

CLASSWORKS AND BLOOM'S REVISED TAXONOMY

Bloom's Revised Taxonomy represents a new look at the way we think and a valuable tool for designing curricula, instruction and assessments. At the heart of this new approach is an understanding that thinking is an active process, and the revised taxonomy reflects changes in terminology, structure, and emphasis. Instead of the traditional cumulative hierarchy found in the original Bloom's Taxonomy, we now understand that complex thinking is not a step by step process based solely on a specific verb, but rather it is a way to see the results of rigorous thinking at each cognitive level. No longer are there lower and higher thinking processes, but processes, regardless of the level, that require critical and sometimes creative thinking,

By renaming the different cognitive processes using active language – Knowledge becomes Remember and Comprehension becomes Understand – we more accurately describe the nature of thinking within each process. When we integrate these levels with the kinds of knowledge acquired – Factual, Conceptual, Procedural and Metacognitive – we have a two-dimensional framework that brings the thinking process into a clearer focus offering endless opportunities to integrate standards, objectives, assessments, activities and resources .

Using Bloom's Revised Taxonomy shows us that knowledge is not a form of thinking; it is truly a result of thinking. And when learners are required to think in complex ways, they move beyond "information gathering" to making meaningful connections that extend beyond the classroom. Because Classworks encompasses each dimension of thinking, we see students who actively engage in scaffolding their learning and assume responsibility for constructing knowledge. As a vital teacher resource, Classworks provides both rigor and relevance to support student thinking that extends beyond traditional time-based boundaries. Classworks makes learning more authentic and meaningful.

Bloom's Revised Taxonomy	Classworks
<p>Remember - Retrieving relevant knowledge from long term memory - Recalling learned information</p> <p>Student Outcomes RECOGNIZING: Identifying RECALLING: Retrieving</p> <p>Student Indicators</p> <ul style="list-style-type: none"> Recognize the limitations of various forms of mathematical representations. Recognize knowledge of spelling patterns Locate an author's use of allusions and descriptive, idiomatic, and figurative language in a variety of literary texts Locate a printed word on a page Identify idioms in context. Recall information presented orally Identify common the fraction/decimal equivalents Recall numbers, counting forward through 99 and backward from 10 <p>Question Cues: List, memorize, recognize, identify, name, locate, re-peat, label, recall, know, retrieve, define</p>	<p>Mini-lessons, Activities</p> <ul style="list-style-type: none"> Recall and repeat elements and details of story structure, such as character, plot, and setting Recognize the roles of producers and consumers Recognize print and nonprint media Label locations on a map <p>Classworks Sample Activities</p> <ul style="list-style-type: none"> Skill Builder – Letter Recognition, Grade 1, Cave Game – Letter Recognition (Recognize, name, find, locate) Introducing Common Nouns, Grade 2, Identifying More Nouns (Recognize, identify) Skill Builder - Place Value to 100, Grade 4, Value of Digits – Up to 4 Dig (Recognize, Identify) Finding Equivalent Fractions Using Models, Grade 3, Equivalent Fractions 2 (Recognize, find, locate, know, define) Figurative Language, Grade 5, entire unit (Recognize, name, type of elements used) <p>Projects</p> <ul style="list-style-type: none"> Understanding Homophones, Grade 5, Fishing for Homophones (List 20 homophones) Short Vowel a, Grade 2, Tracking the Short "a" (Recognize, identify, find, circle the short "a") Introducing Skip-Counting, Grade 3, Penny Race (Know, repeat, recall) Finding Equivalent Fractions Using Models, Grade 4, Circle the Wagons (Recognize, find, know, identify)

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<p>Understand - Constructing meaning</p> <p>Student Outcomes INTERPRETING: Clarifying, paraphrasing, representing, translating EXEMPLIFYING: Illustrating, instantiating CLASSIFYING: Categorizing, subsuming SUMMARIZING: Abstracting, generalizing INFERRING: Concluding, extrapolating, interpolating, predicting COMPARING: contrasting, mapping, matching EXPLAINING, constructing cause and effect models</p> <p>Student Indicators</p> <ul style="list-style-type: none"> • Clarify and refine a research topic • Illustrate the exchange of plants, animals, diseases, and technology throughout Europe • Conclude the cause of an event described in a text • Classify change over time as quantitative or qualitative • Interpret data in graphic displays • Translate between two-dimensional representations and three-dimensional objects • Find examples of sound devices • Paraphrase research information accurately <p>Question Cues: Graph, demonstrate, convert, find, restate, discuss, describe, report, observe, represent, match, understand, give an example, relate, show, reproduce, quote, review, categorize, predict, summarize, interpret, infer, classify, compare, cause/effect, translate, show</p>	<p>Mini-lessons, Activities, Projects</p> <ul style="list-style-type: none"> • Interpret and translate what has been learned • Summarize information for an audience • Classify objects by certain categories • Compare and contrast objects <p>Classworks Sample Activities</p> <ul style="list-style-type: none"> • Multiply Fractions, Grade 8, entire unit (Show, represent, understand) • Skill Builder: Reading in Science 6-1, Grade 6, entire unit (Describe, understand, summarize) • Identifying the Beginning, Middle, and End of a Story, Grade 1, entire unit (Show, describe, discuss, demonstrate) • Main Idea and Details, Grade 3, entire unit (Describe, understand, summarize) • Introducing Setting, Grade 5, entire unit (Show, describe, understand, give an example) <p>Projects</p> <ul style="list-style-type: none"> • Using Signal Words to Compare and Contrast, Grade 5, Vacation Planner (Compare and contrast vacations) • Finding Temperature, Grade 2, City Temps (Quantitative comparison of city temperatures) • Understanding Cause and Effect, Grade 3, How Did That Get There (Show, describe, or report cause and effect of land forms) • Interpreting Double Bar Graphs, Grade 7, Changing State Populations (Compare changing populations)
<p>Apply - carry out or use a procedure</p> <p>Student Outcomes EXECUTING: Carrying out IMPLEMENTING: Using</p> <p>Student Indicators</p> <ul style="list-style-type: none"> • Carry out simple scientific investigations when given clear directions • Use a rule to complete a sequence or a table. • Use functional text features • Use primary-source information • Apply knowledge of alphabetizing a series of words • Apply the procedures for data collecting and measuring weather conditions • Apply the formula $v = d/t$ to solve problems related to average speed or velocity • Carry out left-to-right, top-to-bottom, and return-sweep directionality on the printed page <p>Question Cues: Practice, utilize, use, carry out, employ, apply, perform, solve. Complete, execute, manipulate, compute</p>	<p>Mini-lessons, Activities, Projects</p> <ul style="list-style-type: none"> • Solve routine multi-step problems. • Use transition words to show a sequence of events. • Employ alphabetical order on a group of words. • Utilize context clues to obtain more complete meaning. <p>Classworks Sample Activities</p> <ul style="list-style-type: none"> • Learning About Context Clues, Grade 2, entire unit (Use clues to discover complete meaning) • Introducing Congruent and Similar Figures, Grade 3, Making Symmetrical Figures A (Utilize, manipulate) • Skill Builder – Spelling Practice 7-3, Grade 7, Champion Practice #3 – Correct It – w/o Help (Practice, apply, complete) • Multiply up to 3-Digit Multipliers, Grade 3, entire unit (Compute, solve, complete using 3-digit multipliers) • Identifying Sequence by Using Signal Words, Grade 5, entire sequence (Using or employing signal or Transitional words) <p>Projects</p> <ul style="list-style-type: none"> • Solving Equations Using Multiplication and Division, Grade 7, Keep Your Balance (Solve one-step equations) • Introducing Missing Numbers, Grade 2, Hidden Treasure (Solve Addition/Subtraction problems) • Divisibility Rules: 2, 3, 5, Grade 4, Teamwork (Use divisibility rules to solve problems) • Exploring Words in Alphabetical Order, Grade 6, Scramble Winner's Dictionary (Alphabetize group of words) • Exploring Frequently Misspelled Words, Grade 8, Spelling Bugs (Practice spelling correctly)

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<p>Analyze - Breaking information into parts to explore understandings and relationships</p> <p>Student Outcomes DIFFERENTIATING: Discriminating, distinguishing, focusing, selecting ORGANIZING: Finding coherence, integrating, outlining, parsing, structuring ATTRIBUTING: Deconstructing</p> <p>Student Indicators</p> <ul style="list-style-type: none"> Analyze the meaning of words using affixes Distinguish between the denotation and the connotation of a word. Differentiate among points of view Select information appropriate for the research topic Differentiate between observation and inference Organize data in charts, pictographs, and tables Distinguish between categorical and numerical data <p>Question Cues: Revise, calculate, diagnose, detect, discover, dissect, simplify, select, separate, diagram, examine, focus, outline, integrate, deconstruct, structure, organize, attribute, explore, survey</p>	<p>Activities, Projects</p> <ul style="list-style-type: none"> Provide supporting details and examples Identify author's purpose, the audience, and provide interpretations Generate research questions and design investigations Develop a scientific model for a complex situation Apply a concept in some other contexts <p>Classworks Sample Activities</p> <ul style="list-style-type: none"> Exploring Author's Purpose, Grade 8, Analyzing Author's Purpose (Detect, discover, and discriminate author's purpose.) Skill Builder - Equal Amount with Different Coins, Grade 1, Money – Counting Coins (differentiate, separate, attribute) Skill Builder - Interpret and Compare Graphs, Grade 4, entire unit (Analyze, deconstruct, detect, diagram, examine) Stem-and-Leaf Plots, Grade 8, Mini Lesson (Analyze, and calculate sets of data) Making Change, Grade 3, entire unit (Discriminating selections of coins) Skill Builder - Introducing Elapsed Time, Grade 2, entire unit (Analyze, examine, diagram, dissect, and calculate) <p>Projects</p> <ul style="list-style-type: none"> Using Venn Diagrams, Grade 5, Mini Lesson, (Focus and outline ideas) Working With Surveys, Grade 7, entire unit (Analyze, diagnose, and examine information from surveys) Multiplication Facts for 10, 11, and 12, Grade 4, Cheaper by the Dozen (Calculate best prices) Same Amount with Different Coins, Grade 2, Changing Coins (Differentiate and discriminate coin combinations for same amount) Understanding Writing an Outline, Grade 5, The Outline Lifeline (Outline research on Native American culture) Introducing Connotation and Denotation, Grade 8, Reading Between the Lines (Examine differences between denotation and connotation)
<p>Evaluate - Make judgments based on criteria and standards</p> <p>Student Outcomes CHECKING: Coordinating, detecting, monitoring, testing CRITIQUING: Judging</p> <p>Student Indicators</p> <ul style="list-style-type: none"> Critique a conclusion drawn from a scientific investigation. Judge the reasonableness of mathematical solutions Justify answers on the basis of mathematical properties, structures, and relationships. Validate conjectures with formal and informal proofs Evaluate results of an investigation Evaluate theses from informational texts <p>Question Cues: Judge, rate, validate, assess, prioritize, evaluate, defend, deduce, debate, justify, recommend, rank, critique, prove, gauge, quantify, appraise, monitor, test</p>	<p>Activities, Quizzes, Projects</p> <ul style="list-style-type: none"> Analyze and synthesize information from various sources Identify and illustrate the common themes of texts from various cultures Make decisions based on criticism and assessment and be able to justify the decision <p>Classworks Sample Activities</p> <ul style="list-style-type: none"> Understanding Propaganda and Facts, Grade 7, entire unit (Appraise, evaluate, and validate forms of propaganda) Identifying Imaginary and Personal Narratives, Grade 4, Writing a Story and Narrating (Telling a Story) (Prioritize, evaluate, critique for appropriate components of narrative writing) Identifying Setting, Grade 5, entire unit (Judging, evaluating, and validating elements of setting) Introducing Misleading Statistics, Grade 8, Mini Lesson and project – (Defend and prove how changes to data can be misleading and change the meaning) <p>Projects</p> <ul style="list-style-type: none"> Exploring Literary Elements, Grade 8, Authors Letter (Extension- Evaluate and critique story elements of student's writing to those of an author) Fiction: Realistic, Historic, Science, and Fantasy, Grade 5, Critic's Corner (Critique and evaluate books) Introducing Misleading Statistics, Grade 8, Statistics Never Lie – Or Do They? (Defend and prove how changes to data can change the meaning and be misleading) Guessing and Checking, Grade 5, Check It? (Deduce, monitor, and validate answers) Estimating Quotients, Grade 6, Printer Problems (Assess, deduce, recommend what to order)

