

ADVANCED LEARNING LABS

Collaboration between NC Department of Public Instruction and AIG Teachers across the state

TO ENGAGE, ACTIVATE, AND GROW OUR STUDENTS

GRADES

6-7

Time



ENGLISH LANGUAGE ARTS

It is interesting to consider how authors use time in their stories. In *The Glory Field*, Walter Dean Myers tells the story of one family through five generations over 241 years; in this case, their ties to family and a piece of land stay strong over time. In the short story "A Rose for Emily," the narrator moves between different time periods requiring the reader to pay close attention to piece together the chronological order of the story.

What other story examples can you think of that include the use of time? Write a narrative of your own or take a familiar story such as a fairy tale, and write it in different ways, manipulating time for effect. Can you use it to build suspense? Can you use it to impact the story's mood? How does manipulating time impact the story overall?



SOCIAL STUDIES

Demographic trends can lead to conflict, negotiation, and compromise. For example, population spikes can lead to conflict over scarce resources.

Use the World Bank's databank to study trends in population growth:
<https://data.worldbank.org/indicator/SPPOP.TOTL>

Which countries have a steep rate of increase? have leveled off? have seen radical changes to population over time? Choose two or more countries with trends that are radically different than most, and research why.

Construct a chart or graph to display what the trends are and what you have learned about what impacted them or how they impacted life in that area.



SCIENCE

Pick an object at your house that moves. Examples could be the tip of the minute hand on an analog clock, a ball that you can bounce, or a frisbee that you can throw.

Create a graph that shows how the object moves over time. You will need to conduct numerous trials before you begin to graph. The x axis of your graph should measure time, but you will need to determine the units. Decide what you want your y axis to graph- Distance? Speed? Velocity?

Be sure to label your graph so that your results can be read clearly by someone else. Then, share your graph with others.



MINDFULNESS

Set a timer for one minute. Close your eyes and try to determine when a minute has passed. Quietly look at your timer when you think one minute has passed. The goal is to get as close to exactly one minute without looking at the time.

- What senses feel heightened
- What thoughts of the past/future were abandoned for the present moment
- How can this apply to other life scenarios?
- Was a minute longer or shorter than what you thought?

Time can feel very different depending on what activity you are doing. One great stressor for students is the feeling of not having enough time. Research some great time management techniques for teens. Create a blog to help other teens with the stress of time management.



LOGIC PUZZLE

You may have heard the saying “*Even a stopped clock is correct twice a day.*” What does this mean?

Try this classic time puzzle.

What time comes next in this sequence?

1:05, 2:11, 3:16, ...

What steps did you follow to solve the puzzle?



FIELD STUDIES

As an amateur social scientist, research something about humanity that interests you and see how it has changed over time. For example, you could look at how life expectancy has changed in various countries over the last hundred years, or you could study literacy rates, infant mortality rates, access to electricity, or anything else of interest. Check several sources and be sure to cite them.

Once you have found the data, design a map, chart, or graph that will display your information. Be sure to label it. Make a hypothesis that explains the data trends; include the hypothesis under your display.

Here are some potential data sources:

- <https://www.cia.gov/library/publications/the-world-factbook/geos/ag.html>
- <https://catalog.data.gov/dataset>
- <https://data.worldbank.org/>



RESEARCH EXPLORATIONS

How does distance affect the time it takes an object to hit the ground? You have experienced walking down a hill and the pull of gravity. What happens to your speed as you go down the hill? Do you speed up or slow down? How does the steepness of the hill affect your speed?

Create an experiment to determine what happens to the speed of a marble as it travels a longer distance on a sloped surface. Need help coming up with an experiment try this site: <https://www.scientificamerican.com/article/speedy-science-how-does-acceleration-affect-distance/>

Create a graph of the results of your experiment. You can put time on the x-axis and distance on the y-axis. What does your graph tell you about the relationship between time and distance?



MATH

How many times does your heart beat in a lifetime? Think about the question and make a guess. Would it be possible to determine an exact answer? Why or why not?

The problem presented is called a Fermi problem named after the famous physicist Enrico Fermi. A Fermi problem requires you to make a rough estimate for quantities that are difficult or impossible to measure directly.

Design a strategy to determine the number of times your heart has beaten in your lifetime. Present your solution and the steps you took to determine the answer in a medium of your choice. Be sure to include an analysis of your answer.

- Is your answer reasonable?
- How would it compare with others your age?
- How were your heart rates adjusted for varying activities?



North Carolina Department of
PUBLIC INSTRUCTION



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GRADES
K-12

Time Reference Guide

K-1 Logic Puzzle:

Solutions:

Challenge 1

12:00, 1:05, 2:10, 3:15, 4:20, 5:25, 6: 30, 7:35, 8:40, 9:45, 10:50, 11:55

Challenge 2:

1:01, 1:11, 1:21, 1:31, 1:41, 1:51,

2:02, 2:12, 2:22, 2:32, 2:42, 2:52

3:03, 3:13, 3:23, 3:33, 3:43, 3:43

4:04, 4:14, 4:24, 4:34, 4:44, 4:54

5:05, 5:15, 5:25, 5:35, 5:45, 5:55

6:06, 6:16, 6:26, 6:36, 6:46, 6:56

7:07, 7:17, 7:27, 7:37, 7:47, 7:57

8:08, 8:18, 8:28, 8:38, 8:48, 8:58

9:09, 9:19, 9:29, 9:39, 9:49, 9:59

10:01, 11:11, 12:21

2-3 Logic Puzzle:

Solution: <https://www.aimsedu.org/2013/04/08/timemarches-on/?highlight=time>

4-5 Logic Puzzle:

Solution is included in the video: <https://www.youtube.com/watch?v=KM5KUlyAJ9I>

6-7 Logic Puzzle:

Solution: 4:22

8-9 Logic Puzzle:

Solution: 4:00

10-12 Logic Puzzle:

Solution: Larry goes to bed at 9:00 pm.

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Time NC Standards Alignment

Grade Span	English/ Language Arts	Social Studies	Science	Math
K-1	W.1.1	1.H.1.1 1.H.1 1H.1.2	K.E.1.1 K.3.1.3	NC.1.MD.4
2-3	RL and RI.3.10	3.H.2.1 3.I.1.10 3.H.1.3	2.E.1.3 2.E.1.4	NC.3.MD.3
4-5	RL and RI.5.10	EX.5.G.1.2 5.I.1.4 5.G.1.4	5.E.1.1	NC.5.MD.2
6-7	W.6.3	7.G.1.2 7.G.1.3	7.P.1.3	NC.7.RP.1 NC.7.RP.3
8-9	RL.8.2	FPPFL.2.4 EPFMCM.3.4	EEn.2.1.3	NC.M1.A-CED.1
10-12	W.9-10.3	AH2.H.3	EEn.2.5	NC.M1.S-ID.1