

8th Grade Math Curriculum Bundle # 8

Course or Grade Level: EIGHTH		Calendar (Weeks 24, 25, and 26) Bundle 8		
Content	TAKS OBJ	TEKS Knowledge & Skills	TEKS Student Expectation	Specification/Examples
		8.2 Number, operation, and quantitative reasoning. The student selects and uses appropriate operations to solve problems and justify solutions	<p>8.2(A) Select appropriate operations to solve problems involving rational numbers and justify the selections. (Supporting)</p> <p>8.2(B) Use appropriate operations to solve problems involving rational numbers in problem situations. (Readiness)</p>	<p>8.2(A) Including but not limited to:</p> <ul style="list-style-type: none"> recognize isolated variables in equations recognize correct order of operations (PEMDAS) choose correct expression/equation for a problem situation formulate equations with appropriate order of operations explain which operation to use and justify its use <p>8.2(A) Vocabulary:</p> <ul style="list-style-type: none"> operations expression equation variable constant <p>8.2(B) Including but not limited to:</p> <ul style="list-style-type: none"> use multiple operations in a problem (+, - x, /) solve multi-step problems integers integrate measurement problems that require conversions of units of measure use all forms of fractions, decimals, percents and integers <p>8.2(B) Vocabulary:</p> <ul style="list-style-type: none"> sum difference total change product dividend divisor factor quotient

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		<p>8.11 Probability and statistics. The student applies concepts of theoretical and experimental probability to make predictions.</p>	<p>8.11(A) Find the probabilities of dependent and independent events. (Readiness)</p> <p>8.11(B) Use theoretical probabilities and experimental results to make predictions and decisions. (Supporting)</p>	<p>*Often a Free Response question</p> <p>8.11(A) Including but not limited to:</p> <ul style="list-style-type: none"> • experiment with coins, choosing an object out of a box without looking • spinner, choosing a random card, marbles, cubes, fair die (number cube) • display results as a fraction, decimal or percent • work the problem from a verbal description • analyze data from a table or graph • describe how one event affects another (with and without replacement) <p>8.11(A)Vocabulary:</p> <ul style="list-style-type: none"> • sample space • tree diagram • outcome • theoretical probability • experimental probability • event (simple, independent, dependent, compound) • experiment • random • complement (probability of NOT) • impossible (0) • less likely (1/4) • equally likely (1/2) • more likely (3/4) • certain (1) <p>8.11(B) Including but not limited to:</p> <ul style="list-style-type: none"> • experiment with coins, choosing an object out of a box without looking • spinner, choosing a random card, marbles, cubes, fair die (number cube) • display results as a fraction, decimal or percent • solve the problem from a verbal description
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			<p>8.11(C) Select and use different models to simulate an event. (not tested)</p>	<ul style="list-style-type: none"> • analyze data from a table or graph • describe how one event affects another (<i>with</i> and <i>without</i> replacement) • compare theoretical results to experimental results in an experiment • make predictions using proportions <p>8.11(B) Vocabulary:</p> <ul style="list-style-type: none"> • sample space • tree diagram • outcome • theoretical probability • experimental probability • event (independent, dependent, simple, compound) • experiment • random • complement (probability of NOT) • proportion <p>8.11(C) Including but not limited to:</p> <ul style="list-style-type: none"> • use experimental probability from independent and dependent events and compare to theoretical probability • use a variety of experiments- coins, choosing an object out of box without looking, spinner, choosing a random card, marbles, cubes, etc • use technology to model an event <p>8.11(C) Vocabulary:</p> <ul style="list-style-type: none"> • sample space • tree diagram • outcome • theoretical probability • experimental probability • event (independent, dependent, simple, compound) • experiment • random • complement/complementary events
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		<p>8.12 Probability and statistics. The student uses statistical procedures to describe data.</p>	<p>8.12(A) Use variability (range, including inter-quartile range [IQR]) and select the appropriate measure of central tendency to describe a set of data and justify the choice for a particular situation. (Supporting)</p> <p>Note: Teach Interquartile Range (IQR) with Box-and-Whisker Plots</p> <p>8.12(B) Draw conclusions and make predictions by analyzing trends in scatter plots. (Supporting)</p> <p>8.12(C) Select and use an appropriate representation for presenting and displaying relationships among collected data, including line plots, line graphs, stem and leaf plots, circle graphs, bar graphs, box and whisker plots, histograms, and Venn diagrams, with and without the use of technology.</p>	<p>counting principal</p> <p>8.12(A) Including but not limited to:</p> <ul style="list-style-type: none"> • find mean, median, mode and range to justify an answer • discuss the effects of changing data on mean, median, mode and range • discuss the effects of outliers • given a problem situation choose which measure of central tendency best describes the data <p>8.12(A) Vocabulary:</p> <ul style="list-style-type: none"> • central tendency • mean • median • mode • range (of a set of data) outlier <p>8.12(B) Including but not limited to:</p> <ul style="list-style-type: none"> • identify axes labels (dependent and independent) • discuss and practice positive, negative and no correlations or trends • discuss line of best fit <p>8.12(B) Vocabulary:</p> <ul style="list-style-type: none"> • scatter plot • inference • prediction • negative correlation • positive correlation • trend • no correlation <p>8.12(C) Including but not limited to:</p> <ul style="list-style-type: none"> • use data in tables to create visual displays • create more than one display of the data when applicable <p>8.12(C) Vocabulary:</p> <ul style="list-style-type: none"> • scale
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		<p><i>8.13 The student evaluates predictions and conclusions based on statistical data.</i></p>	<p>(Supporting)</p> <p>8.13(A) Evaluate methods of sampling to determine validity of an inference made from a set of data. (Supporting)</p> <p>8.13(B) Recognize misuses of graphical or numerical information and evaluate predictions and conclusions based on data analysis. (Readiness)</p>	<ul style="list-style-type: none"> interval line plot line graph stem & leaf plot circle graph bar graph box & whisker plot histograms Venn diagrams Quartiles Upper-quartile Lower-quartile Outlier Median <p>8.13(A) Including but not limited to:</p> <ul style="list-style-type: none"> interpret biased sampling due to method of collecting the data <p>8.13(A) Vocabulary:</p> <ul style="list-style-type: none"> validity bias sampling / sample space population <p>8.13(B) Including but not limited to:</p> <ul style="list-style-type: none"> analyze all parts of a graph and table of values for possible misleading information. <p>8.13(B) Vocabulary:</p> <ul style="list-style-type: none"> validity bias intervals
Process	TAKS OBJ	TEKS Knowledge & Skills	TEKS Student Expectation	Specification/Examples

