

LESSON 1: How Much Screen Time?

6th grade Social Studies

LESSON DESCRIPTION: Students set the stage for turning off screens by conducting social research about how much screen time people in different age groups spend. The class forms three hypothesis for the research question. Students work individually and in a group to gather, organize, and compile data. After the 8th graders analyze the data, students test the hypotheses and conclusion.

FOCUS QUESTIONS: How do you conduct research? How do you gather, organize, and analyze data? How does local screen use compare to national screen use?

OBJECTIVES: Students will:

- conduct research about screen use time.
- listen and take notes about national TV viewing time.
- will write hypotheses for three research questions about local TV viewing time.
- collect data to answer the research question.
- draw conclusions and summarize the research.

COMMON CORE STATE STANDARDS

- **READING STANDARDS FOR LITERACY IN HISTORY/SOCIAL STUDIES 6–12**
 - * **CCSS.6-8.RH.2** Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.
- **WRITING STANDARDS FOR LITERACY IN HISTORY/SOCIAL STUDIES, SCIENCE, AND TECHNICAL SUBJECTS 6–12**
 - * **CCSS.6-8.WHST.4** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
 - * **CCSS.6-8.WHST.7** Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

LENGTH OF LESSON: The activities take four class periods plus portions of four other class periods. Activity 1 takes 30 minutes. Activity 2 and setting up Activity 3 takes one class period. Compiling survey data takes 15 minutes for three days; on the fourth day, compiling the data takes one class period. Activity 4 takes one class period.

MATERIALS NEEDED:

- National TV Viewing Statistics - one for the teacher
- TV Statistics Note Taking Outline - one per student
- TV Statistics Concept Map suggestion - reproduce on board or chart paper
- How much Screen Time? Survey procedures - a copy to post on the bulletin board and one per group of five students.
- Survey data sheet - one per student

- Large chart paper and colored marker for three questions in Activity 2
- Our Three Hypotheses sheet - one copy, to be passed with Class Tally Sheets (one for each day of the survey) to an 8th grade class
- Chairperson tally sheet - four per each group of 5 students
- Class Tally Sheet - four copies
- Transparency of Class Tally Sheet and fine tipped washable marker
- How to be a Good Researcher handout - one per student
- 8th grade charts and graphs - one set per student or group
- Scientific Research: Conclusion and Summary handout - one per student (Save time by writing the three class hypotheses on this before making copies.)

VOCABULARY:

statistics	accurate
hypothesis	valid
researcher	survey
research team	data processing team
procedure	data analysis team
data	results
raw data	communicate
data collection	summarize
conclusion	

INVOLVING FAMILIES/COMMUNITIES: Students interview family members and others about screen use.

PROCEDURES

Activity 1: Students will listen to information and take notes.

1. **Anticipatory Set:** Hand out TV Statistics note taking outline, one copy to each student. Read the summary of National TV Viewing Statistics aloud while students take notes. They may not get every detail.
2. Using the format suggested on the TV Statistics Concept Map, create a large concept map on chart paper. In a class discussion, have students volunteer information that you add to the concept map.

Teacher's Note: A cornerstone of the Take the Challenge unit is a 6th grade survey to determine how many hours of screen time – TV and games – people in different age groups are spending. The 6th grade classes pose three hypotheses about screen time. Students survey a person from three of four different age groups for four days. This data is compiled by the 6th graders, then summarized by the 8th graders. The 8th graders analyze the data by making graphs that match each of the hypotheses. The graphs are passed to the 6th graders, and they use the graphs to test their hypotheses, then draw conclusions.

Activity 2: Students will write hypotheses for research questions about local TV viewing time.

Teacher's Note: Write your three questions in Step 2 on chart paper and leave space between the questions. Write the hypothesis the class forms under each question. Save this chart to use after the data has been analyzed and passed back to your class. You will also transfer the three hypotheses to the Our Three Hypotheses form.

The age groups were chosen based on feedback from teachers. Middle school students had trouble finding someone 22 – 27 years of age, and tended to have a younger sibling or an older sibling. Also, surveying 3 of the 4 age categories worked best for students. Also four days (including a weekend) was most feasible but you may collect over more days if desired.