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<p>Create - Put elements together to form a coherent whole, reorganize elements into a new pattern or structures</p> <p>Student Outcomes GENERATING: Hypothesizing PLANNING: Designing PRODUCING: Constructing</p> <p>Student Indicators</p> <ul style="list-style-type: none"> • Create multiple-paragraph compositions • Create responses to literary texts • Generate the meaning of unfamiliar and multiple-meaning words by using context clues • Plan and conduct controlled scientific investigations, manipulating one variable at a time. • Design a solution or a product using a technological design process • Construct arguments that lead to conclusions about general mathematical properties and relationships. <p>Question Cues: Design, synthesize, create, construct, compose, invent, devise, plan, develop, produce, generate, imagine, formulate, envision, originate, revise, initiate, suggest, synthesize, visualize</p>	<p>Activities, Quizzes, Projects</p> <ul style="list-style-type: none"> • Create projects that require articulation of a problem, the design, the data analysis, the results, and solutions as well as actually carrying it out <p>Classworks Sample Activities</p> <ul style="list-style-type: none"> • Understanding Context Clues, Grade 4, entire unit (Generate and formulate word meaning) • Introducing the Steps of the Writing Process, Grade 3, Think Sheet 1 (Descriptions) (Revise for clarity) • Acting it Out, Grade 2, entire unit (Construct and generate picture solutions) • Solving Problems by Drawing a Picture, Grade 3, entire unit (Visualize, suggest, and generate) • Exploring Drawing Conclusions, Grade 8, project, The Driver (Visualize, invent, and create character traits in a story) <p>Projects</p> <ul style="list-style-type: none"> • Exploring Multiple-Meaning Words, Grade 5, Bumper Stickers (Design and create bumper sticker using homographs) • Exploring Drawing Conclusions, Grade 8, The Driver (Visualize, invent, and create character traits in a story) • Introducing Sentences, Grade 1, An Invitation (Plan a party, and compose and design an invitation.) • Introducing Missing Factors, Grade 3, What is It? (Invent, create, and devise a scenario for finding missing factors.) • Using Bar Graphs, Grade 6, My Favorite Things (Create and formulate a bar graph showing favorite interests of community)

This document describes Classworks' rigorous and relevant instruction in support of Bloom's Revised Taxonomy. During the 1990's, Lorin Anderson (a former student of Benjamin Bloom) led a team of cognitive psychologists in revisiting Bloom's Taxonomy with the view to examining the relevance of the taxonomy as we enter the twenty-first century. This document is based on Anderson's work and was prepared in collaboration with Dr. Mildred H. Rowland, Ed.D. Dr. Rowland is a leader in the use of Bloom's Revised Taxonomy to integrate standards, objectives, assessments, activities and resources in South Carolina and across the Country, and has used Classworks in her school district as an instructional resource.