

HOTS Definitions, using A_s to B_s

Apply: to (independently) practice a skill or schema in a (multiple) new context(s).

↑	<u>Create:</u>	To construct from one's own critical understanding
	<u>Evaluate:</u>	To judge the worth and/or validity of a text, source, data, or evidence
	<u>Synthesize:</u>	To argue/explain the interrelationships of multiple, diverse components (A _s) to ideas (B _s), contextualizing conflicting relationships when possible
	<u>Analyze:</u>	To argue/explain the relationship between a component (A) and idea (B)
	<u>Notice Patterns:</u>	To recognize the repetition of important components (A _s) or ideas (B _s)
	<u>Notice:</u>	To recognize a component (A) or idea (B) that stands out

	<u>Comprehend:</u>	To link clusters of symbols, e.g., words/sentences/paragraphs/images/data/graphs, to literal meaning
	<u>Decode:</u>	To recognize symbols as sound, e.g., letters and numbers

Interdisciplinary Examples of A_s
 (A_s = smaller components in the particular learning context)

graphs	key terms
charts	statistics
facts	evidence
figures	reasons
diagram	data
table	patterns
trend	literary elements
supporting details	rhetorical elements
images	

Interdisciplinary Examples of B_s
 (B_s = Bigger Ideas in that learning context)

Hypothesis	Claim
Conclusion	Bias
Main idea	Slant
Central idea	Argument
Position	Math Proof
Theme	Context
Thesis	Justification

North Lawndale College Prep Charter High School
HOTS, using As to Bs: Useful Verbs, Question Stems, and Student-centered Activities

(adapted from <http://fad.barrow.wikispaces.net/Knowledge+Taxonomy>)

2013-2014

Comprehend		
[to link clusters of symbols, e.g., words/sentences/paragraphs/images/data/graphs, to literal meaning]		
Operational Verbs	Sample Question Stems	Sample student-centered activities and products
<p>Compare Describe Describe Discuss Distinguish Explain Find Interpret List Locate Name Outline Paraphrase Predict Relate Restate State Summarize Tell Translate Write</p>	<ul style="list-style-type: none"> • Paraphrase [blank]. • Summarize [blank]. • What happened after [blank]? • How many [blank]? • Who was it that [blank]? • Name the [blank]? • Describe what happened at [blank]? • Who spoke to [blank]? • Tell why [blank] happened. • Find the meaning of [blank]? • What is [blank]? • True or false: [blank]? • Write [blank] in your own words. • Write a brief outline of [blank]. • What would have happened next? • Who do you think is [blank]? • What was the main idea in [blank]? • Who was the key character in [blank]? • Distinguish between [blank] and [blank]? • Provide an example of what you mean by [blank]. • Provide a definition for [blank]. • Identify and explain basic components of data presentations. • Determine the central ideas/conclusions of evidence; provide an accurate summary from prior knowledge. • Determine the meaning of symbols/key terms as they are used in scientific context. • Translate words into algebraic expressions (vice versa) • What does [blank] mean on the graph/table? • What key words in sentence/paragraph show [blank]? • How would you explain [blank]? 	<p>(Tools for all of these Comprehension strategies are here: http://66.99.229.18/Academics/English/NLCPENGLISHDEPARTMENT.htm)</p> <ul style="list-style-type: none"> • Activate Background Knowledge using <ul style="list-style-type: none"> ○ brainstorming ○ prediction ○ KWL ○ mind streaming ○ pre-reading map ○ anticipation guide ○ think-pair-share • Review Key Vocabulary Concepts using <ul style="list-style-type: none"> ○ vocabulary chart ○ vocabulary map ○ word elaboration ○ possible sentences ○ discussion ○ writing ○ context clues ○ prefixes and suffixes • Examine Author’s Craft/Text Structure using <ul style="list-style-type: none"> ○ the Critical Reading Journal (CRJ) ○ cue words and signals ○ charting author’s style ○ text analysis ○ text organization ○ chapter survey ○ SCAN ○ SQR3 • Verify and Amend Background Knowledge using <ul style="list-style-type: none"> ○ KWL ○ anticipation guides ○ two-column notes ○ pre-reading map • Question and Reflect using <ul style="list-style-type: none"> ○ the Critical Reading Journal (CRJ) ○ read-and-say-something ○ authentic questions ○ seed discussions ○ reciprocal teaching ○ questioning the author ○ questions focusing on literary elements • Offer metacognitive questions for the student to monitor comprehension: “Did I confirm my predictions? Did I use appropriate strategies to help me learn? Do I understand? If not, what should I do?” • Interdisciplinary Projects: Paraphrasing on the notecard

