Rigor/Relevance Framework

K		Evaluation	6
N	T		
O	A	Synthesis	5
W	X		
L	O	Analysis	4
E	N		
D	O	Application	3
G	M		
E	Y	Comprehension	2
		Awareness	1

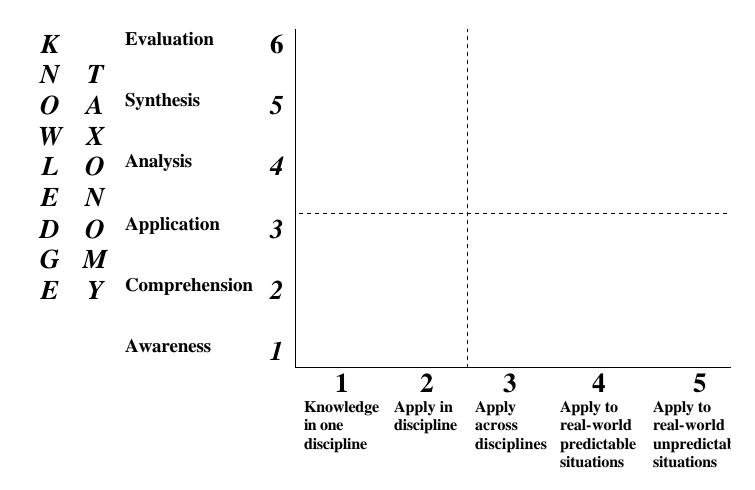| 1	2	3	4	5
Knowledge in one discipline	Apply in discipline	Apply across disciplines	Apply to real-world predictable situations	Apply to real-world unpredictab situations

APPLICATION MODEL

Application Model Decision Tree

Directions: Use the following statements to clarify where a task, application, or activity belongs on the Application Model.

YES		NO
Requires use of knowledge Requires students actually to practice steps in a procedure Uses previous knowledge to solve problems, create a design, or communicate information Assesses performance	**Is it application?**	Requires only recall or understanding Requires learning steps in a procedure Requires memorization of facts or formulas Assesses content knowledge
Application occurs in same way it is used by adults Standards have access to real-world resources (tools, references, etc.) Task must be completed in same time frame as real world	**Is the application real world?**	Application occurs only in school Lower standards of performance are acceptable Resources are limited Students have extended time to complete task
Application has uncertain results Unknown factors involved (environment, people, time) Students have individual and unique solutions to problems	**Is the outcome unpredictable?**	Application involves routine solution Parameters are controlled All students complete similar designs or solutions

TAXONOMY OF THINKING

Category	Definition	Trigger Words	Products
SYNTHESIS	Re-form individual parts to make a new whole	Compose, Design, Invent, Create, Hypothesize, Construct, Forecast, Rearrange parts, Imagine, Modify Categorize, Plan, Organize, Summarize	Lesson, Plan, Song, Poem, Story, Ad, Invention
EVALUATION	Judge value of some-thing vis-à-vis criteria Support judgment	Judge, Evaluate, Give opinion, Viewpoint, Prioritize, Recommend, Critique, Criticize, Describe, Contrast, Support, Compare, Interpret, Appraise, Explain	Decision, Rating/Grades, Editorial, Debate Critique, Defense/Verdict
ANALYSIS	Understand how parts relate to a whole Understand structure and motive Note fallacies	Investigate, Classify, Categorize, Compare, Contrast, Solve, Distinguish, Select, Infer, Outline, Separate, Diagram	Survey, Questionnaire, Plan, Solution, Report, Prospectus
APPLICATION	Transfer knowledge Learned in one situa-tion to another	Demonstrate, Use guides, maps, charts, etc., Build, Cook, Change, Compute, Relate, Solve, Manipulate	Recipe, Model, Artwork, Demonstration, Crafts
COMPREHENSION	Demonstrate basic Understanding of con-cepts and curriculum Translate to other words	Restate, Give examples, Explain, Summarize, Translate, Show symbols, Edit, Infer, Predict, Rewrite, Extend, Estimate	Drawing, Diagram, Response to question, Revision
AWARENESS	Ability to remember something previously learned	Tell, Recite, List, Memorize, Remember, Define, Locate, State, Define, Label, Match, Identify, Duplicate	Workbook pages, Quiz, Test, Exam, Vocabulary, Facts in isolation

Knowledge Taxonomy Verb List

Listed below are some of the verbs that can be used for
constructing and analyzing levels of expected student knowledge.

