DISCOVER DATA

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MATH, ELA

MILLENNIAL MOVEMENT

LESSON TIME

45–60 minutes

OVERVIEW

How are millennials getting their media? We might think that it's all about social platforms, but there's more to the story. Media consumption habits can sometimes be predicted by factors such as age, race, ethnicity, and gender. In this activity, students will research how different young audiences are consuming media and develop predictive models for how their media habits will look in the year 2050.

GUIDING QUESTION

How will the media habits of millennials change by the year 2050?

STUDENT OUTCOMES

Through this lesson, students will...

- **Evaluate** the media habits of millennials
- **Analyze** data on media consumption, and
- **Create** a predictive model for how media consumption habits will change over time

MATERIALS

- Computers with access to the internet and spreadsheet software i.e. Microsoft Excel, Google Sheets
- Chalkboard, whiteboard or large-format sticky paper
- Large-format paper and markers to distribute to groups
- Large-format paper and markers to distribute to groups

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- Graph paper (large-format if possible) and writing utensils
- Printed copies or digital copies of
    - Millennial Movement capture sheet (one per student)
    - Flashlight on Data (one per group)

GET CURIOUS

Have you ever wondered . . .

. . . if everyone sees the same news stories on their social media feeds?

Often it feels like we're in an echo chamber, talking only to others with similar world views. But no one is exactly alike, not even twins! There are thousands of factors and preferences that play into everyone's unique choices. Computers are becoming experts at sorting through all of the data points about us online in order to learn what makes us alike and what makes us different. They then use that knowledge to show us more of the things they like to see. A few categories used to predict consumer habits may include race, age, ethnicity and gender. For instance, millennials are 11% more likely to own a smartphone than baby boomers (those born between 1940 and 1970). Think about how much your smartphone influences your media consumption and how much your worldview might shift without it!

. . . how things about us, like our race and age, determine how we interact with media?

Many factors can help predict our behavior. For instance, millennials have the lowest household income of any living generation.[1] They are more likely to live in cities and less likely to own homes. Based on that information, if someone asked you how likely a millennial would be to purchase a home in the next five years, you'd say that they're less likely than someone in Generation X (those born between 1961–1981). It's important to remember that demographic data helps us understand trends, but it's not the whole picture. Folding other diverse factors into your data set such as cultural nuances, social norms, and other societal influence help to strengthen your story.

COLLECT AND ANALYZE

1. Begin by asking students to think of how they get their news. As they call out media sources, write them on the board. Students should consider social media, online, and paper-based sources.
2. Once you have a range of media formats, encourage students to identify commonalities among the list. For example:

[1] http://www.pewresearch.org/fact-tank/2017/09/06/5-facts-about-millennial-households/

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a. Do I access these news sources on my phone?

b. On average, how long are the articles or sources listed?

c. Do the sources/outlets listed provide the same information, or is it different?

d. Do you go to different media sources for different needs? Do the listed methods on the board fall into identifiable categories?

3. When some commonalities have been identified, explain that the goal of this lesson is to use data as a flashlight. In the case of this exercise, students will work in groups to shine their flashlight on a specific research question. Distribute copies of the **Millennial Movement** capture sheet.

4. Divide students into groups of 3–4. Provide groups with 2–3 minutes to develop a hypothesis on the following research question: **How will the media habits of millennials change by the year 2050?** Instruct groups to write down their hypotheses on their **Millennial Movement** capture sheets. You may need to define millennials as people born in the 1980s-late 1990s.

5. Distribute the **Flashlight on Data** student handouts and provide access to laptops to groups, if available. Instruct groups to read through the data by using a mark the text strategy.

   - Circle data that shows increases
   - Underline data that supports your hypothesis
   - Box data that refutes your hypothesis
   - "?" Questions that you still have

6. Inform students that they are going to work as a team to develop a prediction for how the media habits of the millennial generation could change by the year 2050. They will work together to develop a graph that shows media behavior changes in millennials. As an extension, students may want to map out the demographics of their school, community, or state and see if the same trends in their local demographics would apply to their predicted media consumption behavior.

7. Distribute graph paper and markers. Provide groups with 20–30 minutes to develop their predictions.

TELL A STORY WITH DATA

When each group has made their predictions, curate a conversation with the following critical questions:

- How do you anticipate media consumption behavior changing in the millennial generation over time?

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- What factors influence your prediction? What events or disruptions would impact your prediction?
- Based on the data you reviewed, do you feel your original hypothesis was accurate? Why or why not?
- Extensions: How did the factors of race and gender influence media consumption? How do you see this changing over time?

Extend the Learning With These Additional Resources

- Total Audience Report
- Young Audiences and Digital Devices
- Millennial Media Habits Change Over Time
- State of Audio Today

STANDARDS

CCSS.MATH.CONTENT.HSN.Q.A.2

Define appropriate quantities for the purpose of descriptive modeling.

CCSS.MATH.CONTENT.HSN.Q.A.3

Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

CCSS.ELA-LITERACY.RST.11-12.8

Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

CCSS.ELA-LITERACY.RST.11-12.9

Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

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GLOSSARY

Baby Boomer: people born from early-to-mid 1940s to 1960s
Composite: made up of many parts
Consumer habits: study of individuals, groups, or organizations and how they purchase, use, and dispose of goods and services
Generation: average period, about 30-years, that people are born and living at the same time
Generation X: people born from early-to-mid 1960s and ending in the early 1980s
Generation Z: people born from early 2000s to present
Media consumption: information and entertainment media about individuals or groups
Millennial: people born from 1980s to the early 2000s
Quintile: five groups that can be divided equally

All definitions retrieved from Marriam-Webster.
https://www.merriam-webster.com/

Consumer Behavior Research
https://www.fda.gov/Food/FoodScienceResearch/ConsumerBehaviorResearch/default.htm

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STUDENT HANDOUT

MILLENNIAL MOVEMENT

CAPTURE SHEET

Use data to tell a story. Begin the story by constructing a hypothesis:
How will the media habits of millennials change by the year 2050?

Write down important findings on millennial media habits as you read them:

1.

2.

3.

4.

5.

Revisit your hypothesis. Based on your conclusion of media millennial media habits by 2050, what kind of media product, company, and/or service do you think will be relevant to your generation by 2050? Have your thoughts changed from your original hypothesis?

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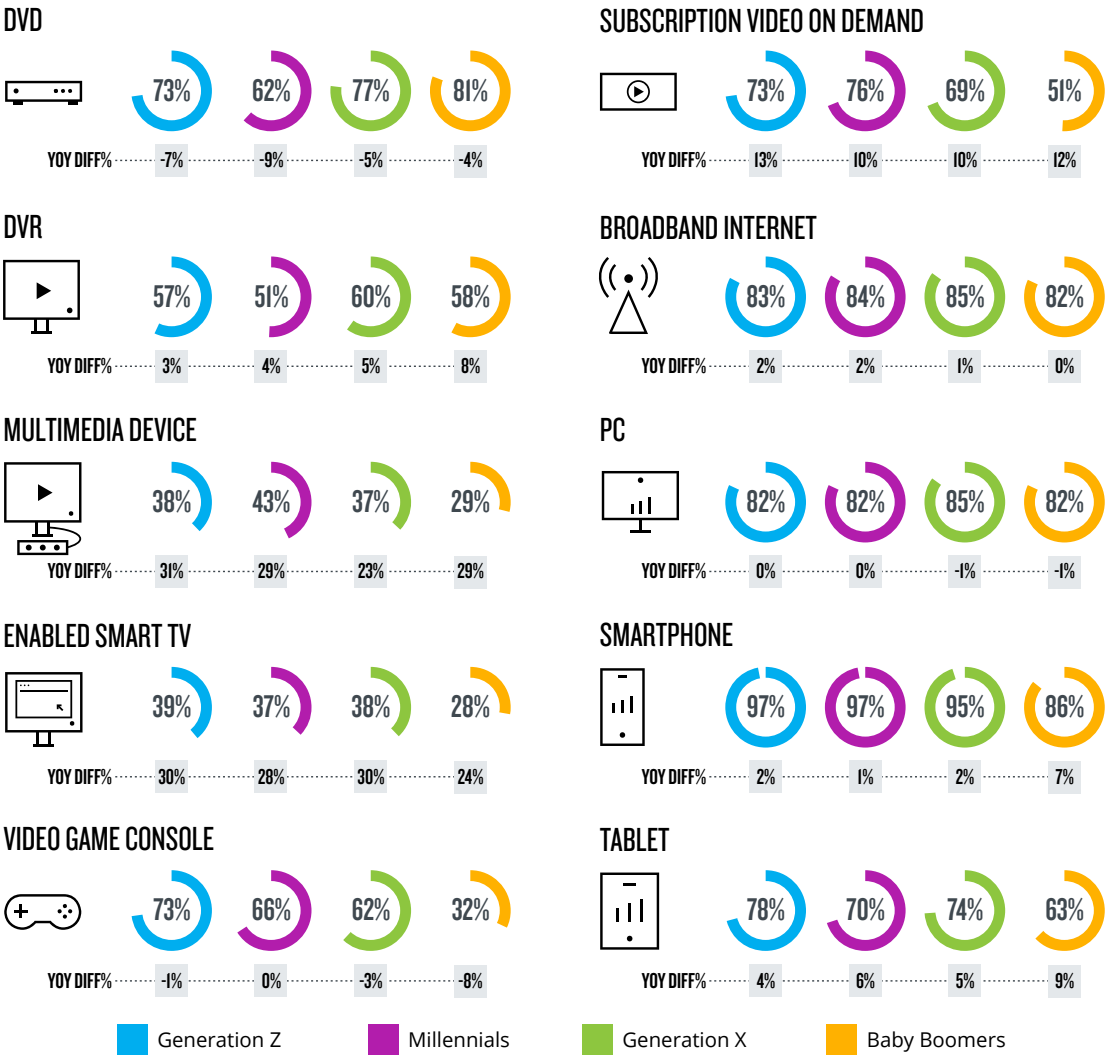
STUDENT HANDOUT