1. **Tell Students:** Our school is going to conduct research. Each student is a researcher, and we are a research team. Researchers have to be careful to follow a procedure so that the data they collect is accurate and the conclusions they make are valid. The six grade researchers are going to collect the data by conducting a survey. We all need to collect data in the same way, so we will all use the same data sheet. (Hand out the Survey Datasheet.)
2. **Tell Students that they are going to form *hypotheses* for questions.** (The teacher may pose questions or use the following. One of the questions should compare TV time and video game time.) Have students look at the Survey Datasheet and think about the data they will be collecting. Then, pose these questions:
 - Do you think that people spend more time watching TV than playing video games?
 - Do you think TV viewing time is different for different age groups?
 - Do you think TV viewing time varies by day of the week?

3. Explain the term *hypothesis* (if necessary) as a *prediction*. Refer to the Survey Datasheet so students can see what kinds of data they will be collecting. As students discuss and answer each of the three questions, write a hypothesis for each. Sample hypotheses include: Local TV viewing time is higher than the national average. Older teenagers (16-21) watch the most TV. People watch the most TV on Sunday. Younger teenagers (10 – 15) spend more time on games than TV and videos.

Teacher's Note: Transfer the question and the matching hypothesis to the Our Three Hypotheses form. The writing should be dark and legible, as it will be copied and passed to 8th graders along with the results of the survey. Because different 6th grade classes will have different hypotheses, **it is important to pass on data and hypotheses as a set.**

Activity 3: Students will collect data to answer the research question.

Teacher's Note: It is important to schedule the survey over a weekend so that students have the possibility of comparing screen use on the weekend versus screen use on weekdays.

1. Divide class into groups of five and assign each group a number, 1 - 6. (Adjust depending on your class size.) Appoint one responsible student from each group as Chairperson. Each group member will collect from 3 of the 4 age groups each day. It is important for the chairperson to make sure that each student in the group collects data from three age groups. Discuss the How Much Screen Time? Survey Procedures, then post on a bulletin board.
2. **Tell Students:** For the four days, we will take 5 – 10 minutes of class time for research teams to meet to record data. Each day, the chairperson in each group will have a Chairperson Tally Sheet. The chairperson calls on each member for total hours and total people surveyed in each column and posts the data in appropriate boxes. The chairperson gives the tally sheet to teacher each day – or keeps them in a safe place.
3. **Tell Students:** The *raw data* is going to be passed to the *data processing team*, i.e., the 8th graders. They will also receive a copy of the three hypotheses from this 6th grade class. The 8th graders will make graphs and then pass the graphs and data back to the 6th graders to write conclusions.
4. On the last day, give each group their group's four Chairperson Tally sheets. The teacher will use a transparency of the Class Tally Sheet (one for each day) to add information from all of the groups. Alternatively, assign this job to a committee of students.

As you are completing the Class Tally Sheets, discuss the data and ask students to pose questions about what the data might be able to tell them. Sample questions:

- Which age group watched the most?
- Which day had the most media use?
- Looking at the data, what do you think might cause a decrease in time spent watching TV or using screens in general?

5. **Tell Students:** The *raw data* is going to be passed to the *data processing team*, i.e., the 8th graders. They will also receive a copy of the 6th graders' hypotheses. They will process the data and pass it back to the 6th graders to determine the *results* and *conclusion*.

Teacher's Note: Pass the four Class Tally Sheets (one for each day of the survey) and the Our Three Hypotheses sheet to the 8th grade math teacher. Note that there will be variations among 6th grade classes, so each 8th grade class will need to graph data for one 6th grade class.

6. **Closure:** Give each student the "How to be a Good Researcher" handout. The ticket to class the next day is to answer the prompt in any way they wish: writing, graphic organizer, illustration, or some other creative way. Be sure to use some science vocabulary!

Activity 4: Drawing conclusions and summarizing research

Allow three days for the 8th grade classes to make graphs and pass them back.

1. **Tell Students:** The *data processing team* (8th graders) took your *raw data* from the survey and converted it to charts and/or graphs. Now, you will *summarize* your findings, look for conclusions based on your hypotheses, and determine how to *communicate* your findings.

Repost the large chart of class hypotheses from Activity 1. You may have students work in their research

teams, smaller groups, or individually. Give each student or group a copy of the charts/graphs from the 8th graders.

2. Give each student a copy of the Scientific Research: Conclusion and Summary handout. To save time write the three class hypotheses on this before making copies. They may work on this individually or in pairs. Be sure to have them write about the results on the back of the sheet.
3. Lead a class discussion about the results of the research. Have some students read their 30 second Science News media spots. Students should save the graphs and Conclusion and Summary pages for later use.

