

**Higher Order Thinking Skills
Question Stems**

High School

Higher Order Thinking Question Stems

Questions that help students work together to make sense of mathematics:

1. What do other think about what _____ said?
2. Do you agree? Disagree?
3. Does anyone have the same answer but a different way to explain it?
4. Would you ask the rest of the class that question?
5. Do you understand what they are saying?
6. Can you convince the rest of the class that that makes sense?

Questions that help students rely more on themselves to determine whether something is mathematically correct:

1. Why do you think that?
2. Why is that true?
3. How did you reach that conclusion?
4. Does that make sense?
5. Can you make a model to show that?

Questions that help students learn to reason mathematically:

1. Does that always work?
2. Is that true in all cases?
3. Can you think of a counterexample?
4. How could you prove that?
5. What assumption are you making?

Questions that help students learn to conjecture, invent, and solve problems:

1. What would happen if? What if not?
2. Do you see a pattern?
3. What are some possibilities here?
4. Can you predict the next one? How about the last one?
5. How did you think about the problem?
6. What decision do you think she should make?
7. What is alike and what is different about your method of solution and his/hers?

Questions that help students to connect mathematics, its ideas, and its applications:

1. How does this relate to.....?
2. What ideas that we have learned before were useful in solving this problem?
3. Have we ever solved a problem like this before?
4. What uses of mathematics did you find in the newspaper tonight?
5. Can you give me an example of...?

Questions and Key Words for Critical Thinking

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Exhibit memory of previously-learned materials by recalling facts, terms, basic concepts and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas.	Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.	Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	Present and defend opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria.
<p>What is...? Where is...? How did...happen? Why did...? When did...? How would you show...? Who were the main...? Which one...? How is...? When did...happen? How would you explain...? How would you describe...? Can you recall...? Can you list the three...? Who was...?</p>	<p>How would you classify the type of...? How would you compare...? contrast? Will you state or interpret in your own words...? How would you rephrase the meaning...? What facts and ideas show...? What is the main idea of...? Which statements support...? Can you explain what is happening...? what is meant...? What can you say about...? Which is the best answer? How would you summarize?</p>	<p>How would you use...? What examples can you find to...? How would you solve...using what you've learned...? How would you show your understanding of...? What approach would you use to...? How would you apply what you learned to develop...? What other way would you plan to...? What would result if...? Can you make use of the facts to...? What elements would you choose to change...? What facts would you select to show...? What questions would you ask in an interview with...?</p>	<p>What are the parts or features of...? How is __related to...? Why do you think...? What is the theme...? 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...? Can you identify the different parts...? What evidence can you find...? What is the relationship between...? Can you make a distinction between...? What is the function of...? What ideas justify...?</p>	<p>What changes would you make to solve...? How would you improve...? What would happen if...? Can you elaborate on the reason...? Can you propose an alternative...? Can you invent...? How would you adapt...to create a different...? How could you estimate the results for...? What facts can you compile...? Can you think of an original way for the...? Can you construct a model that would change...?</p>	<p>Do you agree with the actions...? with the outcome...? What is your opinion of...? How would you prove...?disprove...? Can you assess the value and importance of...? Would it be better if...? Why did they (character) choose...? What would you recommend...? How would you rate the...? What would you cite to defend the actions...? How would you evaluate...? How would you determine...? What choice would you have made...? What would you select...? How would you prioritize...? What judgment would you make about...? Based on what you know, how would you explain...? What information would you use to support the view...? What data was used to make the conclusion...? Why was it better that...? How would you prioritize the facts...? How would you compare the ideas...? people...?</p>
<p>who what choose list find match why how name when define relate omit label tell where show recall which spell select</p>	<p>compare contrast demonstrate interpret explain extend illustrate infer outline relate rephrase translate summarize show classify</p>	<p>apply build choose construct develop interview make use of organize experiment with plan select solve utilize model identify</p>	<p>analyze categorize 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</p>	<p>build choose combine compile compose construct create design develop estimate formulate imagine invent make up improve originate plan predict propose solve solution suppose discuss modify change original improve adapt minimize happen maximize delete theorize elaborate test</p>	<p>award choose conclude criticize decide defend determine dispute evaluate judge justify measure compare mark rate deduct recommend rule on select agree appraise prioritize opinion interpret explain support importance criteria prove disprove assess influence perceive value estimate influence</p>

