

# THE CUTTING EDGE:

## Communications Technology in Richmond and Beyond



## Inventory Check List

✓	✓	Item	Description	Comments
		Teacher's Guide		
		Cotton gloves	5 pairs	
		Flashcards	For "Then and Now" and "Communications Timeline" Lessons	
		Artefacts	Calligraphy set	
			Semaphore Flag set (2)	
			Camera and case	
			Rotary phone	
			Walkie-Talkie set (2)	
			Cell phone and charger	
			Gameboy and charger	
			Transistor radio	
		Documents (file folder)	BC Tel Ad "Noticed"	
			BC Tel Ad "You're Welcome"	
			Sprint Ad	
			Western Electric Ad	
			Bell Telephone Ad 1963	
			Bell Picture Phone Ad	
			Bell Telephone Ad "Expected"	
			Trans Canada Ad	
			Bell Telephone Ad 1939	
		Bell Telephone Ad "This is"		
		Photographs (file folder)	Mail truck	
			Exterior view Orpheum	
			Group at C.K.W.X.	
			Infantrymen	
			Western Canada 1904	
			Inuit man	
			Long-distance switchboard	
			Norsat SigmaLink	
			Man with movie camera	
		Man with headphones		

✓	✓	Item	Description	Comments
		Books	<u>Communication: From Hieroglyphs to Hyperlink</u>	
			Media & Communications (Datafile series)	
			Media & Communications (Eyewitness series)	
			Bleeps & Blips	
			Puff...Flash...Bang!	
			Richmond Postal History	
			Alexander Graham Bell	
		DVDs	Growing Up Canadian	
			Greatest Inventions	

## Upon Return

✓	Things to Do
	Check batteries in Gameboy
	Check batteries in Walkie-Talkies

# Table of Contents

Inventory Check List .....	i
<b>Introduction.....</b>	<b>1</b>
Introduction .....	2
How to Use this Kit .....	2
What Exactly Is Communications Technology? .....	2
Connections to the BC Curriculum .....	4
Benchmarks of Historical Thinking .....	7
Six Historical Thinking Concepts: A Graphic Organizer .....	8
<b>Backgrounders.....</b>	<b>10</b>
Communications Timeline.....	11
Glossary .....	14
<b>Activities .....</b>	<b>17</b>
Introducing Benchmark Concepts .....	18
Lesson Plans.....	20
1. Then and Now .....	21
2. “Growing Up Canadian – Media” DVD Guide .....	22
3. “Greatest Inventions with Bill Nye – Communication” DVD Guide.....	24
4. Communications Timeline .....	25
5. Advertising Adventures.....	26
6. Advertising Analysis .....	28
7. Photojournalist.....	29
8. Semaphore Signals .....	31
9. Alien Objects .....	33
10. Alternate Histories .....	34



<b>Teaching Aids.....</b>	<b>35</b>
Then and Now Worksheet.....	36
Then and Now Worksheet Answer Key.....	37
“Growing Up Canadian – Media” Worksheet .....	38
“Growing Up Canadian – Media” Worksheet Answer Key.....	39
Analyzing Artefacts Worksheet .....	40
Analyzing Images Worksheet .....	41
Make Your Own Semaphore Flag! .....	42
Communications Technology Word Search .....	44
Flashcards .....	45
<b>Teaching Collections .....</b>	<b>49</b>
Artifact Collection .....	50
Calligraphy Set .....	51
Semaphore Flags .....	52
Camera and Case .....	53
Rotary Phone .....	54
Walkie-Talkies .....	55
Cell Phone .....	56
Gameboy.....	57
Transistor Radio .....	58
Document Collection .....	59
Photo Collection .....	70
<b>References.....</b>	<b>81</b>
Books .....	82
DVDs.....	84

# Introduction

## Introduction

This education kit was created as an interactive resource on communications history and technology primarily for upper elementary school students. Its purpose is to provide classroom teachers and other educators with the tools to teach students about global communications history and technology generally, and the way these themes relate to Canada and to Richmond in particular.

This kit includes artefacts, photographs, and documents. These highly-effective, hands-on tools for teachers will help make the past tangible for students and help students develop critical thinking skills. Other resources have been added to round out students' understanding of communications history and technology, including DVDs and books.

In order to promote critical thinking skills, this kit focuses in particular on the Benchmarks of Historical Thinking. The Benchmarks of Historical Thinking is a project initiated by the University of British Columbia's Centre for the Study of Historical Consciousness. It aims to provide practical ways of encouraging, promoting, and assessing students' historical thinking in classroom settings.

## How to Use this Kit

You should find everything you need in this education kit, including lesson plans, worksheets, artefacts, photos, documents, books, DVDs, and this Teacher's Manual.

The Teacher's Manual is divided into five main sections. The **Introduction** provides a list of curriculum connections and an introduction to the Benchmarks of Historical Thinking. The **Backgrounders** section gives a quick overview of communications history and technology in order to familiarize teachers with the topic. The **Activities** section includes ideas for teaching benchmark concepts, lesson plans, and teaching aids. The **Teaching Collection** section provides information about each of the artefacts, photos, and documents included in the kit. And, finally, the **References** section includes suggestions for teachers and students who would like more information about communications history and technology.

## What Exactly Is Communications Technology?

Communication can mean a lot of things. It can mean letters, hand signals, books, and newspapers. It can also mean television, movies, MP3 players, and the Internet. The list is long—much longer than you might think. **Communication is essentially any way of transmitting messages between a sender and a receiver.**

The very first communications were simple—gestures, facial expressions, and, later, speech. Written messages were first recorded on cave walls with Stone Age pictures of animals and people. In Asia, Africa, and the Americas, scribes made these rough drawings into written languages, which were more permanent and could reach more people. Modern communications really began in the 1800s with the discovery of electric power. In the last two hundred years, communications took a huge leap forward with the invention of the electric telegraph, the telephone, digital technology, and satellites.

For a taste of what a communication-free world might be like, try getting through a day without saying, writing, or reading a single word. You would probably find it quite a challenge to do this, and you would very quickly realize that communications are an absolutely essential part of modern life.

## Connections to the BC Curriculum

This education kit is best suited for upper elementary students, but can also be adapted for lower or higher grades. The following pages outline both skill and content curriculum connections for grades 2-7.

### Prescribed Learning Outcomes for Social Studies

Blue represents skills and processes.

Green represents content.

Prescribed Learning Outcomes (PLO)	Lesson Plan #									
	1	2	3	4	5	6	7	8	9	10
<b>Grade 2</b>										
Gather information from a variety of sources for presentation.					✓				✓	✓
Present information using oral, written, or visual representations.					✓	✓	✓	✓	✓	✓
Describe how technology affects individuals and schools.		✓			✓	✓	✓		✓	✓
<b>Grade 3</b>										
Apply critical thinking skills.	✓			✓	✓	✓	✓	✓	✓	✓
Gather information from a variety of sources.					✓				✓	✓
Organize information in chronological order.				✓						
Create a presentation on a selected topic.					✓					
Identify changes that can occur in communities over time.	✓	✓		✓						✓
Compare ways in which needs and wants are met in communities.		✓			✓	✓	✓		✓	✓
Assess how technology affects individuals and communities.		✓			✓	✓	✓		✓	✓

Prescribed Learning Outcomes (PLO)	Lesson Plan #									
	1	2	3	4	5	6	7	8	9	10
<b>Grade 4</b>										
Apply critical thinking skills.	✓			✓	✓	✓	✓	✓	✓	✓
Use maps and timelines to gather and represent information.				✓						
Gather information from a variety of sources.					✓				✓	✓
Identify alternative perspectives on a selected event or issue.					✓	✓	✓		✓	✓
Create a presentation on a selected historical event or topic.					✓					
Describe technologies used by Aboriginal people in BC and Canada.		✓					✓			✓
Describe technologies used in exploration.								✓		✓
<b>Grade 5</b>										
Apply critical thinking skills.	✓			✓	✓	✓	✓	✓	✓	✓
Use maps and timelines.				✓						
Gather a body of information from primary and secondary sources.					✓	✓	✓			✓
Create a presentation on a selected topic.					✓					
Defend a position on a selected topic.					✓					
<b>Grade 6</b>										
Apply critical thinking skills.	✓			✓	✓	✓	✓	✓	✓	✓
Evaluate the credibility and reliability of selected sources.						✓	✓			
Deliver a formal presentation.					✓					
Analyze the significance of communications technologies in Canada.		✓				✓	✓			✓
Evaluate effects of technology on lifestyles and environments.		✓	✓		✓	✓	✓		✓	✓

Prescribed Learning Outcomes (PLO)	Lesson Plan #									
	1	2	3	4	5	6	7	8	9	10
<b>Grade 7</b>										
Apply critical thinking skills.	✓			✓	✓	✓	✓	✓	✓	✓
Using various types of graphs, tables, timelines, and maps to obtain or communicate information.				✓						
Compile a body of information from a range of sources.					✓				✓	✓
Deliver a formal presentation on a selected issue or inquiry using two or more forms of representation.					✓					
Defend a position on a contemporary or historical issue.					✓					
Assess ways technological innovations affected ancient peoples.			✓		✓			✓		✓
Compare ancient and modern communications media.	✓	✓	✓	✓						✓

## Benchmarks of Historical Thinking

Benchmarks of Historical Thinking is a project of the University of British Columbia's Centre for the Study of Historical Consciousness. The project identifies six distinct but closely interrelated historical thinking concepts that provide the basis of historical thinking. To think historically, students should be able to:

1. establish **historical significance**;
2. use primary source **evidence**;
3. identify **continuity and change**;
4. analyze **cause and consequence**;
5. take **historical perspectives**; and
6. understand the **ethical dimension** of historical interpretations.

Taken together, these concepts tie “historical thinking” to competencies in “historical literacy.” In this case, historical literacy means gaining a deep understanding of historical events through active engagement with historical texts.

Historically literate students can assess claims that there was no Holocaust, that slavery wasn't so bad for African-Americans, that Aboriginal rights have a historical basis, and that the Russian experience in Afghanistan serves as a warning to our mission there. These students have thoughtful ways to tackle these debates. They can assess historical sources. They know that a historical film can look “realistic” without being accurate. In short, these students can detect the differences between the uses and abuses of history. These concepts are not abstract skills. Rather, they provide the structure that shapes the practice of history.

Most lesson plans in this education kit focus on at least one Benchmark principle wherever possible. Ideas for introducing each Benchmark concept to students can be found at the beginning of the Activities section.

For additional Benchmark resources, please visit <http://historybenchmarks.ca/>.