National Television Viewing Statistics

Americans watch a lot of TV!! The A.C. Nielsen Company has found that the average American watches more than 4 hours of TV each day. How much is that per week? It is 28 hours – more than one full day!! At that rate, by the time you are 65, you will have spent 9 whole years in front of the TV.

This viewing affects Americans in four major ways: **Family Life, Childhood and Learning, Violence, and Health**

FAMILY LIFE

Part of the reason we watch so much TV is that 99% of American homes have a television, and 66% have three or more! The variety of TV shows to watch is high; 56% of Americans pay for cable so they can get more channels. Also, the television is on 6 hours, 47 minutes in the average U.S. home, making it easy to watch for an average of 4 hours.

Television viewing takes the place of other important family activities. Conversation around the dinner table is important for children and families, yet 66% of Americans watch TV instead of talking with each other during dinner. Families could go to the library and check out books to read. Three million items are checked out of libraries each day, but the number of videos rented each day is twice that: 6 million!

If you add up all of the TV viewing by all Americans, it is 250 billion hours per year. That is a lot, and many Americans know it. Forty-nine percent of Americans say they watch too much TV.

CHILDREN AND LEARNING

Many, many studies – over 4,000 – have been done about this. One of the best things for a child is to talk to an adult, but this doesn't happen much. While the average child spends 1,680 minutes per week watching TV, he/she spends only 3.5 minutes per week talking with their parents in a meaningful conversation. Just over half – 54% – of children say they would rather watch TV than spend time with their fathers. Many parents – 73% – say they would like to limit their children's TV watching, but don't.

It isn't just children! American teenagers also watch an average of 28 hours per week, or about 1,500 hours per year. If you include all screen time, the average is 44.5 hours per week, or 2,300 hours per year. How much time, on average, do they spend in school each year? 900 hours!

VIOLENCE

Violence is widespread in TV and video games. With all of the TV viewing children do, they will see 8,000 murders on TV by the time they finish elementary school. Part of this is because they watch a lot of Saturday morning children's programming, which has 20-25 violent acts per hour. Prime time has 3-5 violent acts per hour. Media violence is especially damaging to young children because they cannot tell the difference between reality and make-believe.

By age 18, teenagers will see 200,000 violent acts on TV, including 16,000 murders. Does this violence on TV influence people to act violently? Yes! Out of 3,000 studies, 2,888 showed that TV violence is one of the causes of real-life violence and crime.

Grand Theft Auto, a violent video game, was banned in Australia for violence and sexual content, yet grossed over \$300 million in the U.S. in 2002. According to media, committing acts of violence is okay. Violence is rewarded in this game, and 75% of violent acts on TV have no immediate punishment or condemnation.

HEALTH

Almost one-third, 30.4% of children ages 6-11 are severely overweight *and* they watch an average of 22 hours per week. Teenagers (12-19 years) are 33.4% overweight and 15.5% obese. Their high calorie diets are influenced by their TV watching. There are 200 junk food ads in four hours of Saturday morning cartoons!

Some people say that Americans are so hooked on TV that they are actually addicted. How can you tell? People addicted to TV watch anything that is on, cannot stop watching, and feel angry with themselves for watching too much.

Four hours of TV time per day is an average. 26% of children watch more than that, and those children have more body fat than children who watch 2 hours or less.

Sources:

A.C. Nielsen Company
TV-Free America, 1322 18th Street, NW, Washington, DC 20036
National Institute on Media and the Family,
www.mediafamily.org/facts/facts_tvandobchild.shtml
Norman Herr, Ph.D., Professor of Science Education, California
State University, Northridge, www.csun.edu
Media Education Foundation, www.mediaed.org

TV Statistics Note Taking Outline

I.

A.

B.

C.

D.

II.

A.

B.

C.

D.

III.

A.

B.

C.

D.

IV.

A.

