

Time

Grades K-1

English Language Arts

Time influences our schedule every day. It starts when we wake up and ends when we go to bed.

- Do you have a bedtime set by your family?
- Do you think kids should have a set bedtime?
- Is the time you go to bed important, and who should make this decision?

Decide if kids should or should not have a bedtime. Create an advertisement to convince parents and one advertisement to convince kids about your opinion on bedtimes. Be sure to include at least three reasons that will convince your audience.

Social Studies

Communities change over time. Examine this photograph from the past of a bookmobile in Rockingham County, NC: <https://digital.ncdcr.gov/digital/collection/p249901coll36/id/576>

What do you notice? wonder?

Compare this photo to your school or town library.

- What is the same? different?
- Why do you think some things have changed?
- How might the perspectives of the librarians and the children be different?
- What might libraries be like in the future?

Design your dream library of the future. You can draw a picture or diagram or write about your dream.

Science

Seasons are a way we mark the passage of time in a year. Watch this time lapse video of a year in a forest: <https://thekidshouldseethis.com/post/a-forest-year>

Watch the video again and pause when you notice the season is changing.

- What clues does nature give that the season is changing?
- Would you like to live in this place? Why or why not?

Adopt a tree in your neighborhood to observe for a year. Each week, make detailed observations about your tree in a science notebook. Draw diagrams.

Make notes of changes including: animals you observe, the weather, and what you smell, hear and feel. At the end of the year you will have documented how your tree changes over time.

Mindfulness

The time we spend chewing our food is rarely something people think about, but when you slow down, you experience the food in a new way.

Find a food you like to eat. Before you begin eating, pause to smell it. Put it in your mouth, but before you begin chewing, think about the taste and texture. Chew it slowly. Close your eyes and consider the taste. Swallow your bite, and notice what flavors linger in your mouth.

- How is eating different when you go slowly?
- When you stopped to notice your senses, how did it change the experience of eating?
- What would it be like to spend more time eating all your meals?
- What foods do you think would be most enjoyable to practice mindful eating?

Logic Puzzle

Challenge 1:

At what exact times during the day are the hour and the minute hand pointing to the same number on the clock? This means the hands are covering each other. Is there a pattern?

Starting point hint: One time this happens is at 12:00 when both hands are pointing towards the twelve.

Challenge 2:

At what times during the day is the time on a digital clock a palindrome? A palindrome is the same when you read it forward and backward. Examples include 12:21 and 5:05.

Tip: Look at a clock or use a play clock to help you figure these out!

Field Studies

Visit a clock repair shop: <https://vimeo.com/34254295>

- What do you notice? wonder?
- How did Mr. Sutton learn to take care of clocks?
- Is this a career you would like to have? Why or why not?

What types of clocks do you have in your home? Observe one for 15 minutes. Write or draw what you observe.

If you have a broken clock or watch, ask an adult if they can help you take it apart. Taking apart unused things helps us understand how they work. Draw or describe what you find inside.

- How do these activities help you understand how a clock works to tell time?
- How do you think clocks will change in the future?

Research Explorations

How does a shadow change over time? Measure your shadow throughout the day.

1. Go outside every hour and stand in the same place.
2. Have a helper trace your shadow with chalk.
3. Mark the time by each tracing.
4. Measure your shadows and record your data on a piece of paper. (Example 9:00-10 inches)

What can you say about how the time of day changes your shadow?

- At what time was your shadow the tallest? shortest?
- Did your shadow change in other ways?
- Why do you think your shadow changes as the day goes by?
- Do humans use shadows to measure time? Describe a time you have seen this.

Math

Use the following diagram to show how you spend time during a school day. Color the hour blocks:

*sleep-blue *activities-green

*school-yellow *family time-red

*free time- purple

12	1	2	3	4	5	6	7	8	9	10	11
12	1	2	3	4	5	6	7	8	9	10	11

- How many hours do you sleep? How many hours are left?
- How many hours do you go to school? Is that more or less than family time?
- What activity do you do the most and the least?
- If you could change one thing, what would you change about how you spend your time?

Share with your family and compare your use of time to theirs.

Grades 2-3

English Language Arts

Reading is a wonderful way to spend time learning, relaxing and even escaping the current time. It is also a way we're able to connect what we learn to ourselves and the world around us.

Choose a fiction or informational book that interests you and take some time to read. As you read, make personal connections to your life and experiences, other texts you have read and the world around you.

