Achieve

Understanding the Skills in the Common Core State Standards

Appendix D: Deeper Learning Standards and Essential Knowledge and Skills Statements — Mathematics

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How To Read the Skills in the Common Core State Standards (CCSS) Table for Mathematics

Each individual core standard is identified by its specific standard code (e.g., **N-RN.1**). If all standards within a domain are included, only the *domain* is identified (e.g., **N-RN**). If all standards within a specific cluster are included, the domain and *cluster* are identified (e.g., **N-RN** *Extend the properties of exponents to rational exponents.*).

KEY

Black — Strong match

Blue — Partial match

Italics — Cluster

* — Modeling Standard

(+) — Beyond the college and career readiness level but necessary for advanced mathematics courses, such as calculus, discrete mathematics and advanced statistics.

DEEPER LEARNING STANDARDS (DLS) TABLE

DLS	CCSS for High School	CCSS for K–8	Explanation & Rating
1. Master core academic content.			
1a Students learn, remember, and recall facts relevant to a content area. *(continued)*	**N-RN** *Extend the properties of exponents to rational exponents.* **N-CN** *Perform arithmetic operations with complex numbers.* **N-CN** *Represent complex numbers and their operations on the complex plane. (+)* **N-VM** *Represent and model with vector quantities. (+)* **A-APR** *Understand the relationship between zeros and factors of polynomials.* **A-REI** *Understand solving equations as a process of reasoning and explain the reasoning.*	**K.CC** **K.OA** *Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.* **K.MD** **K.G** *Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).* **1.OA** *Represent and solve problems involving addition and subtraction.* **1.OA** *Add and subtract within 20.* **1.NBT** *Extend the counting sequence.* **1.NBT** *Understand place value.* **1.MD.3**	Skills **are strongly reflected** in the CCSS in mathematics.

DLS	CCSS for High School	CCSS for K–8	Explanation & Rating
1a Students learn, remember, and recall facts relevant to a content area. *(continued)*	**F-IF** *Understand the concept of a function and use function notation.* **F-TF** *Extend the domain of trigonometric functions using the unit circle.* **G-CO** *Understand congruence in terms of rigid motions.* **G-SRT** *Understand similarity in terms of similarity transformations.* **G-SRT** *Define trigonometric ratios and solve problems involving right triangles.* **G-C** *Understand and apply theorems about circles.* **G-GMD** *Explain volume formulas and use them to solve problems.* **S-IC** *Understand and evaluate random processes underlying statistical experiments.** **S-CP** *Understand independence and conditional probability and use them to interpret data.**	**2.OA.2** **2.G** *Reason with shapes and their attributes.* **2.NBT** *Understand place value.* **3.OA** *Understand properties of multiplication and the relationship between multiplication and division.* **3.OA** *Multiply and divide within 100.* **3.NF** **3.MD** *Geometric measurement: understand concepts of area and relate area to multiplication and to addition.* **3.MD** *Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.* **3.G** *Reason with shapes and their attributes.* **4.OA** *Gain familiarity with factors and multiples.* **4.NBT** *Generalize place value understanding for multi-digit whole numbers.* **4.NF** *Extend understanding of fraction equivalence and ordering.* **4.NF** *Understand decimal notation for fractions, and compare decimal fractions.* **4.MD** *Geometric measurement: understand concepts of angle and measure angles.* **4.G** **5.OA** *Write and interpret numerical expressions.* **5.NBT** *Understand the place value system.* **5.MD** **5.G** *Classify two-dimensional figures into categories based on their properties.* **6.RP** **6.NS** *Compute fluently with multi-digit numbers and find common factors and multiples.* **6.NS** *Apply and extend previous understandings of numbers to the system of rational numbers.* **6.EE** *Apply and extend previous understandings of arithmetic to algebraic expressions.* **6.SP** *Develop understanding of statistical variability.*	Skills **are strongly reflected** in the CCSS in mathematics.

Black — Strong match **Blue — Partial match** *Italics* — Cluster * — Modeling Standard *(+)* — Beyond the college and career readiness level but necessary

DLS	CCSS for High School	CCSS for K–8	Explanation & Rating
1a Students learn, remember, and recall facts relevant to a content area.		**7.NS** **7.G** *Draw, construct, and describe geometrical figures and describe the relationships between them.* **8.NS** **8.EE** *Understand the connections between proportional relationships, lines, and linear equations.* **8.F** *Define, evaluate, and compare functions.* **8.G** *Understand congruence and similarity using physical models, transparencies, or geometry software.* **8.G** *Understand and apply the Pythagorean Theorem.*	Skills **are strongly reflected** in the CCSS in mathematics.
1b Students extend core knowledge to novel tasks and situations in a variety of academic subjects.	**SMP.1** *Make sense of problems and persevere in solving them.* **SMP.2** *Reason abstractly and quantitatively.* **SMP.3** *Construct viable arguments and critique the understanding of others.* **SMP.4** *Model with mathematics.* **SMP.7** *Look for and make use of structure.* **SMP.8** *Look for and express regularity in repeated reasoning.* **N-VM** *Represent and model with vector quantities. (+)* **N-VM** *Perform operations on matrices and use matrices in applications. (+)* **F-IF** *Interpret functions that arise in applications in terms of the context.* **F-BF** **F-TF** *Model periodic phenomena with trigonometric functions.* **G-CO** *Experiment with transformations in the plane.* **G-MG** **S-ID** *Interpret linear models.** **S-IC*** **S-MD*** *(+)*	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.7** **SMP.8** **7.SP** *Use random sampling to draw inferences about a population.* **7.SP** *Draw informal comparative inferences about two populations.* **8.F** *Use functions to model relationships between quantities.*	Skills **are strongly reflected** in the CCSS in mathematics.

Black — Strong match **Blue — Partial match** *Italics* — Cluster * — Modeling Standard *(+)* — Beyond the college and career readiness level but necessary

DLS	CCSS for High School	CCSS for K–8	Explanation & Rating
1c Students learn and can apply theories relevant to a content area. *(continued)*	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.7** **SMP.8** **N-RN** *Extend the properties of exponents to rational exponents.* **N-VM** *Perform operations on matrices and use matrices in applications. (+)* **F-IF** *Interpret functions that arise in applications in terms of the context.* **F-BF** *Build new functions from existing functions.* **F-LE** *Construct and compare linear, quadratic, and exponential models and solve problems.** **G-SRT** *Prove theorems involving similarity.* **G-SRT** *Apply trigonometry to general triangles. (+)* **G-C** *Understand and apply theorems about circles.* **G-GPE** *Use coordinates to prove simple geometric theorems algebraically.* **G-GMD** *Explain volume formulas and use them to solve problems.* **G-MG*** **S-IC*** **S-CP*** **S-MD*** *(+)*	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.7** **SMP.8** **1.OA** *Understand and apply properties of operations and the relationship between addition and subtraction.* **1.NBT** *Use place value understanding and properties of operations to add and subtract.* **2.NBT** *Use place value understanding and properties of operations to add and subtract.* **2.G** **3.OA** *Understand properties of multiplication and the relationship between multiplication and division.* **3.NBT** **3.MD** *Geometric measurement: understand concepts of area and relate area to multiplication and to addition.* **3.G** **4.NBT** *Use place value understanding and properties of operations to perform multi-digit arithmetic.* **4.NF** *Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.* **5.NF** **5.MD** *Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.* **6.RP** **6.NS** *Apply and extend previous understandings of multiplication and division to divide fractions by fractions.* **6.NS** *Apply and extend previous understandings of numbers to the system of rational numbers.* **6.EE** *Apply and extend previous understandings of arithmetic to algebraic expressions.*	Skills **are strongly reflected** in the CCSS in mathematics.