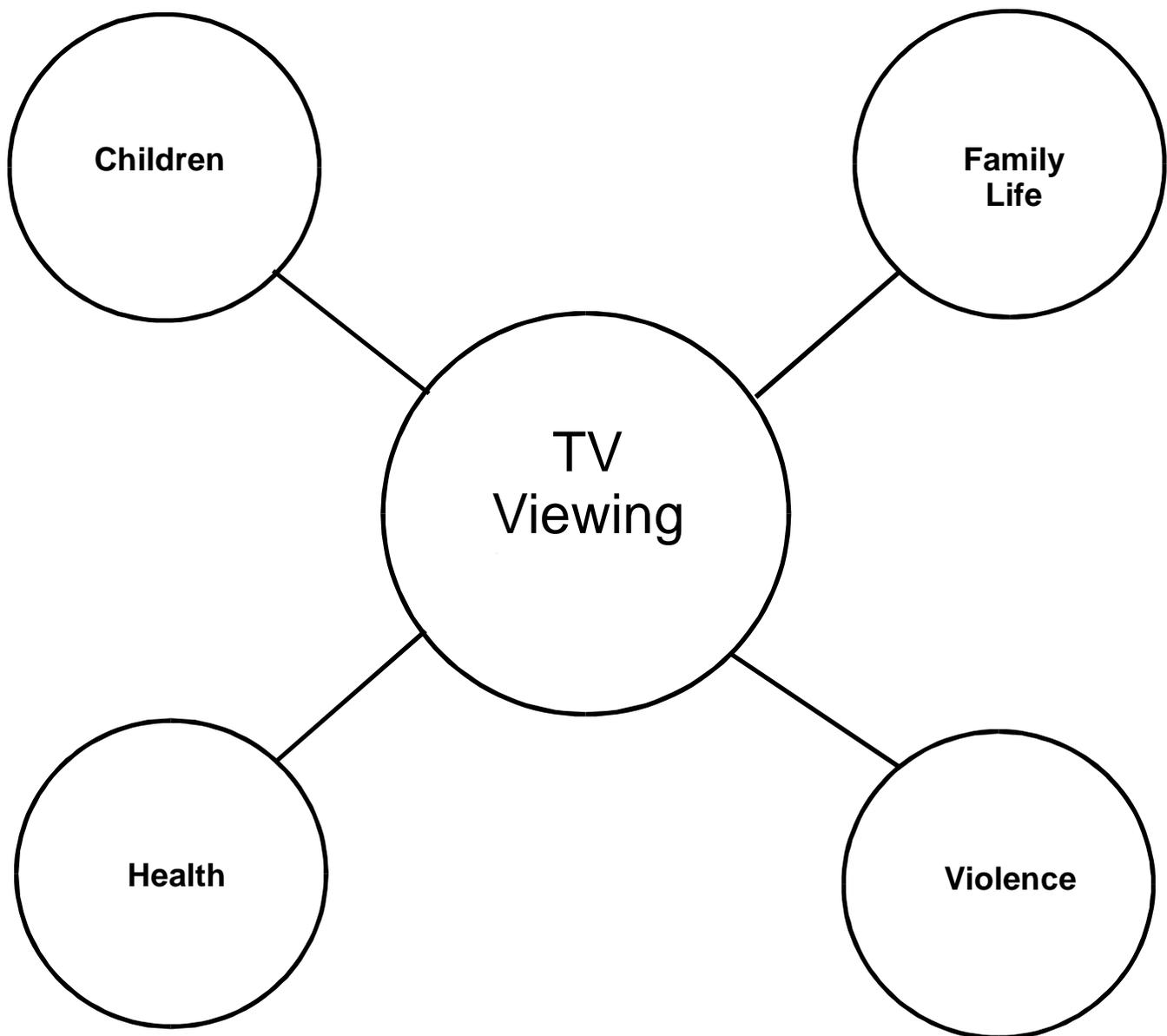
B.

C.

D.

National TV Viewing Statistics

Teachers use this structure for a concept map after students have taken notes on the reading.



OUR THREE HYPOTHESES ABOUT HOW MUCH SCREEN TIME? SURVEY

Teacher: _____ Hour: _____

HYPOTHESIS ONE:

HYPOTHESIS TWO:

HYPOTHESIS THREE:

How much Screen Time? Survey Procedures

- For 4 days, students need to gather information from 3 different age groups (1 person per age group – total of 3 people per day). Discuss people to survey.
- You can use the same people each day, but do not use someone already surveyed for the day.
- Survey for the previous day and circle accordingly. You will ask how many hours of TV or video programs did you watch yesterday? How many hours did you spend playing video games? Example: On Tuesday, ask the number of hours watched Monday and circle Monday and enter data under Monday.