FLASHLIGHT ON DATA

HOUSEHOLD TECHNOLOGY OWNERSHIP BY GENERATION



Source: The Nielsen Total Audience Report, Q1 2017

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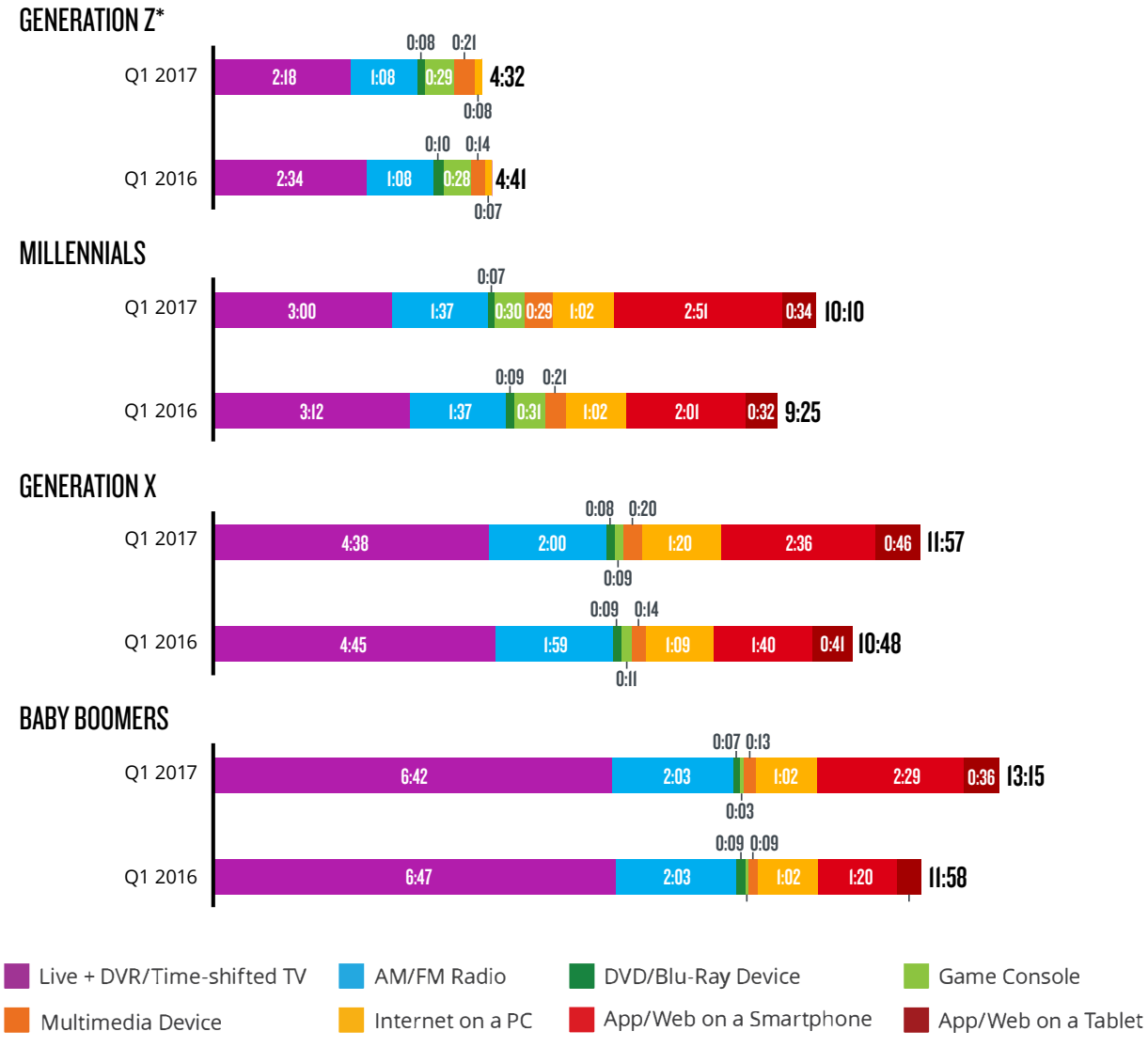
STUDENT HANDOUT

DAILY TIME SPENT AMONG TOTAL POPULATION BY GENERATION



Source: The Nielsen Total Audience Report, Q1 2017

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STUDENT HANDOUT

DAILY TIME SPENT AMONG TOTAL POPULATION BY GENERATION

BY RACE/ETHNICITY

		GENERATION Z		MILLENNIALS		GENERATION X		BABY BOOMERS	
		Q1 2016	Q1 2017	Q1 2016	Q1 2017	Q1 2016	Q1 2017	Q1 2016	Q1 2017
BLACK	Live+DVR/Time-shifted TV	4:05	3:40	5:05	4:37	7:03	7:02	10:01	9:46
	AM/FM Radio	1:12	1:16	1:38	1:40	2:02	2:05	2:13	2:15
	DVD/Blu-Ray Device	0:08	0:06	0:09	0:06	0:10	0:10	0:10	0:08
	Game Console	0:28	0:30	0:29	0:31	0:10	0:09	0:03	0:03
	Multimedia Device	0:10	0:19	0:17	0:27	0:12	0:20	0:07	0:12
	Internet on a PC	0:09	0:08	1:17	1:14	1:16	1:32	1:01	1:07
	App/Web on a Smartphone	n/a	n/a	1:58	2:57	1:43	2:48	1:42	3:02
HISPANIC	Live+DVR/Time-shifted TV	2:31	2:15	2:52	2:40	3:59	3:58	5:42	5:37
	AM/FM Radio	1:16	1:17	1:45	1:49	2:09	2:12	2:09	2:14
	DVD/Blu-Ray Device	0:10	0:08	0:08	0:07	0:07	0:08	0:08	0:06
	Game Console	0:26	0:27	0:23	0:22	0:08	0:08	0:04	0:03
	Multimedia Device	0:13	0:22	0:17	0:24	0:13	0:19	0:09	0:13
	Internet on a PC	0:06	0:07	0:50	0:49	0:45	0:52	0:42	0:38
	App/Web on a Smartphone	n/a	n/a	2:34	3:13	1:38	2:43	1:04	2:12
ASIAN AMERICAN	Live+DVR/Time-shifted TV	1:22	1:02	1:36	1:12	2:21	2:28	2:54	2:55
	DVD/Blu-Ray Device	0:07	0:05	0:04	0:04	0:06	0:09	0:04	0:03
	Game Console	0:17	0:14	0:17	0:15	0:06	0:08	0:02	0:01
	Multimedia Device	0:20	0:24	0:25	0:29	0:19	0:26	0:20	0:23
	Internet on a PC	0:08	0:07	0:56	0:50	0:36	0:51	0:14	0:18

Source: The Nielsen Total Audience Report, Q1 2017

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TABLE 5A – CROSS PLATFORM HOMES RANKED BY IN-HOME VIDEO STREAMING BEHAVIOR

Video Streaming Quintile	Composite				Black			
	# of Persons (000)	Stream on a PC	Internet on a PC	TV	# of Persons (000)	Stream on a PC	Internet on a PC	TV
		(Average Daily Minutes)				(Average Daily Minutes)		
Stream 1	16,176	29.6	75.9	236.2	1,622	27.1	61.9	342.0
Stream 2	16,202	3.1	36.7	243.2	1,595	3.2	34.3	342.9
Stream 3	16,173	0.8	22.2	249.5	1,604	1.0	20.0	409.5
Stream 4	16,194	0.2	16.7	271.5	1,607	0.2	14.6	328.8
Stream 5	16,185	0.0	11.4	259.8	1,609	0.0	9.9	353.6
Non Streamers	167,165	0.0	2.5	221.0	17,681	0.0	2.2	319.6
All	248,095	2.2	12.4	231.2	25,718	2.0	10.4	330.9

Video Streaming Quintile	Hispanic				Asian American			
	# of Persons (000)	Stream on a PC	Internet on a PC	TV	# of Persons (000)	Stream on a PC	Internet on a PC	TV
		(Average Daily Minutes)				(Average Daily Minutes)		
Stream 1	1,843	29.1	57.1	164.1	920	46.8	77.7	67.0
Stream 2	1,846	2.6	17.8	171.1	901	4.9	32.5	102.3
Stream 3	1,851	0.7	13.4	155.1	918	1.2	18.9	117.2
Stream 4	1,839	0.2	10.2	184.3	918	0.3	13.1	143.7
Stream 5	1,845	0.0	9.5	170.7	913	0.0	9.7	118.8
Non Streamers	27,717	0.0	1.3	176.3	12,209	0.0	2.2	131.4
All	36,941	1.6	6.4	174.5	16,778	3.0	9.9	125.4

Source: The Nielsen Total Audience Report, Q1 2017

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TABLE 5B – CROSS PLATFORM HOMES RANKED BY IN-HOME INTERNET BEHAVIOR

Internet Quintile	Composite				Black			
	# of Persons (000)	Stream on a PC	Internet on a PC	TV	# of Persons (000)	Stream on a PC	Internet on a PC	TV
		(Average Daily Minutes)				(Average Daily Minutes)		
Internet 1	29,565	14.4	80.4	300.9	2,957	13.0	69.4	425.5
Internet 2	29,562	2.8	16.4	254.0	2,968	3.1	13.7	332.9
Internet 3	29,586	0.9	4.6	237.8	2,957	0.8	4.3	331.7
Internet 4	29,558	0.2	1.2	229.1	2,959	0.2	1.3	349.9
Internet 5	29,555	0.0	0.2	215.4	2,962	0.0	0.2	294.4
Non Internet Users	100,269	0.0	0.0	206.7	10,915	0.0	0.0	308.6
All	248,095	2.2	12.4	231.2	25,718	2.0	10.4	330.9

Internet Quintile	Hispanic				Asian American			
	# of Persons (000)	Stream on a PC	Internet on a PC	TV	# of Persons (000)	Stream on a PC	Internet on a PC	TV
		(Average Daily Minutes)				(Average Daily Minutes)		
Internet 1	3,678	13.6	51.8	206.2	1,720	23.5	74.0	145.4
Internet 2	3,683	1.8	8.3	168.7	1,698	2.4	16.2	155.0
Internet 3	3,686	0.6	2.4	174.6	1,715	2.4	4.6	152.5
Internet 4	3,683	0.2	0.8	166.9	1,712	0.2	1.1	152.8
Internet 5	3,678	0.0	0.1	171.1	1,714	0.0	0.1	133.4
Non Internet Users	18,534	0.0	0.0	171.4	8,219	0.0	0.0	101.9
All	36,941	1.6	6.4	174.5	16,778	3.0	9.9	125.4

Source: The Nielsen Total Audience Report, Q1 2017

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TABLE 5C – CROSS PLATFORM HOMES RANKED BY IN-HOME TELEVISION BEHAVIOR

Television Quintile	Composite				Black			
	# of Persons (000)	Stream on a PC	Internet on a PC	TV	# of Persons (000)	Stream on a PC	Internet on a PC	TV
		(Average Daily Minutes)				(Average Daily Minutes)		
Television 1	48,931	2.4	20.2	632.9	5,126	2.5	17.0	820.7
Television 2	48,956	1.6	12.9	296.8	5,124	1.3	10.7	443.1
Television 3	48,926	1.5	11.0	157.2	5,115	1.7	10.0	248.3
Television 4	48,931	2.0	8.3	64.8	5,142	2.6	6.5	111.5
Television 5	48,937	3.4	9.4	12.1	5,107	2.0	7.5	24.4
Non Television Viewers	3,414	5.2	15.4	0.0	104	1.3	8.5	0.0
All	248,095	2.2	12.4	231.2	25,718	2.0	10.4	330.9

Television Quintile	Hispanic				Asian American			
	# of Persons (000)	Stream on a PC	Internet on a PC	TV	# of Persons (000)	Stream on a PC	Internet on a PC	TV
		(Average Daily Minutes)				(Average Daily Minutes)		
Television 1	7,347	1.1	8.7	458.6	3,231	1.3	12.2	407.3
Television 2	7,339	1.0	6.4	224.7	3,215	1.4	8.4	153.7
Television 3	7,335	1.1	5.5	123.2	3,232	1.1	7.4	65.4
Television 4	7,343	1.8	4.5	53.4	3,221	1.8	6.9	20.5
Internet 5	7,342	3.1	6.7	11.7	3,227	9.0	14.6	3.2
Non Television Viewers	235	1.6	3.8	0.0	653	2.6	9.6	0.0
All	36,941	1.6	6.4	174.5	16,778	3.0	9.9	125.4

Source: The Nielsen Total Audience Report, Q1 2017

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TABLE 6 – TELEVISION DISTRIBUTION SOURCES

NUMBER OF HOUSEHOLDS (IN 000'S)

	Composite		Black		Hispanic		Asian American	
	Q1 2016	Q1 2017	Q1 2016	Q1 2017	Q1 2016	Q1 2017	Q1 2016	Q1 2017
Broadcast Only	13,301	15,216	2,314	2,560	2,535	3,050	798	964
Cable Plus	99,225	97,812	12,684	12,443	12,165	11,908	4,234	4,271
Wired Cable (No Telco)	52,273	52,452	7,054	6,764	5,512	5,953	2,243	2,347
Telco	12,832	9,857	1,851	1,650	1,439	958	900	708
Satellite	34,507	35,904	3,838	4,061	5,259	5,064	1,137	1,259
Broadband Only	3,874	5,374	235	578	410	632	400	556

Table 6 is based on weighted intab counts.
Cable Plus is inclusive of Wired Cable, Telco, and Satellite

TABLE 7 – TELEVISION DISTRIBUTION SOURCES BY ETHNICITY

PERCENTAGE OF HOUSEHOLDS

	Composite	White	Black	Hispanic	Asian American
Broadcast Only	13%	12%	16%	20%	17%
Cable Plus	82%	84%	80%	75%	73%
Wired Cable (No Telco)	44%	45%	43%	38%	40%
Telco	8%	8%	11%	7%	11%
Satellite	30%	31%	26%	31%	22%
Broadband Only	5%	5%	3%	4%	10%

Cable Plus is inclusive of Wired Cable, Telco, and Satellite

Source: The Nielsen Total Audience Report, Q1 2017

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TABLE 8 – PROVIDER TYPE WITH INTERNET STATUS

NUMBER OF HOUSEHOLDS (IN 000'S)

	Composite		Black		Hispanic		Asian American	
	Q1 2016	Q1 2017	Q1 2016	Q1 2017	Q1 2016	Q1 2017	Q1 2016	Q1 2017
Broadcast Only and Broadband Access	7,302	8,973	726	902	1,112	1,446	662	836
Broadcast Only and No Internet/Dial-Up Access	5,999	6,243	1,587	1,658	1,423	1,603	135	128
Cable Plus and Broadband Access	79,261	79,473	8,650	8,895	8,653	8,582	3,929	4,014
Cable Plus and No Internet/Dial-Up Access	19,964	18,339	4,034	3,547	3,512	3,327	305	257

Table 8 is based on weighted intab counts.

TABLE 9 – DEVICES IN TV HOUSEHOLDS

PERCENTAGE OF HOUSEHOLDS

	Composite		Black		Hispanic		Asian American	
	Q1 2016	Q1 2017	Q1 2016	Q1 2017	Q1 2016	Q1 2017	Q1 2016	Q1 2017
DVD/Blu-Ray Player	77%	73%	74%	68%	72%	66%	68%	61%
DVR	50%	54%	46%	51%	44%	46%	42%	47%
Enabled Smart TV	23%	29%	18%	25%	25%	34%	34%	42%
High Definition TV	94%	96%	91%	93%	95%	97%	97%	99%
Multimedia Device	24%	31%	19%	29%	25%	33%	45%	52%
Any Smartphone	81%	86%	83%	88%	91%	93%	93%	94%
Subscription Video on Demand	50%	57%	41%	48%	51%	58%	66%	69%
Any Tablet	58%	63%	51%	56%	59%	63%	72%	75%
Video Game Console	44%	43%	43%	43%	54%	52%	48%	47%

Source: The Nielsen Total Audience Report, Q1 2017

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