Create a mind map as you read, recording the connections you make to the text in these areas and continue to add to it throughout the book.

To learn more about mind mapping for students, visit this link:

<https://www.mindmeister.com/blog/students-guide-to-mind-mapping/>

Social Studies

A historical narrative is a story of a historical event or time period. It is a powerful vehicle to show change over time and give a glimpse into past events, people and places. The art of

storytelling is a historical narrative in and of itself.

Read the book *I am a Story* by Dan Yaccarino (or listen to the story here: <https://youtu.be/XVScmY-hroA>) and/or this article "The Evolution of Storytelling:" <https://reporter.rit.edu/tech/evolution-storytelling>.

Create a historical timeline of storytelling, with pictures or by acting out the various storytelling methods/changes themselves. Share this timeline with others. Take it a step further and search for information about a subject that interests you- past, present and even future. Create a timeline of how the topic has changed over time.

Science

One of the jobs of the National Hurricane Center is to keep track of hurricane data. On their website, <https://www.nhc.noaa.gov/climo/>, you can see hurricane data that dates back to the 1800's.

As you scroll through the various graphs, what patterns do you notice? Where do hurricanes tend to form? What months are typically part of "hurricane season?" What other questions do you have about the patterns of hurricanes that these graphs can answer?

Track this year's hurricane season. Does it follow the usual patterns? Is there anything that occurred that did not follow the pattern? (You could track the storms in real time, or look back at the website for the data.)

Mindfulness

Socrates, an ancient Greek philosopher, had two main "rules of life": *Care for oneself and know oneself*. He believed that taking time to care for ourselves leads us to care for others and taking time to pay attention to our own thoughts and attitudes through self-reflection and meditation leads to an ideal state of being.

Today, set aside some time for some self-care; spend some time doing something that you love, gives you energy, or makes you happy.

Make a point to set aside time in your day for self-reflection. Find a quiet, calm space to sit and breathe and think about you. Reflect on how taking time for self-care and self-reflection impacted the quality of your day and your interactions with others. Are there ways to make time for yourself every day?

Logic Puzzle

Time Marches On

How many times during a day do the hour and minute hands of a clock point in the same direction?

Make a guess.

Now, get a clock and check your guess. What did you find out?

Field Studies

A time capsule is a container storing a selection of objects that are seen as being typical of the present time, buried for discovery in the future. It's a snapshot of a moment in history that can offer a glimpse into the past.

Watch this video from National Geographic Kids to learn about "100-Year-Old Time Capsule Was Finally Open:" <https://youtu.be/6btpDxGI748>

Now it's time to make your own time capsule. It can be a capsule about your own life or one that focuses on the current time period in our state, country or world, or all of the above. Hide or bury the time capsule and designate a time in the future to open it and examine its contents.

Here are some ideas: <https://www.joincake.com/blog/time-capsule-ideas/>

Research Explorations

Three dimensional, or 3D, are the units of length, width, and height. When you add in the unit of time, you get four dimensions. Spacetime continuum is credited to Albert Einstein, but some say it was his teacher, Hermann Minkowski who connected space and time, two ideas previously believed to be unrelated. Read more about Einstein, Minkowski, and spacetime. Make sure to check out what NASA says about our ability to time travel; you might be surprised.

- <https://www.wonderopolis.org/wonder/what-is-the-space-time-continuum>
- <https://bit.ly/32Bwzwg>
- <https://spaceplace.nasa.gov/time-travel/en/>

Share what you've learned with your family. Discuss a time, past or future, that you and your family members would like to travel.

Math

The World Meteorological Association has established a hurricane naming procedure where there are 6 lists of names that are alternated every 6 years (on the 7th year, list number 1 is used again).

Due to the severity of certain storms, names have been "retired" over time. The National Hurricane Center has a list of these names on their website:

https://www.nhc.noaa.gov/aboutnames_history.shtml

Choose a ten-year time span and create a bar graph to show how many names were retired each year. Examine the list further below on the webpage to see the names in alphabetical order and create a graph to show retired names by first letter. For fun, create your own list of Hurricane names, one for each letter A-W.

Grades 4-5

English Language Arts

Reading is a wonderful way to spend time, especially when we connect what we read to ourselves and the world. Choose a fiction or informational book that interests you. As you read, relate to the text in four ways, writing your thoughts in each section:

- Connections: What connections can you make between the text and your own life?
- Challenge: What ideas or positions do you want to challenge in the text?
- Concepts: What key concepts or big ideas are important from the text?
- Changes: What changes in thinking or actions are suggested by the text either for you or for others?