For the Chairperson Tally Sheet

- Enter the number of hours in each age group for both TV programs/videos/DVDs and for video games/computer games. Add and enter total hours for each age group. Time should be rounded to nearest half hour. Example: Ben watched 1 hour and 20 minutes of TV = 1.5 hours. (Round 20 minutes to half hour - .5 hours.) Groups will add the totals for each age group. At the end of the week, all groups are added up.
- If a person surveyed didn't watch TV/videos/DVD, write 0. If a person surveyed didn't play a screen game, write 0. If a team member did not survey someone in an age group draw a line after that team member's number.
- In an age group, the total people in categories A and B should match! Re-write that number in the Total People Surveyed cell at the bottom of the column.

Take the Challenge Ψ Take Charge! Survey Datasheet

Researcher: _____ Start date of survey: _____

Ask how many hours of programs and how many hours of games. Survey one person from three age levels for four days. If someone did not use screens, put zero. If you did not survey an age group, draw a line. Take this sheet home and to school each day.

Day 1 Circle day of Week: M T W Th F S Su

Age Group	4-9 yrs.	10-15 yrs.	16-21 yrs.	28-Older yrs.
TV Program Video or DVD				
Videogame or Computer Game				
Total Hours (nearest ½ hour)				

Day 2 Circle day of Week: M T W Th F S Su

Age Group	4-9 yrs.	10-15 yrs.	16-21 yrs.	28-Older yrs.
TV Program Video or DVD				
Videogame or Computer Game				
Total Hours (nearest ½ hour)				

Day 3 Circle day of Week: M T W Th F S Su

Age Group	4-9 yrs.	10-15 yrs.	16-21 yrs.	28-Older yrs.
TV Program Video or DVD				
Videogame or Computer Game				
Total Hours (nearest ½ hour)				

Day 4 Circle day of Week: M T W Th F S Su

Age Group	4-9 yrs.	10-15 yrs.	16-21 yrs.	28-Older yrs.
TV Program Video or DVD				
Videogame or Computer Game				

Total People surveyed				
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Class Tally Sheet

Class: _____

Circle Day: 1 2 3 4

Circle Day of Week: M T W Th F S Su

Enter totals from each Chairperson Tally Sheet below. There will be a Class Tally Sheet for each day of the survey. Enter zero if no screen is used. If no one was surveyed, draw a line. The number of people surveyed in A and B should be the same - check this! Re-write the number in the bottom cell.

Age Group	4-9 yrs.			10-15 yrs.			16-21 yrs.			28-Older yrs.		
	Group	Hrs.	People	Group	Hrs	People	Group	Hrs.	People	Group	Hrs.	People
A TV Program Video or DVD	1.			1.			1.			1.		
	2.			2.			2.			2.		
	3.			3.			3.			3.		
	4.			4.			4.			4.		
	5.			5.			5.			5.		
	6.			6.			6.			6.		
A Totals												
B Videogame or Computer Game	Group	Hrs.	People	Group	Hrs	People	Group	Hrs.	People	Group	Hrs.	People
	1.			1.			1.			1.		
	2.			2.			2.			2.		
	3.			3.			3.			3.		
	4.			4.			4.			4.		
	5.			5.			5.			5.		
6.			6.			6.			6.			
B Totals												
Whole Class Total Hours (A + B) (nearest ½ hour)												
Whole Class Total People surveyed (A or B)												

DAILY TOTAL HOURS OF ALL AGE GROUPS: _____

DAILY TOTAL NUMBER OF PEOPLE SURVEYED: _____

SCIENTIFIC RESEARCH: CONCLUSION AND SUMMARY

Researcher: _____

Before collecting data, the class came up with three *hypotheses*. **Write** each of these below. Now that the data is collected and analyzed, you are ready to *test your hypotheses*. **Next**, for each hypothesis, state whether it is true or false. **Finally**, write a sentence using the data to explain why the hypothesis is true or false. These form your *conclusion*.

Hypothesis One:

Hypothesis Two:

Hypothesis Three:

On the back, write a thirty second science newsflash about this research and your findings. This is your *summary*. Your teacher may ask you to work with a partner on this.

Your ticket to class. Student Name _____

How to be a Good Researcher

(Answer in any way you want: writing, graphic organizer, pictures, or whatever.
Use science vocabulary.)