		
A-REI.D.10	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	SE: 199–210, 239–248, 249–260, 261–268
A-REI.D.11	Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.*	SE: 309–322, 709–720, 735–748
A-REI.D.12	Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	SE: 323–334, 547–556

Standards	Descriptor	Citations
F-IF	**Interpreting Functions**	
Understand the concept of a function and use function notation.		
F-IF.A.1	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.	SE: 115–126, 127–136, 137–148
F-IF.A.2	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	SE: 127–136, 137–148, 663–676
F-IF.A.3	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.	SE: 155–164, 165–174, 175–186
Interpret functions that arise in applications in terms of the context.		
F-IF.B.4	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.**	SE: 105–114, 211–220
F-IF.B.5	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.*	SE: 721–734
F-IF.B.6	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.*	SE: 221–232

Standards	Descriptor	Citations
Analyze functions using different representations.		
F-IF.C.7	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.	SE: 199–210, 211–220, 281–294, 239–248, 609–622, 623–636, 637–648, 667–680
F-IF.C.7a	Graph linear and quadratic functions and show intercepts, maxima, and minima.	SE: 199–210, 211–220, 239–248
F-IF.C.7e	Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.	SE: 663–676, 677–690, 721–734
F-IF.C.9	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	SE: 281–294, 691–702
F-BF	**Building Functions**	
Build a function that models a relationship between two quantities.		
F-BF.A.1	Write a function that describes a relationship between two quantities.	SE: 165–174, 175–186, 649–662, 691–702, 709–720, 721–734
F-BF.A.1a	Determine an explicit expression, a recursive process, or steps for calculation from a context.	SE: 165–174, 175–186, 649–662, 721–734
F-BF.A.1b	Combine standard function types using arithmetic operations.	SE: 691–702
F-BF.A.2	Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.*	SE: 155–164, 165–174, 649–662

Standards	Descriptor	Citations
Build new functions from existing functions.		
F-BF.B.3	Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.	SE: 269–280, 691–702
F-LE	**Linear, Quadratic, and Exponential Models**	
Construct and compare linear, quadratic, and exponential models and solve problems.		
F-LE.A.1	Distinguish between situations that can be modeled with linear functions and with exponential functions.	SE: 199–210, 721–734, 735–748, 749–762
F-LE.A.1a	Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.	SE: 199–210, 749–762
F-LE.A.1b	Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.	SE: 199–210, 695–708
F-LE.A.1c	Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	SE: 721–734, 735–748, 749–762
F-LE.A.2	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	SE: 155–164, 165–174, 175–186, 199–210, 637–648, 649–662, 663–676, 709–720, 721–734
F-LE.A.3	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.	SE: 637–648, 749–762
Interpret expressions for functions in terms of the situation they model		
F-LE.B.5	Interpret the parameters in a linear or exponential function in terms of a context.	SE: 211–220, 221–232, 269–280, 435–450, 451–466, 533–546

Standards	Descriptor	Citations
G-CO	**Congruence**	
Experiment with transformations in the plane.		
G-CO.A.1	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.	SE: 775–788, 789–800, 833–842, 843–856
G-CO.A.2	Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).	SE: 801–814, 833–842, 843–856, 857–870, 885–896
G-CO.A.3	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	SE: 871–878
G-CO.A.4	Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.	SE: 833–842, 843–856, 857–870
G-CO.A.5	Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.	SE: 801–814, 833–842, 843–856, 857–870, 885–896, 897–908

Standards	Descriptor	Citations
Understand congruence in terms of rigid motions.		
G-CO.B.6	Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.	SE: 833–842, 843–856, 857–870, 885–896, 897–908
G-CO.B.7	Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.	SE: 909–920, 989–1000, 1001–1014, 1015–1024, 1025–1036
G-CO.B.8	Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.	SE: 1001–1014, 1015–1024, 1025–1036
Prove geometric theorems.		
G-CO.C.9	Prove theorems about lines and angles.	SE: 815–826, 933–944, 945–954, 955–964, 965–974, 1141–1150
G-CO.C.10	Prove theorems about triangles.	SE: 1001–1014, 1015–1024, 1025–1036, 1083–1096, 1097–1110, 1111–1122, 1129–1140, 1141–1150, 1151–1164, 1165–1174, 1203–1216, 1291–1306
G-CO.C.11	Prove theorems about parallelograms.	SE: 1189–1202, 1203–1216, 1217–1228, 1229–1240, 1307–1318
Make geometric constructions.		
G-CO.C.12	Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.).	SE: 775–788, 789–800, 843–856, 955–964, 965–974, 1043–1052, 1111–1122, 1129–1140, 1141–1150, 1151–1164, 1165–1174
G-CO.C.13	Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.	SE: 1043–1052

Standards	Descriptor	Citations
G-GPE	**Expressing Geometric Properties with Equations**	
Use coordinates to prove simple geometric theorems algebraically		
G-GPE.B.4	Use coordinates to prove simple geometric theorems algebraically	SE: 775–778, 1129–1140, 1151–1164, 1165–1174, 1265–1278, 1279–1290, 1291–1306, 1307–1318
G-GPE.B.5	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	SE: 975–982, 1129–1140, 1151–1164, 1165–1174, 1265–1278, 1279–1290, 1291–1306, 1307–1318
G-GPE.B.7	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.	SE: 1291–1306, 1319–1334
S-ID	**Interpreting Categorical and Quantitative Data**	
Summarize, represent, and interpret data on a single count or measurement variable.		
S-ID.A.1	Represent data with plots on the real number line (dot plots, histograms, and box plots).	SE: 389–400, 401–416, 417–428
S-ID.A.2	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.	SE: 377–388, 389–400, 401–416, 417–428
S-ID.A.3	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	SE: 389–400

Standards	Descriptor	Citations
Summarize, represent, and interpret data on two categorical and quantitative variables.		
S-ID.B.5	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.	SE: 347–358, 359–370
S-ID.B.6	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.	SE: 435–450, 451–466, 735–748
S-ID.B.6a	Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.*	SE: 435–450, 735–748
S-ID.B.6b	Informally assess the fit of a function by plotting and analyzing residuals.	SE: 451–466, 735–748
S-ID.B.6c	Fit a linear function for a scatter plot that suggests a linear association.	SE: 435–450, 451–466
Interpret linear models.		
S-ID.C.7	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	SE: 301–308, 435–450
S-ID.C.8	Compute (using technology) and interpret the correlation coefficient of a linear fit.	SE: 451–466
S-ID.C.9	Distinguish between correlation and causation.	SE: 435–450