



Humans Innovating Technology Series

Communication Media

Introduction

Throughout history, people have communicated in a number of ways. Human technical communication began with the drawing of images on cave walls. By the year 200 BC people had used clay tablets and animal skins and they were beginning to use parchment paper. Around 1450, the process of communicating on paper became much easier with the invention of movable type for the printing press. Thoughts, ideas, and entire books could now be produced at a much lower cost and higher speed. This method of printing has led to major innovations in the area of communication. Today, books, newspapers, and flyers can all be mass produced for the general public. This evolution of communication is in the area of graphic communication.



As graphic communication was becoming more advanced, a new method of communication was also being developed. As researchers began to understand how electricity could be used and manipulated, electronic communication became a form of transmitting messages. The trend started with the telegraph in the 1800s. The users of the telegraph were able to create pulses of electricity that the receiver heard as long and short clicks. This was the first example of instant long-distance communication. The telephone followed, which allowed the sender's voice to be heard. As technological knowledge increased, so did the communication technology. Radio (the wireless) was developed in the early 1900s, followed by television.



Technological Literacy Standard #17

Students will develop an understanding of and be able to select and use information and communication technologies.

Benchmarks

Grades 9-12 There are many ways to communicate information, such as graphic and electronic means.

Today, new trends in communication are centered on the emerging area of digital communication. Digital communication is a branch of electronic communication that is based on small bits of data. The Internet, mobile phones, e-mail and DVD players are all examples of digital communication.

Digital communication may seem to be completely different and more advanced than any type of graphic communication. However, while digital communication may require newer technology, both forms of communication share one common requirement, a medium. A medium, singular media, is a device or technology that is used to carry the data or information that is being communicated. Without the use of a medium, information could not be sent from the sender to the receiver.

The oldest example of a communication medium is the air. When we speak to one another, the air between us is the medium that carries the sound waves. The air has been used for thousands of years to carry information. Our ancestors used air as a medium when they used drums and horns to communicate. Today, we use the air to move electromagnetic waves that allow us to use cell phones, radios, and televisions. We also use a number of additional media to transmit information.

Wires and fiber optic cables are used to carry electronic information from the sender to the receiver. In graphic communication, typical media are paper, poster board, and plywood billboards. Without the use of media, it would be impossible to communicate.



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Connections to Other Subjects

Mathematics—Technical graphic communication uses mathematics to accurately communicate a design or solution.

Language Arts—All technical communication utilizes either writing or speaking skills. The effective use of language is an essential part of communication technology.

Business—The advertising industry is one of the largest users of communication. Effective communication is crucial to businesses.

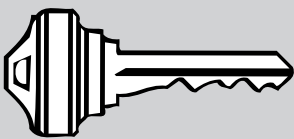
Art—The use of sketching and drawing skills is fundamental to technical graphics. The design principles are used in nearly all forms of communication technology.



Evidence of Attainment

The students will show that they have attained an understanding of information and communication technologies by:

1. Using a form of communication to convey a message.
2. Describing the use of communication media.



Key Terms

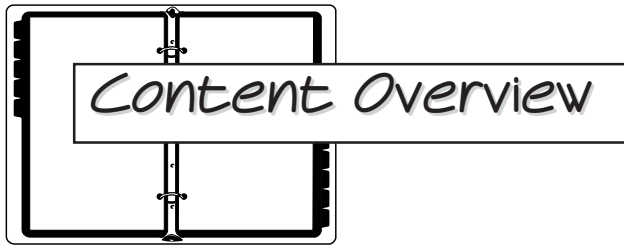
Communication The successful transmission of information through a common system of symbols, signs, behavior, speech, writing, or signals.

Communication technology Using technical means to exchange information and ideas.

Message The information sent by one source to another.

Communication media The product or device that is used to transfer information. (Paper, wires, air, etc.)

Electromagnetic waves Waves that are carried by air to transmit information. Radio waves, visible light, and X-rays are all electromagnetic waves.



Communication is the act of transmitting a message from a sender to a receiver. This would include all forms of communication from speaking and writing letters to e-mailing and faxing documents. If we view communication through the lens of technology, it would only include those acts of transmitting messages that use a technical system or device. There are many different ways to transmit messages using technology. However, they all require the use of a medium. The medium is the object or device that is used to transmit the message. Paper, newsprint, billboards, air, electromagnetic waves, and fiber optic cables are all common communication media.

As a means of organization, technical communication can be divided into two types, graphic and electronic.

Graphic communication is the transmission of information that can be seen. It is often referred to as visual communication. Graphic communication is separated into two categories: technical graphics and printed graphics.

- Technical graphics are usually created in the form of drawings. Sketches, drawings, charts and graphs, maps, and architectural drawings



are all examples of technical graphics. The two mediums that are most often used in technical graphics are paper and the computer. The technical drawings are either created on a computer using a technical graphic software package or by hand using traditional drawing tools.

- Printed graphics consist of text and images that are produced using a printing process. Common printing processes include flexography, intaglio printing, screen printing, electrostatic copying, and photography. The media used in printed graphics range from paper and billboards to T-shirts and mugs. Printed graphics are often used for advertising and packaging.

Electronic communication is the newer of the two forms of technical communication. It requires the use of electricity to transmit information. Electronic communication can be divided into two subcategories: analog and digital.



Messages are being communicated to you all the time. What messages do you come in contact with on the way to school? How are they being communicated? Are all products communicated in the same way?



- Analog communication includes messages that are transmitted through a continuously variable signal. VCRs and audio tape players are two examples of current analog communication devices. In the past, television, radio, and cellular phones were transmitted by analog means. Today, many of these examples of analog communication are switching to digital communication. Analog communication uses electromagnetic waves as a medium to send information.
- Digital communication is transmitting of messages using discrete bits of information. CDs, DVDs, XM radio, Web pages, and video games are all examples of digital communication. Digital information is stored on disks and disk drives.

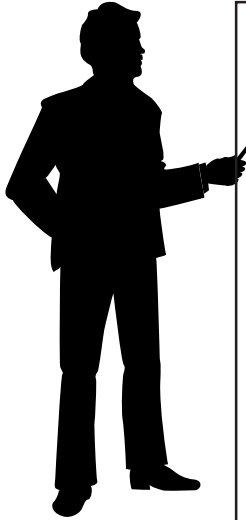
Each of these four subcategories of communication is very important. The main goal of all of these types of communication is to transmit a message. Most messages can be communicated in a number of different ways. For example, a professional football game may be broadcast on both the television and radio. Highlights and box

scores may be communicated in a newspaper and Web site and photographs may appear in a magazine. The plays are even drawn by the coaches and commentators.

In this HITS activity, your students will experience different types of communication media. In order to do this, they will follow the following process:

- ✓ Determine the message.
- ✓ Select the type of communication and medium to be used.
- ✓ Design the message.
- ✓ Communicate the message.





Problem/Challenge/Scenario

The student will be challenged to design a communication message to be delivered using communication media. The students must determine the message, select the medium to be used, design the message, and communicate the message.

Examples of potential messages are:

- ✓ An advertisement for an upcoming event.
- ✓ A program to promote technology education.
- ✓ A public service announcement on safe driving.
- ✓ A newspaper that reports school/community news.

Context

The activities involve information and communication technologies.

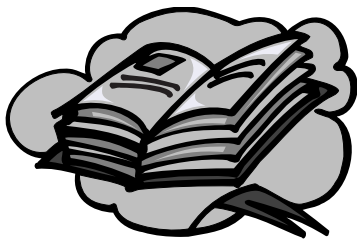
Resources

Print

Seymour, R., Ritz, J., and Cloghessy, F. (2000). *Exploring Communication*. Tinley Park, IL: Goodheart-Willcox, pp. 84-142. ISBN: 1-55637-678-5.

Prust, Z. A. (1999). *Graphic Communications: The Printed Image*. Tinley Park, IL: Goodheart-Willcox, ISBN: 1-56637-464-2.

Wright, R. T. (2000). *Technology*. Tinley Park, IL: Goodheart-Willcox, ISBN: 1-56637-50-0.



Web

American Institute of Graphic Arts.
URL: <http://www.aiga.org>

Encyclopedia of Typography and Electronic Communication.
URL: <http://ourworld.compuserve.com/homepages/profirst/encycl2.htm>

Graphic Communication Central.
URL: <http://teched.vt.edu/gcc/default.htm>

Kodak's Guide to Taking Great Pictures.
URL: <http://www.kodak.com/US/en/nav/takingPics.shtml>

Using Video Production to Teach and Learn.
URL: <http://www.peoplesmedia.org/peachy.htm>

Tools and Supplies

Tools and equipment

- Computers with page layout and Web page creation software.
- Video camera with tripod
- Audio recording equipment

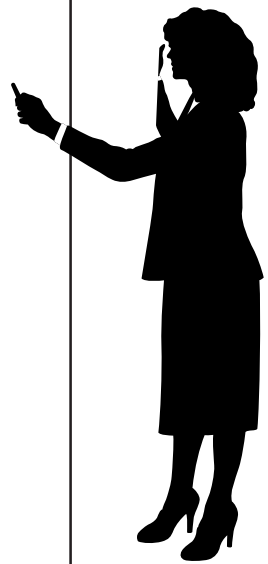
Supplies

- Clip art
- Printer (color preferred)
- Paper (Cardstock)
- Layout tools (rulers, triangles, etc.)

Teacher Preparation

To prepare for this activity you should:

1. Review the information found in this packet and in the resources listed.
2. Create a presentation covering the topics presented in the content overview (types of communication and communication media).
3. Gather the supplies and materials needed.
4. Develop a display that shows examples of graphic and electronic communication.



Getting the Students Ready



To prepare the students for this activity, have each student:

1. Explain the four subcategories of technical communication.
2. View a videotape or other media, such as *Communication Systems*, that presents communication systems.
3. Explore Web sites related to communication media.

Conducting the Activity

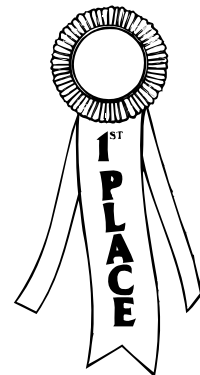
This activity may be conducted using the following steps:

1. Introduce the concepts related to types of communication and communication media.
2. Discuss the different uses of the communication types.
3. Divide the class into four to six groups.
4. Introduce the message the students will communicate in this activity.
5. Hand out the Learning Activity beginning on Page 9 of this package.
6. Have each group:
 - a. Select one of the six types of communication media.
 - b. Complete the planning sheet.
7. Have each student:
 - a. Complete an initial design sheet.
 - b. Present his or her ideas to the groups.
8. Have each group:
 - a. Select the best solution.
 - b. Brainstorm ways to improve the design.
 - c. Record any changes on a design sheet.
 - d. Prepare the solution (using the hand-outs based on the type of media assigned to the group).
 - e. Produce/record the solution.
 - f. Present his or her solution to the rest of the class.
9. Evaluate the students' work using the assessment rubric.

Assessing Students

The students' understanding of types of communication and communication media can be evaluated using the means below.

1. Ask the students to:
 - a. Explain the types of communication.
 - b. Describe the function of communication media.
2. Have the students write an explanation of how they communicated the message.
3. Evaluate the students' projects and participation using the rubric.





Communication Media

Learning Activity

Context

Information and Communication Technology



Introduction

We constantly use communication in our daily lives. We send and receive messages in many different ways. We may send a greeting in an e-mail. Watch the news on television. Read articles from the newspapers. Find interesting information on the Internet. All of these examples are acts of communication. In this activity, you will use a form of communication to prepare and transmit a message.



Goals

As you work through this unit you will learn to:

1. Design a message.
2. Develop designs to communicate your message.
3. Produce a message using a communication medium.
4. Publish or broadcast your message.

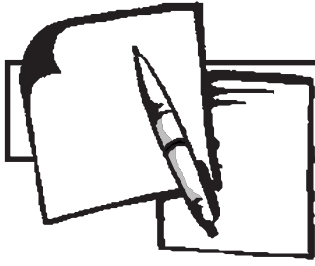


Your tasks

You are an advertising executive who has been asked to design a message to be published or broadcast to a group of high school students. The message you are to communicate is (enter the topic on the line below):

_____.

You have been asked to use a specific media to communicate the message. That media is one of the following: magazine advertisement, flyer (to be posted), package panel (side of a milk carton), radio advertisement, television commercial, or Web page.



Message Planning Sheet

Complete the planning sheet by filling in the blanks.

Message

Media

Select the media you have been assigned:

- | | |
|--|--|
| <input type="checkbox"/> magazine advertisement | <input type="checkbox"/> radio advertisement |
| <input type="checkbox"/> flyer (to be posted) | <input type="checkbox"/> television commercial |
| <input type="checkbox"/> package panel (side of a milk carton) | <input type="checkbox"/> Web page |

Audience

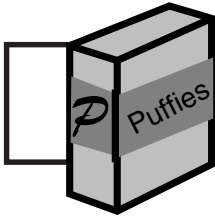
This message is designed to communicate information to:

Message Details

List any details that must be included in the message:

Important Information

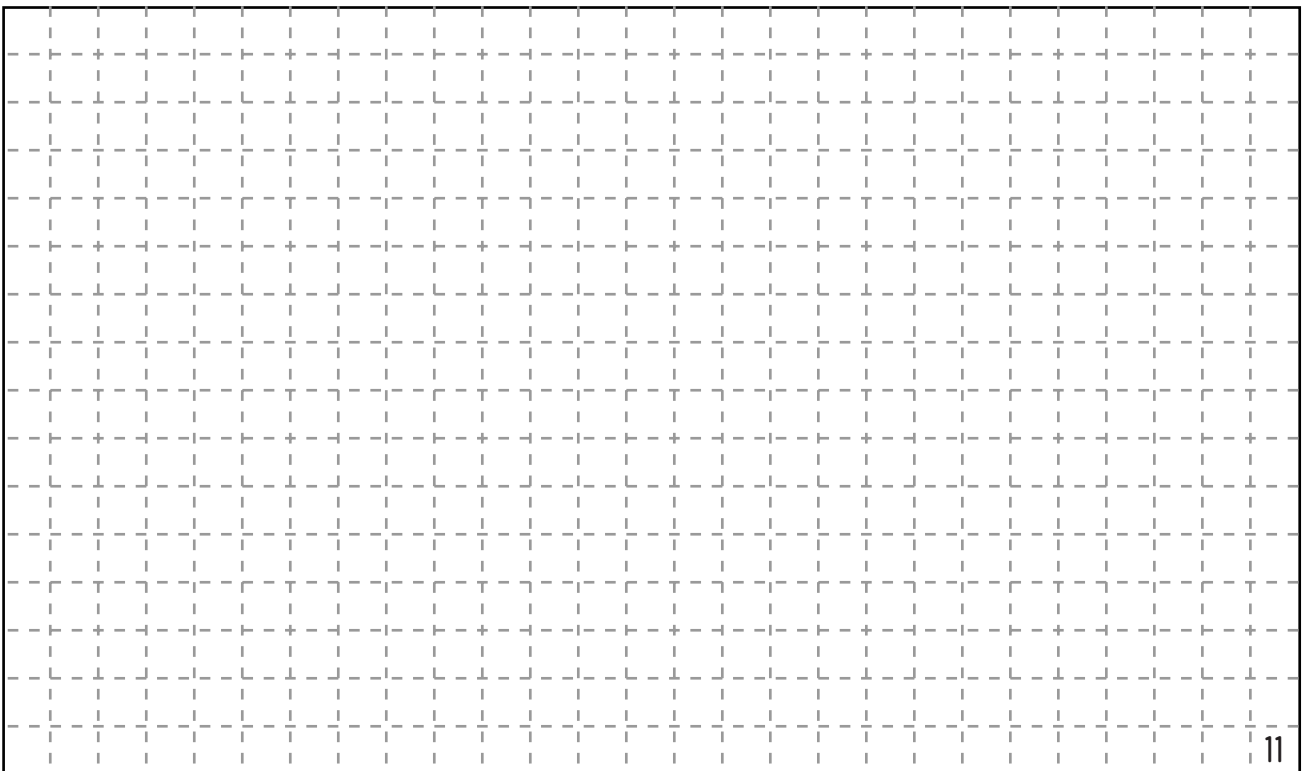
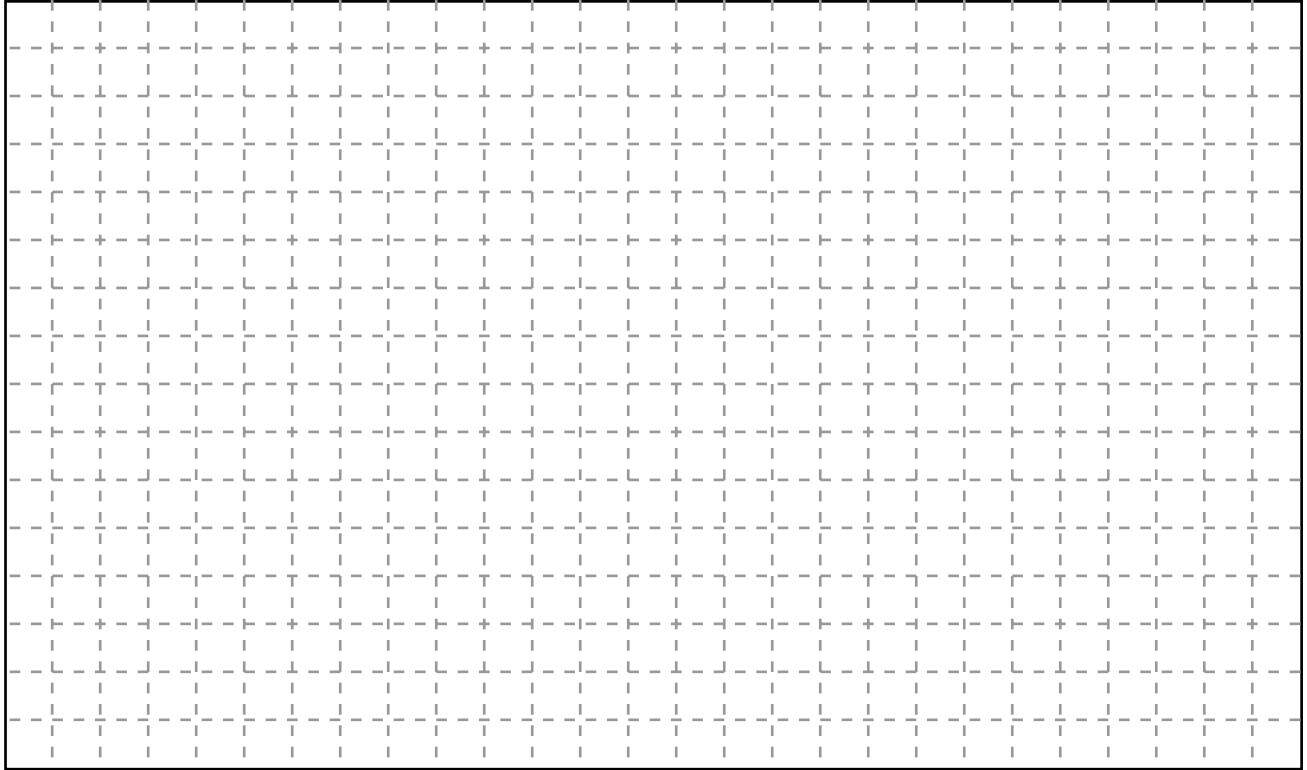
List any other information that you feel should be included:



Initial Design Sheet

Magazine advertisement, flyer, package panel, or Web page.

Draw sketches of two possible designs for your message.





Initial Design Sheet
television commercial

Use this storyboard to create a solution to the video.
Use additional sheets as needed.



Video:

Audio:



Video:

Audio:



Video:

Audio:



Video:

Audio:



Video:

Audio:



Video:

Audio:



Initial Design Sheet
radio commercial

Use this sheet to prepare a script for the radio commercial.

Title of commercial: _____

Actor	Script (text to be spoken)	Sound effects

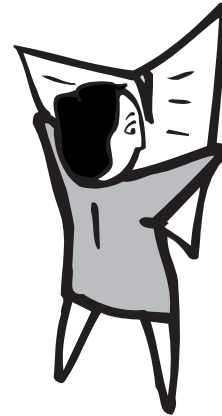


Steps for Preparing the Media

Graphic Media

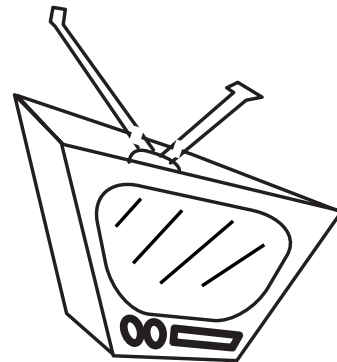
- ❑ Magazine advertisement
- ❑ Flyer
- ❑ Package panel
- ❑ Web page

1. Determine the size of the final solution.
2. Using page layout or Web development software, set the margins to the correct size.
3. Using the design your group developed, place the text on the screen.
4. Create or locate all needed images and clip art.
5. Print copies for review.
6. Make any necessary changes.
7. Make final copies.



Electronic Media

- ❑ Radio advertisement
 - ❑ Television commercial
1. Write a script.
 2. Plan each of the scenes.
 3. Locate all props and sound effects.
 4. Select the actors, director, and camera/sound crew.
 5. Rehearse the entire commercial.
 6. Record the commercial.
 1. Use the storyboard and initial script to create the final script.



Assessment Rubrics

Planning sheet

0	1	2	3	4	5
No statement included	Poor statements and information		Adequate statements and information		Well developed statements and information

Initial design

0	1	2	3	4	5
No design presented	Poor design		Appropriate design		Excellent design

Final design

0	1	2	3	4	5
No design presented	Poor design		Appropriate design		Excellent design

Use of planning steps

0	1	2	3	4	5
Steps not followed	Few steps completed		Completed most steps		Completed all steps

Final solution

0	1	2	3	4	5
None produced	Poorly developed and executed		Average solution with average execution		Highly developed and well executed

Final presentation

0	1	2	3	4	5
None given	Poorly prepared and presented		Average preparation and presentation		Excellent preparation and presentation

Notes: