



# Math Homework

Pedagogy Presentation  
EMTH 310  
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# What is Math Homework?

“It is created to help students prepare to learn new mathematical concepts, practice ones that have already been introduced, and explore other math skills” (Math & Reading Help, 2020)

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How long do you think a student should spend  
on math homework each night?



# A useful academic tool

Positives of math homework:

- Promotes self-regulation including:
  - Time management skills
  - Goal setting
  - Self-efficacy
  - Responsibility
- Provides students with a sense of satisfaction and achievement  
(Ramdass & Zimmerman, 2011, p. 196 & 197)
- Contributes to a students GPA  
(Maltese, Tai, et al., 2012, p. 65)

# Can Homework be Bad?



Negatives & side effects of math homework:

- Teacher and student frustration
  - Student's not completing for a number of reasons:
    - Don't understand the assigned questions
    - No relation to the in-class material
    - No homework check or feedback (student may feel that it was a waste of time)  
(Wilson & Rhode, 2010, p. 352)
- Home life
  - Often times there is no time after school for hours of homework
  - A family member is unable to help
  - Not enough homework vs. too much homework; overworking the child
  - Math homework can lead to stress and anxiety  
(Boaler, 2016, p. 168 & 169)



# According to the Saskatchewan Curriculum...

The role of homework should...

- “Help students to consolidate new learnings with prior knowledge, explore possible solutions, and apply learnings to new situations” (p. 18).
- Utilises deep thinking and problem-solving skills
- Math homework should flow with the in-class learning task
- Drills are good
- Amount of questions given should be reasonable

(Saskatchewan Curriculum, 2008, p. 18)



# Other options besides the common math homework questions...

Do you think there other options to give students work to take home that doesn't reflect on the dreadful term of 'homework'?

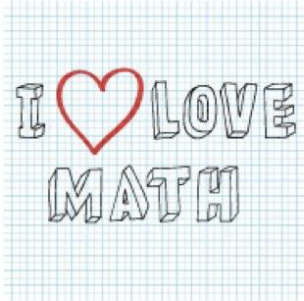
Boaler suggested assigning reflection questions

- Focus on the big ideas
- Spend more time on what they learned rather than answering neverending questions.

## Example of Reflection Questions

### My Homework My Reflections

What was the main idea you learned today?



What is something you are struggling with or have questions about?

How could the ideas from today's lesson be used in life?

### Reflection

What was the big idea we worked on today?

What did I learn today?

What good ideas did I have today?

In what situations could I use the knowledge I learned today?

What questions do I have about today's work?



What new ideas do I have that this lesson made me think about?



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What do you think would happen if schools put an end to math homework?

- <https://www.teacherspayteachers.com/Browse/Search:homework%20alternative>
- <https://www.bookwidgets.com/blog/2018/09/20-creative-alternative-homework-ideas-for-teachers>
- <https://www.pinterest.ca/ktmathteacher/alternative-homework/>

Teacher Resources for alternatives to math homework

# Resources

Boaler, J. (2016). *Mathematical Mindsets: Unleashing Students Potential Through Creative Math, Inspiring Messages and Innovative Teaching*. A Wiley Brand.

I Can Education. (2020). *How Much Time Should Be Spent on Homework Based on Grade?*. I Can Education: Achieve and Go Beyond. Retrieved from <https://www.icaneducation.ca/how-much-time-should-be-spent-on-homework-based-on-grade/#:~:text=We%20recommend%20that%20your%20child,30%20minutes%20on%20each%20subject.>

Maltese, A., Tai, R. & Fan, X. (2012). *When is Homework Worth the Time? Evaluating the Association Between Homework and Achievement in High School and Math*. University of North Carolina Press. Retrieved from <https://www.jstor.org/stable/pdf/23275424.pdf?refreqid=excelsior%3Aa97b784bfe0d4bcd659db1e1f67ae527>

Math & Reading Help. (2020). *Math Homework: What to Expect and Why it is Important*. Retrieved from [http://mathandreadinghelp.org/articles/Math homework%3A What to expect and why it is important.html#:~:text=Math%20homework%20is%20any%20task,and%20explore%20other%20math%20skills.](http://mathandreadinghelp.org/articles/Math%20homework%3A%20What%20to%20expect%20and%20why%20it%20is%20important.html#:~:text=Math%20homework%20is%20any%20task,and%20explore%20other%20math%20skills.)

Ramdass, D. & Zimmerman, B. (2011). *Developing Self-Regulation Skills: The Important Role of Homework*. Journal of Advanced Academics. Retrieved from <https://journals.sagepub.com/doi/pdf/10.1177/1932202X1102200202>

Saskatchewan Curriculum. (2008). *Mathematics*. Ministry of Education. Retrieved from <https://www.edonline.sk.ca/webapps/moe-curriculum-BB5f208b6da4613/CurriculumHome?id=149>

Wilson, J. & Rhodes, J. (2010). *Students Perspectives on Homework*. EBSCOHost. Retrieved from <http://web.a.ebscohost.com/ehost/detail/detail?vid=0&sid=802ced51-95e3-4f23-a1ae-3a637bae06a9%40sdc-v-sessmgr01&bdat a=JnNpdGU9ZWWhvc3QtbGl2ZQ%3d%3d#db=a9h&AN=59347970>