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Notice		
[to recognize a component (A) or idea (B) that stands out]		
Operational Verbs	Sample Question Stems	Sample student-centered activities and products
Acknowledge Detect Discern Distinguish Find Identify Look At Mark Note Notice Observe Pick Up On Recognize See Spot Watch	<ul style="list-style-type: none"> • Notice something that stands out in a graph or chart • Recognize something that stands out in a passage. • Notice something that stands out in a film or piece of art. • Spot something that means more than the literal meaning. • Identify the most important fact or evidence. • Find the one word that summarizes the paragraph. • Identifying data points in simple through complex data presentations. • Cite specific evidence to support analysis of texts. • Notice a word that means a mathematical operation. • Identify the like terms. 	<p>(Tools for all of these Noticing strategies are here: http://66.99.229.18/Academics/English/NLCPENGLISHDEPARTMENT.htm)</p> <ul style="list-style-type: none"> • Select/Note Important Words, Names, Data, Ideas using <ul style="list-style-type: none"> ○ self-monitoring ○ marking up the text – reviewing ○ reading for detail ○ Critical Reading Journal (CRJ) ○ highlight ○ mark text ○ sticky notes ○ read-and-say-something ○ read-recall-check-summarize ○ seed discussions ○ Cornell Notes • What do you notice in this work of art? • What is the expression or emotion shown in this work of art? • Interdisciplinary Projects: choosing a quote for a research notecard
Notice Patterns		
[to recognize the repetition of important components (As) or ideas (Bs)]		
Operational Verbs	Sample Question Stems	Sample student-centered activities and products
Associate Bring together Collect Connect Correlate Correspond Gather Group Match Mate Notice Patterns Pair Relate Tie Verify	<ul style="list-style-type: none"> • Mark a significant word (or idea) that repeats. • Within the text, what patterns of images exist? • Within your notes, what patterns exist? • Within a graph or chart, what patterns exist? • Link one significant word to another What events keep happening? • Identify trends/comparisons in data/evidence (how one variable impacts another). • Translate information into visual representation (graph, table, diagram). • What relationship exists between [blank]? • What would be the next term/picture/point/etc.? • What can you conclude about how to/the steps to [blank]? 	<p>(Tools for all of these Noticing Patterns strategies are here: http://66.99.229.18/Academics/English/NLCPENGLISHDEPARTMENT.htm)</p> <ul style="list-style-type: none"> • Organize and Connect Important Words, Names, Data, Ideas using <ul style="list-style-type: none"> ○ the Critical Reading Journal (CRJ) ○ margin notes ○ free response/free writes ○ academic notes, two-column notes ○ double-entry journals ○ power thinking/notes ○ maps/charts ○ concept or definition maps ○ text connection • Interdisciplinary Projects: Piling notecards

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Analyze		
[to argue/explain the relationship between a component (A) and idea (B)]		
Operational Verbs	Sample Question Stems	Sample student-centered activities and products
Advertise Analyze Argue Categorize Connect Distinguish Examine Explain Explore Identify Investigate Link Separate	<ul style="list-style-type: none"> • Why is this pattern occurring? • What are the facts versus opinions of [blank]? • Which events could have happened [blank]? • If [blank] happened, what might the ending have been? • The least essential elements are [blank] because [blank]. • How was this similar to [blank]? • What was the underlying theme of [blank]? • What do you see as other possible outcomes? • Why did [blank] changes occur? • Explain what must have happened when [blank]? • How is [blank] similar to [blank]? • What are some of the problems of [blank]? • Distinguish between [blank] and [blank]? • What were some of the motives behind [blank]? • What was the turning point in the game? • What was the problem with [blank]? • What is a layer of meaning behind [blank]? • Explain why it is not possible for [blank]. • What conclusion can you make from [blank]? • What evidence supports your [blank]? • Does this chart/table/graph support or dispute your claim? 	<ul style="list-style-type: none"> • Explain how the evidence supports the hypothesis. • Argue why the evidence supports the reasons. • Link the reasons to the main idea. • Explain the opposition’s reasons. • Explain how smaller elements of [blank] support the larger goals of [blank]. • Conduct an investigation to produce information to support a view. • Make a flow chart to show the critical stages. • Construct a graph to illustrate selected information. • Prepare a report about the area of study. • Review a work of art in terms of form, color and texture. • Essay: How did Faith Ringgold’s upbringing in Harlem and the political events of the 60’s & 70’s influence her art? • Essay: How does the history of Apartheid in South Africa influence the animations of William Kentridge? • Essay: Why might the artist create an embroidery that has an afro stitched onto Abe Lincoln on a \$5 dollar bill? • Essay: Why might the artist title this piece, “Death of Blinded Philosopher”? • Essay: What is an underlying theme of Kentridge’s animations? How do you know? • Essay: What is the artist trying to communicate to the audience? Defend your answer with concrete evidence. • Interdisciplinary Projects: in the My Ideas section of a notecard, explaining the importance of a quote to the Driving Question