Download the graphic organizer to record: [https:// bit.ly/32CCK35](https://bit.ly/32CCK35)

Share your thoughts in a video diary or journal.

Social Studies

A transition is the process of changing from one state, stage, subject, place or condition to another. Our lives are full of transitions, some minor and some major.

Brainstorm a list of minor and major transitions that people go through in their lives. Get friends and family to help you brainstorm even more. Analyze the list you created and reflect upon the role of time in explaining when and why people make decisions.

Make three generalizations about time and transitions based on your brainstorm and analyze the relationship between the two. A generalization is a statement that is true all, or nearly all, of the time.

Science

The Farmer's Almanac, in print for over 200 years, is a weather time machine of sorts. The almanac predicts weather far into the future and contains weather data way back in the past.

Visit *The Farmer's Almanac* online to see a year's worth of weather predictions and check to see how accurate they have been in the past. <https://www.farmersalmanac.com/on-the-money>

Compare daily and seasonal changes in weather conditions, including wind speed and direction, temperature, and precipitation. Look for patterns. Track weather for a week.

- What similarities and differences do you see between the forecast of a local news station and that of *The Farmer's Almanac*?
- Which proved to be more accurate?
- How does this affect your perception of the news cast or almanac?

Mindfulness

Leo Tolstoy wrote in *War and Peace*, "The two most powerful warriors are patience and time."

Although you can experience benefits of meditation in a short period of time, research shows that the more time you dedicate to cultivating mindfulness, the more effective the result. How might this relate to the quote above? How might patience also relate to the idea of mindfulness?

Create a “battle plan” that utilizes the warriors of time, patience, and mindfulness in an effort to win the battle against stress and achieve a sense of inner peace.

Logic Puzzle

Can you measure exactly 9 minutes with the help of 7 minutes and 4 minutes hourglasses? Make sure you follow the BEST approach. To interact with the puzzle online, visit:

<https://www.youtube.com/watch?v=KM5KUlyAJ9I>

Field Studies

Time is measured in many ways, but how can it be captured? A time capsule is a container storing a selection of objects that are seen as being typical of the present time, buried for discovery in the future.

Check out these super cool time capsules found from around the world:

<https://www.littlethings.com/crazy-time-capsules>

Now it's time to make your own time capsule. It can be a capsule about your own life or one that focuses on the current time period in our state, country or world...or all of the above. You can choose to bury it in your own yard, create one virtually or share it with others. Read about

a student who created a time capsule to capture life during the COVID-19 Pandemic:

<https://bit.ly/30yzog3>

Capture this time of your life!

Research Explorations

Do wormholes exist? As of now, there is no proof that they do or do not exist. In theory, a wormhole is like a tunnel that connects two places that you could use to step between two places in very little time. Think about how much time you could save each day if you could take a step to get from one far-away place to another. Have you ever wanted to travel to Europe? Step inside this wormhole and you're there!

After researching more about wormholes, discuss your findings with your family.

- <https://bit.ly/2DxzxXX>
- <https://academickids.com/encyclopedia/index.php/Wormhole>

Brainstorm together how you would use wormholes in your everyday life. How would things improve? What would you do with all the time you save each day?

What could be problematic about using wormholes?

Math

Weather changes over time, and *The Farmer's Almanac* keeps track on the “Weather History” page:

<https://www.farmersalmanac.com/weather-history>

Find historical data for weather going back as far as 1949! Your task is to find the weather for the same date for 15 consecutive years. Record the high and low temperatures for each of those days.

Make a line graph, with two different colored lines: one color to show the high temperatures for the last 15 years and the other color to show the low temperatures. Label your graph appropriately.

Find the mean, or average, high and low temperatures for those 15 years.

What, if any, patterns do you notice? What other observations can you make using the two graphs?

Grades 6-7

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/SP.POP.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?

Grades 8-9

English Language Arts

Time travel is a plotline of many stories: Twain's *A Connecticut Yankee in King Arthur's Court*, Wells' *The Time Machine*, and Dickens' *A Christmas Carol* all involve time travel. Washington Irving's short story "Rip Van Winkle" (1819) also relates to time. In the 1820s people began calling North Carolina "The Rip Van Winkle State." Read this short story and explore how Irving manipulates time to move his plot forward: <https://www.gutenberg.org/files/60976/60976-h/60976-h.htm>

- How would the story be different without the time shift?
- Determine the theme of the text.
- How does the use of time impact the theme?

