

# Unit 3-Analog vs. Digital Television

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## **Title Section**

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## **Department of Curriculum and Instruction**



**Belleville Public Schools**

**Curriculum Guide**

## **Unit 3- Analog vs. Digital Television**

**Belleville Board of Education**

**102 Passaic Avenue**

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Board Approved: September 23, 2019

## **Unit Overview**

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Students will identify bunny ears and why were they used. Students will define what analog television is and if it is still used today. Students will explain the difference between analog and digital television and what television service we have in our homes today. Students will understand the difference between Plasma, LCD, and 4k TV.

## **Enduring Understanding**

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Students will understand that...

The television laws and governing body has changed over time  
Explore the reasons of why the FCC converted all television to digital  
Determine the reason why the FCC banned analog television

## **Essential Questions**

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What is analog television?

What is digital television?

What type of television production is used in our homes?

When did the FCC determine that all homes must have digital converters?

What are bunny ears?

Why did people use bunny ears?

How has television impacted our lives?

What is a LCD television?

What are some negative aspects of plasma television? How did they modify this?

## **Exit Skills**

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Students will be able to...

Explain what bunny ears were and why they were used

Define analog television

Define digital television

Explain the difference between LCD, Plasma, and 4K display television

Produce a report on which television we use today and why

9.3.12.AR	Arts, A/V Technology & Communications
9.3.12.AR.1	Analyze the interdependence of the technical and artistic elements of various careers within the Arts, A/V Technology & Communications Career Cluster.
9.3.12.AR.3	Analyze the lifestyle implications and physical demands required in the arts, audio/visual technology and communications workplace.
9.3.12.AR.4	Analyze the legal and ethical responsibilities required in the arts, audio/visual technology and communications workplace.
9.3.12.AR.5	Describe the career opportunities and means to achieve those opportunities in each of the Arts, A/V Technology & Communications Career Pathways.
9.3.12.AR-AV.2	Demonstrate the use of basic tools and equipment used in audio, video and film production.
9.3.12.AR-AV.3	Demonstrate technical support skills for audio, video and/or film productions.

## Interdisciplinary Connections

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LA.RL.11-12.7	Analyze multiple interpretations of a story, drama, or poem (e.g., recorded or live production of a play or recorded novel or poetry), evaluating how each version interprets the source text. (e.g., Shakespeare and other authors.)
LA.RL.11-12.8	(Not applicable to literature)
LA.RL.11-12.9	Demonstrate knowledge of and reflect on (e.g., practical knowledge, historical/cultural context, and background knowledge) eighteenth-, nineteenth- and early twentieth-century foundational works of literature, including how two or more texts from the same period treat similar themes or topics.
LA.RI.11-12.7	Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
LA.RI.11-12.8	Describe and evaluate the reasoning in seminal U.S. and global texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., The Federalist, presidential addresses).
LA.RI.11-12.9	Analyze and reflect on (e.g., practical knowledge, historical/cultural context, and background knowledge) documents of historical and literary significance for their themes, purposes and rhetorical features, including primary source documents relevant to U.S. and/or global history.
LA.W.11-12.1.C	Use transitions (e.g., words, phrases, clauses) to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
LA.W.11-12.1.D	Establish and maintain a style and tone appropriate to the audience and purpose (e.g., formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.

## Learning Objectives

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Students will be able to...

Determine the difference between analog TV and digital television

Explain why the FCC regulated all consumers to digital converter

Organize a timeline of events of televisions

Prepare a conclusion on which television they would purchase today

Remember	Understand	Apply	Analyze	Evaluate	Create
	Classify				
	Defend	Choose			
	Demonstrate	Dramatize			
	Distinguish	Explain			
	Explain	Generalize			Combine
Choose	Express	Judge	Categorize		Compose
Describe	Extend	Organize	Classify		Construct
Define	Give Examples	Paint	Compare	Appraise	Design
Label	Illustrate	Prepare	Differentiate	Judge	Develop
List	Indicate	Produce	Distinguish	Criticize	Formulate
Locate	Interrelate	Select	Identify	Defend	Hypothesize
Match	Interpret	Show	Infer	Compare	Invent
Memorize	Infer	Sketch	Point out	Assess	Make
Name	Match	Solve	Select	Conclude	Originate
Omit	Paraphrase	Use	Subdivide	Contrast	Organize
Recite	Represent	Add	Survey	Critique	Plan
Select	Restate	Calculate	Arrange	Determine	Produce
State	Rewrite	Change	Breakdown	Grade	Role Play
Count	Select	Classify	Combine	Justify	Drive
Draw	Show	Complete	Detect	Measure	Devise
Outline	Summarize	Compute	Diagram	Rank	Generate
Point	Tell	Discover	Discriminate	Rate	Integrate
Quote	Translate	Divide	Illustrate	Support	Prescribe
Recall	Associate	Examine	Outline	Test	Propose
Recognize	Compute	Graph	Point out		Reconstruct
Repeat	Convert	Interpolate	Separate		Revise
Reproduce	Discuss	Manipulate			Rewrite
	Estimate	Modify			Transform
	Extrapolate	Operate			
	Generalize	Subtract			
	Predict				