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Synthesize		
[to argue/explain the interrelationships of multiple, diverse components (As) to ideas (Bs), contextualizing conflicting relationships when possible]		
Operational Verbs	Sample Question Stems	Sample student-centered activities and products
Collate Compare Compose Construct Contrast Create Design Devise Formulate Imagine Invent Plan Predict Propose Synthesize	<ul style="list-style-type: none"> • Synthesize reason with that reason to create a new claim. • Compare and/or contrast [blank] with [blank]. • How does [blank] show that it's influenced by [blank]? • Design a [blank] to show [blank]. • Compose a song about [blank] and [blank]. • Construct a possible solution to [blank] while also valuing [blank]. • If you had access to all resources, how would you deal with [blank]? • Devise your own way to deal with [blank] and [blank] at the same time. • What would happen if [blank] affected [blank]? • How many ways can you [blank] occur? • Create new and unusual uses for [blank]. • How does the author's use of [blank] and [blank] work together to create the theme? • Synthesize information from a range of sources into a coherent understanding of a concept, resolving conflicting information when possible. • Integrate multiple sources to address a question. • Use models, graphs, and data to support/refute hypothesis or conclusion and explain why. • Deconstruct the components of an experiment/model and explain how they relate to each other and to the outcome. • Create your own problem that is an example of [blank]. • Predict the outcome of [blank] or if I change [blank]. • What would happen if [blank]? 	<ul style="list-style-type: none"> • Create concept maps. • Develop a comparison/contrast essay. • Invent a machine to perform multiple tasks. • Develop a new theory for [blank] that combines already existing theories. • Create a new product. Give it a name and plan a marketing campaign. • Devise a solution or strategy to fix a problem. • Debate the merits of [blank] in opposition to [blank] • How is Faith Ringgold's work similar to the work of the Social Realist artists (Elizabeth Catlett & Charles White)? • Design a Smartphone app that meets the needs of [blank] and [blank]. • How could the necessary information in the problem be communicated so that the problem would become more difficult to solve? Easier to solve? • Interdisciplinary Projects: in the My Ideas section of a notecard, explaining the importance of a quote to other quotes, Background, As, or Os

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Evaluate		
[to judge the worth and/or validity of a text, source, data, or evidence]		
Operational Verbs	Sample Question Stems	Sample student-centered activities and products
<p>Argue Assess Choose Debate Decide Determine Discuss Judge Justify Prioritize Rate Recommend Select Verify</p>	<ul style="list-style-type: none"> • Rate [blank]. Why have you rated as such? • Is there a better solution to [blank]? • Judge the value of [blank] • Defend your position about [blank]? • Where do you think inspiration comes from? • Why you think [blank] is a good or a bad thing? • How would you have handled [blank]? • What changes to [blank] would you recommend? • Do you believe [blank]? Why? • How effective are [blank]? • What do you think about [blank]? • Evaluate multiple sources of information presented in diverse formats and media in order to address a question. • Use data/evidence to support/refute a hypothesis or conclusion • Evaluate the validity of data/evidence. • Evaluate the accuracy of data collection methods/experimental design. • Which [blank] is valid? • How would you prove/disprove? • What additional information is needed to solve this problem? • How can you mathematically support your claim? • How is the chart/graph misleading? • What data representation would best suit the information? • I could simplify this process by ... • The math words that help someone understand what I did are ... • What are some things common to all solvable problems? • In your opinion, which step of the problem-solving process (understand, plan, solve, check) could most easily be eliminated? • How are number relationships similar to relationships among people? How are they different? • How does changing (blank) affect the graph of the function/equation/inequality? • What assumption(s) are you making when solving (blank)? • How would you prioritize the information in the word problem? 	<ul style="list-style-type: none"> • Write a film critique. • Essay: Do you believe in this day and age sewing is still considered “women’s work”? Why or why not? • Create a rubric to judge [blank]. • Prepare a list of criteria to judge a [blank] show. Indicate priority and ratings. • Conduct a debate about an issue of special interest. • Make a booklet about five rules you see as important. Convince others. • Form a panel to discuss views, e.g., "Learning at School." • Write a letter to [blank] advising on changes needed at [blank]. • Write a semi-annual report. • Prepare a case to present your view about [blank].