Think about why North Carolina would have been given this nickname. Create a movie trailer for this story. Be sure to include the role time plays in the story, but don't give away the ending.

Social Studies

Life insurance protects loved ones from financial hardship after the insured person's death. There are many types of life insurance policies, and it can be confusing. As you study these differences, you will notice that time plays an important role in them. Policies can change over time and some are only applicable for a certain time period. Check out the differences in Term and Whole/Permanent Life Insurance. Use the link to find out about the kinds of Term and Whole/Permanent life insurance policies: <https://www.iii.org/article/what-are-principal-types-life-insurance>

Would one kind of policy be better to purchase in your twenties, while another kind would be better to purchase in your sixties?

Make a chart of the different varieties, showing important information about each.

Science

Weathering is a process that happens over time. There are three types of weathering:

- physical (also called mechanical)
- chemical
- biological

In this lab, you are going to take a look at mechanical and chemical weathering to see how these natural actions impact our earth over time. The only item you will need to conduct the lab is a cracker and your science notebook. Complete the lab including the Analysis and Conclusion Questions.

<https://www.soils4teachers.org/files/s4t/lessons/weathering.pdf>

Now design your own lab that you could use to teach younger students about the impact of weathering over time.

Mindfulness

Teens need 8 to 10 hours of sleep each night. At the same time, their biological sleep patterns mean it is natural to stay up later. It is not surprising that most teens are sleep-deprived with only 15% reporting sleeping 8 ½ hour or more on school nights.

Read the article about sleep for teens: <https://www.sleepfoundation.org/articles/teens-and-sleep>

So what is the solution? Create a plan to help teens get the sleep they need. Use PowerPoint or Google Slides to present your plan to your fellow students or others as appropriate. Create a presentation for school administrators encouraging them to adjust school schedules to better meet the sleep requirements of teens. Ask your administrator for time to present your plan.

Logic Puzzle

Consider the following clues to answer the question below:

- The clock was correct at midnight.
- From that moment it began to lose four minutes per hour.
- The clock stopped three hours ago showing 12:08 pm.
- The clock runs for less than 24 hours.

What is the correct time now? Explain your answer.

Field Studies

Albert Einstein is often associated with the Theory of Special Relativity that explains how space and time are linked for objects that are moving in a straight line at a consistent speed. Watch this video for a brief overview: <https://youtu.be/ajhFNcUTJI0>

After this brief introduction, it is time to dig in deeper for more details about Einstein's Theory. Take the Elementary Tour of Relativity on this website: <https://bit.ly/3foOAS8>

After exploring the idea of Special Relativity, create a way to share this information with others. You can design a presentation, do it artistically, write a summary, or use another format of your choice. Make sure to include how time relates to the theory.

Research Explorations

Most people think of a day as the time it takes the Earth to rotate but that is not exactly 24 hours.

Research how geologists have been able to determine the number of hours in a day during different time periods using the link: <https://www.scientificamerican.com/article/earth-rotation-summer-solstice/>

Has time sped up or slowed down? Use this chart to determine the length of a day during each geological time period:

https://docs.google.com/document/d/1ySqdzlDYCnujiwOHNI7_ntxQyjoBcOvkFWS4V61lw/edit?usp=sharing

Use the Desmos graphing calculator to graph the data comparing the age (years) to the hours per day. How much has the length of a day increased in seconds per century? Write a tweet (140 characters or less) explaining this change in time.

Math

Futurama is a cartoon series that follows a time-traveling pizza delivery guy named Fry.

Fry's problems seem to follow him into the 31st century. When he needs money, he realizes that his bank is still in business and his account is still open.

With a balance of \$0.93, his account does not seem to be very lucrative. The interest rate is 2.25% and was compounded annually over 1,000 years.

- How much money is in Fry's account?
- How much longer would it take Fry to double his money?
- How long would it take Fry to earn

\$1,000,000 in interest?

Watch a scene from *Futurama*: <https://www.youtube.com/watch?v=g9Z4d5EOjGs>

Grades 10-12

English Language Arts

Science fiction is a popular genre among many readers, young and old. Going back in time to correct mistakes or traveling ahead to see the future makes time travel a common topic in this genre.