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DLS	CCSS for High School	CCSS for K–8	Explanation & Rating
1c Students learn and can apply theories relevant to a content area.		**7.RP** **7.NS** **7.EE** *Use properties of operations to generate equivalent expressions.* **7.SP** *Use random sampling to draw inferences about a population.* **7.SP** *Investigate chance processes and develop, use, and evaluate probability models.* **8.EE** *Understand the connections between proportional relationships, lines, and linear equations.* **8.G** *Understand and apply the Pythagorean Theorem.*	Skills **are strongly reflected** in the CCSS in mathematics.
1d Students know and are able to use the language specific to a content area. *(continued)*	**SMP.2** **SMP.4** **SMP.5** *Use appropriate tools strategically.* **SMP.6** *Attend to precision.* **N-RN** **N-Q** **N-CN** *Perform arithmetic operations with complex numbers.* **N-VM** *Represent and model with vector quantities. (+)* **A-APR** *Understand the relationship between zeros and factors of polynomials.* **F-IF** *Understand the concept of a function and use function notation.* **F-LE** *Construct and compare linear, quadratic, and exponential models and solve problems.** **F-TF** *Extend the domain of trigonometric functions using the unit circle.* **G-CO.1** **G-SRT** *Define trigonometric ratios and solve problems involving right triangles.* **G-C** *Understand and apply theorems about circles.* **G-GPE** *Translate between the geometric description and the equation for a conic section.* **S-ID** *Summarize, represent, and interpret data on a single count or measurement variable.**	**SMP.2** **SMP.4** **SMP.5** **SMP.6** **K.CC** *Know number names and the count sequence.* **K.G** *Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).* **1.G** **2.NBT** *Understand place value.* **2.MD** *Measure and estimate lengths in standard units.* **2.G** **3.MD** *Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.* **3.G** **4.OA** *Gain familiarity with factors and multiples.* **4.MD** *Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.* **4.G** **6.EE** *Represent and analyze quantitative relationships between dependent and independent variables.* **6.EE** *Apply and extend previous understandings of arithmetic to algebraic expressions.*	Skills **are strongly reflected** in the CCSS in mathematics.

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DLS	CCSS for High School	CCSS for K–8	Explanation & Rating
1d Students know and are able to use the language specific to a content area.	**S-ID** *Summarize, represent, and interpret data on two categorical and quantitative variables.** **S-IC** *Make inferences and justify conclusions from sample surveys, experiments, and observational studies.** **S-CP** *Understand independence and conditional probability and use them to interpret data.**	**7.G** *Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.* **7.SP** *Investigate chance processes and develop, use, and evaluate probability models.* **8.NS** **8.F** *Define, evaluate, and compare functions.* **8.G** *Understand congruence and similarity using physical models, transparencies, or geometry software.* **8.G** *Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.*	Skills **are strongly reflected** in the CCSS in mathematics.
1e Students apply facts, processes, and theories to real world situations. *(continued)*	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **N-Q** **N-VM** *Perform operations on matrices and use matrices in applications. (+)* **A-SSE** *Write expressions in equivalent forms to solve problems.* **A-CED*** **F-IF** *Interpret functions that arise in applications in terms of the context.* **F-BF** **F-LE*** **F-TF** *Model periodic phenomena with trigonometric functions.* **G-SRT** *Define trigonometric ratios and solve problems involving right triangles.* **G-GPE** *Use coordinates to prove simple geometric theorems algebraically.* **G-GMD** *Explain volume formulas and use them to solve problems.*	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **K.G** *Analyze, compare, create, and compose shapes.* **1.OA** *Represent and solve problems involving addition and subtraction.* **2.OA** *Represent and solve problems involving addition and subtraction.* **3.OA** *Represent and solve problems involving multiplication and division.* **3.OA** *Solve problems involving the four operations, and identify and explain patterns in arithmetic.* **3.MD** *Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.* **3.MD** *Represent and interpret data.* **4.OA** *Use the four operations with whole numbers to solve problems.* **4.MD** *Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.* **4.MD** *Represent and interpret data.*	Skills **are strongly reflected** in the CCSS in mathematics.

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DLS	CCSS for High School	CCSS for K–8	Explanation & Rating
1e Students apply facts, processes, and theories to real world situations.	**G-MG*** **S-ID*** **S-IC*** **S-CP*** **S-MD*** *(+)*	**5.NF** **5.G** *Graph points on the coordinate plane to solve real-world and mathematical problems.* **5.MD** *Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.* **6.RP** **6.NS** *Apply and extend previous understandings of numbers to the system of rational numbers.* **6.EE** *Represent and analyze quantitative relationships between dependent and independent variables.* **6.EE** *Reason about and solve one-variable equations and inequalities.* **6.G** **6.SP** **7.RP** **7.NS** **7.EE** *Solve real-life and mathematical problems using numerical and algebraic expressions and equations.* **7.G** *Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.* **7.SP** **8.EE** **8.F** *Use functions to model relationships between quantities.* **8.G** *Understand and apply the Pythagorean Theorem.* **8.G** *Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres* **8.SP**	Skills **are strongly reflected** in CCSS in mathematics.
2. Engage in expanding the structure of knowledge.			
2a Students perceive the inherent value of content knowledge.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.
2b Students know that future learning will build upon what they know and learn today.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.
2c Students are motivated to put in the time and effort needed to build a solid knowledge base.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.

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DLS	CCSS for High School	CCSS for K–8	Explanation & Rating
2d Students enjoy and are able to rise to challenges requiring them to apply knowledge in non-routine ways.	**SMP.1** **SMP.4** **SMP.7** **SMP.8**	**SMP.1** **SMP.4** **SMP.7** **SMP.8**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
3. Think critically and solve complex problems.			
3a Students are familiar with and able to use effectively the tools and techniques specific to a content area.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **SMP.7** **SMP.8**	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **SMP.7** **SMP.8**	Skills **are strongly reflected** in the CCSS in mathematics
3b Students formulate problems and generate hypotheses.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.7** **SMP.8** **S-IC*** **S-MD** *Use probability to evaluate outcomes of decisions.* (+)* See overview of HS-Modeling	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.7** **SMP.8** **7.SP** *Use random sampling to draw inferences about a population.* **7.SP** *Draw informal comparative inferences about two populations.*	Skills **are strongly reflected** in the CCSS in mathematics.

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DLS	CCSS for High School	CCSS for K–8	Explanation & Rating
3c Students identify the data and information needed to solve a problem.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **SMP.7** **SMP.8** **S-IC** *Make inferences and justify conclusions from sample surveys, experiments, and observational studies.** **S-MD*** **G-CO** **G-SRT** *Understand similarity in terms of similarity transformations.* **G-SRT** *Prove theorems involving similarity.* **G-SRT** *Apply trigonometry to general triangles. (+)* **G-C** **G-GPE** **G-GMD** **G-MG***	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **SMP.7** **SMP.8** **7.SP** *Use random sampling to draw inferences about a population.* **7.SP** *Investigate chance processes and develop, use, and evaluate probability models.*	Skills **are strongly reflected** in the CCSS in mathematics.
3d Students apply the tools and techniques specific to a content area to gather necessary data and information.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **SMP.7** **SMP.8** **S-ID*** **S-IC*** **S-CP*** **S-MD*** *(+)* **F-IF** *Interpret functions that arise in applications in terms of the context.** **F-IF** *Analyze functions using different representations.* **F-BF** **F-LE*** **F-TF** *Model periodic phenomena with trigonometric functions.*	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **SMP.7** **SMP.8** **6.SP** **7.RP** **7.SP** **8.SP**	Skills **are strongly reflected** in the CCSS in mathematics.