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Create		
[to construct from one's own critical understanding]		
Operational Verbs	Sample Question Stems	Sample student-centered activities and products
Animate Blog Build Construct Create Design Devise Direct/Produce Film Formulate Invent Make Mix And Remix Plan Podcast Produce Program Publish Video Blog Videocast Wiki	<ul style="list-style-type: none"> • Create [blank]. • Design [blank]. • What changes would you make to solve [blank]? • How would you improve [blank]? • What would happen if [blank]? • Elaborate on the reason for [blank]? • Propose an alternative [blank]? • Invent [blank]? • How would you adapt [blank] to create a different [blank]? • How could you change [blank]? • What could be done to minimize/maximize [blank]? • What way would you design [blank]? • What could be combined to improve [blank]? • Suppose you could [blank], what would you do to [blank]? • How would you test [blank]? • Formulate a theory for [blank]. • Predict the outcome if [blank]. • How would you estimate the results for [blank]? • Construct a model that would change [blank]. • Think of an original way to [blank]. • Create your own problem to/that proves [blank]. 	<ul style="list-style-type: none"> • Plan and create a short animation sequence that has a creative storyline and smooth transitions between drawings • Create an embroidered portrait of someone you admire for their leadership and character (follow-up question: Why did you choose this person? Defend your answer.) • Develop a business strategy. • Develop a visual art gallery. • Create a computer program to suit the goals. • Capture, create, mix and remix content to produce unique products. • Direct or produce a product, performance or production. • Publish in text, media or digital formats. • Produce video blogs, blogs or wikis. • Create or build Mash ups. • Design a questionnaire to gather information. • Write a commercial to sell a new product. • Make a jigsaw puzzle. • Make a family tree showing relationships. • Put on a play about the study area. • Start a club to raise awareness about [blank]. • Start a business or hold a fundraiser. • Create a time capsule and bury it. • Make up a new language code. • Sell an idea. • Devise a way to [blank]. • Compose a rhythm or put new words to a known melody. • Plan a monthly budget. • Determine a yearly salary based on an hourly wage. • Compare two credit card offers. • Administer, collect and analyze data from a self-created survey • Plan a road trip (gas mileage, cost, route) • Create a floor plan (with appropriate scale, area, perimeter, building materials) • What is the probability of winning at a casino?

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Apply		
[to (independently) practice a skill or schema in a (multiple) new context(s)]		
Operational Verbs	Sample Question Stems	Sample student-centered activities and products
Adapt Apply Assess Calculate Compute Determine Exhibit Experiment With Generalize Illustrate Implement Model Operate Organize Participate Plan Practice Produce Select Show Sequence Show Solve Translate Use	<ul style="list-style-type: none"> • Tell how much change there would be if [blank]. • What approach would you use to [blank]? • Identify the results of [blank]. • How would you apply what you've learned to [blank]? • What other way(s) would you plan to [blank]? • What would result if [blank]? • Can you make use of the facts to [blank]? • What facts would you select to show [blank]? • Continue the story of [blank]. • Do you know of another instance where [blank]? • Can you group by characteristics such as [blank]? • Which factors would you change if [blank]? • From the given information, can you develop a set of instructions about [blank]? • Predict what would happen if [blank]. • How would you use [blank]? • Choose the best statements that apply to [blank]. • What examples can you find to [blank]? • Judge the effects of [blank]. • How would you solve [blank] using what you've learned? 	<ul style="list-style-type: none"> • Construct a model to demonstrate how it will work. • Make a diorama to illustrate an important event. • Make a scrapbook about the areas of study. • Make a paper-mache map to include relevant information about an event. • Take a collection of photographs to demonstrate a particular point. • Make up a puzzle game using the ideas from the study area. • Make a clay model of an item in the material. • Design a market strategy for your product using a known strategy as a model. • Dress a doll in national costume. • Paint a mural using the same materials. • Write a textbook about [blank] for others. • Practice a play and perform it for the class. • Compose and design invitations for a birthday party of a character. • Make a topographic map.