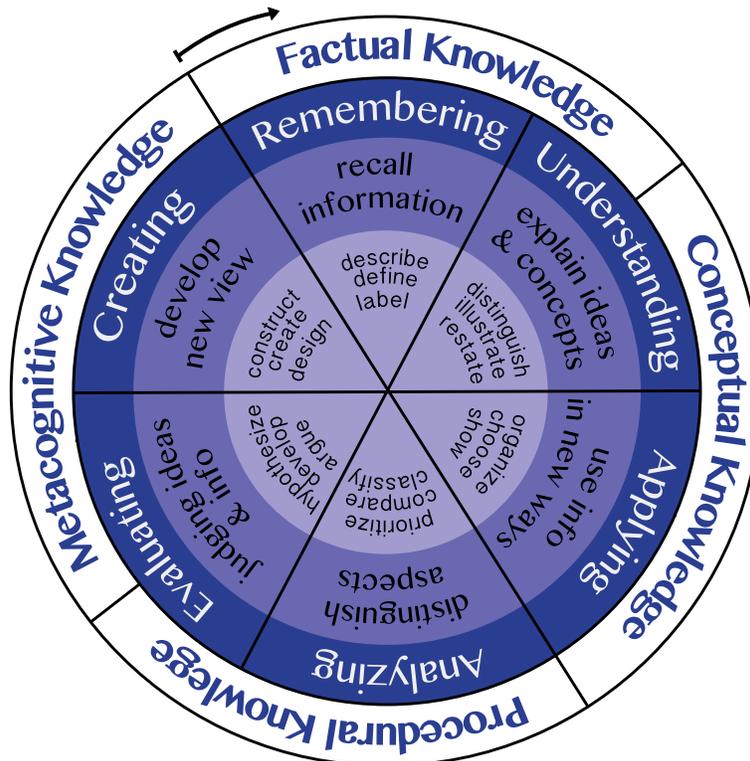


Bloom's Taxonomy, Revised for 21st-Century Learners



Benjamin Bloom led a team of researchers in the 1950s to establish behaviors associated with learning; the outcome of this study was Bloom's Taxonomy of Learning (1956). Forty years later, one of his students, Lorin Anderson, revised the taxonomy to accommodate progressions in pedagogy. The revised taxonomy has altered categories and now includes verbs associated with each of the six aspects of cognition.

The graph demonstrates the six aspects of learning, **Remembering**, **Understanding**, **Applying**, **Analyzing**, **Evaluating**, and **Creating**, in combination with a brief explanation of the process, and verbs teachers can use to get students to think on these levels. Here, Bloom's Taxonomy is situated in the four types of knowledge, **Factual Knowledge** of terminology and details, **Conceptual Knowledge** of relationships among pieces of concepts or theories, **Procedural Knowledge** of processes and methods of theories and problems, and **Metacognitive Knowledge** of learning strategies and processes. This chart starts with factual knowledge and remembering and builds in complexity as it moves clockwise. A comprehensive lesson will require students to apply multiple types of knowledge and cognitive skills.