### **Suggested Activities & Best Practices**

- Students will review televisions in handouts and on computer
- Students will identify all issues related to the specific televisions
- Students will create a timeline of television history up to this century

## **Assessment Evidence - Checking for Understanding (CFU)**

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-Students will be given quizzes on analog and digital television-benchmark assessments

-Students will also compare and contrast the difference between analog and digital television, and determine why the FCC changed every home owner to digital TV.-alternate assessment

-Unit test-summative assessment

-Evaluation rubric-formative assessment

- Admit Tickets
- Anticipation Guide
- Common Benchmarks
- Compare & Contrast
- Create a Multimedia Poster
- DBQ's
- Define
- Describe
- Evaluate
- Evaluation rubrics
- Exit Tickets
- Explaining
- Fist- to-Five or Thumb-Ometer
- Illustration
- Journals
- KWL Chart
- Learning Center Activities
- Multimedia Reports
- Newspaper Headline
- Outline
- Question Stems
- Quickwrite
- Quizzes

- Red Light, Green Light
- Self- assessments
- Socratic Seminar
- Study Guide
- Surveys
- Teacher Observation Checklist
- Think, Pair, Share
- Think, Write, Pair, Share
- Top 10 List
- Unit review/Test prep
- Unit tests
- Web-Based Assessments
- Written Reports

## **Primary Resources & Materials**

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10th Edition-Television Production Handbook "Zettl"

Apple Mac Book

History of Television Movie

## **Ancillary Resources**

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YouTube tutorials on television manufacturing

Internet

Scholarly articles on Television manufacturing

## **Technology Infusion**

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All items below will be used to help determine the differences between televisions today. The Macbook will help students visualize the televisions used before today.

