

Bloom's Taxonomy

BLOOM'S TAXONOMY

Bloom's Taxonomy provides a structured questioning method that allows for students to engage in higher order thinking processes. The Six Levels of Questioning based on Bloom's Taxonomy provides an excellent starting point for teachers wanting to move beyond the basic question and answer techniques.

Useful Websites:

<http://www.teachers.ash.org.au/researchskills/Dalton.htm>

<http://www.nwlink.com/~donclark/hrd/bloom.html>

http://www.cap.nsw.edu.au/teachers/tech_based_resources/mi_pages/index.htm

Level 1 – Knowledge

Exhibits memory of previously learnt materials by recalling facts, terms, basic concepts, and answers.

Key Words

who	what	why	when	where	which	omit
choose	find	how	define	label	show	spell
list	match	name	relate	tell	recall	select

Sample Questions

What is...?	How would you show...?
Who was...?	Who were the main...?
How is...?	Which one...?
Where is...?	How would you describe...?
How did ___ happen?	Can you recall...?
When did ___ happen?	Can you select...?
Why did...?	Can you list the three...?
When did...?	

Level 2 – Comprehension

Demonstrates understanding of facts and ideas by organising, comparing, translating, interpreting, giving descriptions, and stating main ideas.

Key Words

compare	contrast	demonstrate	interpret	explain
extend	illustrate	infer	outline	relate
rephrase	translate	summarise	show	classify

Sample Questions

What is the main idea of...?	What facts or ideas show...?
Can you explain what is happening...?	What does ___ mean?
How would you classify the type of...?	How would you compare...?
How would you contrast...?	Put in your own words...
How would you rephrase the meaning of...?	What statements support...?
What can you say about...?	Which is the best answer...?
How would you summarise...?	

Level 3 – Application

Solve problems to new situations by applying acquired knowledge, facts, techniques, and rules in a different way.

Key Words

apply	build	choose	construct	develop
interview	make use of	organise	plan	select
solve	utilise	model	identify	experiment

Sample Questions

How would you use...?
What examples can you find to...?
What would happen if...?
What parts would you choose to change...?
How would you solve ___ using what you've learned?
How would you organise ___ to show...?
How would you show your understanding of...?
What approach would you use to...?
How would you apply what you learned to...?
What other way would you plan to...?
What facts would you select to show...?
What questions would you ask in an interview with...?

Level 4 – Analysis

Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalisations.

Key Words

analyse	categorise	classify	compare	contrast
discover	dissect	divide	examine	inspect
simplify	survey	take part in	test for	distinguish
list	distinction	theme	relationships	function
motive	inference	assumption	conclusion	

Sample Questions

Why do you think...?	What are the parts or features of...?
How is ___ related to...?	What motive is there...?
Can you list the parts...?	What inference can you make...?
What conclusions can you draw...?	How would you classify...?
How would you categorize...?	What evidence can you find...?
What is the relationship between...?	Can you make a distinction between...?
What is the function of...?	

Level 5 – Synthesis

Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.

Key Words

build	choose	combine	compile	compose
construct	create	design	develop	estimate
formulate	imagine	invent	make up	originate
plan	predict	propose	solve	solution
suppose	discuss	modify	change	original
improve	adapt	minimise	maximise	delete
theorise	elaborate	test	happen	change

Sample Questions

What change would you make to solve...?	How would you improve...?
What would happen if...?	Can you elaborate on the reason...?
Can you propose an alternative...?	How would you adapt ___ to create a different...?
Can you invent...?	How would you change or modify the plot...?
What way would you design...?	What could be done to minimise or maximise...?
What could be combined to improve...?	Suppose you could _____. What would you do...?
How would you test...?	Can you formulate a theory for...?
Can you predict the outcome if...?	Can you think for an original way for the...?

Level 6 – Evaluation

Present and defend opinions by making judgements about information, validity of ideas, or quality of work based on a set of criteria.