BLOOM'S REVISED TAXONOMY

Level	Verbs & Sample Objectives	Discussion Questions
<p>Remember Be able to recall information such as dates, events, places, ideas, definitions, formulas, and theories.</p>	<p>Arrange, Define, Describe, Detail, Draw, Duplicate, Identify, Indicate, Inventory, Label, List, Locate, Match, Name, Outline, Pick, Point, Pronounce, Quote, Recall, Recite, Recognize, Record, Relate, Repeat, Reproduce, Restate, State, Underline</p> <ul style="list-style-type: none"> Label the parts of the heart. Outline the steps in the writing process. Recite the Gettysburg Address. 	<ul style="list-style-type: none"> Who was...? What is...? When was...?
<p>Understand Be able to grasp the meaning of the information, express it in own words, and/or cite examples.</p>	<p>Classify, Confirm, Contrast, Convert, Decipher, Defend, Designate, Differentiate, Equate, Estimate, Examine, Express, Extend, Extrapolate, Generalize, Give Examples, Group, Infer, Interpret, Order, Paraphrase, Predict, Rephrase, Rewrite, Sort, Specify, Substitute, Tell, Translate</p> <ul style="list-style-type: none"> Defend your position about flat taxes. Give an example of an adjective. Specify the role of project management in an organization. 	<ul style="list-style-type: none"> Can you name...? What is an example of...? Where does...differ from...?
<p>Apply Be able to apply knowledge or skills to new situations. Use information and knowledge to solve a problem, answer a question, or perform another task.</p>	<p>Add, Allocate, Alter, Apply, Calculate, Change, Choose, Complete, Compute, Conduct, Coordinate, Demonstrate, Determine, Direct, Discover, Divide, Dramatize, Draw, Employ, Formulate, Gather, Graph, Make, Manipulate, Model, Multiply, Operate, Perform, Present, Provide, Recount, Report, Schedule, Show, Sketch, Subtract, Use, Utilize</p> <ul style="list-style-type: none"> Choose criteria to assess change readiness. Demonstrate the proper technique for drawing blood. Graph the results of the market analysis. 	<ul style="list-style-type: none"> How does...explain...? Examine the graph and tell me...? Which events led to...?
<p>Analyze Be able to break down knowledge into parts and show and explain the relationships among the parts.</p>	<p>Analyze, Appraise, Associate, Break Down, Criticize, Discern, Diagram, Discriminate, Dissect, Distinguish, Elect, Establish, Explain, Expound, Illustrate, Inspect, Profile, Question, Refute, Separate, Simplify, Subdivide, Summarize, Test</p> <ul style="list-style-type: none"> Explain the ramifications of sexual harassment in the workplace. Appraise potential suppliers according to organizational needs. Distinguish between ethical & unethical behavior. 	<ul style="list-style-type: none"> What is the relationship between...and...? What caused...? How does...apply to...? Why does...work? How does...relate to...? What distinctions can be made about...and...?
<p>Evaluate Be able to judge or assess the value of material and methods for a given purpose.</p>	<p>Argue, Assess, Attack, Compare and Contrast, Conclude, Critique, Debate, Decide, Deduce, Diagnose, Evaluate, Forecast, Improve, Judge, Justify, Measure, Prioritize, Prove, Rank, Rate, Recommend, Resolve, Revise, Select, Solve, Support, Value, Verify, Weigh</p> <ul style="list-style-type: none"> Support the value of diversity in a project team. Recommend course of action for comprehensive organizational change. Resolve ethical issues that plague researchers conducting experiments on animals. 	<ul style="list-style-type: none"> How does...meet criteria for...? What judgments can you make about...? Can you compare and contrast...criteria for...? Is there a better solution to...?
<p>Create Be able to pull together parts of knowledge to form a new whole and build relationships for new situations.</p>	<p>Assemble, Assimilate, Categorize, Collect, Combine, Compile, Compose, Condense, Construct, Create, Design, Derive, Develop, Devise, Elaborate, Expand, Generate, Guide, Hypothesize, Integrate, Invent, Manage, Modify, Organize, Plan, Prepare, Prescribe, Produce, Propose, Rearrange, Reconstruct, Reorganize, Rework, Set Up, Synthesize, Theorize, Transform, Write</p> <ul style="list-style-type: none"> Devise a plan to deal with violence in your community. Design an instructional unit to meet the needs of online students. Modify the training process for a business or organization. 	<ul style="list-style-type: none"> What would happen if...? Can you compile the data to...? How can we solve...? How many ways can you...? What hypotheses can you make? Why?

Reference:

Table adapted from: Anderson, L.W., & Krathwohl, D.R. (2001). *A taxonomy for learning, teaching, and assessing, abridged edition*. Boston: Allyn & Bacon.

Wheel adapted from: *Edutechalogy*. Retrieved from <http://eductechalogy.org/swfapp/blooms/wheel/engage.swf>