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DLS	CCSS for High School	CCSS for K–8	Explanation & Rating
3e Students evaluate, integrate, and critically analyze multiple sources of information.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **F-BF** *Build a function that models a relationship between two quantities.* **S-IC** *Make inferences and justify conclusions from sample surveys, experiments, and observational studies.** **S-CP** *Understand independence and conditional probability and use them to interpret data.**	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **4.G** **6.EE** *Represent and analyze quantitative relationships between dependent and independent variables.* **7.G** *Draw, construct, and describe geometrical figures and describe the relationships between them.* **7.SP** *Draw informal comparative inferences about two populations.* **8.EE** *Understand the connections between proportional relationships, lines, and linear equations.* **8.F** *Define, evaluate, and compare functions.* **8.G** *Understand congruence and similarity using physical models, transparencies, or geometry software.* **8.SP**	Skills **are largely reflected** in the CCSS in mathematics.
3f Students monitor and refine the problem-solving process based on available data as needed.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **SMP.8**	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **SMP.8**	Skills **are strongly reflected** in the CCSS in mathematics.

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DLS	CCSS for High School	CCSS for K–8	Explanation & Rating
3g Students reason and construct justifiable arguments in support of a hypothesis.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **SMP.8** **A-REI** *Understand solving equations as a process of reasoning and explain the reasoning.* **G-GMD** *Explain volume formulas and use them to solve problems.* **F-BF** *Build a function that models a relationship between two quantities.* **F-LE** *Construct and compare linear, quadratic, and exponential models and solve problems.** **F-TF** *Extend the domain of trigonometric functions using the unit circle.* **F-TF** *Prove and apply trigonometric identities.* **G-CO** *Understand congruence in terms of rigid motions.* **G-CO** *Prove geometric theorems.* **G-SRT** *Prove theorems involving similarity.* **G-SRT** *Define trigonometric ratios and solve problems involving right triangles.* **G-SRT** *Apply trigonometry to general triangles.* **G-C** **G-GPE**	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **SMP.8** **8.G** *Understand congruence and similarity using physical models, transparencies, or geometry software.*	Skills **are strongly reflected** in the CCSS in mathematics.
3h Students persist to solve complex problems.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **SMP.7** **SMP.8**	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **SMP.7** **SMP.8**	Skills **are strongly reflected** in the CCSS in mathematics.

Black — Strong match **Blue — Partial match** *Italics* — Cluster * — Modeling Standard *(+)* — Beyond the college and career readiness level but necessary

DLS	CCSS for High School	CCSS for K–8	Explanation & Rating
4. Communicate effectively.			
4a Students structure information and data in a meaningful and useful way.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **SMP.7** **SMP.8** **N-Q*** **N-CN** *Represent complex numbers and their operations on the complex plane. (+)* **N-VM** *Represent and model with vector quantities. (+)* **N-VM** *Perform operations on vectors. (+)* **A-SSE** **A-APR** *Use polynomial identities to solve problems.* **A-APR** *Rewrite rational expressions.* **A-REI** *Represent and solve equations and inequalities graphically.* **F-IF** *Analyze functions using different representations.* **F-BF** *Build a function that models a relationship between two quantities.* **F-LE** *Construct and compare linear, quadratic, and exponential models and solve problems.** **F-TF** *Model periodic phenomena with trigonometric functions.* **G-CO** *Experiment with transformations in the plane.* **G-CO** *Understand congruence in terms of rigid motions.* **G-SRT** *Understand similarity in terms of similarity transformations.*	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **SMP.7** **SMP.8** **5.NF** *Use equivalent fractions as a strategy to add and subtract fractions.* **5.G** *Graph points on the coordinate plane to solve real-world and mathematical problems.* **7.RP** **7.EE** **7.SP** *Use random sampling to draw inferences about a population.* **8.NS** **8.F** *Use functions to model relationships between quantities.* **8.G** *Understand congruence and similarity using physical models, transparencies, or geometry software.*	
(continued)			

Black — Strong match **Blue — Partial match** *Italics* — Cluster * — Modeling Standard *(+)* — Beyond the college and career readiness level but necessary

DLS	CCSS for High School	CCSS for K–8	Explanation & Rating
4a Students structure information and data in a meaningful and useful way.	**G-GPE** *Use coordinates to prove simple geometric theorems algebraically.* **S-ID** *Summarize, represent, and interpret data on a single count or measurement variable.** **S-ID** *Summarize, represent, and interpret data on two categorical and quantitative variables.** **S-CP** *Understand independence and conditional probability and use them to interpret data.**		Skills **are strongly reflected** in the CCSS in mathematics.
4b Students listen to and incorporate feedback and ideas from others.	**SMP.1** **SMP.2** **SMP.3**	**SMP.1** **SMP.2** **SMP.3**	Skills **could be reflected** in CCSS-aligned instruction.
4c Students provide constructive and appropriate peer feedback to others.	**SMP.2** **SMP.3**	**SMP.2** **SMP.3**	Skills **are largely reflected** in the CCSS in mathematics and ELA/literacy.
4d Students understand that creating a quality final communication requires review and revision of multiple drafts.	**SMP.3** **SMP.6**	**SMP.3** **SMP.6**	Skills **could be reflected** in CCSS-aligned instruction.
4e Students communicate complex concepts to others in both written and oral presentations.	**SMP.3** **SMP.6**	**SMP.3** **SMP.6**	Skills **could be reflected** in CCSS-aligned instruction.
4f Students tailor their message for the intended audience.	N/A	N/A	Skills **are not covered** in the CCSS and need to be addressed elsewhere in curriculum.
5. Work collaboratively.			
5a Students collaborate with others to complete tasks and solve problems successfully.	**SMP.1**	**SMP.1**	Skills **could be reflected** in CCSS-aligned instruction.
5b Students work as part of a group to identify group goals.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.
5c Students participate in a team to plan problem-solving steps and identify resources necessary to meet group goals.	**SMP.1**	**SMP.1**	Skills **could be reflected** in CCSS-aligned instruction.
5d Students communicate and incorporate multiple points of view to meet group goals.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.
6. Learn how to learn.			
6a Students know and can apply a variety of study skills and strategies.	N/A	N/A	Skills **are not covered** in the CCSS and need to be addressed elsewhere in curriculum.

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DLS	CCSS for High School	CCSS for K–8	Explanation & Rating
6b Students are aware of their strengths and weaknesses.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.
6c Students identify and work towards lifelong learning and academic goals.	N/A	N/A	Skills **are not covered** in the CCSS and need to be addressed elsewhere in curriculum.
6d Students evaluate the match between reality and what is needed to attain specific goals.	N/A	N/A	Skills **are not covered** in the CCSS and need to be addressed elsewhere in curriculum.
6e Students recognize their weaknesses and anticipate needing to work harder in those areas.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.
6f Students monitor their progress towards a goal, and adapt their approach as needed to successfully complete a task or solve a problem.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6**	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6**	Skills **are strongly reflected** in the CCSS in mathematics.
6g Students enjoy and seek out learning on their own.	N/A	N/A	Skills **are not covered** in the CCSS and need to be addressed elsewhere in curriculum.
6h Students understand and are prepared to meet changing expectations in a variety of academic, professional and social environments.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.