Key Words

award	choose	conclude	criticise	decide
defend	determine	dispute	evaluate	judge
justify	measure	compare	mark	rate
recommend	rule on	select	agree	appraise
prioritise	opinion	interpret	explain	support
importance	criteria	prove	disprove	assess
influence	perceive	value	deduct	

Sample Questions

Do you agree with the actions...? Why or why not?	What would you cite to defend the actions...?
What is your opinion of...?	How would you evaluate...?
How would you prove or disprove...?	What choice would you have made...?
What is the value of...?	What would you select...?
Would it be better if...?	How would you prioritise...?
Why did the character choose...?	What judgement would you make about...?
What would you recommend...?	How would you justify...?
How would you rate...?	Why is it better...?

QUESTION MATRIX

The Question Matrix was designed by Chuck Weiderhold in 1991. It contains 36 question starters asking what, where, when, which, who, why and how. Proceeding through the matrix, the questions become more complex and open-ended.

The Question Matrix could be used:

- to help students create their own questions about a specific topic and to encourage in-depth thinking
- as question starters for teachers to elicit further information about a student's knowledge and understanding of a topic
- to formulate questions for a particular purpose eg organising a camp, answering questions on a program etc. For example, the Question Matrix can be used to answer questions about Behind the News: <http://www.abc.net.au/btn>

QUESTION MATRIX

	Event	Situation	Choice	Person	Reason	Means
Present	What is?	Where / When is?	Which did?	Who is?	Why is?	How is?
Past	What did?	Where / When did?	Which did?	Who did?	Why did?	How did?
Possibility	What can?	Where / When can?	Which can?	Who can?	Why can?	How can?
Probability	What would?	Where / When would?	Which would?	Who would?	Why would?	How would?
Prediction	What will?	Where / When will?	Which will?	Who will?	Why will?	How will?
Imagination	What might?	Where / When might?	Which might?	Who might?	Why might?	How might?

Useful websites for using the Question Matrix:

<http://www.cap.nsw.edu.au/QI/TOOLS/pqr/questionmatrix.htm>

<http://www.abc.net.au/tv/btn/teachers/activitysheets/2006/ep09/0205questionmatrix.doc>

http://swarthyknaves.com/strategies_good_questions.html

http://www.highlandschools-virtualib.org.uk/lt/inclusive_enjoyable/questioning.htm

THINKER'S KEYS

Tony Ryan developed Thinker's Keys which are a very useful strategy to get students to develop their questioning techniques and for teachers to get an understanding of a students' knowledge base on particular topics.

The booklet, "Thinker's Keys for Kids", is available for download from the following website:
<http://www.headfirst.com.au/cms/pages/l/display.html>

The booklet has been presented in two sections:

Part A: a brief description has been provided for each of the twenty Thinker's Keys

Part B: a total of twelve themes have been chosen to demonstrate the type of ideas that can be generated with the Keys

Tony Ryan's Thinker's Keys:

Reverse	Picture	Brick Wall	Forced Relationship
What if	Ridiculous	Construction	Alphabet
Disadvantages	Commonality	Combination	Different Uses
BAR	Question	Prediction	Inventions
Variations	interpretation	Brain Storming	Alternative

Some examples are:

The **WHAT IF** 

You can ask virtually any What If question. They can be either serious or frivolous.

Examples:	What if the price of petrol was immediately doubled?
	What if all cars turned into skateboards?

The **VARIATIONS** 

This key employs a special group of words. Start each question with "How many ways can you...?"

Examples:	How many ways can you: paint a house?
	wash an elephant?
	make new friends?

The **QUESTION** 

Start with the answer, and try to list five questions that could be linked to that answer only.

Example: The answer is <u>MIDNIGHT</u> .	1. When is it 12 hours after midday?
	2. When did Cinderella's coach turn into a pumpkin?
	3. What word is spelt M-I-D-N-I-GH-T?