

Summer Skill 7th Going to 8th

Below is a list of skills in Math, Social Studies and Science. This list is meant to make sure you are prepared for 8th grade.

Understood.org wrote an article called “Skills Kids Need Going Into Eighth Grade” The article can be found here:

<https://www.understood.org/en/learning-thinking-differences/signs-symptoms/academic-readiness/skills-kids-need-going-into-eighth-grade>

Math

By the end of 7th grade, students have learned how to solve single-step algebraic equations, calculate slope, and abstract math concepts. 8th grade continues and adds to these principles.

- Figure out whether numbers are proportionally related to each other (ratios and rates)
- Use tables, graphs, and word problems to help calculate rates (e.g., if you travel half a mile every 15 minutes, how far will you travel in 45 minutes?)
- Solve equations to find the value of a missing variable
- Learn how to apply the “order of operations” to number sentences—adding, subtracting, multiplying, and dividing in the correct order
- Solve equal expressions—number sentences in which both sides produce the same answer ($2 + 4 = 3 + 3$)
- Solve multi-step word problems that include whole numbers, fractions, and percentages to find the circumference and area of objects
- Learn that numbers can’t be divided by 0; know when positive and negative numbers together make 0

On my Teacher Website I have uploaded some practice worksheets to help prepare for 8th grade math. I have also included answer keys. These Math worksheets can be found on the “Summer Work” page on my website.

Science

8th grade Science focuses primarily on physics and energy in the beginning of the year. While there may not be a lot of background knowledge going into this topic, there are still skills that students entering 8th grade should be familiar with. Below is a list of skills that should be practiced to be ready when starting the school year.

- How to plan and conduct investigations and experiments.
- Application of the scientific method in order to practice like a scientist:
 - Questions, observes, and researches
 - Develops a hypothesis (based on observations and research).
 - Make predictions

- Experiments and follows multi-step processes and instructions in order to conduct experiments
- Develops a conclusion
- Compares the results of an experiment to what is written about the topic in a text
- Analyze and interpret data
- How to use measurement and mathematical computations while working with data
- How to analyze relevant charts, diagrams, and graphs about a scientific topic

Social Studies

8th Grade Social Studies focuses on American History, specifically starting at just before the Civil War up to modern day. A lot of Social Studies is information based, and not as skill based, but there are still some very important skills that students entering 8th grade should be familiar with.

- How to differentiate and read primary and secondary sources in order to:
 - Analyze the texts using evidence.
 - Understand the main ideas of the text.
 - Relate the texts to important historical events or concepts.
- Distinguish between fact and opinion in a text.
- Compare and contrast primary and secondary sources about the same topic.
- How to read different types of maps and use a scale and legend
 - Political
 - Physical
 - Topographical
 - Economic.

Additional Resources:

Some additional resources you can use to help guide you as you work on the above skills.

Math: Khan Academy, Aplusmath, and math.com

Science: Khan Academy, Bozeman Science on Youtube*

Social Studies: Khan Academy, National Archives**

*Bozeman Science has great videos on the Next Generation Science Standards Practices, these are great to help review and learn more about the Scientific Method and the skills listed above.

**The National Archives has primary and secondary sources as well as Document Analysis Worksheets to help with reading and analyzing sources.