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ESSENTIAL Knowledge and SKILLS STATEMENT (ESS) TABLE

ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS01 ACADEMIC FOUNDATIONS: Achieve additional academic knowledge and skills required to pursue the full range of career and postsecondary education opportunities within a career cluster.			
ESS01.01 Complete required training, education, and certification to prepare for employment in a particular career field.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS01.01.01 Identify training, education and certification requirements for occupational choice.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS01.01.02 Participate in career-related training and/or degree programs.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS01.01.03 Pass certification tests to qualify for licensure and/or certification in chosen occupational area.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS01.02 Demonstrate language arts knowledge and skills required to pursue the full range of postsecondary education and career opportunities.			Skills **are largely reflected** in the CCSS in mathematics.
ESS01.02.01 Model behaviors that demonstrate active listening.	**SMP.3**	**SMP.3**	Skills **could be reflected** in CCSS-aligned instruction.
ESS01.02.02 Adapt language for audience, purpose, situation. (i.e. diction/structure, style).	N/A	N/A	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS01.02.03 Organize oral and written information.	**SMP.6**	**SMP.6**	Skills **could be reflected** in CCSS-aligned instruction.
ESS01.02.04 Compose focused copy for a variety of written documents such as agendas, audio-visuals, bibliographies, drafts, forms/ documents, notes, oral presentations, reports, and technical terminology.	**SMP.6**	**SMP.6**	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS01.02.05 Edit copy to create focused written documents such as agendas, audio-visuals, bibliographies, drafts, forms/ documents, notes, oral presentations, reports, and technical terminology.	**SMP.6**	**SMP.6**	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

Black — Strong match **Blue — Partial match** *Italics* — Cluster * — Modeling Standard *(+)* — Beyond the college and career readiness level but necessary

ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS01.02.06 Comprehend key elements of oral and written information such as cause/effect, comparisons/contrasts, conclusions, context, purpose, charts/tables/ graphs, evaluation/critiques, mood, persuasive text, sequence, summaries, and technical subject matter.	**SMP.1** **SMP.3** **S-ID.9*** **NOTE:** The 9–12 content standards, throughout each domain, emphasize the use of charts/ tables/graphs to organize, present and analyze.	**SMP.3** **NOTE:** The K–8 content standards, throughout each domain, emphasize the use of charts/ tables/graphs to organize, present and analyze.	Skills **are largely reflected** in the CCSS in mathematics.
ESS01.02.07 Evaluate oral and written information for accuracy, adequacy/sufficiency, appropriateness, clarity, conclusions/ solutions, fact/opinion, propaganda, relevancy, validity, and relationship of ideas.	**SMP.2** **SMP.3** **S-IC.3*** **S-IC.6***	**SMP.2** **SMP.3**	Skills **are largely reflected** in the CCSS in mathematics.
ESS01.02.08 Identify assumptions, purpose, outcomes/solutions, and propaganda techniques.	**SMP.3**	**SMP.3**	Skills **are largely reflected** in the CCSS in mathematics.
ESS01.02.09 Predict potential outcomes and/or solutions based on oral and written information regarding trends.	**SMP.1** **S-ID.5***	**SMP.1**	Skills **are largely reflected** in the CCSS in mathematics.
ESS01.02.10 Present formal and informal speeches including discussion, information requests, interpretation, and persuasive arguments.	**SMP.3** **SMP.6**	**SMP.3** **SMP.6**	Skills **could be reflected** in CCSS-aligned instruction.
ESS01.03 Demonstrate mathematics knowledge and skills required to pursue the full range of postsecondary education and career opportunities.			Skills **are strongly reflected** in the CCSS in mathematics.
ESS01.03.01 Identify whole numbers, decimals, and fractions.	**N-RN** *Use properties of rational and irrational numbers.*	**K.CC** **1.NBT** **2.NBT** **3.NBT** **3.NF** **4.NBT** **4.NF** **5.NBT** **6.NS** **8.NS**	Skills **are strongly reflected** in the CCSS in mathematics.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS01.03.02 Demonstrate knowledge of basic arithmetic operations such as addition, subtraction, multiplication, and division.	**N-RN** *Use properties of rational and irrational numbers.*	**K.OA** **1.OA** **2.OA** **3.OA** **3.NBT** **4.OA** **4.NBT** **5.NBT** **6.RP** **6.NS** **7.RP** **7.NS**	Skills **are strongly reflected** in the CCSS in mathematics.
ESS01.03.03 Demonstrate use of relational expressions such as equal to, not equal, greater than, less than, etc.	**SMP.6**	**SMP.6** **2.NBT** **3.NF** **4.NBT** **4.NF** **5.NBT** **6.NS.7**	Skills **are strongly reflected** in the CCSS in mathematics.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS01.03.04 Apply data and measurements to solve a problem.	**SMP.1** **SMP.4** **SMP.5** **SMP.6** **N-Q*** **N-VM** *Represent and model with vector quantities.* **N-VM** *Perform operations on vectors.* **G-CO** *Make geometric constructions.* **G-SRT** *Define trigonometric ratios and solve problems involving right triangles.* **G-SRT** *Apply trigonometry to general triangles. (+)* **G-C** *Find arc lengths and areas of sectors of circles.* **G-GMD** *Explain volume formulas and use them to solve problems.* **G-MG*** **S-ID*** **S-IC*** **S-CP** *Understand independence and conditional probability and use them to interpret data.** **S-MD*** *(+)* **F-TF** *Extend the domain of trigonometric functions using the unit circle.* **F-TF** *Model periodic phenomena with trigonometric functions.*	**SMP.1** **SMP.4** **SMP.5** **SMP.6** **3.MD** **4.MD** **5.MD** **6.RP** **6.G** **7.G** *Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.* **8.G** *Understand and apply the Pythagorean Theorem.* **8.G** *Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.*	Skills **are strongly reflected** in the CCSS in mathematics.
ESS01.03.05 Analyze Mathematical problem statements for missing and/or irrelevant data.	**SMP.1** **SMP.3**	**SMP.1** **SMP.3**	Skills **are strongly reflected** in the CCSS in mathematics.
ESS01.03.06 Construct charts/tables/graphs from functions and data.	**S-ID*** **S-CP** *Understand independence and conditional probability and use them to interpret data.** **S-MD*** *(+)* **F-TF** *Model periodic phenomena with trigonometric functions.** **F-IF** **F-BF** *Build new functions from existing functions.* **F-LE** *Construct and compare linear, quadratic, and exponential models and solve problems.**	**2.MD** **3.MD** **4.MD** **5.MD** **6.SP** **8.F** *Use functions to model relationships between quantities.* **8.SP**	Skills **are strongly reflected** in the CCSS in mathematics