## Six Historical Thinking Concepts: A Graphic Organizer

From: Benchmarks of Historical Thinking Framework Document

[www.historybenchmarks.ca](http://www.historybenchmarks.ca)

	<i>How do we decide what's important to learn about the past?</i> <b>HISTORICAL SIGNIFICANCE</b>	<i>How do we know what we know about the past?</i> <b>EVIDENCE</b>	<i>How do we understand the complexity of the past?</i> <b>CONTINUITY &amp; CHANGE</b>
<b>ASPECTS</b>	<ul style="list-style-type: none"> <li>• <b>Resulting in change</b> The event, person or development had <i>deep</i> consequences, for <i>many</i> people, over a <i>long period</i> of time.</li> <li>• <b>Revealing</b> The event, person or development sheds light on enduring or emerging issues in history and contemporary life.</li> <li>• Event/development/person occupies a meaningful place in a narrative.</li> </ul>	<ul style="list-style-type: none"> <li>• Good <b>questions</b> are necessary in order to turn a source into evidence, the first question being, “what is it?”</li> <li>• <b>Authorship</b>: The position of the author(s) is a key consideration.</li> <li>• Primary sources may reveal information about the (conscious) <b>purposes</b> of the author as well as the (unconscious) <b>values</b> and <b>worldview</b> of the author.</li> <li>• A source should be read in view of its <b>historical background</b>.</li> <li>• Analysis of the source should also provide new evidence about its <b>historical setting</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• Continuity and change are <b>interrelated</b>: processes of change are usually continuous, not isolated into a series of discrete events.</li> <li>• Some aspects of life change more quickly in some periods than others. <b>Turning points</b> help to locate change.</li> <li>• <b>Progress and decline</b> are fundamental ways of evaluating change over time.</li> <li>• <b>Chronology</b> and <b>periodization</b> can help to organize our understanding of continuity and change.</li> </ul>
<b>AT THE MOST SOPHISTICATED LEVEL, STUDENTS WILL BE ABLE TO:</b>	<ul style="list-style-type: none"> <li>• Demonstrate how an event, person or development is significant either by showing how it is embedded in a larger, meaningful narrative OR by showing how it sheds light on an enduring or emerging issue.</li> <li>• Explain how and why historical significance varies over time and from group to group.</li> </ul>	<ul style="list-style-type: none"> <li>• Use several primary sources to construct an original account of a historical event.</li> </ul>	<ul style="list-style-type: none"> <li>• Explain how some things continue and others change, in any period of history.</li> <li>• Identify changes over time in aspects of life that we ordinarily assume to be continuous; and to identify continuities in aspects of life we ordinarily assume to have changed over time.</li> <li>• Understand that periodization and judgments of progress and decline can vary depending upon purpose and perspective.</li> </ul>
<b>SUGGESTED STUDENT TASKS:</b>	<ul style="list-style-type: none"> <li>• Explain what made [X] significant</li> <li>• Choose the “most significant events” [e.g., in Canadian history; in the 20th century; for new immigrants to Canada] and explain your choices.</li> <li>• Identify and explain differences in significance over time or from group to group (e.g., Why is women’s history more significant now than 50 years ago? Why do Canadians consider Louis Riel significant, while Americans generally don’t?)</li> </ul>	<ul style="list-style-type: none"> <li>• Formulate questions about a primary source, whose answers would help to shed light on the historical context.</li> <li>• Analyze a primary source for the purposes, values and worldview of the author.</li> <li>• Compare points of view and usefulness of several primary sources.</li> <li>• Assess what can and can’t be answered by particular primary sources.</li> <li>• Use primary sources to construct an argument or narrative.</li> </ul>	<ul style="list-style-type: none"> <li>• Place a series of pictures in chronological order, explaining why they are placed in the order they are.</li> <li>• Compare two (or more) documents from different time periods and explain what changed and what remained the same over time.</li> <li>• Assess progress and decline from the standpoint of various groups since a certain point in time.</li> </ul>

	<i>How do we explain the effects of decisions and actions taken in the past?</i> <b>CAUSE &amp; CONSEQUENCE</b>	<i>How can we better understand people in the past?</i> <b>TAKING AN HISTORICAL PERSPECTIVE</b>	<i>What can we learn from the past to help us better understand the present?</i> <b>THE ETHICAL DIMENSION</b>
<b>ASPECTS</b>	<ul style="list-style-type: none"> <li>Historical Actors or Agents are <i>people</i> (individuals, or groups) who <i>cause</i> historical change.</li> <li>They do so <i>in</i> social, political, economical, historical <i>contexts</i> that <i>impose limits</i> on change.</li> <li>Actions often have <i>unintended consequences</i>.</li> </ul>	<ul style="list-style-type: none"> <li>Taking the perspective of historical actors <i>depends upon evidence</i> for inferences about how people felt and thought.</li> <li>It is important to avoid <i>presentism</i>—the unwarranted imposition of present ideas on actors in the past.</li> <li>Historical events or situations involve people who may have <i>diverse perspectives</i> on it. Exploring these is <i>a key</i> to understanding the event.</li> <li>Taking the perspective of a historical actor <i>does not mean identifying</i> with that actor.</li> </ul>	<ul style="list-style-type: none"> <li>All meaningful historical accounts involve <i>implicit or explicit ethical judgment</i>.</li> <li>In making ethical judgments of past actions, we <i>always risk imposing our own standards</i> of “right” and “wrong” on the past.</li> </ul>
<b>AT THE MOST SOPHISTICATED LEVEL, STUDENTS WILL BE ABLE TO:</b>	<ul style="list-style-type: none"> <li>Identify the interplay of intentional human action, and limitations on human actions in causing change.</li> <li>Identify various types of causes for a particular event, using one or more accounts of the event.</li> <li>Be able to construct counterfactuals (e.g., if Britain had not declared war on Germany in 1914, then...)</li> </ul>	<ul style="list-style-type: none"> <li>Recognize presentism in historical accounts.</li> <li>Use evidence and understanding of the historical context to answer questions of why people acted the way they did (or thought what they did) even when their actions seem at first irrational or inexplicable or different from <i>we</i> would have done or thought.</li> </ul>	<ul style="list-style-type: none"> <li>Make judgments about actions of people in the past, recognizing the historical context in which they were operating.</li> <li>Use historical narratives to inform judgments about ethical and policy questions in the present.</li> </ul>
<b>SUGGESTED STUDENT TASKS:</b>	<ul style="list-style-type: none"> <li>Examine an everyday event (e.g. a car accident) for its potential causes</li> <li>Analyze a historical passage, and identify “types of causes,” (e.g., economic, political, cultural; conditions, individual actions) that it offers as causes.</li> <li>Examine the relationship between an individual actor’s motivations and intentions, and the consequences of their actions.</li> <li>Chart of the causes of [X] and explain their arrangement.</li> <li>How might people at the time have explained the causes of [X] and how does that differ from how we would explain it now?</li> </ul>	<ul style="list-style-type: none"> <li>Write a letter, diary entry, poster (etc.) from the perspective of [X], based either on some sources provided by the teacher, or sources the students find.</li> <li>Compare primary sources written (or drawn, painted, etc.) from two opposing or differing perspectives about a given event. Explain their differences.</li> </ul>	<ul style="list-style-type: none"> <li>Examine a historical issue involving conflict [e.g., the outlawing of the potlatch], identify the perspectives that were present at the time, and explain how these historical conflicts can educate us today.</li> <li>Students identify an ethical issue today [e.g. Canadians’ role as peacekeepers, private vs. public health care, protection of the environment], research aspects of its historical background, explain the implications of the history for today.</li> </ul>

# Backgrounders

## Communications Timeline

### BCE (Before the Common Era)

30,000	Earliest known <b>cave paintings</b> .
3500	<b>Papyrus</b> —paper made from reeds—is invented in Egypt.
3200	Scribes in Egypt make <b>ink</b> from soot and natural gum.
1700	Traders in the land known today as Syria invent the first <b>alphabet</b> by writing down symbols that represent sounds.
550	China operates a <b>postal service</b> for carrying official mail.
140	The Chinese begin to use <b>paper</b> .

### ACE (After the Common Era)

635	St. Isidore of Seville becomes the first known writer to use a <b>quill pen</b> made from goose feathers.
750	Chinese and Japanese people print text from carved <b>wood blocks</b> .
868	The first <b>book</b> is printed in China.
1040	Chinese alchemist Pi Cheng uses baked clay letters to make the first <b>movable type</b> for printing.
1100	The Chaco Canyon people of north-western Mexico develop a network of <b>smoke signals</b> to communicate.
1450	German Johan Gutenberg invents the <b>printing press</b> , leading to the rapid spread of printed books in Europe.
1609	Weekly <b>newspapers</b> published for the first time, in Germany.
1647	The British navy introduces a <b>flag alphabet</b> that greatly speeds signals between ships.
1790	<b>Optical telegraph</b> invented by Claude Chappe of France.
1798	Bavarian Alois Senefelder invents <b>lithographic printing</b> —the method that is used today for almost all books.
1827	Frenchman Nicéphore Niepce takes the first <b>photographs</b> .
1829	Louis <b>Braille</b> invents raised printing, enabling the blind to read.
1838	American painter Samuel <b>Morse</b> invents a dot-dash code that will one day be used to send messages instantly over long distances.
1844	Samuel Morse and others devise the first <b>electric telegraph</b> .
1861	Printed <b>postcards</b> first sold in Austria and the United States.
1874	<b>Typewriters</b> created in the US by Christopher Sholes.

1876	Scotsman Alexander Graham Bell, who lived in both Canada and the US, invents the <b>telephone</b> .
1877	American Thomas Edison invents the <b>phonograph</b> .
1881	Postal service begins in Richmond with the establishment of the North Arm Post Office operating in a small store on the farm of John Sexsmith.
1884	American Lewis Waterman creates the first <b>fountain pen</b> . William H. London establishes the Lulu Island Post Office at the south end of No. 2 Road to serve the rapidly expanding cannery trade developing along the South Arm of the Fraser River. It remains open until 1924.
1889	First <b>coin-operated telephone</b> appears. It is installed in an American bank.
1890	Herbert Steves opens the Steveston Post Office at his seed store on Second Avenue. It is still in operation today.
1891	<b>Dial telephones</b> and the <b>automatic American exchange</b> invented by undertaker Almon Stowger. The first telephone line in the municipality is installed by the New Westminster & Burrard Inlet Telephone Company in J.C. Forlong's store in Steveston. The line connecting it to Vancouver was fifteen miles long. Messengers were sent from the store to fetch the person for whom the call was intended while the patient caller waited. Phoenix Cannery on Steveston's waterfront made the first hook-up to the line.
1895	Italian Guglielmo Marconi sends the first <b>radio</b> messages.
1898	Danish engineer Valdemar Poulsen records sound magnetically and makes the first <b>telephone answering machine</b> . A telephone is installed in the Steveston police office.
1903	<b>Colour photography</b> invented by the Lumière brothers in France.
1905	A telephone system for the whole of Richmond is planned.
1906	Earliest practical <b>fax machine</b> built by German Arthur Korn.
1912	Steveston has twelve telephone subscribers.
1922	There are 145 telephone subscribers and two exchanges, at Marpole and Steveston.
1923	Scotsman John Logie Baird creates the first <b>television</b> .
1928	The first official mail flights are made from the Vancouver Airport located on Sea Island.
1932	The Richmond Review newspaper begins publication.

1937	<b>Ballpoint pens</b> created by Hungarian brothers George and László Biro.
1938	American Chester Carlson invents the <b>photocopier</b> .
1946	First programmable <b>electronic computer</b> built at the University of Pennsylvania.
1954	<b>Colour TV</b> service begins broadcasting in the US. Richmond converts to a dial exchange from a manual telephone system. By 1958, Richmond has 9,500 subscribers and within nine years there are 13,936 telephones in the municipality.
1958	AT&T invents the <b>modem</b> .
1962	The first <b>communications satellite</b> , Telstar, is launched.
1963	<b>Cassette-tape recorders</b> introduced worldwide.
1964	IBM unveils the first <b>word processor</b> .
1969	US Department of Defense creates <b>ARPANET</b> , a computer network that will eventually become the Internet.
1977	Rod Wheeler builds the world's first affordable consumer satellite dish and founds Northern Satellite Systems (Norsat), which is located in Richmond today.
1978	Earliest <b>cellular telephone</b> .
1985	Microsoft introduces the first version of <b>Windows</b> .
1992	The first <b>Web browsers</b> are introduced, making the Internet much easier to use.
1994	<b>MP3s</b> and file sharing made available to the public.
1999	<b>Google</b> and <b>MySpace</b> are launched.
2001	<b>Wikipedia</b> is created.
2004	Mark Zuckerberg and his college roommate found <b>Facebook</b> .
2005	<b>YouTube</b> is launched.
2007	First <b>iPhone</b> introduced.

Source: Richard Platt, *Technology and Communications* (San Diego: Silver Dolphin Books, 2000): 70-71.

## Glossary

<b>Amplify</b>	To make louder.
<b>Amplifier</b>	A device that increases the power of an electrical <i>signal</i> . For example, a microphone's signal is too weak to operate a loudspeaker connected directly to it. Connecting an amplifier between the two devices boosts the microphone's signal.
<b>Antenna</b>	A metal structure that sends or receives communication <i>signals</i> .
<b>Bar code</b>	A series of thick and thin black stripes, used to represent information in a way that an electronic machine can read and understand.
<b>Beacon</b>	A raised structure that sends out messages such as <i>radio signals</i> .
<b>Broadcast</b>	The process of sending out speech, music, visual images, or other information by a <i>radio</i> or television <i>signal</i> that is transmitted over a wide area for many people to receive.
<b>Camera</b>	A device that records still or moving pictures electronically or on a photographic <i>film</i> . A lens projects an image of whatever is in front of the camera onto light-sensitive material inside it. Processing the image electronically—or in the case of film, with chemicals—reveals what the camera “sees.”
<b>Cable</b>	A long, thin piece of metal or glass-fibre that carries <i>signals</i> between distant points. Metal cables carry signals as rapidly changing electrical currents. Glass-fibre (fibre optic) cables guide the signal in the form of rapidly flickering pulses of laser light.
<b>Channel</b>	(1) An organization that <i>broadcasts</i> TV or <i>radio</i> programs. (2) The setting on a TV or radio set that tunes it in to the different frequencies on which programs are broadcast.
<b>Daguerreotype</b>	The first practical form of photograph. The daguerreotype process recorded pictures on the mirror-like surfaces of a silver-coated metal plate.
<b>Data</b>	Any kind of information (including sound, text, or pictures) converted into numbers so computers can store, change, or transmit the information.
<b>Digital</b>	A way of storing information as a string of numbers, with applications in computing and electronic products.
<b>Electronic</b>	A way of operating a machine using only the controlled flow of electrons. For example, the components of modern electronic computers have no moving parts. In contrast, earlier electrical computers used motors and wheels to perform their calculations.
<b>Encrypt</b>	To hide the meaning of a message by turning it into a secret language.

<b>Exchange (telephone)</b>	An exchange is a switching centre for phone calls. A local exchange enables all the telephone lines in a neighbourhood to share a smaller number of lines linked to a national or international telephone network.
<b>Fax (facsimile)</b>	A facsimile (fax) is an exact copy of an object or document. A fax machine scans documents and turns them into <i>data</i> that can be transmitted along the telephone line. The receiving fax machine prints out a facsimile of the original document.
<b>Film (photographic)</b>	A flexible strip or sheet of plastic with a light-sensitive coating. Photographic film is used in a <i>camera</i> to record still or moving pictures. Film requires processing in chemicals to make the pictures visible.
<b>Internet</b>	A worldwide network of linked computers used for communication and to store and retrieve information.
<b>Inuksuk</b>	A stone landmark built by peoples of the Arctic region of North America with many uses, including navigation, as a point of reference, or as a marker for hunting grounds or a food cache. The word inuksuk means “something which acts for or performs the function of a person.”
<b>Loudspeaker</b>	A device that converts an electrical <i>signal</i> back into sound. The electricity energizes a magnetic coil that moves a cone-shaped diaphragm. The cone’s movements create pulses of air pressure we hear as sound.
<b>Microphone</b>	An instrument that converts sounds into a changing pattern of electrical pulses. The pulses flow along a <i>cable</i> to other electrical equipment, such as an <i>amplifier</i> , tape recorder, or computer, for storage or processing.
<b>Media</b>	The many ways of communicating with large numbers of people, including television, <i>radio</i> , magazines, and newspapers.
<b>Modem</b>	An abbreviation of <b>MOD</b> ulator/ <b>DEM</b> odulator. A device that modulates (modifies) <i>signals</i> into smooth waves that can travel along telephone lines.
<b>MP3</b>	A way of compressing (squeezing) a <i>digital</i> sound recording so that it can be stored on or played on tiny computers, including MP3 players.
<b>Network</b>	A group of linked communication machines such as telephones or computers.
<b>Operator (telephone network)</b>	A person who connects the caller to the person receiving the call.
<b>Phonograph</b>	A machine for playing sound recordings. Phonograms reproduce the sound stored in spiralling grooves pressed into the surface of a record—a flat disk made of plastic.
<b>Radio</b>	(1) An invisible wave widely used for communication, and part of a larger family of <i>waves</i> that includes visible light, X-rays, and microwaves. Both <i>radio</i> and TV programs are broadcast using radio waves. (2) An instrument that receives radio waves and turns them into sound.



<b>Satellite</b>	A spacecraft circling high above the Earth. Satellites are generally used to relay communication <i>signals</i> , take photographs of the Earth's surface, or <i>broadcast</i> navigation signals that help vehicles to find their way.
<b>Signal</b>	(1) The content carried by any form of communications, such as messages, pictures, sound, or <i>data</i> . (2) The way in which content is carried. For example, rapid changes in the electrical energy flowing in a telephone line form the signal that carries the sound of speech.
<b>Software</b>	Also known as a computer program, software is a set of instructions that enables people to use a computer to perform a task. For example, word processing software enables authors to write articles or books using computers.
<b>Telegram</b>	An urgent <i>telegraph</i> message printed out on a slip of paper and delivered to the recipient by hand.
<b>Telegraph</b>	(1) An optical telegraph sent messages over line-of-sight distances using movable signal arms mounted on the top of a tower. (2) An electric telegraph sent pulses of electricity along wires strung between distant points. Operators tapped simple on-off switch to send messages. The most successful telegraph messaging system used short and long taps of the switch to represent letters of the alphabet. This system of electrical pulses was called Morse code.
<b>Transmitter</b>	Any device that sends out a communication <i>signal</i> , such as a <i>radio wave</i> or microwave.
<b>Web page</b>	A single screen of information on the World Wide Web, which usually incorporates text, graphics, sound, and movies. Every Web page has "links"—areas that a user can click on with the mouse pointer to move to another page.
<b>Wave</b>	A flow of energy through a substance in a regular, rhythmic pattern, used in communication to carry information between distant points. For example, sound waves are regular changes in air pressure that spread out quickly from the original sound source.
<b>Web browser</b>	A computer program used to find and display information distributed on the World Wide Web. Browsers read HTML (hypertext markup language). This is the code that is used for storing information on the Web. Browsers use the instructions the code contains to display pictures, movies, text, and sound on a computer screen.
<b>World Wide Web</b>	A system of publishing text, graphics, and other information on the Internet. A standard language called HTML (hypertext markup language) describes what appears on each Web page. Users view these pages with browser software.

Source: Richard Platt, *Communication: From Hieroglyphs to Hyperlinks* (Boston: Kingfisher, 2004): 60-61; and Richard Platt, *Technology and Communications* (San Diego: Silver Dolphin Books, 2000): 72-75.

# Activities

## Introducing Benchmark Concepts

You can use these discussion points to introduce students to the Benchmark concepts that are highlighted in many of the activities.

### Change & Continuity

- What aspects have changed and what aspects have continued to be the same the last school year?
- If you were to divide your school year into different periods, how would you go about doing so? Would you use months? Terms? Seasons? Were there any sudden turning points when things started to be different, such as moving to a new school, meeting new friends, or joining a club?
- How have telephones or video games changed over the years? How have they stayed the same?

### Historical Perspective

- Which communications technology is most important for you? What communications technology could you not live without?
- Which communications technology is most important for your parents? For your grandparents? Are your answers different from your grandparents' answers? Why or why not?

### Historical Significance

- Choose four events in your own life and to think about what makes them the most important.
- What are the similarities between your answers and other students' answers? Why or why not are they similar?

### Evidence

- What clues do you leave behind on a daily basis that a historian might use to understand your life? For example, report cards, exercise books, emails, photos, stamp collections, etc.
- What do these objects say about your daily life?

### Cause & Consequence

- Think about a recent outcome in your life (ex: report card grades). Who or what influenced your report card grades besides yourself? Think about all the people that might have helped or hurt your grades.
- What might influence your grades if you lived in a different country or a different historical period? What if you had to work instead of attend school?

## Ethical Dimensions

- Have you ever done anything bad to someone? Did you think that maybe you owed them a debt of some kind?
- Could a debt ever pass down from one generation to another, from your ancestors?

*Source: Mike Denos and Roland Case, Teaching About Historical Thinking, Peter Seixas and Penny Clark, eds (Vancouver: The Critical Thinking Consortium, 2006).*

## Lesson Plans

The following lesson plans are generally organized in a progressive manner from basic to more advanced. However, each is intended as a stand alone activity to be selected according to the level and interest of individual classes. For an overview of the PLOs covered by each lesson plan, please refer to the table on **page 4**. Teaching aids for some lessons, such as worksheets and flashcards, can be found at the end of this section.

## 1. Then and Now

Students test their knowledge by identifying different communication technologies and guessing which existed a century ago and which are new inventions.

### Benchmark Concept:

- Continuity & Change

### Materials:

- Then and Now Worksheet
- Flashcards

### Estimated Time:

- 45 min

### Instructions:

#### 1. Introduction

- ♦ Introduce the concept of Continuity & Change with discussion ideas found on **page 18**.

#### 2. Worksheet

- ♦ Students can complete the worksheet as a think-pair-share or individually.
- ♦ Ask students to answer the questions as best they can. It's ok if they don't know an answer.

#### 3. Class Discussion

- ♦ Which items are students unfamiliar with?
- ♦ Which items were obvious and why?
- ♦ What answers did students find surprising and why?

### Adaptation:

To use this as an introductory lesson, do the activity as a class using flashcards.

## 2. “Growing Up Canadian – Media” DVD Guide

Students watch a film and discuss how communication technologies have affected children growing up in Canada over the last century.

### Grade Level:

- Recommended for grades 4-7

### Benchmark Concept:

- Continuity & Change

### Materials:

- Growing Up Canadian – Media DVD (2003)
- “Growing Up Canadian – Media” Worksheet

### Film Length:

- 47 min

### Summary:

Canadian children in the 20<sup>th</sup> century witnessed an explosion of innovations in communication and entertainment. Witnesses recall the first time that they saw the telephone, a movie, the television, the computer. Media intrigued children and often made parents suspicious. Canadians of all ages talk about the books, radio shows, TV programs, music and movies they loved as children. From listening in on the party line to watching newsreels, children became connected to an ever-expanding world. Media changed the definition of growing up Canadian.

### Notes:

- The film is divided into five 10 minute segments so it’s possible just to show a short clip.
- The film provides a good overview of communications technologies from the early twentieth century to the present day. It touches on different regions in Canada, from the Prairies to the North. It also deals with different cultural groups in Canada.
- Two prominent BC authors, Joy Kogawa and Wayson Choy, are featured.
- The first segment touches on a movie theatre fire that killed 78 children in the early twentieth century and how it affected movie going laws in Montreal.
- Some oral history interviews may be difficult for students to hear, but there are captions.

### Instructions:

#### 1. Introduction

- ◆ Introduce the concept of Continuity & Change with discussion ideas found on **page 18**.
- ◆ Before the film, have students brainstorm and write down as many communication technologies as they can.

## 2. Worksheet & Film

- ♦ Go over the worksheet to see if there are any vocab questions.
- ♦ Students complete the worksheet as best they can while watching the film.

## 3. Class discussion

- ♦ Ask students to list any changes in the daily lives of Canadian children. Are there things that have stayed the same? How have communication technologies made a difference for children growing up in Canada?
- ♦ Ask students to think about one or two questions they would want to ask the people interviewed in the film.

### Useful Vocabulary:

<b>Censorship</b>	To remove or suppress what is considered morally, politically, or otherwise objectionable.
<b>Talkies</b>	Movies with a sound track.
<b>Lantern car</b>	The magic lantern was an early type of image projector.
<b>Critic</b>	One who specializes especially professionally in the evaluation and appreciation of literary or artistic works.  (From dictionary.com “a professional judge of art, music, literature, etc.”)



### 3. “Greatest Inventions with Bill Nye – Communication” DVD Guide

Students watch a film and discuss the development of communication technologies over time.

#### Grade Level:

- Recommended for grades 6 and up

#### Materials:

- Greatest Inventions with Bill Nye – Communication DVD (2007)

#### Film Length:

- 56 min

#### Summary:

Since its emergence, a number of technological advancements have enabled humans to use both written and spoken language to communicate faster, farther, and with more people than ever before. In *Greatest Inventions With Bill Nye – Communication*, Bill Nye retraces the innovations that allow us to contact almost anyone anywhere at any time. The film is divided into several segments, each of which focuses on one particular communications technology.

#### Instructions:

##### 1. Introduction

- ♦ Before the film, have students brainstorm and write down as many communication technologies as they can.

##### 2. Journal Activity

- ♦ Students can journal after each segment. They might do a 3-2-1: Write down three things that they found interesting; two questions they still have; and one thing they learned that they'd like to tell their friends.

## 4. Communications Timeline

Students create a timeline out of communications technology artifacts.

### Benchmark Concept:

- Continuity & Change

### Materials:

- Artefact collection
- Flashcards

### Time Estimated:

- 30-45 min

### Instructions:

#### 1. Introduction

- ♦ Introduce the concept of Continuity & Change with discussion ideas found on **page 18**.

#### 2. Observation

- ♦ Lay out the artefacts on a table. Hold up each one for the class to see.
- ♦ Ask students if they know what the objects are. If they don't, ask them to predict what they might have been used for and who would have used them. Their parents? Their grandparents?
- ♦ Individual students might come forward to handle each artefact and describe how it feels and what it looks like.

#### 3. Group work

- ♦ In small groups, students try to come to a consensus about the order in which they would put the artefacts and their reasons why.
- ♦ They can write their answers down on a sheet of paper or they can use the Flashcards on **page 45** to make their own physical timeline.
- ♦ If you want, you might invite students to take a closer look at the artefacts one group at a time.

#### 4. Class Discussion

- ♦ One spokesperson from each group shares their answers with the class. As they do so, you can place the artefacts in order.
- ♦ How did students determine which artefacts were older and which were contemporary? Are there some older artefacts that are still used today and if so why? How might that affect the timeline?

## 5. Advertising Adventures

Students create a skit or poster advertising a communications technology.

### Benchmark Concept:

- Historical Perspective

### Materials:

- Artefact Collection
- Analyzing Artefacts Worksheet
- Education Kit reference books

### Estimated Time:

- 2 sessions x 45 min

### Instructions:

#### 1. Introduction

- ♦ Introduce the concepts of Historical Perspective with discussion ideas found on **page 18**.

#### 2. Artefact Analysis (session 1)

- ♦ If necessary, demonstrate how to use the worksheet by completing one as a class.
- ♦ Each small group is assigned or can choose an artefact from the collection.
- ♦ Groups use an Analyzing Artefacts worksheet to document observations about their object. They can also use the reference books in the kit or the Internet to research more information about their object.

#### 3. Advertisements (session 2)

- ♦ Discuss what the term “advertisement” means. What kinds of advertisements are there (TV, radio, print)? What are some popular advertisements that students can remember? What makes them memorable? How do advertisements convince people to buy their products?
  - *Advertisement: A form of communication intended to persuade an audience (viewers, readers or listeners) to purchase a products or service.*
- ♦ Each group develops an advertisement for their artefact. The method of advertising could be the marketplace (a speech), print (a poster), or radio/television (a skit or a tableau). The media should be appropriate for the time period in which their artefact was most likely used.
- ♦ Ask students to think about the specific historical time period of their object and what life would have been like for everyday people. Was there electricity at the time? How did people travel? What kinds of things would have been important to someone living at the time?

#### **4. Presentations**

- ◆ Groups present their artefacts and advertisements to the class.

**Adaptation:**

For lower grades, students can focus on just the Artefact Analysis component of this lesson.

## 6. Advertising Analysis

Students examine advertisements for historical information in order to draw conclusions about the past.

### Benchmark Concept:

- Evidence

### Materials:

- Document collection
- Analyzing Images worksheet

### Estimated Time:

- 2 sessions x 45 min

### Instructions:

#### 1. Introduction

- ♦ Introduce the concept of Evidence with discussion ideas found on **page 18**.
- ♦ Discuss what the term “advertisement” means. What are some popular advertisements that students can remember? What makes them memorable? How do advertisements convince people to buy their products?
  - *Advertisement: A form of communication intended to persuade an audience (viewers, readers or listeners) to purchase a products or service.*
- ♦ Students can bring a copy of a communications technology ad to class.

#### 2. Image Analysis (session 1)

- ♦ If necessary, demonstrate how to use the worksheet by completing one as a class.
- ♦ Each small group is assigned or can choose a document from the collection.
- ♦ Groups use an Analyzing Images worksheet to document observations about their image.

#### 3. Group Discussion (session 2)

- ♦ Have each group write down answers for each of these key questions:
  - What product is the advertisement selling?
  - Who do you think the advertisement is for?
  - Why do you think this was a popular product at the time?
- ♦ Each group presents their advertisement to the class.

#### Adaptation:

For lower grades, students can focus on just the Image Analysis component of this lesson. They could also re-enact the advertisement by creating a tableau.

## 7. Photojournalist

Students prepare an illustrated news story about significant developments in communications in Canada.

### Benchmark Concepts:

- Historical Significance and Evidence

### Materials:

- Photo collection
- Analyzing Images worksheet
- newspaper photo

### Estimated Time:

- 2 sessions x 45 min

### Instructions:

#### 1. Introduction

- ◆ Introduce the concept of Historical Significance and Evidence with discussion ideas found on **page 18**.

#### 2. Image Analysis (session 1)

- ◆ If necessary, demonstrate how to use the worksheet by completing one as a class.
- ◆ Each small group is assigned or can choose a photo from the collection.
- ◆ Groups use an Analyzing Images worksheet to document observations about their image.

#### 3. News Story (session 2)

- ◆ Introduce the concept of an illustrated news story by showing one in class or by asking students to bring in an example. Draw their attention to the caption. What kind of information does it convey?
- ◆ Explain to students that they are to imagine that they are photojournalists preparing an illustrated news story using the photos they analyzed in groups.
- ◆ Each group then writes a caption describing what is happening in their photo and the significance of what has been captured. While the actual photo captions may provide clues to the content of the photo, students are free to use their imagination to invent a news story.

**Adaptation:**

Students can use their imagination to draw what was happening before the photo was taken and what happened afterwards.



Before



Historical Photo



After

## 8. Semaphore Signals

Students make their own semaphore flags and learn to communicate with signals.

### Materials:

- Semaphore Flag Set from the Artefact Collection
- Make Your Own Semaphore worksheet
- glue or tape

### Estimated Time:

- 2 sessions x 45 min

### Instructions:

#### 1. Introduction

How did people communicate with each other over long distances before electricity was invented?

- ♦ The Semaphore flag signalling system is an alphabet signalling system based on the waving of a pair of hand-held flags in a particular pattern. The flags are usually square, red and yellow, divided diagonally with the red portion in the upper hoist.
- ♦ Semaphore flags were primarily used on the water to communicate message between boats before radios were invented. It also proved to be a very useful tactic during battles. Ask students why they think they fell into disuse. There were two critical downfalls of the system. First, they had no secrecy. Everyone within visual distances could see the message and therefore react to it. This proved to be one of the design's most fatal wartime attributes. Second, they were practically invisible at night time and during heavy fog and rain. Even though they are not in use much anymore, they still serve for some boats and ships.
- ♦ Use a couple volunteers and the flag set from the artefact collection to demonstrate the basics positions: The flags are held, arms extended, in various positions representing each of the letters of the alphabet. The pattern resembles a clock face divided into eight positions: up, down, out, high, low.

#### 2. Pair Work

- ♦ Students complete the Your Own Semaphore worksheet and work in pairs to learn how to spell out a simple message (ex: their name) using their flags.
- ♦ Students can work in pairs to create their own simple messages and then partner up with another pair to see how well they can decode the other's message.



**Online Resources:**

<http://www.44mlb.com/kids-semaphore.htm>

- For students: Semaphore alphabet and animation activity

<http://scoutdocs.ca/Documents/Semaphore.php>

- For teachers: More on teaching about semaphore flag signals

## 9. Alien Objects

Students analyze an artefact from the collection and then write a paragraph about it as if they were describing it to a person from another era.

### Benchmark Concept:

- Historical Evidence and Perspective

### Materials:

- Artefact Collection
- Artefact Analysis worksheet
- writing materials

### Estimated Time:

- 2 sessions x 45 min

### Instructions:

#### 1. Introduction

- ◆ Introduce the concepts of Historical Evidence and Perspective with discussion ideas found on **page 18**.

#### 2. Artefact Analysis

- ◆ If necessary, demonstrate how to use the worksheet by completing one as a class.
- ◆ Each small group is assigned or can choose an artefact from the collection.
- ◆ Groups use an Analyzing Artefacts worksheet to document observations about their image.

#### 3. Writing Activity

- ◆ Students write a paragraph as if they were describing their artefact to a person from another era. They might start by answering Who/What/Why/Where/When and How questions. Remind students to think about what kinds of words and comparisons will help convey information about their object to someone who isn't familiar with electricity, computers, or even books.

#### **Adaptation:**

For lower grades, students can focus on just the Artefact Analysis component of this lesson.

## 10. Alternate Histories

Students produce a creative writing piece in which they imagine the effects of communications technologies on ancient or modern cultures.

### Benchmark Concepts:

- Continuity and Change
- Historical Significance

### Materials:

- Artefact Collection
- Artefact Analysis worksheet
- writing materials

### Estimated Time:

- 45 min

### Instructions:

#### 1. Introduction

- ♦ Introduce the concepts of Continuity and Change & Historical Significance with discussion ideas found on **page 18**.

#### 2. Writing Activity

- ♦ Students write a paragraph on one of the following topics:
  - a) Imagine you were able to go back in time to introduce a modern communications technology to an ancient culture (ex: telephones in ancient Greece, the Internet for early explorers, video games for Aboriginal children living hundreds of years ago). Describe how it might affect daily life.
  - b) Choose one communications technology that is important to you. Now imagine what it would be like if you had to give it up for a day, a week, a year!

# Teaching Aids

## Then and Now Worksheet

1. Draw a connecting line between the images on the left and the words on the right.
2. Which of these communication technologies existed 100 years ago in North America? Answer yes, no, or don't know on the line beside each image.



Camera



Newspaper



Braille



Rotary Telephone



Record Player



Signal Flags



Calligraphy



Ball Point Pen



Coin-Operated Telephone



Television

## Then and Now Worksheet Answer Key

YES (1889)		Coin-Operated Telephone
YES		Calligraphy
YES (1876)		Rotary Telephone
NO (1923)		Television
YES (1827)		Camera
NO (1937)		Ball Point Pen
YES (1647)		Signal Flags
YES (1829)		Braille
YES (1877)		Record Player
YES (1609)		Newspaper

## “Growing Up Canadian – Media” Worksheet

### Movies

1. Complete this sentence: “At the beginning of the twentieth century, most Canadian kids didn’t know much about the world outside their own neighbourhood. There was no \_\_, no \_\_\_\_\_, even \_\_\_\_\_ were hard to get a hold of.”
2. What did 1,000 people come out to see in 1896? \_\_\_\_\_
3. How many movie houses were there in Canada by the 1920s? \_\_\_\_\_
4. When were Montreal children finally allowed to attend a movie without an adult? \_\_\_\_\_

### Books

5. In 1901, Carnegie donated \$50,000 to build what? \_\_\_\_\_
6. What was the Bookmobile? \_\_\_\_\_
7. Name at least one Canadian comic book superhero. \_\_\_\_\_
8. What kind of comics were banned in 1949? \_\_\_\_\_

### Radio

9. When did Canada’s first radio station go on the air? \_\_\_\_\_
10. How many Canadians owned a radio by 1936? \_\_\_\_\_
11. What did many families listen to on Saturday nights? \_\_\_\_\_

### Television

12. Name three popular Canadian children’s TV shows. \_\_\_\_\_  
\_\_\_\_\_

### Selling to the Kids

13. What was the name of Eaton’s mascot in the late 1940s? \_\_\_\_\_
14. What other Canadian department store recently featured mascots and what were their names?  
\_\_\_\_\_

## “Growing Up Canadian – Media” Worksheet Answer Key

### Movies

1. Complete this sentence: “At the beginning of the twentieth century, most Canadian kids didn’t know much about the world outside their own neighbourhood. There was no television, no radio, even books were hard to get a hold of.”
2. What did 1,000 people come out to see in 1896? the movie “The Kiss”
3. How many movie houses were there in Canada by the 1920s? Over 1,000
4. When were Montreal children finally allowed to attend a movie without an adult? 1960s

### Books

5. In 1901, Carnegie donated \$50,000 to build what? the Vancouver Public Library (at Main and Hastings)
6. What was the Bookmobile? A mobile library—a van that would lend out books in rural areas
7. Name at least one Canadian comic book superhero. Johnny Canuck, Nelvana
8. What kind of comics were banned in 1949? Crime comics

### Radio

9. When did Canada’s first radio station go on the air? 1919
10. How many Canadians owned a radio by 1936? 78%
11. What did many families listen to on Saturday nights? Hockey Night in Canada

### Television

12. Name three popular Canadian children’s TV shows. The Friendly Giant, Mr. Rogers, Mr. Dressup, Degrassi, Hinterland Who’s Who, Reach for the Top

### Selling to the Kids

13. What was the name of Eaton’s mascot in the late 1940s? Punkinhead
14. What other Canadian department store recently featured mascots and what were their names?  
The Bay; Quatchi, Miga and Sumi



## Analyzing Artefacts Worksheet

### 1. Describe how it looks and feels:

Shape round, square, rectangle, etc.	Colours	Texture rough, smooth, uneven, bumpy, etc.	Size small, medium, large, etc.	Weight light, heavy, etc.	Material rubber, plastic, metal, wood, cloth, etc.

### 2. Describe its use (check one or more boxes):

What might it have been used for?

- Working
- Playing
- Entertaining
- Communicating
- Documenting

Who might have used it?

- Children
- Teenagers
- Adults
- Seniors
- Men
- Women

3. Where might it have been used? \_\_\_\_\_

\_\_\_\_\_

### 4. When might it have been used?

- Today
- 10 years ago
- 50 years ago
- 100 years ago
- Thousands of years ago

### 5. Write a couple sentences about why you think this object might have been important for people who used it at the time:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Analyzing Images Worksheet

1. List all of the things (people, activities, objects) you see in the image. Then draw lines connecting people to activities to objects.



2. Describe the people in the image (check one or more boxes):

**Who is in the image?**

- |                                    |                                  |
|------------------------------------|----------------------------------|
| <input type="checkbox"/> Children  | <input type="checkbox"/> Seniors |
| <input type="checkbox"/> Teenagers | <input type="checkbox"/> Men     |
| <input type="checkbox"/> Adults    | <input type="checkbox"/> Women   |

**What is their expression?**

- |                                  |                                 |
|----------------------------------|---------------------------------|
| <input type="checkbox"/> Happy   | <input type="checkbox"/> Afraid |
| <input type="checkbox"/> Excited | <input type="checkbox"/> Bored  |
| <input type="checkbox"/> Sad     | <input type="checkbox"/> Angry  |

3. When do you think the image was created?

- |                                       |   |
|---------------------------------------|---|
| <input type="checkbox"/> Today        | <input type="checkbox"/> 100 years ago          |
| <input type="checkbox"/> 10 years ago | <input type="checkbox"/> Thousands of years ago |
| <input type="checkbox"/> 50 years ago |   |

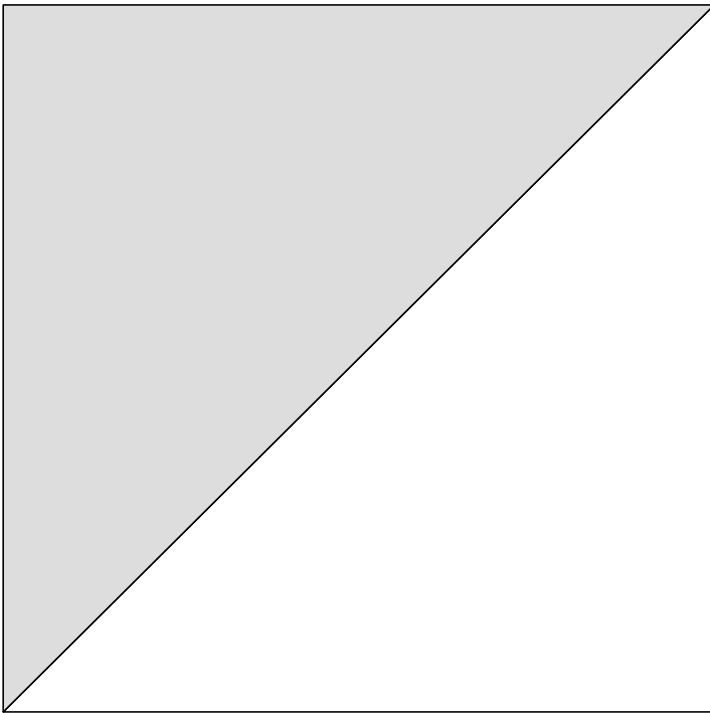
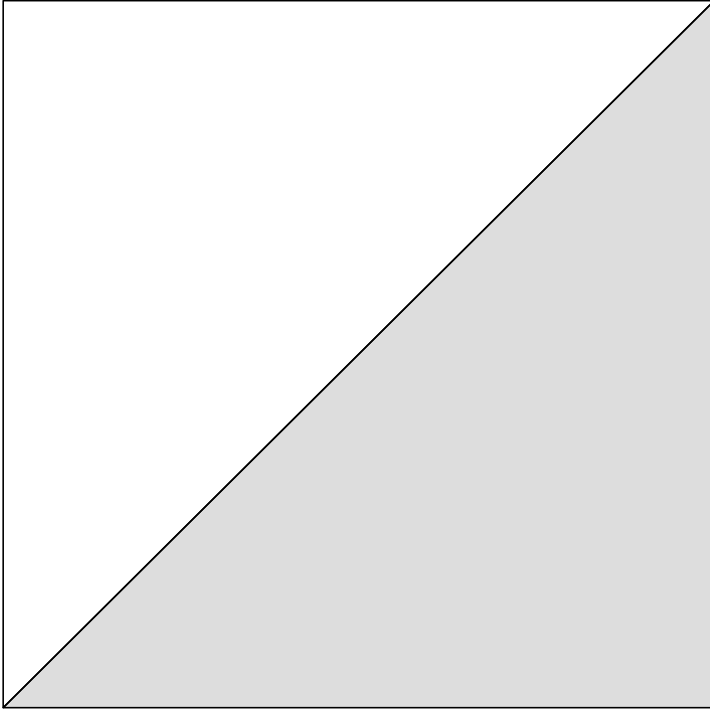
How can you tell? \_\_\_\_\_

4. Write down one question you would like to ask the person who created this image:

---

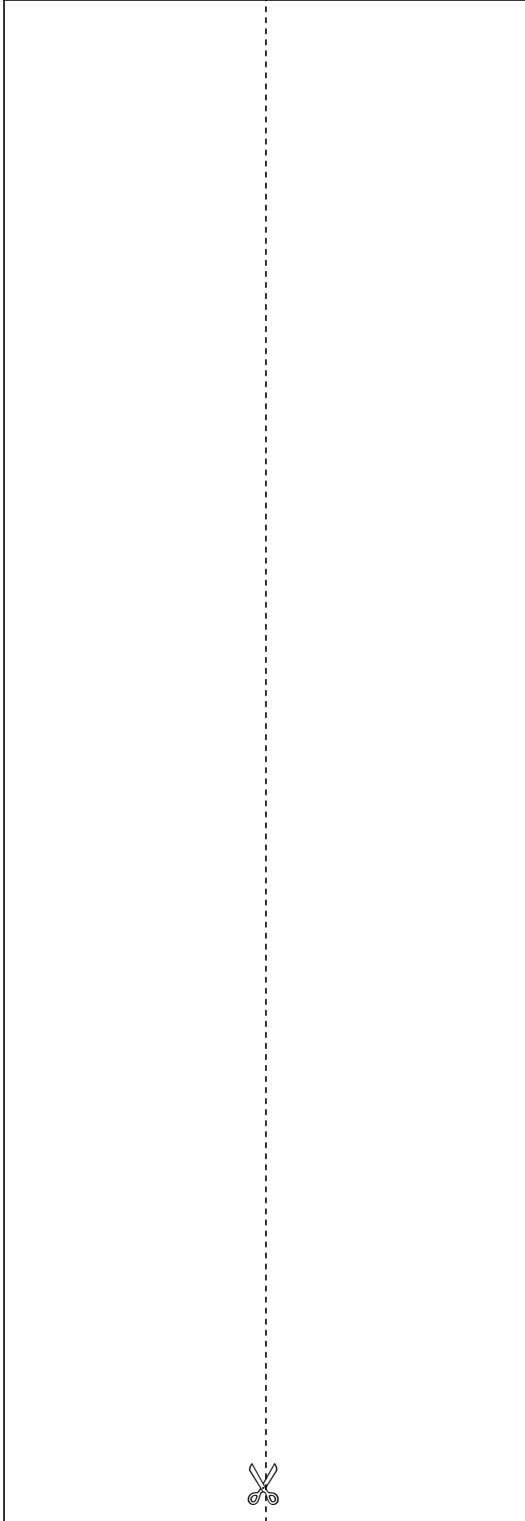
---

## Make Your Own Semaphore Flag!

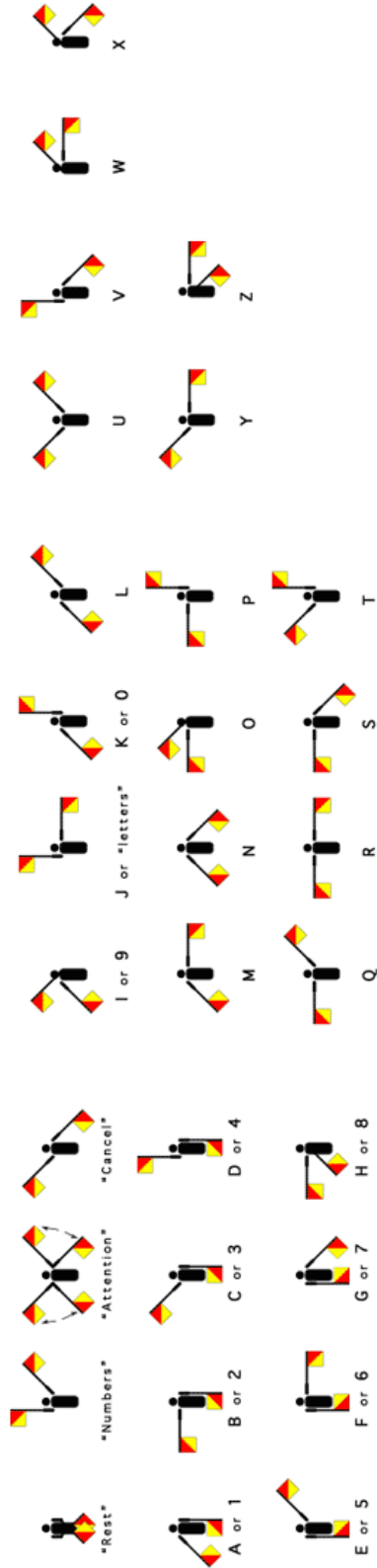


### **Instructions**

1. Colour the dark area of the two semaphore flags above in red on **both** sides of the paper.
2. Cut out the rectangle on the other sheet and then cut it in half along the dotted line (you can also colour this brown first if you like).
3. Roll *each* of the two rectangles into a long tube (you might find it easiest to do this around a pencil) and then stick down the long edge using glue or tape. These are the sticks for your flags.
4. Stick one flag to each of your sticks – use the diagram for the signal for the letter 'R' to make sure that you attach them correctly.
5. Use the signalling diagrams to send semaphore messages to your friends!



### Semaphore Flag Positions



## Communications Technology Word Search

y	o	e	e	o	d	e	n	i	e	c	o	g	o	x
m	h	p	e	i	o	s	o	n	n	a	e	e	a	d
w	a	p	i	d	p	n	i	u	o	r	i	f	r	b
t	r	g	a	a	i	t	s	k	h	t	r	u	e	e
k	e	i	a	r	t	u	i	s	p	o	m	e	i	g
o	l	l	t	z	g	y	v	h	e	o	e	v	e	d
o	p	f	e	i	i	i	e	u	l	n	o	n	l	e
b	r	b	a	g	n	n	l	k	e	m	n	o	n	i
k	r	s	r	s	r	g	e	l	t	i	t	e	n	b
p	a	m	b	g	f	a	t	e	a	d	p	t	c	r
r	p	r	c	u	r	t	p	n	r	c	e	a	i	a
p	o	l	a	r	o	i	d	h	e	r	m	n	t	i
s	a	t	e	l	l	i	t	e	n	e	p	e	n	l
c	o	m	p	u	t	e	r	e	r	g	a	l	f	l
n	o	c	a	e	b	g	t	a	d	t	b	d	s	e

map  
television  
telegraph  
inukshuk  
writing  
radio  
ipod  
calligraphy

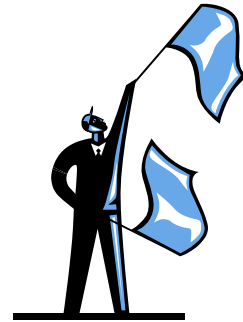
satellite  
computer  
internet  
pen  
braille  
movie  
drum  
cartoon

magazine  
flag  
polaroid  
camera  
beacon  
telephone  
book  
fax

## Flashcards



Cell Phone



Signal Flags



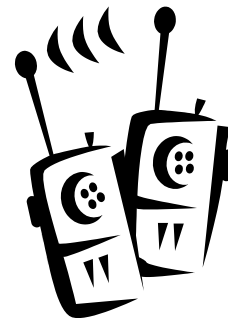
Rotary Telephone



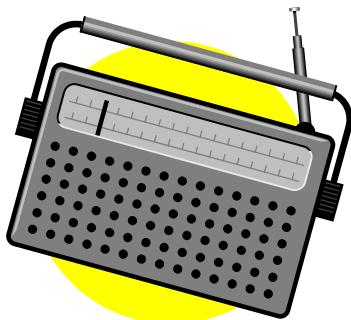
Calligraphy



Camera



Walkie-Talkie



Transistor Radio



Gamboy



Computer



Typewriter



Postcard



Braille



Newspaper



Book



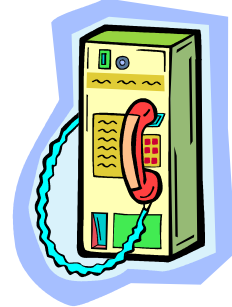
Paper



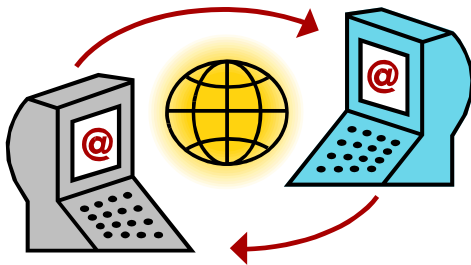
Letter



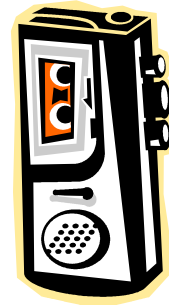
Satellite



Coin-operated Telephone



The Internet



Tape Recorder



Fax Machine



Record Player

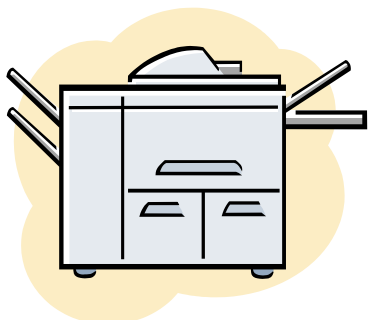


Ball Point Pen



Television





**Photocopier**



**Inuksuk**

# Teaching Collections

## Artifact Collection

### Why Use Artifacts in the Classroom?

- To learn about cultures from other eras, and especially about the lives of ordinary people who may not have recorded all their thoughts and actions.
- To motivate—hands-on learning is an inspiring way to learn about history as students learn from seeing, hearing, and doing.
- To develop critical thinking skills—detailed examination, thorough investigation, critical analysis, meaningful conclusions supported by evidence.

## Calligraphy Set



### What

**is it made of?** Traditionally, the brushes were made from bamboo with animal hair. The brush hairs are tapered to a fine point, a feature very important to the style of wash paintings. Some of the materials used to make this set are cloth, porcelain, stone, plastic, and marble.

**else would be used with it?** To make ink, an artist puts a few drops of water on the inkstone and grinds the inkstick in a circular motion until it produces a smooth, black substance.

### Why

**is it shaped this way?** Different brushes have different qualities. A small wolf-hair brush that is tapered to a fine point can deliver an even, thin line of ink (much like a pen). A large wool brush can hold a large volume of water and ink.

**was the seal paste important?** Calligraphic works are usually completed by the calligrapher putting his or her seal at the very end, in red ink. The seal serves the function of a signature.

### When

**would it have been used?** While calligraphy is thousands of years old, it is still a widely practiced art form today.

### Who

**would have used it?** Basic calligraphy instruction is part of the regular school curriculum in both China and Japan and specialized programs of study exist at the higher education level in China, Korea, and Japan.

### Where

**would you use it?** In modern times, writers frequently practice calligraphy seated on a chair at a table. Larger pieces may be written while standing; in this case the paper is usually placed directly on the floor.

**was it made?** This set was made in Huzhou, a city in northern China famous for its ink brushes.

### How

**was it used?** The ink brush, ink, paper, and inkstone are essential implements of East Asian calligraphy; they are known together as the Four Treasures of the Study. In addition to these four tools, desk pads and paperweights are also used by calligraphers.

### What is it?

This calligraphy set includes six brushes, an ink stone, an ink stick, an ink pad with porcelain box, an ink stamper, a brush stand, a wash pot, and a paper weight. East Asian calligraphy is normally regarded as one of the arts in the countries where it is practiced.

## Semaphore Flags



### What

**are they made of?** Nylon cloth, wood, cotton thread,

**does it feel like?** The cloth is rough.

**do you notice about their size?** They are small enough to be handheld.

**does it tell us about early times in Richmond?** The maritime and fishing industries were very important for a community surrounded by the river and the sea.

### Why

**is it shaped this way?**

**were signal flags important?** They enabled visual communication before the invention of electricity.

**are they made out of this material?** Nylon is extremely durable in all weather conditions.

### When

**were they made?** They were made in 2010.

**would they have been used?** Primarily in the 1800s but they are still sometimes used today.

**did they stop being used?** They fell into disuse in the early 1900s after the invention of radio.

### Who

**would have used it?** Sailors and marines.

### Where

**would you use it?** Red and yellow semaphore flags were primarily used on the water. Blue and white ones were used on land.

### How

**is it shaped?** Each rectangular flag is made of two triangular shaped pieces of cloth.

**was it used?** They were based on the waving of a pair of hand-held flags in a particular pattern.

**is it different from what we would use today?** Today flags are made from nylon, but before nylon was invented in 1938 they would have been made from cloth.

**was it made?** They were hand sewn from manmade material.

### What is it?

Semaphore flags were used to convey messages between boats with an alphabet signalling system.

## Camera and Case



### What

**is it made of?** The camera is made out of bakelite, which is a plastic that was used for cameras from the 1930s to 60s. The camera case is made out of leather and metal.

**else would be used with it?** This model takes roll film type 620, which is no longer in use and would have produced 6x9 inch photographs, much larger than our typical 4x6.

**special features do you notice?** The camera screws into the case so that you don't have to remove it in order to take a picture.

### Why

**was it made out of this material?** Bakelite plastic was capable of forming complex, flowing shapes popular in the art-deco era.

might it have fallen out of use?

### When

**would it have been used?** This camera dates from 1938.

### Who

**who would not have used it?** Most people did not own cameras until the Kodak Brownie camera was introduced in the 1950s.

### How

**was it used?** This was a very simple, point-and-shoot camera made for everyday, personal use. The subject had to be at least 2.7m away in order for it to be in focus.

**does its size compare with similar ones used today?** While it's larger than the average digital camera, it's about the same size as an SLR.

**is it different from what we would use today?**

Today, most people use digital cameras. However, film cameras are still in use because they produce very high quality photos.

### What is it?

This Photax viewfinder camera was made by the French company Manufacture d'Isolants et d'Objets Moulés.

## Rotary Phone



### What

**is it made of?** Plastic, metal.

**does it feel like?** It's much heavier than phones today because the technology wasn't as advanced.

**special features does it have?** This model has an adjustable ringer volume control on the underside.

### Why

**is it shaped this way?** It was big enough to transmit a signal across long distances. This was important after WWII when people started moving to the suburbs.

**was the placement of numbers important?** Since earlier models had numbers placed on the outside of the dial they were easily rubbed off.

**might it have fallen out of use?** Touch-tone dialling was quicker and easier to use.

### Who

**would have used it?** Only some people in the 1950s could afford a home telephone. Telephone service was usually only available in cities.

### Where

**would you use it?** In the home or office.

### When

**would it have been used?** It was first introduced in 1949.

**did it stop being used?** Although push-button phones were introduced to the general public in 1963, it wasn't until the 1980s that most people stopped using rotary phones.

### How

**was it used?** Some homes had "party lines" meaning they each had a telephone that plugged into a shared line with their neighbours.

**does its size compare with similar ones used today?** Technological improvements mean phones are much smaller today.

**is it different from what we would use today?** Today most people use cell phones.

### What is it?

This particular rotary telephone is an A T & T Model 500.

## Walkie-Talkies



### What

**is it made of?** Plastic

**does it look like?** Typical walkie-talkies resemble a telephone handset with an antenna sticking out of the top.

**else would be used with it?** Walkie-talkies transceivers may be used to communicate between each other, or to vehicle-mounted or base stations.

### When

**was it invented?** The walkie-talkie was first developed during WWII.

### Where

**would you use it?** Walkie-talkies are widely used in any setting where portable radio communications are necessary, including business, public safety, military, and outdoor recreation.

### How

**was it used?** Major characteristics include a half-duplex channel (only one radio transmits at a time, though any number can listen) and a “push-to-talk” switch that starts transmission.

**is it different from what we would use today?**

**was it made?** Some cellular telephone networks offer a push-to-talk handset that allows walkie-talkie-like operation over the cellular network, without dialling a call each time.

### What is it?

A walkie-talkie, or handie-talkie, (more formally known as a handheld transceiver) is a handheld, portable, two-way radio transceiver. This replica is a toy intended to be used by children.



## Cell Phone



### What

**do you notice about its shape?** The “flip” design, where the “mouthpiece” folded over the keypad, although the “mouthpiece” was actually located in the base of the phone, along with the ringer. This set the standard and became the model for modern flip phones today.

**else would be used with it?** This mobile phone could be plugged into a cigarette lighter receptacle to recharge their internal batteries using the car charger.

### When

**would it have been used?** This model was first manufactured in 1989.

### Who

**would have used it?** At the time this model was introduced, cell phones were extremely rare. By 2004, most people in Canada owned cell phones.

### How

**was it used?** A mobile phone (also called mobile, cellular telephone, cell phone, handphone) is an electronic device used for two-way radio telecommunication over cellular networks owned by mobile network operators.

**is it different from what we would use today?**

**was it made?** Today, cell phones are much smaller and are multifunctional. They can be used to take photos, text message, for voicemail, as a portable media player, and as an Internet client, with e-mail, web browsing, and Wi-Fi connectivity.

### What is it?

Motorola flip cell mobile phone and car charger.

## Gameboy



### What

**is it made of?** Plastic

**do you notice about the screen colour?** To promote its new color console, Sega aired a number of negative ad campaigns in the United States that mocked the Game Boy's monochrome display compared to Game Gear's full color display. But Nintendo didn't release a colour version until nine years later.

**else would be used with it?** A number of different game cartridges were produced for the Game Boy though Tetris and Pokémon were by far the most popular.

### Why

**was the Game Boy important?** The Game Boy holds the record for the bestselling handheld gaming device in the world, and it is the gold standard of the portable gaming industry.

### When

**would it have been used?** It was released in Japan and North America in 1989.

**did it stop being used?** The Game Boy line was unofficially retired with the release of the Nintendo DS portable device.

### Who

**invented it?** It was created by Japan's Gunpei Yokoi and Nintendo's Research and Development.

**would have used it?** The original Game Boy and its Game Boy Color variant hold the record for portable gaming sales, with over 118 million units sold. In terms of overall video game system sales, the Game Boy ranks second, behind the PlayStation 2 (140 million units sold).

### How

**is it shaped?** It has four operation buttons labelled "A", "B", "SELECT", and "START", as well as a directional pad. There is a volume control dial on the right side of the console and a similar knob on the left side to adjust the contrast.

### What is it?

The Game Boy is a handheld video game developed and manufactured by Nintendo.

## Transistor Radio



### What

**is it made of?** Plastic, metal

### Why

**was the transistor radio important?** With the transistor radio, music and information suddenly became portable. No matter how isolated you were, you could hear news of the world. And for teenagers who could suddenly listen to music anywhere they wanted—far away from an adult’s ears—it sparked a musical revolution, rock n’ roll.

**might it have fallen out of use?** In the 1970s their popularity declined as other portable media players such as boom boxes and portable cassette players took over.

### Who

**who would not have used it?** At first, not many people could afford one. When it was released in 1954, the Regency TR-1 cost \$49.95 (roughly \$364 in 2006 USD).

### When

**would it have been used?** Following their development in 1954, they became the most popular electronic communication device in history, with billions manufactured during the 1960s and 1970s.

### How

**is it different from what we would use today?** Many portable digital media players include a digital radio tuner.

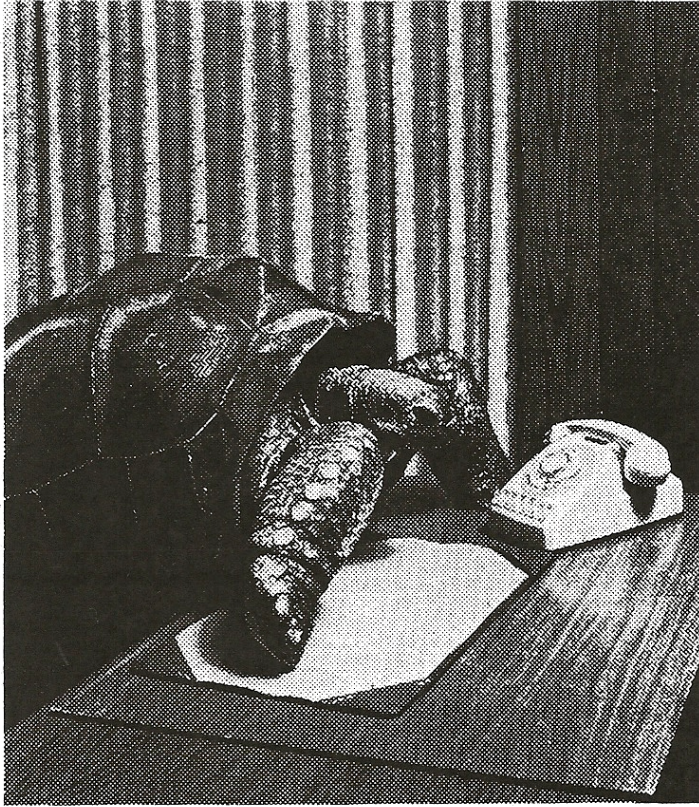
### What is it?


A transistor radio is a small portable radio receiver.

## Document Collection

Historians use a variety of primary sources when studying the past. Different primary sources were created for different reasons. Some primary sources are published documents. They were created for large audiences and were distributed widely. Published documents include books, magazines, newspapers, government documents, non-government reports, literature of all kinds, advertisements, maps, pamphlets, posters, laws, and court decisions. These are treasures to the historian. They document different aspects of life in the past. Historians learn to read these primary sources.

Remember, just because something was published does not make it truthful, accurate, or reliable. Every document has a creator and every creator has a point of view, blind spots, and biases. Understanding why sources were created can help you better evaluate the reliability of the source.



B.C. Tel. part of  
Trans-Canada  
Telephone System 

## Noticed how the tortoise never learns to phone?

**Never gets far, either.** The executive who hasn't learned to use long distance calls to sort-out bottlenecks and keep things moving may find himself with little time for creative planning and leadership. In short, the man who doesn't use long distance may find his business costs rising.

**B.C. TEL**   
BRITISH COLUMBIA TELEPHONE COMPANY

BC Tel advertisement, 1960s





*“You’re welcome to stay with us.”*

Thoughtfulness and *Long Distance*  
go hand in hand. You keep in  
touch easily, quickly. Phoning  
costs so little and means so much.



**British Columbia Telephone Company**

BC Tel advertisement, 1960s



**FIRST IS 4G, 3G AND WI-FI  
VIDEO CHAT.**

**FIRST IS THE FRIENDLY FACE TO  
GO WITH THE FAMILIAR VOICE.**

**WHAT WILL YOU DO FIRST WITH  
EVO, THE FIRST 4G PHONE?**



htc EVO™ 4G  
with Google™



[sprint.com/firsts](http://sprint.com/firsts)  
1-800-SPRINT-1 (1-800-777-4681)

Sprint advertisement, 2010



**S**he has trouble hearing across the room  
*but she can hear across the country*



What a boon to those who have difficulty hearing! A simple knob on the base of this new volume control telephone lets the user increase sound volume when necessary. This is just one of many telephone conveniences now being made by Western Electric to help your Bell telephone company furnish you more agreeable and satisfactory service.

You see, Western Electric is the manufacturing and supply unit of the Bell System. So our job has been to

provide not only the telephones but the many "behind-the-scenes" things that have made good telephone service possible for the users of 44,000,000 Bell System telephones. It is also our job to help bring along the new things that make this service even better.

• • •

For information about availability and moderate charges for volume control telephones and other telephone conveniences, call your Bell telephone business office.



Western Electric Telephone advertisement featuring a new volume control knob for the hearing impaired, 1955.




32 steps from top to bottom...

but only a few feet to the nearest extension phone!

Let extensions save you running up and down stairs—put them in important rooms on every level of your home.

You and your family will enjoy making and taking calls with the speed, ease and convenience that well-placed extension phones permit. You'll enjoy your home more.

There's a style and color of phone for every room, each low in cost. And ordering's easy, too. Just call the Business Office or ask your telephone man.



**BELL TELEPHONE SYSTEM**

*Bell Telephone System advertisement promoting the convenience of installing extension telephones in the home, 1963.*



*A logical extension of today's telephone service...*

## **Bell System introduces PICTUREPHONE service**

*Both ends of telephone conversations are pictured; people phone by appointment from family-type booths in selected centers.*

■  
*New York (Grand Central Station),  
Chicago (Procter Building),  
Washington (National Geographic  
Society Building); soon service*

Bell System PICTUREPHONE service now lets colors see as well as talk on the telephone. And "hands-free" if they wish.

For the first time, people can make a visual telephone call to another city — the latest example of the research, invention and development that are constantly improving the communications we provide.

The new service is being offered in the

cities listed at the left. Bell System attendants at each local center help callers enjoy pre-arranged face-to-face visits with friends or relatives in either of the other cities.

Further development of PICTUREPHONE service is still in the future. But the service is another step toward our goal of providing you with better, warmer, more nearly complete communication by telephone.



**Bell System** *Serving you*

American Telephone & Telegraph Co. and Associated Companies

*Bell Picture Phone Service advertisement introducing live picture phone service in select centres in New York, Washington, and Chicago, 1964.*

Expected guests  
are  
doubly  
welcome

Telephone ahead and let them know when you'll arrive

**BELL TELEPHONE SYSTEM**

Call by Number. It's Twice as Fast.

Bell Telephone Service advertisement, "Telephone ahead and let them know when you'll arrive," 1957.

McGraw-Hill Magazine, December 5, 1947



**AUSTRALIA TO A LAKE IN NEW BRUNSWICK  
... LONG DISTANCE GETS THE ORDER**

Recently the Manager of the largest sardine-packing plant in the British Empire was week-ending at his camp by a lake in New Brunswick. The telephone rang—Australia calling! The Manager was amazed by the clear reception. The voice from across the world was as distinct as though the speaker were in the same room. Result of the call—a large order for sardines for the enterprising Australian buyer.

Today, in Canada, the telephone provides the ideal means of long distance communication... spanning continents and seas. Connections are quick and clear. The coast-to-coast circuits of the Trans-Canada Telephone System make this possible. Trans-Canada, the association of Canada's telephone systems, gives service around the clock—efficient, inexpensive. You can call from Saint John to Vancouver, for instance, for as low as \$3.70!

**TRANS-CANADA TELEPHONE SYSTEM**

UNITED TO SERVE CANADA

MANITOBA TELEPHONE SYSTEMS • TELEPHONE COMPANY LIMITED • THE NEW BRUNSWICK TELEPHONE COMPANY LIMITED • THE BELL TELEPHONE COMPANY OF CANADA  
MANITOBA TELEPHONE SYSTEMS • MANITOBA TELEPHONE SYSTEMS • MANITOBA TELEPHONE SYSTEMS • MANITOBA TELEPHONE SYSTEMS

Trans Canada Telephone System advertisement recounts the story of the manager of a New Brunswick sardine plant closing a deal with an Australian buyer while at his week-end lakeside camp, 1947.

**“And I Can Make It Talk”**

You're right about that, Sonny. At eight or eighty it's easy for any one to use the telephone. And year after year the service gets better and better.

This country leads the world in telephone service because it leads in telephone research. Thousands of scientists, engineers and assistants are at work in the Bell Telephone Laboratories to make the service faster, clearer and more economical. No part of the Bell System is more important to you as a telephone user.

**BELL TELEPHONE SYSTEM**

*Your good telephone service is made possible by the constant research of Bell Telephone Laboratories*

Bell Telephone System advertisement, “At eight or eighty it’s easy for any one to use the telephone. And year after year, the service gets better and better,” 1939.

**This Is Your Wife**

*How the telephone helps her to be five busy people*

This is the pretty girl you married.  
She's the family chef. And the nurse. And the chauffeur and maid.  
And when she's all dressed up for an evening out—doesn't she look just wonderful!  
How does she do it?  
Of course she's smart and it keeps her busy, but she never could manage it without the telephone.

When the "chef" needs groceries, she telephones. Supplies from the drugstore? The "nurse" phones her order.  
A train to be met? The telephone tells the "chauffeur" which one. A beauty shop appointment? A call from the "glamorous gal" makes it easy and quickly.  
Handy, ever-ready telephones—in living room, bedroom, kitchen and hobby room—mean more comfort, convenience and security for everybody.

Working together to bring people together... BELL TELEPHONE SYSTEM 

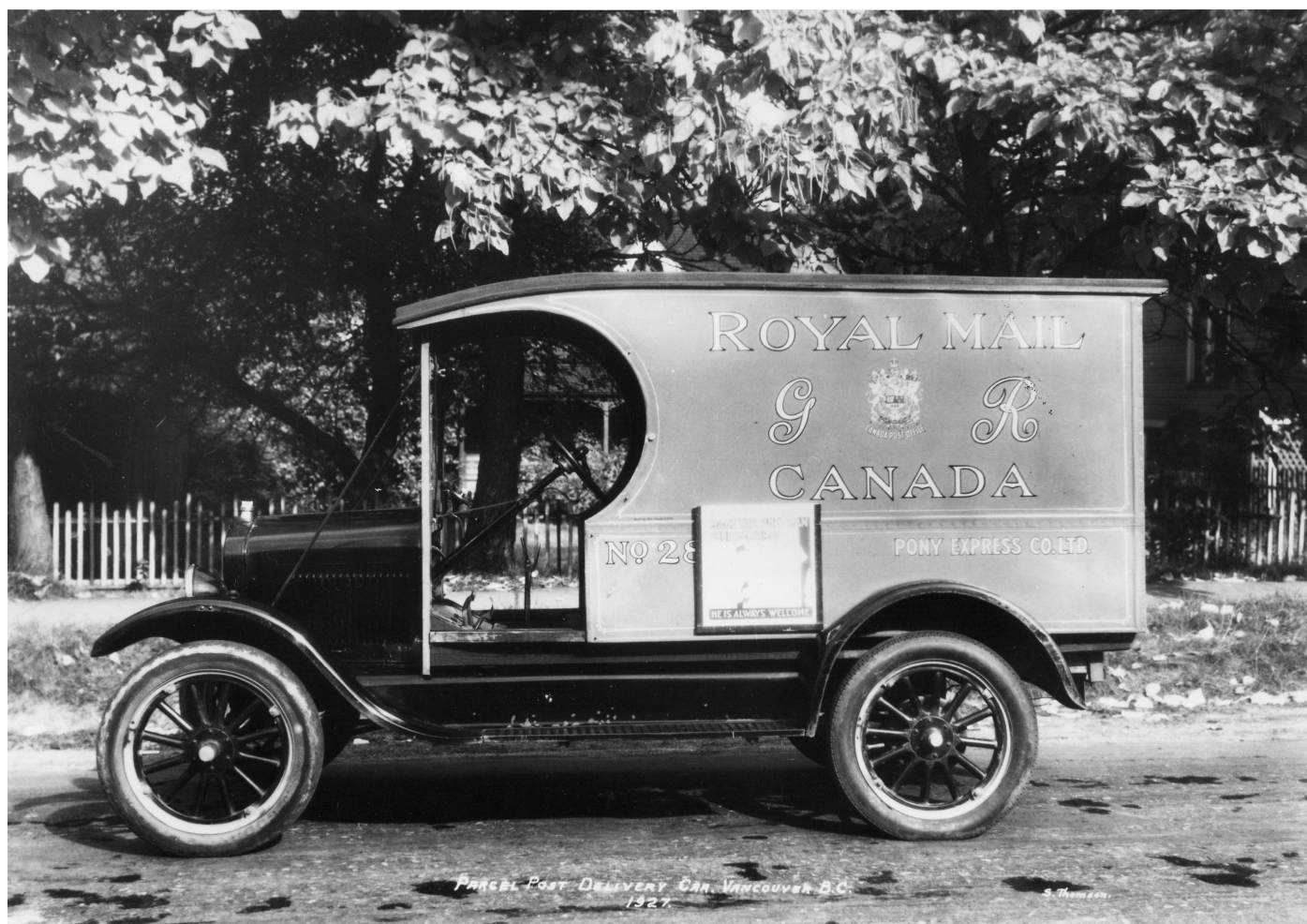
Bell Telephone System advertisement, "This is your wife" or "How the telephone helps her to be five busy people," 1957.

## Photo Collection

A photograph captures a moment in time and can convey quite a powerful message without using any words. Some of the most important events in history conjure up very specific images in people's minds. Photographs are primary sources and historians learn to read them just as they read other primary sources.

When examining photographs remember they are simply a snapshot of a moment and cannot be taken as representative of the time. For example, one photo of an individual holding a camera in 1904 does not necessarily mean everyone had cameras in those days, but simply that this one particular individual did. Every photograph has a photographer, and every photographer has a point of view, blind spots, and biases. Sometimes, what is not captured on film can tell us a lot about history.





*Mail truck belonging to Pony Express Co., c. 1927.  
Credit: City of Richmond Archives, Photograph # 1984 17 80*





Exterior view of the front of the Orpheum Theatre showing a movie poster above the ticket booth and a display board for a Rose Marie Ried fashion show, 1946.

Credit: City of Vancouver Archives, Item #: CVA 1184-2233 1946,  
Part Of: Jack Lindsay Ltd. Photographers fonds



*Group at C.K.W.X. doing a radio broadcast, c. 1940s.*

*Credit: City of Vancouver Archives, Item #: CVA 1184-2365,  
Part Of: Jack Lindsay Ltd. Photographers fonds*





*Infantrymen of The Loyal Edmonton Regiment using a walkie-talkie radio during an advance, Ortona, Italy, 21 December 1943, Private W.L. Waske operates the radio, which is carried by Lance-Corporal W.D. Smith.*

*Credit: Library and Archives Canada/Credit: Lieut. Terry F. Rowe/Canada. Dept. of National Defence collection/PA-163932.*



*Western Canada 1904. Possibly members of the Benjamin Low family on passenger steamer KOOTENAY or ROSSLAND showing various types of cameras, including a panoramic camera.*

*Credit: Swann Galleries / Library and Archives Canada / PA-148285*



*Inuit man standing beside an Inukshuk Igloolik, N.W.T., [Igloolik (Iglulik), Nunavut], 1953.*

*Credit: Library and Archives Canada/Credit: Richard Harrington/Richard Harrington fonds/e004922745  
© Library and Archives Canada. Reproduced with the permission of Library and Archives Canada.*





*Long-distance switchboard at Bell Telephone Co., 1961.*

*Credit: Chris Lund/National Film Board of Canada/Library and Archives Canada/PA-  
Copyright: Library and Archives Canada*



*Norsat SigmaLink TM 2.4m systems used by European peacekeeping forces in Chad for operational and welfare communications in Chad, 2008.*

*Credit: Norsat International Inc.*

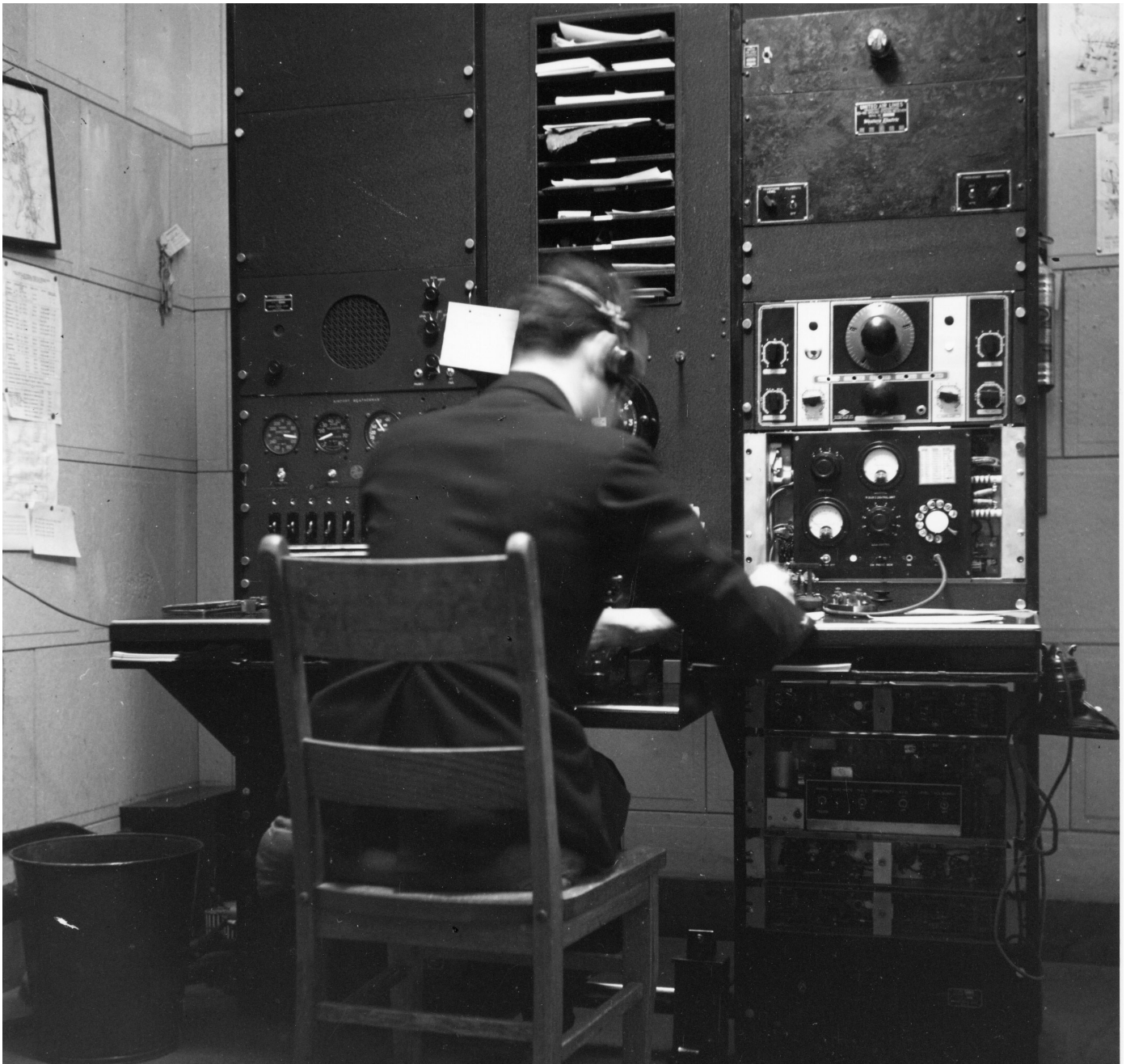


*Man with a movie camera on tripod.*

*Credit: Library and Archives Canada/Canada. Transport Canada. Marine collection/e010765780*

*© Transport Canada. Reproduced with the permission of the Minister of Public Works and Government Services Canada (2010).*





*Man with headphones seated at radio equipment at Vancouver Airport, circa 1946.*

*Credit: City of Richmond Archives, Photograph # 1997 5 105*

# References

## Books

### **Puff...Flash...Bang!: A Book About Signals, 1993**

**Gail Gibbons**

**K-Grade 2**

Gibbons examines an everyday subject, one that can be quite complicated, and presents it with the clarity of crayon-box colors and present-tense immediacy. Here, she covers major, important, and even life-depends-on-it signals. Readers will find historical examples plus those, currently used at sea, on highways, on railroads, in sports, and in emergency situations. The author includes those that can be heard as well as those that can be seen.

### **Alexander Graham Bell An Inventive Life, 1999**

**Elizabeth MacLeod**

**Grades 3-7**

“One would think that I had never done anything worthwhile but the telephone,” complained Alexander Graham Bell. No wonder he was annoyed; Bell invented the phone when he was just 29 and went on to lead a long and inventive life. This biography in the Snapshots: Images of People and Places in History series chronicles the life and many remarkable achievements of Alexander Graham Bell, including his work with the hearing impaired and experiments with flight, iceberg locators and, of course, the telephone.

### **Communication: From Hieroglyphs to Hyperlink, 2004**

**Richard Platt**

**Grades 4-7**

Combining high-interest topics with colourful, eye-catching graphics, these sweeping surveys in the Kingfisher Knowledge series are tailor-made for hooking middle-graders, casual browsers, and reluctant older readers. Platt offers quick looks at communications media, from bee dances to DVDs, before closing with vague comments on the perils of censorship and advertising.

### **Media & Communications (Eyewitness series), 1999**

**Clive Gifford**

**Grades 4-7**

From the pony express to e-mail, from newspapers to satellite television, the history and future of media and communications are explored in superb Eyewitness style. This volume is packed with information and photos about the important inventions and advances in this rapidly changing field, including the printing press, radio, telegraph, telephone, and television. Learn how the media and methods of communication are used in entertainment, commerce, military and security applications, and the news.

## **Media and Communications (Datafiles series), 2001**

**Richard Platt**

**Grades 6-8**

In this day and age, we are all used to information technology whereby data is easy to find and access via computers. This dynamic series mimics this ease of use. Each book files the facts into six individual sections, each of which approaches the theme in an original way. By avoiding the conventional chapter-by-chapter approach the book builds up layers of learning. Access the facts that matter with this thoroughly modern approach to reference. Each section is identified with a particular colour, which is used throughout to refer to that section. The books have strong child-appeal with attention-grabbing images and graphics. Each title includes clear information, stories, questions and answers, a look at jobs, and a reference section.

## **Bleeps and Blips and Rocket Ships: Great Inventions in Communications, 2001**

**Alannah Hegedus & Kaitlin Rainey**

**Grades 6-8**

This beautifully illustrated book takes a look at the history of communication from the development and mechanization of papermaking in the early 1800s to the science of fibre optics in the late 20th century. Readers are also given an intimate look at the inventors and inventions that took communications into the 21st century. Additional information and activities, such as making paper, a telephone, and an alphabet cipher, are enclosed in dotted red lines that serve to separate and draw attention to these useful tidbits. The book is easy to read and understand, contains a great deal of material for research, and is a good resource for doing science projects on communications. The colourful and expertly done illustrations expand on the text and often add a touch of humour. While many of the facts surrounding these inventors can be found in other works and biographies, the authors add a humanizing touch to their stories.

## **Richmond Postal History, 2007**

**Bill McNulty**

**Grades 6-8**

This book, produced by the City of Richmond Archives and richly illustrated with historical photos, provides an account of the colonial postal service in British Columbia and chronicles the history of post offices and postmasters on Lulu and Sea Islands.

## DVDs

### Growing Up Canadian: Media (2003)



**Grade Level: Recommended for grades 4-7**

**Film Length: 47 min**

Canadian children in the 20th century witnessed an explosion of innovations in communication and entertainment. Witnesses recall the first time that they saw the telephone, a movie, the television, the computer. Media intrigued children and often made parents suspicious. Canadians of all ages talk about the books, radio shows, TV programs, music and movies they loved as children. From listening in on the party line to watching newsreels, children became connected to an ever-expanding world. Media changed the definition of growing up Canadian.

### Greatest Inventions with Bill Nye Series – Communication (2007)



**Grade Level: Recommended for grades 6 and up**

**Film Length: 56 min film**

Since its emergence, a number of technological advancements have enabled humans to use both written and spoken language to communicate faster, farther, and with more people than ever before. In *Greatest Inventions With Bill Nye – Communication*, Bill Nye retraces the innovations that allow us to contact almost anyone anywhere at any time. The film is divided into several segments, each of which focuses on one particular communications technology.