1 Awareness		2 Comprehension	
arrange	match	advance	interpret
check	name	calculate	outline
choose	point to	change	project
find	recall	convert	propose
group	recite	contemplate	reword
identify	repeat	define	submit
label	say	explain	transform
list	select	extrapolate	translate
locate	write	infer	vary

3 Application		4 Analysis	
adopt	manipulate	assay	include
consume	mobilize	audit	inspect
capitalize on	operate	breakdown	look at
devote	put to use	canvass	scrutinize
employ	relate	check out	sift
exercise	solve	dissect	survey
handle	start	deduce	study
maintain	take up	divide	test for
make use of	utilize	examine	uncover

5 Synthesis		6 Evaluation	
blend	develop	accept	grade
build	evolve	appraise	judge
cause	form	arbitrate	prioritize
combine	generate	assess	rank
compile	make up	award	rate
compose	originate	classify	reject
conceive	produce	criticize	rule on
construct	reorder	decide	settle
create	structure	determine	weigh

Examples of Student Performance
by Knowledge Level

	Roller Skating
Knowledge Level	
1	Identify equipment
2	Explain safety precautions
3	Roller skate on level ground and hills
4	Examine skills and weaknesses
5	Develop a plan for improvement
6	Assess someone else's skills

	Nutrition
Knowledge Level	
1	Label foods by group
2	Explain nutritional values of foods
3	Eat balanced meals
4	Study success in achieving nutrition goals
5	Generate revised nutrition goals
6	Appraise results of nutrition habits

	1. Awareness
	2. Comprehension
Knowledge Taxonomy	3. Application
	4. Analysis
	5. Synthesis
	6. Evaluation

Examples of Student Performance
By Application Level

	Interviewing Skills
Application Level	
1	List steps in preparing for interview
2	Participate in a mock interview
3	Conduct interview for school-based business
4	Select appropriate apparel and grooming for an interview
5	Interview for a job

	Public Speaking
Application Level	
1	List characteristics of a good speech
2	Give a presentation to a class
3	Make an oral defense of a senior exhibition or project
4	Present a point of view on an issue at a public meeting
5	Respond to questions as a student representative at a board of education meeting

	1. Knowledge in one discipline
	2. Apply knowledge in discipline
Application Model	3. Apply knowledge across disciplines
	4. Apply knowledge to real-world predictable situations
	5. Apply knowledge to real-world unpredictable situations

Determining Levels
Of Rigor and Relevance

	Application Level	Knowledge Level
1. Calculate rate of change in a population.		
2. Identify common land formations (islands, deltas, mountains) on a map.		
3. Prepare written and oral arguments to support a change in a school policy.		
4. Predict, evaluate, and rank minerals by hardness.		
5. Compare and contrast two short stories.		
6. Describe in your own terms the meaning if one of the amendments in the Bill of Rights.		
7. Read a bus schedule to determine the length of time for an across-city trip and which buses to take.		
8. Determine all factors of a whole number.		
9. Multiply in your head pairs of numbers less than 12.		
10. Write directions on how to determine if the batteries are dead in a portable electronic device.		
11. Edit a letter for correct grammar and spelling.		
12. Develop a mathematical model for estimating a large number of objects.		
13. Research a topic and give an oral report to the class.		
14. Convert English measurement to decimal equivalents.		
15. Determine information from a graph or statistics.		

Determining Levels
Of Rigor and Relevance

	Application Level	Knowledge Level
1. Calculate rate of change in a population.	4	3
2. Identify common land formations (islands, deltas, mountains) on a map.	2	2
3. Prepare written and oral arguments to support a change in a school policy.	5	5
4. Predict, evaluate, and rank minerals by hardness.	2	2
5. Compare and contrast two short stories.	2	4
6. Describe in your own terms the meaning if one of the amendments in the Bill of Rights.	4	2
7. Read a bus schedule to determine the length of time for an across-city trip and which buses to take.	4	4
8. Determine all factors of a whole number.	2	4
9. Multiply in your head pairs of numbers less than 12.	1	1
10. Write directions on how to determine if the batteries are dead in a portable electronic device.	4	5
11. Edit a letter for correct grammar and spelling.	4	3
12. Develop a mathematical model for estimating a large number of objects.	4	5
13. Research a topic and give an oral report to the class.	2	5
14. Convert English measurement to decimal equivalents.	2	2
15. Determine information from a graph or statistics.	4	4