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS01.03.07 Analyze data when interpreting operational documents.	**S-ID*** **S-CP** *Understand independence and conditional probability and use them to interpret data.** **S-MD*** *(+)* **S-IC***	**2.MD** **3.MD** **4.MD** **5.MD** **6.SP** **7.SP** *Draw informal comparative inferences about two populations.* **7.SP** *Use random sampling to draw inferences about a population.* **8.SP**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS01.04 Demonstrate science knowledge and skills required to pursue the range of postsecondary and career education opportunities.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS01.04.01 Evaluate scientific constructs including conclusions, conflicting data, controls, data, inferences, limitations, questions, sources of errors, and variables.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS01.04.02 Apply scientific methods in qualitative and quantitative analysis, data gathering, direct and indirect observation, predictions, and problem identification.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02 COMMUNICATIONS: Use oral and written communication skills in creating, expressing and interpreting information and ideas including technical terminology and information.			
ESS02.01 Select and employ appropriate reading and communication strategies to learn and use technical concepts and vocabulary in practice.			Skills **are largely reflected** in the CCSS in mathematics.
ESS02.01.01 Determine the most appropriate reading strategy for identifying the overarching purpose of a text (i.e. skimming, reading for detail, reading for meaning or critical analysis).	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.01.02 Demonstrate use of content, technical concepts and vocabulary when analyzing information and following directions.	**SMP.1** **SMP.6**	**SMP.1** **SMP.6**	Skills **are largely reflected** in the CCSS in mathematics.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS02.01.03 Select the reading strategy or strategies needed to fully comprehend the content within a written document (i.e., skimming, reading for detail, reading for meaning or critical analysis).	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.01.04 Interpret information, data, and observations to apply information learned from reading to actual practice.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **F-IF** *Interpret functions that arise in applications in terms of the context.** **F-BF** *Build a function that models a relationship between two quantities.** **F-LE** *Interpret expressions for functions in terms of the situation they model.** **G-MG*** **S-ID*** **S-IC*** **S-CP** *Understand independence and conditional probability and use them to interpret data.** **S-MD** *Use probability to evaluate outcomes of decisions.* (+)*	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **1.MD** **2.MD** **3.MD** **4.MD** **5.MD** **6.RP** **6.EE** **6.SP** **7.RP** **7.EE** **7.SP** **8.F.** *Use functions to model relationships between quantities.* **8.SP**	Skills **are largely reflected** in the CCSS in mathematics.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS02.01.05 Transcribe information, data, and observations to apply information learned from reading to actual practice.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **F-IF** *Interpret functions that arise in applications in terms of the context.** **F-BF** *Build a function that models a relationship between two quantities.** **F-LE** *Interpret expressions for functions in terms of the situation they model.** **G-MG*** **S-ID*** **S-IC*** **S-CP** *Understand independence and conditional probability and use them to interpret data.** **S-MD** *Use probability to evaluate outcomes of decisions.* (+)*	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **1.MD** **2.MD** **3.MD** **4.MD** **5.MD** **6.RP** **6.EE** **6.SP** **7.RP** **7.EE** **7.SP** **8.F.** *Use functions to model relationships between quantities.* **8.SP**	Skills **are largely reflected** in the CCSS in mathematics.
ESS02.01.06 Communicate information, data, and observations to apply information learned from reading to actual practice.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **F-IF** *Interpret functions that arise in applications in terms of the context.** **F-BF** *Build a function that models a relationship between two quantities.** **F-LE** *Interpret expressions for functions in terms of the situation they model.** **G-MG*** **S-ID*** **S-IC*** **S-CP** *Understand independence and conditional probability and use them to interpret data.** **S-MD** *Use probability to evaluate outcomes of decisions.* (+)*	**SMP.1** **SMP.2** **SMP.3** **1.MD** **2.MD** **3.MD** **4.MD** **5.MD** **6.RP** **6.EE** **6.SP** **7.RP** **7.EE** **7.SP** **8.F** *Use functions to model relationships between quantities.* **8.SP**	Skills **are largely reflected** in the CCSS in mathematics.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS02.02 Demonstrate use of the concepts, strategies, and systems for obtaining and conveying ideas and information to enhance communication in the workplace.			Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS02.02.01 Employ verbal skills when obtaining and conveying information.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.
ESS02.02.02 Record information needed to present a report on a given topic or problem.	**SMP.3** **SMP.5** **SMP.6**	**SMP.3** **SMP.5** **SMP.6**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS02.02.03 Write internal and external business correspondence that conveys and/or obtains information effectively.	**SMP.3** **SMP.5** **SMP.6**	**SMP.3** **SMP.5** **SMP.6**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS02.02.04 Communicate with other employees to clarify workplace objectives.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.02.05 Communicate effectively with customers and employees to foster positive relationships.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.03 Locate, organize and reference written information from various sources to communicate with co-workers and clients/participants.			Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS02.03.01 Locate written information used to communicate with co-workers and customers.	**SMP.5**	**SMP.5**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS02.03.02 Organize information to use in written and oral communications.	**SMP.6**	**SMP.6**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS02.03.03 Reference the sources of information.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS02.04 Evaluate and use information resources to accomplish specific occupational tasks.			Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS02.04.01 Use informational texts, Internet web sites, and/or technical materials to review and apply information sources for occupational tasks.	**SMP.5**	**SMP.5**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS02.04.02 Evaluate the reliability of information from informational texts, Internet Web sites, and/or technical materials and resources.	**SMP.5**	**SMP.5**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS02.05 Use correct grammar, punctuation and terminology to write and edit documents.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.05.01 Compose multi-paragraph documents clearly, succinctly, and accurately.	**SMP.6**	**SMP.6**	Skills **could be reflected** in CCSS-aligned instruction.
ESS02.05.02 Use descriptions of audience and purpose when preparing and editing written documents.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.05.03 Use correct grammar, spelling, punctuation, and capitalization when preparing written documents.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.06 Develop and deliver formal and informal presentations using appropriate media to engage and inform audiences.			Skills **could be reflected** in CCSS-aligned instruction.
ESS02.06.01 Prepare oral presentations to provide information for specific purposes and audiences.	**SMP.3** **SMP.6**	**SMP.3** **SMP.6**	Skills **could be reflected** in CCSS-aligned instruction.
ESS02.06.02 Identify support materials that will enhance an oral presentation.	**SMP.5**	**SMP.5**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS02.06.03 Prepare support materials that will enhance an oral presentation.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS02.06.04 Deliver an oral presentation that sustains listeners' attention and interest.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.06.05 Align presentation strategies to the intended audience.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.06.06 Implement multi-media strategies for presentations.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.
ESS02.07 Interpret verbal and nonverbal cues/behaviors to enhance communication with co-workers and clients/participants.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.07.01 Interpret verbal behaviors when communicating with clients and co-workers.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.07.02 Interpret nonverbal behaviors when communicating with clients and co-workers.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.08 Apply active listening skills to obtain and clarify information.			Skills **could be reflected** in CCSS-aligned instruction.
ESS02.08.01 Interpret a given verbal message/information.	**SMP.3**	**SMP.3**	Skills **are largely reflected** in the CCSS in mathematics.
ESS02.08.02 Respond with restatement and clarification techniques to clarify information.	**SMP.3**	**SMP.3**	Skills **could be reflected** in CCSS-aligned instruction.
ESS02.09 Develop and interpret tables, charts, and figures to support written and oral communications.			Skills **are strongly reflected** in the CCSS in mathematics.
ESS02.09.01 Create tables, charts, and figures to support written and oral communications.	**S-ID*** **S-IC*** **S-CP** *Understand independence and conditional probability and use them to interpret data.**	**2.MD** **3.MD** **4.MD** **5.MD** **6.SP** *Summarize and describe distributions.* **8.F** *Use functions to model relationships between quantities.* **8.SP**	Skills **are strongly reflected** in the CCSS in mathematics.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS02.09.02 Interpret tables, charts, and figures used to support written and oral communication.	**F-IF** *Analyze functions using different representations.* **S-ID*** **S-IC*** **S-CP** *Understand independence and conditional probability and use them to interpret data.**	**2.MD** **3.MD** **4.MD** **5.MD** **6.SP** *Summarize and describe distributions.* **7.SP** **8.F** *Use functions to model relationships between quantities.* **8.SP**	Skills **are strongly reflected** in the CCSS in mathematics.
ESS02.10 Listen to and speak with diverse individuals to enhance communication skills.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.10.01 Apply factors and strategies for communicating with a diverse workforce.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.10.02 Demonstrate ability to communicate and resolve conflicts within a diverse workforce.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.11 Exhibit public relations skills to increase internal and external customer/client satisfaction.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS02.11.01 Communicate effectively when developing positive customer/client relationships.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03 PROBLEM-SOLVING AND CRITICAL THINKING: Solve problems using critical thinking skills (analyze, synthesize, and evaluate) independently and in teams. Solve problems using creativity and innovation.			
ESS03.01 Employ critical thinking skills independently and in teams to solve problems and make decisions (e.g., analyze, synthesize and evaluate).			Skills **are largely reflected** in the CCSS in mathematics.
ESS03.01.01 Identify common tasks that require employees to use problem-solving skills.	**SMP.1**	**SMP.1**	Skills **are largely reflected** in the CCSS in mathematics.
ESS03.01.02 Analyze elements of a problem to develop creative solutions.	**SMP.1**	**SMP.1**	Skills **are largely reflected** in the CCSS in mathematics.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS03.01.03 Describe the value of using problem-solving and critical thinking skills to improve a situation or process.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03.01.04 Create ideas, proposals, and solutions to problems.	**SMP.1**	**SMP.1**	Skills **are largely reflected** in the CCSS in mathematics.
ESS03.01.05 Evaluate ideas, proposals, and solutions to problems.	**SMP.1** **SMP.3**	**SMP.1** **SMP.3**	Skills **are largely reflected** in the CCSS in mathematics.
ESS03.01.06 Use structured problem-solving methods when developing proposals and solutions..	**SMP.1**	**SMP.1**	Skills **are strongly reflected** in the CCSS in mathematics.
ESS03.01.07 Generate new and creative ideas to solve problems by brainstorming possible solutions.	**SMP.1**	**SMP.1**	Skills **could be reflected** in CCSS-aligned instruction.
ESS03.01.08 Critically analyze information to determine value to the problem-solving task.	**SMP.1**	**SMP.1**	Skills **are largely reflected** in the CCSS in mathematics.
ESS03.01.09 Guide individuals through the process of recognizing concerns and making informed decisions.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03.01.10 Identify alternatives using a variety of problem-solving and critical thinking skills.	**SMP.1**	**SMP.1**	Skills **are largely reflected** in the CCSS in mathematics.
ESS03.01.11 Evaluate alternatives using a variety of problem-solving and critical thinking skills.	**SMP.1**	**SMP.1**	Skills **are largely reflected** in the CCSS in mathematics.
ESS03.02 Employ critical thinking and interpersonal skills to resolve conflicts with staff and/or customers.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03.02.01 Analyze situations and behaviors that affect conflict management.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03.02.02 Determine best options/outcomes for conflict resolution using critical thinking skills.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03.02.03 Identify with others' feelings, needs, and concerns.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03.02.04 Implement stress management techniques.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

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ESS03.02.05 Resolve conflicts with/for customers using conflict resolution skills.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03.02.06 Implement conflict resolution skills to address staff issues/problems.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03.03 Identify, write and monitor workplace performance goals to guide progress in assigned areas of responsibility and accountability.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03.03.01 Write realistic performance goals, objectives and action plans.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03.03.02 Monitor performance goals and adjust as necessary.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03.03.03 Recognize goal achievement using appropriate rewards in the workplace.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03.03.04 Communicate goal achievement with managers and co-workers.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03.04 Conduct technical research to gather information necessary for decision-making.			Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS03.04.01 Align the information gathered to the needs of the audience.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS03.04.02 Gather technical information and data using a variety of resources.	**SMP.5**	**SMP.5**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS03.04.03 Analyze information and data for value to the research objectives.	**SMP.1** **S-ID*** **S-IC*** **S-CP** *Understand independence and conditional probability and use them to interpret data.**	**SMP.1** **2.MD** **3.MD** **4.MD** **5.MD** **6.SP** **8.SP**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS03.04.04 Evaluate information and data to determine value to research objectives.	**SMP.1** **S-ID*** **S-IC** **S-CP** *Understand independence and conditional probability and use them to interpret data.**	**SMP.1** **2.MD** **3.MD** **4.MD** **5.MD** **6.SP** **7.SP** **8.SP**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS04 INFORMATION TECHNOLOGY APPLICATIONS: Use information technology tools specific to the career cluster to access, manage, integrate, and create information.			
ESS04.01 Use Personal Information Management (PIM) applications to increase workplace efficiency.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.01.01 Manage personal schedules and contact information.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.01.02 Create memos and notes.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.02 Employ technological tools to expedite workflow.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.02.01 Use information technology tools to manage and perform work responsibilities.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.03 Operate electronic mail applications to communicate within a workplace.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.03.01 Use email to share files and documents.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.03.02 Identify the functions and purpose of email systems.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.03.03 Use email to communicate within and across organizations.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

Black — Strong match **Blue — Partial match** *Italics* — Cluster * — Modeling Standard *(+)* — Beyond the college and career readiness level but necessary

ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS04.04 Operate Internet applications to perform workplace tasks.			Skills **could be reflected** in CCSS-aligned instruction.
ESS04.04.01 Access and navigate Internet (e.g., use a web browser).	**SMP.5**	**SMP.5**	Skills **are strongly reflected** in the CCSS in mathematics.
ESS04.04.02 Search for information and resources.	**SMP.5**	**SMP.5**	Skills **could be reflected** in CCSS-aligned instruction.
ESS04.04.03 Evaluate Internet resources for reliability and validity.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.
ESS04.05 Operate writing and publishing applications to prepare business communications.			Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS04.05.01 Prepare simple documents and other business communications.	**SMP.6**	**SMP.6**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS04.05.02 Prepare reports and other business communications by integrating graphics and other non-text elements.	**SMP.5** **SMP.6**	**SMP.5** **SMP.6**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS04.05.03 Prepare complex multi-media publications.	**SMP.5** **SMP.6**	**SMP.5** **SMP.6**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS04.06 Operate presentation applications to prepare presentations.			Skills **could be reflected** in CCSS-aligned instruction.
ESS04.06.01 Prepare presentations for training, sales and information sharing.	**SMP.5** **SMP.6**	**SMP.5** **SMP.6**	Skills **require an academic foundation articulated by the CCSS** in mathematics, but technical elements of the skills are outside the scope of the CCSS in mathematics.
ESS04.06.02 Deliver presentations with supporting materials.	**SMP.6**	N/A	Skills **could be reflected** in CCSS-aligned instruction.

Black — Strong match **Blue — Partial match** *Italics* — Cluster * — Modeling Standard *(+)* — Beyond the college and career readiness level but necessary

ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS04.07 Employ spreadsheet applications to organize and manipulate data.			Skills **are strongly reflected** in the CCSS in mathematics.
ESS04.07.01 Create a spreadsheet.	**SMP.5**	**SMP.5**	Skills **are strongly reflected** in the CCSS in mathematics.
ESS04.07.02 Perform calculations and analyses on data using a spreadsheet.	**SMP.5**	**SMP.5**	Skills **are strongly reflected** in the CCSS in mathematics.
ESS04.08 Employ database applications to manage data.			Skills **are largely reflected** in the CCSS in mathematics.
ESS04.08.01 Manipulate data elements.	**SMP.5**	**SMP.5**	Skills **are strongly reflected** in the CCSS in mathematics.
ESS04.08.02 Manage interrelated data elements.	**SMP.5**	**SMP.5**	Skills **are strongly reflected** in the CCSS in mathematics.
ESS04.08.03 Analyze interrelated data elements.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **S-ID** *Summarize, represent, and interpret data on two categorical and quantitative variables.** **S-IC** *Make inferences and justify conclusions from sample surveys, experiments, and observational studies.**	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **7.SP** *Draw informal comparative inferences about two populations.* **8.SP**	Skills **are strongly reflected** in the CCSS in mathematics.
ESS04.08.04 Generate reports showing interrelated data elements.	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **S-ID** *Summarize, represent, and interpret data on two categorical and quantitative variables.** **S-IC** *Make inferences and justify conclusions from sample surveys, experiments, and observational studies.**	**SMP.1** **SMP.2** **SMP.3** **SMP.4** **SMP.5** **SMP.6** **7.SP** *Draw informal comparative inferences about two populations.* **8.SP**	Skills **are strongly reflected** in the CCSS in mathematics.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS04.09 Employ collaborative/groupware applications to facilitate group work.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.09.01 Facilitate group work through management of shared schedule and contact information.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.09.02 Facilitate group work through management of shared files and online information.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.09.03 Facilitate group work through instant messaging or virtual meetings.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.10 Employ operations applications to manage work tasks.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.10.01 Manage computer operations.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.10.02 Manage file storage.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.10.03 Compress or alter files.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.11 Use computer-based equipment (containing embedded computers or processors) to control devices.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.11.01 Operate computer driven equipment and machines.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.11.02 Use installation and operation manuals	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.11.03 Troubleshoot computer driven equipment and machines	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS04.11.04 Access support as needed to maintain operation of computer driven equipment and machines	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS05 SYSTEMS: Understand roles within teams, work units, departments, Essential Topic organizations, inter-organizational systems, and the larger environment. Identify how key organizational systems affect organizational performance and the quality of products and services. Understand global context of industries and careers.			
ESS05.01 Describe the nature and types of business organizations to build an understanding of the scope of organizations.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS05.01.01 List the types and functions of businesses.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS05.01.02 Describe the types and functions of businesses.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS05.01.03 Explain the functions and interactions of common departments within a business.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS05.02 Implement quality control systems and practices to ensure quality products and services.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS05.02.01 Describe quality control standards and practices common to the workplace.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06 SAFETY, HEALTH AND ENVIRONMENTAL: Understand the importance of health, safety, and environmental management systems in organizations and their importance to organizational performance and regulatory compliance. Follow organizational policies and procedures and contribute to continuous improvement in performance and compliance.			
ESS06.01 Implement personal and jobsite safety rules and regulations to maintain safe and healthful working conditions and environments.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.01.01 Assess workplace conditions with regard to safety and health.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.01.02 Align safety issues with appropriate safety standards to ensure a safe workplace/jobsite.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.01.03 Identify safety hazards common to workplaces.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.01.04 Identify safety precautions to maintain a safe worksite.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.01.05 Select appropriate personal protective equipment as needed for a safe workplace/jobsite.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS06.01.06 Inspect personal protective equipment commonly used for selected career pathway.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.01.07 Use personal protective equipment according to manufacturer rules and regulations.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.01.08 Employ a safety hierarchy and communication system within the workplace/jobsite.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.01.09 Implement safety precautions to maintain a safe worksite.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.02 Complete work tasks in accordance with employee rights and responsibilities and employers obligations to maintain workplace safety and health.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.02.01 Identify rules and laws designed to promote safety and health in the workplace.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.02.02 State the rationale of rules and laws designed to promote safety and health.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.03 Employ emergency procedures as necessary to provide aid in workplace accidents.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.03.01 Use knowledge of First Aid procedures as necessary.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.03.02 Use knowledge of CPR procedures as necessary.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.03.03 Use safety equipment as necessary.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.04 Employ knowledge of response techniques to create a disaster and/or emergency response plan.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.04.01 Complete an assessment of an emergency and/or disaster situation.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS06.04.02 Create an emergency and/or disaster plan.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS07 LEADERSHIP AND TEAMWORK: Use leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.			
ESS07.01 Employ leadership skills to accomplish organizational goals and objectives.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.01.01 Analyze the various roles of leaders within organizations (e.g. contribute ideas; share in building an organization; act as role models to employees by adhering to company policies, procedures, and standards; promote the organization's vision; and mentor others).	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.01.02 Exhibit traits such as empowerment, risk, communication, focusing on results, decision-making, problem solution, and investment in individuals when leading a group in solving a problem.	**SMP.1** **SMP.3**	**SMP.1** **SMP.3**	Skills **are largely reflected** in the CCSS in mathematics.
ESS07.01.03 Exhibit traits such as compassion, service, listening, coaching, developing others, team development, and understanding and appreciating others when acting as a manager of others in the workplace.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.01.04 Exhibit traits such as enthusiasm, creativity, conviction, mission, courage, concept, focus, principle-centered living, and change when interacting with others in general.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.01.05 Consider issues related to self, team, community, diversity, environment, and global awareness when leading others.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.01.06 Exhibit traits such as innovation, intuition, adaptation, life-long learning and coachability to develop leadership potential over time.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS07.01.07 Analyze leadership in relation to trust, positive attitude, integrity, and willingness to accept key responsibilities in a work situation.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.01.08 Describe observations of outstanding leaders using effective management styles.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.01.09 Participate in civic and community leadership and teamwork opportunities to enhance skills.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.02 Employ organizational and staff development skills to foster positive working relationships and accomplish organizational goals.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.02.01 Implement organizational skills when facilitating others' work efforts.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.02.02 Explain how to manage a staff that satisfies work demands while adhering to budget constraints.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.02.03 Describe how staff growth and development to increase productivity and employee satisfaction.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.02.04 Organize team involvement within a group environment.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.02.05 Work with others to develop and gain commitment to team goals.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.02.06 Distribute responsibility and work load fairly.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.02.07 Model leadership and teamwork qualities to aid in employee morale.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.02.08 Identify best practices for successful team functioning.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.02.09 Explain best practices for successful team functioning.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

Black — Strong match **Blue — Partial match** *Italics* — Cluster * — Modeling Standard *(+)* — Beyond the college and career readiness level but necessary

ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS07.03 Employ teamwork skills to achieve collective goals and use team members' talents effectively.			Skills **could be reflected** in CCSS-aligned instruction.
ESS07.03.01 Work with others to achieve objectives in a timely manner.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.
ESS07.03.02 Promote the full involvement and use of team members' individual talents and skills.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.03.03 Employ conflict management skills to facilitate solutions.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.03.04 Demonstrate teamwork skills through working cooperatively with co-workers, supervisory staff, and others, both in and out of the organization, to achieve particular tasks.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.
ESS07.03.05 Demonstrate teamwork processes that provide team building, consensus, continuous improvement, respect for the opinions of others, cooperation, adaptability, and conflict resolution.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.03.06 Develop plans to improve team performance.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.03.07 Demonstrate commitment to and a positive attitude toward team goals.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.03.08 Take responsibility for shared group and individual work tasks.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.
ESS07.03.09 Assist team members in completing their work.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.03.10 Adapt effectively to changes in projects and work activities.	N/A	N/A	Skills **could be reflected** in CCSS-aligned instruction.
ESS07.03.11 Negotiate effectively to arrive at decisions.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS07.04 Establish and maintain effective working relationships with all levels of personnel and other departments in order to accomplish objectives and tasks.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.04.01 Build effective working relationships using interpersonal skills.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.04.02 Use positive interpersonal skills to work cooperatively with co-workers representing different cultures, genders and backgrounds.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.04.03 Manage personal skills to accomplish assignments.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.04.04 Treat people with respect.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.04.05 Provide constructive praise and criticism.	**SMP.3**	**SMP.3**	Skills **are largely reflected** in the CCSS in mathematics.
ESS07.04.06 Demonstrate sensitivity to and value for diversity.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.04.07 Manage stress and control emotions.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.05 Conduct and participate in meetings to accomplish work tasks.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.05.01 Develop meeting goals, objectives and agenda.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.05.02 Assign responsibilities for preparing materials and leading discussions.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.05.03 Prepare materials for leading discussion.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.05.04 Assemble and distribute meeting materials.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.05.05 Conduct meeting to achieve objectives within scheduled time.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

Black — Strong match **Blue — Partial match** *Italics* — Cluster * — Modeling Standard *(+)* — Beyond the college and career readiness level but necessary

ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS07.05.06 Demonstrate effective communication skills in meetings.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.05.07 Produce meeting minutes including decisions and next steps.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.05.08 Use parliamentary procedure, as needed, to conduct meetings.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.06 Employ mentoring skills to inspire and teach others.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.06.01 Use motivational techniques to enhance performance in others.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS07.06.02 Provide guidance to enhance performance in others.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS08 ETHICS AND LEGAL RESPONSABILITIES: Know and understand the importance of professional ethics and legal responsibilities.			
ESS08.01 Apply ethical reasoning to a variety of workplace situations in order to make ethical decisions.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS08.01.01 Evaluate alternative responses to workplace situations based on legal responsibilities and employer policies.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS08.01.02 Evaluate alternative responses to workplace situations based on personal or professional ethical responsibilities.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS08.01.03 Identify personal and long-term workplace consequences of unethical or illegal behaviors.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS08.01.04 Explain personal and long-term workplace consequences of unethical or illegal behaviors.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS08.01.05 Determine the most appropriate response to workplace situations based on legal and ethical considerations.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS08.01.06 Explain the most appropriate response to workplace situations based on legal and ethical considerations.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS08.02 Interpret and explain written organizational policies and procedures to help employees perform their jobs according to employer rules and expectations.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS08.02.01 Locate information on organizational policies in handbooks and manuals.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS08.02.02 Discuss how specific organizational policies and procedures influence a specific work situation.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09 EMPLOYABILITY AND CAREER DEVELOPMENT: Know and understand the importance of employability skills. Explore, plan, and effectively manage careers. Know and understand the importance of entrepreneurship skills.			
ESS09.01 Identify and demonstrate positive work behaviors and personal qualities needed to be employable.			Skills **could be reflected** in CCSS-aligned instruction.
ESS09.01.01 Demonstrate self-discipline, self-worth, positive attitude, and integrity in a work situation.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.01.02 Demonstrate flexibility and willingness to learn new knowledge and skills.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.01.03 Exhibit commitment to the organization.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.01.04 Identify how work varies with regard to site, from indoor confined spaces to outdoor areas, including aerial space and a variety of climatic and physical conditions.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.01.05 Apply communication strategies when adapting to a culturally diverse environment.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.01.06 Manage resources in relation to the position (i.e. budget, supplies, computer, etc).	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.01.07 Identify positive work-qualities typically desired in each of the career cluster's pathways.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.01.08 Manage work roles and responsibilities to balance them with other life roles and responsibilities.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS09.02 Develop a personal career plan to meet career goals and objectives.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.02.01 Develop career goals and objectives as part of a plan for future career direction.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.02.02 Develop strategies to reach career objectives.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.03 Demonstrate skills related to seeking and applying for employment to find and obtain a desired job.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.03.01 Use multiple resources to locate job opportunities.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.03.02 Prepare a résumé.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.03.03 Prepare a letter of application.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.03.04 Complete an employment application.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.03.05 Interview for employment.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.03.06 List the standards and qualifications that must be met in order to enter a given industry.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.03.07 Employ critical thinking and decision-making skills to exhibit qualifications to a potential employer.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.04 Maintain a career portfolio to document knowledge, skills and experience in a career field.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.04.01 Select educational and work history highlights to include in a career portfolio.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

Black — Strong match **Blue — Partial match** *Italics* — Cluster * — Modeling Standard *(+)* — Beyond the college and career readiness level but necessary

ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS09.04.02 Produce a record of work experiences, licenses, certifications and products.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.04.03 Organize electronic or physical portfolio for use in demonstrating knowledge, skills and experiences.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.05 Demonstrate skills in evaluating and comparing employment opportunities in order to accept employment positions that match career goals.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.05.01 Compare employment opportunities to individual needs and career plan objectives.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.05.02 Evaluate employment opportunities based upon individual needs and career plan objectives.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.05.03 Demonstrate appropriate methods for accepting or rejecting employment offers.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.06 Identify and exhibit traits for retaining employment to maintain employment once secured.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.06.01 Model behaviors that demonstrate reliability and dependability.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.06.02 Maintain appropriate dress and behavior for the job to contribute to a safe and effective workplace/jobsite.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.06.03 Complete required employment forms and documentation such as I-9 form, work visa, W-4 and licensures to meet employment requirements.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.06.04 Summarize key activities necessary to retain a job in the industry.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.06.05 Identify positive work behaviors and personal qualities necessary to retain employment.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS09.07 Identify and explore career opportunities in one or more career pathways to build an understanding of the opportunities available in the cluster.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.07.01 Locate and identify career opportunities that appeal to personal career goals.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.07.02 Match personal interest and aptitudes to selected careers.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.08 Recognize and act upon requirements for career advancement to plan for continuing education and training.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.08.01 Identify opportunities for career advancement.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.08.02 Pursue education and training opportunities to acquire skills necessary for career advancement.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.08.03 Examine the organization and structure of various segments of the industry to prepare for career advancement.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.08.04 Research local and regional labor (workforce) market and job growth information to project potential for advancement.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.08.05 Manage employment relations to make career advancements.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.09 Continue professional development to keep current on relevant trends and information within the industry.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.09.01 Use self-assessment, organizational priorities, journals, Internet sites, professional associations, peers and other resources to develop goals that address training, education and self-improvement issues.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS09.09.02 Read trade magazines and journals, manufacturers' catalogues, industry publications and Internet sites to keep current on industry trends.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.09.03 Participate in relevant conferences, workshops, mentoring activities and in-service training to stay current with recent changes in the field.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.10 Examine licensing, certification and credentialing requirements at the national, state and local levels to maintain compliance with industry requirements.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.10.01 Examine continuing education requirements related to licensing, certification, and credentialing requirements at the local, state and national levels for chosen occupation.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.10.02 Examine the procedures and paperwork involved in maintaining and updating licensure, certification and credentials for chosen occupation	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.10.03 Align ongoing licensing, certification and credentialing requirements to career plans and goals.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.11 Examine employment opportunities in entrepreneurship to consider entrepreneurship as an option for career planning.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS09.11.01 Describe the opportunities for entrepreneurship in a given industry.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS10 TECHNICAL SKILLS: Use of technical knowledge and skills required to pursue careers in all career cluster, including knowledge of design, operation, and maintenance of technological systems critical to the career cluster.			
ESS10.01 Employ information management techniques and strategies in the workplace to assist in decision-making.			Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS10.01.01 Use information literacy skills when accessing, evaluating and disseminating information.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

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ESS	CCSS for High School	CCSS for K–8	Explanation & Rating
ESS10.01.02 Describe the nature and scope of information management.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS10.01.03 Maintain records to facilitate ongoing business operations.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.
ESS10.02 Employ planning and time management skills and tools to enhance results and complete work tasks.			Skills **could be reflected** in CCSS-aligned instruction.
ESS10.02.01 Develop goals and objectives.	**SMP.1**	**SMP.1**	Skills **are largely reflected** in the CCSS in mathematics.
ESS10.02.02 Prioritize tasks to be completed.	**SMP.1**	**SMP.1**	Skills **are largely reflected** in the CCSS in mathematics.
ESS10.02.03 Develop timelines using time management knowledge and skills.	**SMP.1**	**SMP.1**	Skills **are largely reflected** in the CCSS in mathematics.
ESS10.02.04 Use project-management skills to improve workflow and minimize costs.	N/A	N/A	Skills **are not covered** in the CCSS in mathematics and need to be addressed elsewhere.

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