Choose three short stories about time travel from Daily Science Fiction and read them:

<https://dailysciencefiction.com/story>

If time travel did exist and you could travel forward or backward in time where would you go? Why would you travel to that time and what would you do when you arrive?

Create a diary entry of your experience. Make sure to include any emotions you faced while on your adventure.

Social Studies

Introduced as an executive action by President Obama in June 2012, Deferred Action for Childhood Arrivals (DACA) was intended to give temporary protection against deportation to certain groups of young undocumented immigrants who were brought to the United States as children. View the timeline of DACA legislation changes: <https://bit.ly/2E3lLg9>

Explore both sides of the issue: How have DACA policies evolved since the initial action of the 2012 legislation? How has the American view of immigration changed since this time? What is the most convincing argument to continue with DACA? What is the most compelling reason to end a program like DACA?

Complete a Venn Diagram with the pros and cons of this program. Use this tool to help you write a speech or essay defending your opinion.

Science

The Amazon Rainforest is the largest tropical ecosystem on the planet. Using the interactive map (<https://tinyurl.com/ydxyhrw6>) research the ways the rainforest is being exterminated. Analyze how deforestation will impact citizens globally and here in the United States. What problems

do conservation experts expect our planet to experience over time - a decade, 50 years, a century? What are some ways that Americans can help solve this problem today?

Here are the directions to create your own rainforest in a jar: <https://bit.ly/3eLvBQk>

Over time you will notice the water cycle beginning as condensation rises to the top of the jar. Observe how the water cycle changes over time. Each day keep notes in a science notebook to record observations of your rainforest in a jar.

Mindfulness

Time Management – an important skill for all to master, but especially high school students.

Steven Covey, author of the bestselling, *7 Habits of Highly Effective People*, has developed a creative and easy way to help people manage their time. It is called the Four Quadrant Weekly Plan. By dividing your “to-do” list into four categories you can become more organized and proactive – leading to less stress.

Watch this video for a description of the Four Quadrant Weekly Plan:

<https://www.youtube.com/watch?v=Z459cW8C3i0>

Try out this time management plan this week. Draw your quadrants and get started! At the end of the week, reflect on how your implementation of this plan helped you to manage your time.

Logic Puzzle

Four children, each one a different age, go to bed at different times. Follow the clues to figure out what time Larry goes to bed.

1. The oldest child goes to bed 30 minutes earlier than Harold.

2. Donald sleeps later than Vincent.
3. Donald is 6 years old.
4. The youngest child sleeps at 8:00 PM.
5. The child who sleeps at 8:30 PM is either the 6 year-old or Harold.

Field Studies

Travel to the National Zoo in Washington, D.C., and pick an animal to watch on the live webcam:

<https://nationalzoo.si.edu/webcams>. Observe how the animals interact with other animals in their habitat. How do they pass their time? Do they appear to have a routine? If so, what activities are part of their routine?

If you love animals or are intrigued by their habitats and behaviors, maybe a career at the zoo would interest you! Start your research here for some of the careers available:

<https://nationalzoo.si.edu/education/wildlife-careers>

Make a chart of any careers that may be interesting to you and determine what coursework you can complete now to help you plan for the future.

Research universities that offer this degree program to help you know where you might study further.

Research Explorations

Since the days of Martha Washington, American First Ladies have had the opportunity to directly affect U.S. policy through their influence. Their roles within their husbands' administrations varied, but first ladies often found themselves in a position to subtly set the national mood and establish the country's priorities.

Explore America's First Ladies through the Smithsonian's online portrait gallery: <https://bit.ly/3gCOmar>

Select three of your favorite first ladies to conduct further research. How has the role of the First Lady changed throughout time? What contributions to American History have been made, perhaps through policies or practices that have endured the test of time?

Create a Google Slide/PowerPoint presentation with your favorite first ladies. Be sure to include what you've learned and explain why each is your favorite.

Math

Using the United States/World Population Clock (<https://www.census.gov/popclock/>) complete the following activities:

- Draw a line graph of the top 10 most populous

U.S. counties.

- Research the population of your county.
- Create ratios of your county compared to the largest counties in America. What factors

influence the size of the county's populations (large vs small), compare average incomes, education levels, attractions, sports, university presence, demographics, etc?

Predict the world/U.S. population next year, five years, and a decade from now. Explain your reasoning.

Summarize your data by answering these questions:

- What could be done to increase population in your area or other areas?
- What might cause a decline in population?

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.