Cognitive Demand Categories for Mathematics

B	C	D	E	F
Memorize Facts, Definitions, Formulas	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture, Analyze, Generalize, Prove**	**Solve Non-Routine Problems / Make Connections**
Recite basic mathematical facts	Use numbers to count, order, denote	Communicate mathematical ideas	Determine the truth of a mathematical pattern or proposition	Apply and adapt a variety of appropriate strategies to solve non-routine problems
Recall mathematics terms and definitions	Do computational procedures or algorithms	Use representations to model mathematical ideas	Write formal or informal proofs	Apply mathematics in contexts outside of mathematics
Recall formulas and computational procedures	Follow procedures / instructions	Explain findings and results from data analysis strategies	Recognize, generate or create patterns	Apply to real world situations
	Solve equations/formulas/ routine word problems	Develop/explain relationships between concepts	Find a mathematical rule to generate a pattern or number sequence	Synthesize content and ideas from several sources
	Organize or display data	Show or explain relationships between models, diagrams, and/or other representations	Make and investigate mathematical conjectures	
	Read or produce graphs and tables		Identify faulty arguments or misrepresentations of data	
	Execute geometric constructions		Reason inductively or deductively	

Cognitive Demand Categories for Science

B	C	D	E	F
Memorize Facts Definitions, Formulas	**Conduct Investigations / Perform Procedures**	**Communicate Understanding of Science Concepts**	**Analyze Information**	**Apply Concepts / Make Connections**
Recite basic science facts	Make observations	Explain concepts	Classify and compare data	Use and integrate science concepts
Recall science terms and definitions	Collect and record data	Observe and explain teacher demonstrations	Analyze data, recognize patterns	Apply and adapt science information to real-world situations
Recall scientific formulas	Use appropriate tools	Explain procedures and methods of science and inquiry	Generate questions, make predictions	Build or revise theory
	Make measurements, do computations	Organize and display data in tables and charts	Infer from data	Apply science ideas outside the context of scienc
	Execute procedures		Draw conclusions	
	Plan and design experiments			
	Test effects of different variables			

Cognitive Demand Categories for English / Language Arts / Reading

B	C	D	E	F
Memorize / Recall	**Perform Procedures / Explain**	**Generate / Create / Demonstrate**	**Analyze / Investigate**	**Evaluate/Integrate**
Reproduce sounds or words	Follow instructions	Create / develop connections among text, self, world	Categorize / schematize information	Determine relevance, coherence, internal consistency, logic
Provide facts, terms, definitions, conventions	Give examples	Recognize relationships	Distinguish fact and opinion	Assess adequacy, appropriateness, credibility
Locate literal answers in text	Check consistency	Dramatize	Compare and contrast	Test conclusions, hypotheses
Identify relevant information	Summarize	Order, group, outline, organize ideas	Identify with another's point of view	Synthesize content and ideas from several sources
Describe	Identify purpose, main ideas, organizational patterns	Express new ideas (or express ideas newly)	Make inferences, draw conclusions	Integrate with other topics and subjects
	Gather information	Develop reasonable alternatives	Predict probable consequences	Critique
			Generalize	

Cognitive Demand Categories for Social Studies

B	C	D	E	F
Recall / Memorize	**Process Information / Investigate**	**Demonstrate Understanding / Apply**	**Analyze / Hypothesize**	**Synthesize / Evaluate / Make Connections**
Name, Identify, List, Recognize, Label	Make observations	Describe, explain social studies issues/problems	Classify and compare data	Propose or evaluate solutions to social problems
Recall facts, terms, definitions	Locate and collect information/data	Explain procedures and methods of inquiry	Analyze data, recognize patterns / relationships	Use social studies concepts to solve problems
Locate features on a map	Read, decode, and interpret maps/graphics	Recognize & explain misconceptions	Process and interpret data	Infer from data, draw conclusions
Identify people, places, events, dates	Conduct Interviews/fieldwork	Explain the reasoning in making decisions	Identify bias, points of view, frame of reference	Use multiple sources to make connections
	Use data collection tools/procedures	Design effective displays of information/data	Make predictions	Make decisions, form judgements
	Display data in tables or charts			Develop new hypotheses
	Summarize, classify, organize data			Assess accuracy, credibility, relevance
	Paraphrase, convert, translate information			Plan effective research strategies
	Generate questions			