

# **Saving Peter's Packets**

## **Networking & Positive Uses of Computers**

*For Middle School Students*

### **The Instant Intro to Networking**

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International Society for Technology in Education National Education  
Technology Standards for Students (ISTE NETS)

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#### **Teacher Summary**

This lesson provides a quick introduction to the learning exercises in the Peter Packet game. This is designed for teachers who don't have time to fit the more extensive learning activities into the curriculum. Teachers who are looking for more detailed lessons should check out the other offerings in the Peter Packet Package.

**This lesson features positive uses of computers, an introduction to networking, and important information about problems created by computer viruses and hackers.**

Activities include a discussion of how technology can be used to help others around the world, the Peter Packet game, a follow-up discussion, and ideas for homework assignments.

This lesson should take one 50-minute class period.

#### **Objectives**

- To increase understanding of how the Internet can be used to help people around the world
- To help students gain knowledge of how servers, routers, packets, and wireless technologies work
- To help students realize the dangers viruses and hackers pose to computers, computer networks, and their information
- To make learning about technology easy to understand and fun

## ISTE NETS

Basic operations and concepts: Students demonstrate a sound understanding of the nature and operation of technology systems.

Social, ethical, and human issues: Students understand the ethical, cultural, and societal issues related to technology.

Technology productivity tools: Students use tools to enhance learning, increase productivity, and promote creativity.

### Preparations for the Lesson

Although parts of this lesson can be completed without high-speed Internet access, students will need computers with high-speed connections to play the Peter Packet game online. If you do not want students to go online, the game can be downloaded from the Peter Packet site at

[http://www.cisco.com/warp/public/779/edu/peterpacket2/deliverables/funland\\_play.htm](http://www.cisco.com/warp/public/779/edu/peterpacket2/deliverables/funland_play.htm).

Once the game is on a computer, students should click index.html to play.

If possible, there should be a computer available for each student. If individual computers are not available, divide your class into teams or groups.

Try the game before the lesson to become familiar with the content. The game will also give you a basic understanding of networking. It should take less than 20 minutes to complete the game, including the introduction, rules, and information about the missions.

You don't have to be a networking specialist to teach this lesson. Background information is provided in the Packet Package. If you and your students need more information, see the list of links at the end of this lesson.

### Lesson Directions:

1. Have your students come up with some reasons why people use computers. We often hear more about the negative effects of technology. Try to emphasize the ways that computers can be used to help others.
2. Explain that they will be using their computers to help students in different parts of the world. They'll be playing the role of packets or tiny pieces of information that travel through the Internet in an attempt to bring data safely to its destination.
3. Tell them that their mission will be completed using a computer game and that they will be given a [Game Cheat Sheet](#) <Instructors>Resources>Game Cheat Sheet>.

4. Inform your students that after they complete their mission, you will expect them to answer the following questions on the Mission Summary Sheet:  
<Instructors>Lessons>Mission Summary Sheet>
  - Which country did they select and what was the problem to be solved?
  - How did the information travel from the organization back to the people who needed it?
  - What problems were encountered along the Internet path?
  - How can similar problems be avoided on school and home computers?
  - What is needed for safe, reliable, and fast transfer of information through the Internet?
  - How can we help others with our computers?
5. Send your students out to take on their mission at <http://www.cisco.com/warp/public/779/edu/peterpacket2/deliverables/default.htm>. They should click on Funland or Play Game. Don't forget to have them enter the site in their browser Bookmarks or Favorites.
6. When your students have finished the game, bring the class back together to do a debriefing for the missions to Haiti, India, and Zimbabwe. Have students use their Mission Summary sheets to add to the discussion. As they talk about the delivery of the packets, make sure they understand how the knowledge they gained while playing the game relates to their use of computers. Encourage your students to think in terms of their own computers as they decide what is necessary for fast and effective transfer of information through the Internet.
7. You may want to add a home assignment to reinforce the learning in this lesson. Here are a few suggestions for possible assignments:

Try Peter Packet again from your home computer or one of the school's library computers. See if you can improve the delivery of the data you are given through the Internet.

Consider how the class might interact online with residents of a retirement home or assisted living community. Are there other organizations such as the humane society, Red Cross, or homeless shelters that we can help with our computer skills and connections? Bring your ideas to class so that we can decide upon a community service project we can tackle with our tech equipment. For more ideas, see the Community Service links below.

Why do you think networking specialists are in demand today? What does a networking specialist do? How is a networking job similar to being a detective or a doctor? What do you think future careers in this field will be like?

Create an informal poll about people's perceptions of technology and then analyze the data. One way to look at this might be by the age or sex of the respondents. Are younger people more willing to forgive technology for its shortcoming than older people? Who trusts technology more: men or women? What conclusions can you draw?

## **Additional Resources**

In each of our other Peter Packet Lessons, we offer a number of supplemental activities to enhance learning for your students. If you would like to look into additional activities, check out the other lessons in the Peter Packet Package.

You or your students may want to visit the following websites:

### **Community Service**

<<http://www.afterschool.gov>>

Links to interesting community service projects

### **Connect for Kids Community Service**

<[http://www.connectforkids.org/content1555/content\\_list.htm?attrib\\_id=332](http://www.connectforkids.org/content1555/content_list.htm?attrib_id=332)>

Examples of community service carried out by students

### **Cybergeography**

<<http://www.cybergeography.org/atlas/topology.html>>

Fascinating views of networks in cyberspace

### **How Computer Viruses Work**

<<http://computer.howstuffworks.com/virus.htm>>

Information about different viruses and what they can do to computers

### **Hackers**

<<http://www.tinhat.com/hackers/index.html>>

Easy-to-understand hacker information

### **How Encryption Works**

<<http://computer.howstuffworks.com/encryption.htm>>

A concise description of encryption

### **How Routers Work**

<<http://computer.howstuffworks.com/router.htm>>

An introduction to routers

### **Internet Diagram**

<<http://www.profitgate.net/webchart.html>>

How the Internet works

### **Internet Movie**

<<http://research.lumeta.com/ches/map/movie.mpeg>>

An interesting movie demonstrating the growth of the Internet

### **Jelly Beans and the Internet**

<[http://www.tinhat.com/internet\\_basics/how\\_the\\_internet\\_works.html](http://www.tinhat.com/internet_basics/how_the_internet_works.html)>

Guide to how the Internet works

### **Mapping the Internet**

<<http://computer.howstuffworks.com/internet-infrastructure.htm>>

An excellent diagram featuring routers and servers

### **What is the Internet?**

<<http://www.centerspan.org/tutorial/net.htm>>

A tutorial that explains how the Internet works

### **What is a Packet?**

<<http://computer.howstuffworks.com/question525.htm>>

A detailed, but easy -to-understand description of packets

### **What is Wireless Networking?**

<<http://compnetworking.about.com/cs/wireless/f/whatiswireless.htm>>

Concise description with links

### **Wireless Networking**

<<http://computer.howstuffworks.com/wireless-network.htm>>

An introduction to wireless networking