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<p>6</p>	<p>8.14 Underlying processes and mathematical tools. <i>The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.</i></p> <p>8.15 Underlying processes and mathematical tools. <i>The student communicates about Grade 8 mathematics through informal and mathematical language, representations and models.</i></p> <p>8.16 Underlying processes and mathematical tools. <i>The student uses logical reasoning to make conjectures and verify conclusions.</i></p>	<p>8.14(A) Identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics.</p> <p>8.14(B) Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness.</p> <p>8.14(C) Select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem.</p> <p>8.14(D) Select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems.</p> <p>8.15(A) Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.</p> <p>8.15(B) Evaluate the effectiveness of different representations to communicate ideas.</p> <p>8.16(A) Make conjectures from patterns or sets of examples and non-examples.</p> <p>8.16(B) Validate his/her conclusions using mathematical properties and relationships.</p>
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Language of Instruction	Technology TEKS/Product	Primary Resource Reference	Secondary Resource Reference
	<ul style="list-style-type: none"> • ../Hyperlinks for Each Bundle/Bundle 8 Hyperlinks/Graph Creator.notebook 	HOLT: 8.2A: 10-4 8.2B: 10-2 8.11A: 10-5 8.11B: 10-6 8.11C: none 8.12A: 9-3 8.12B: 9-7 8.12C: 9-2, 9-4, 9-5, 9-8 8.13A: 9-1 8.13B: 9-6	Measuring Up Lessons: 8.2A: 1, 2, 3, 4, 11, 12, 15, 16, 17, 22 8.2B: 1, 2, 3, 4, 22 8.11A: 53, 54 8.11B: 51, 52 8.11C: 55 8.12A: 56, 57, 62 8.12B: 58 8.12C: 56, 57, 59-63 8.13A: 65 8.13B: 64 AIRR Out Book Activities: 8.2A: 56-57 8.2B: 58-72 8.11A: 247-256 8.11B: 257-264 8.11C: none 8.12A: 265-272 8.12B: 273-280 8.12C: 281-303 8.13A: 304-308 8.13B: 309-312
Student Performance	Formative		Summative
Assessments <ul style="list-style-type: none"> ○ Textbook assessment ○ Common assessment ○ Benchmark ○ TAKS ○ Advanced Placement Lab Project Essay Short answer response Applying mathematics			
Intervention	Outline specific interventions for different learning needs: <ul style="list-style-type: none"> • Reteach options for non-mastery • Scaffolds for ELLs • Differentiation for struggling learners Identify specific resources and teaching tools/ideas for intervention (grouping, pacing). Introduction-level standards include tier 2 interventions.		

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	Interventions for tested include both tier 2 and 3 focused small group interventions. Interventions for reviewed standards include more tier 3 focused small groups and individualized intervention.
Other Curricular Connection (ELA, Math, SS)	The TEKS social studies strand for science and technology should be the first source to connect math concepts with the history of mathematics and contributions of mathematicians.