Television programs

LCD TV's

Plasma TV's



4K TV's

Apple Mac Book

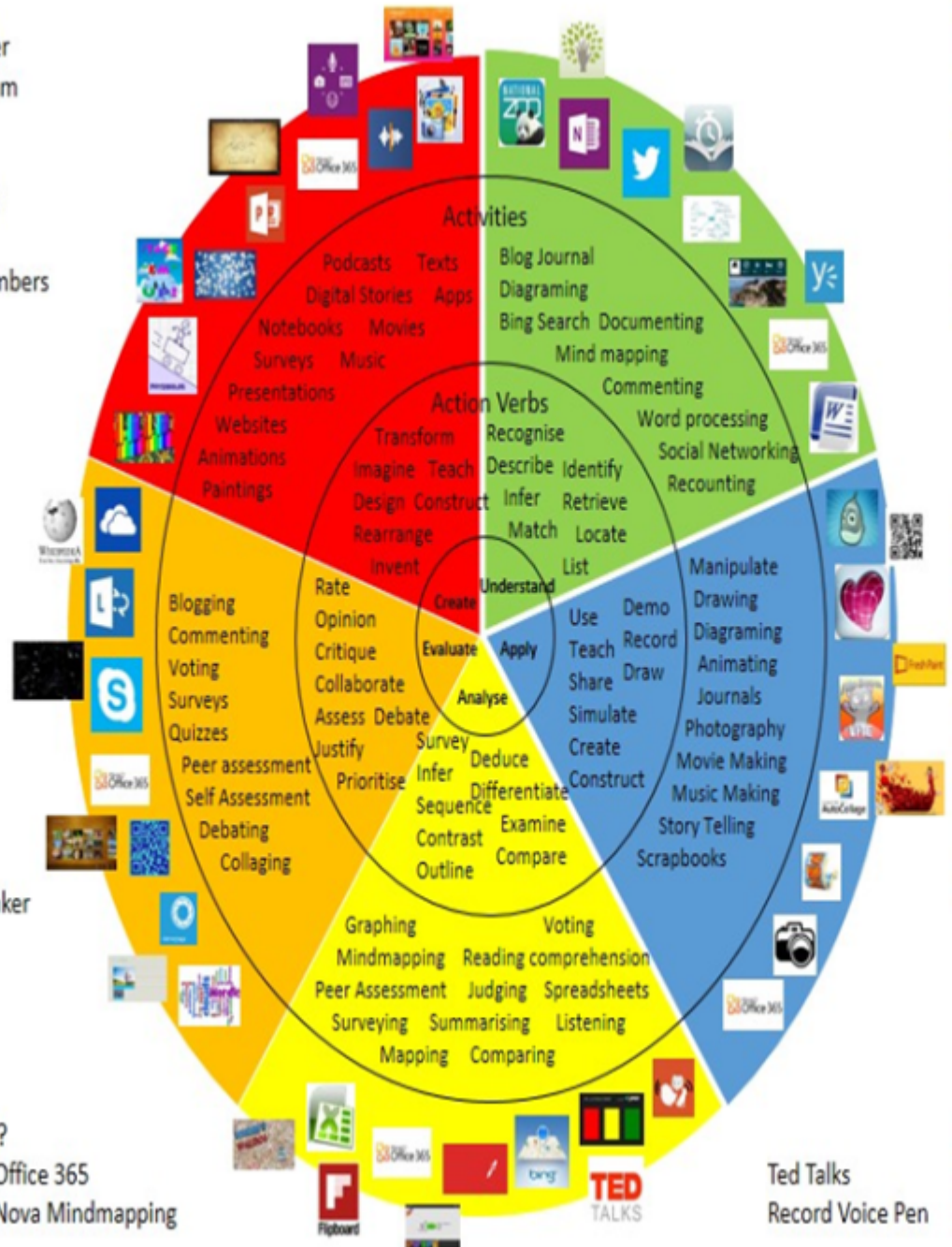
# Win 8.1 Apps/Tools Pedagogy Wheel

Podcasts  
 Photostory 3  
 Kid Story Builder  
 Music Maker Jam  
 Paint A Story  
 Office 365  
 MS PowerPoint  
 Stack 'Em Up  
 NqSquared Numbers  
 Physamajig  
 Xylophone 8

Wikipedia  
 Skydrive  
 Lync  
 SkyMap  
 Skype  
 Office 365  
 Puzzle Touch  
 Easy QR  
 Memorylage  
 Life Moments  
 Word Cloud Maker

Where's Waldo?  
 MS Excel  
 Flipboard  
 Office 365  
 Nova Mindmapping

Ted Talks  
 Record Voice Pen



Originally taken from <http://www.coetail.com/zimmer/files/2013/02/iPedagogy-Wheel.001.jpg>  
 And adapted for Windows 8.1 devices by Charlotte Beckhurst @CharBeckhurst

## Alignment to 21st Century Skills & Technology

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CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP1.1	Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP2.1	Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP4.1	Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.
CAEP.9.2.12.C	Career Preparation
CAEP.9.2.12.C.4	Analyze how economic conditions and societal changes influence employment trends and future education.
CAEP.9.2.12.C.5	Research career opportunities in the United States and abroad that require knowledge of world languages and diverse cultures.
CAEP.9.2.12.C.6	Investigate entrepreneurship opportunities as options for career planning and identify the knowledge, skills, abilities, and resources required for owning and managing a business.
TECH.8.1.12	Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
TECH.8.1.12.A	Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.
TECH.8.1.12.A.1	Create a personal digital portfolio which reflects personal and academic interests, achievements, and career aspirations by using a variety of digital tools and resources.
TECH.8.1.12.A.2	Produce and edit a multi-page digital document for a commercial or professional audience

and present it to peers and/or professionals in that related area for review.

TECH.8.1.12.A.3

Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue.

TECH.8.1.12.A.4

Construct a spreadsheet workbook with multiple worksheets, rename tabs to reflect the data on the worksheet, and use mathematical or logical functions, charts and data from all worksheets to convey the results.

TECH.8.1.12.A.CS1

Understand and use technology systems.

TECH.8.1.12.A.CS2

Select and use applications effectively and productively.

## **21st Century Skills/Interdisciplinary Themes**

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- Communication and Collaboration
- Creativity and Innovation
- Critical thinking and Problem Solving
- ICT (Information, Communications and Technology) Literacy
- Information Literacy
- Life and Career Skills
- Media Literacy

## **21st Century Skills**

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- Civic Literacy
- Environmental Literacy
- Financial, Economic, Business and Entrepreneurial Literacy
- Global Awareness
- Health Literacy

## **Differentiation**

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-Students will be put into small groups to discuss differences from televisions today and prior

-Students will be given video links and images to identify the differences among televisions

### **Differentiations:**

- Small group instruction
- Small group assignments
- Extra time to complete assignments
- Pairing oral instruction with visuals
- Repeat directions
- Use manipulatives

- Center-based instruction
- Token economy
- Study guides
- Teacher reads assessments allowed
- Scheduled breaks
- Rephrase written directions
- Multisensory approaches
- Additional time
- Preview vocabulary
- Preview content & concepts
- Story guides
- Behavior management plan
- Highlight text
- Student(s) work with assigned partner
- Visual presentation
- Assistive technology
- Auditory presentations
- Large print edition
- Dictation to scribe
- Small group setting

#### **Hi-Prep Differentiations:**

- Alternative formative and summative assessments
- Choice boards
- Games and tournaments
- Group investigations
- Guided Reading
- Independent research and projects
- Interest groups
- Learning contracts
- Leveled rubrics
- Literature circles
- Multiple intelligence options
- Multiple texts
- Personal agendas
- Project-based learning
- Problem-based learning
- Stations/centers
- Think-Tac-Toes
- Tiered activities/assignments
- Tiered products
- Varying organizers for instructions

#### **Lo-Prep Differentiations**

- Choice of books or activities
- Cubing activities
- Exploration by interest
- Flexible grouping
- Goal setting with students
- Jigsaw
- Mini workshops to re-teach or extend skills

- Open-ended activities
- Think-Pair-Share
- Reading buddies
- Varied journal prompts
- Varied supplemental materials

## **Special Education Learning (IEP's & 504's)**

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-Students will be given additional time to identify the differences between analog and digital television

-Students will work with a partner for assistance when identifying a variety of televisions used in today's society

- printed copy of board work/notes provided
- additional time for skill mastery
- assistive technology
- behavior management plan
- Center-Based Instruction
- check work frequently for understanding
- computer or electronic device utilizes
- extended time on tests/ quizzes
- have student repeat directions to check for understanding
- highlighted text visual presentation
- modified assignment format
- modified test content
- modified test format
- modified test length
- multiple test sessions
- multi-sensory presentation
- preferential seating
- preview of content, concepts, and vocabulary
- Provide modifications as dictated in the student's IEP/504 plan
- reduced/shortened reading assignments
- Reduced/shortened written assignments
- secure attention before giving instruction/directions
- shortened assignments
- student working with an assigned partner

- teacher initiated weekly assignment sheet
- Use open book, study guides, test prototypes

## **English Language Learning (ELL)**

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-Students will be paired with a native language speaker to assist with reading material and discussions

-Images and videos will be used to help identify televisions and historical images

- teaching key aspects of a topic. Eliminate nonessential information
- using videos, illustrations, pictures, and drawings to explain or clarify
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning;
- allowing students to correct errors (looking for understanding)
- allowing the use of note cards or open-book during testing
- decreasing the amount of work presented or required
- having peers take notes or providing a copy of the teacher's notes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using computer word processing spell check and grammar check features
- using true/false, matching, or fill in the blank tests in lieu of essay tests

## **At Risk**

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-Images and videos will be used to help identify televisions and historical images

-Student will be allowed to correct and identify any errors on quizzes for television identification

- allowing students to correct errors (looking for understanding)
- teaching key aspects of a topic. Eliminate nonessential information
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning
- allowing students to select from given choices
- allowing the use of note cards or open-book during testing
- collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test.
- decreasing the amount of work presented or required

- having peers take notes or providing a copy of the teacher's notes
- marking students' correct and acceptable work, not the mistakes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using authentic assessments with real-life problem-solving
- using true/false, matching, or fill in the blank tests in lieu of essay tests
- using videos, illustrations, pictures, and drawings to explain or clarify

## **Talented and Gifted Learning (T&G)**

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-Students will gather and analyze data on why analog was removed from society

-Students will research why the government switched all homeowners to digital television

- Above grade level placement option for qualified students
- Advanced problem-solving
- Allow students to work at a faster pace
- Cluster grouping
- Complete activities aligned with above grade level text using Benchmark results
- Create a blog or social media page about their unit
- Create a plan to solve an issue presented in the class or in a text
- Debate issues with research to support arguments
- Flexible skill grouping within a class or across grade level for rigor
- Higher order, critical & creative thinking skills, and discovery
- Multi-disciplinary unit and/or project
- Teacher-selected instructional strategies that are focused to provide challenge, engagement, and growth opportunities
- Utilize exploratory connections to higher-grade concepts
- Utilize project-based learning for greater depth of knowledge

## **Sample Lesson**

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Using the template below, please develop a **Sample Lesson** for the first unit only.

Unit Name:

NJSLS:

Interdisciplinary Connection:

Statement of Objective:

Anticipatory Set/Do Now:

Learning Activity:

Student Assessment/CFU's:

Materials:

21st Century Themes and Skills:

Differentiation/Modifications:

Integration of Technology: