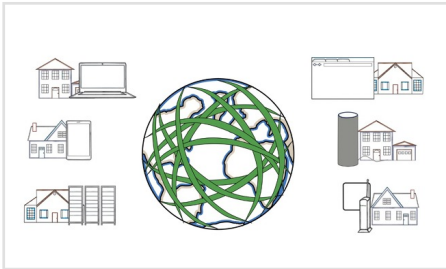**Lesson Plan**

This lesson plan is designed to help you teach using a Common Craft video. Use the information below to introduce the video and then follow the video with discussion questions and other resources.

IP Addresses
Explained by Common Craft

At the very heart of the web are a set of rules or "protocols" that let us send and receive information. By understanding Internet Protocol Addresses or IP Addresses, we can see how information is requested and delivered on the web.

commoncraft.com/video/ip-addresses

ISTE Standard:
Empowered Learner, Indicator 1d

Learning Outcomes

- Define the terms protocol and IP address

- Describe the role IP addresses play on the web

- Explain how an IP address is assigned to your computer

- Recognize why there are two different versions of IP addresses

Discussion Questions

Q #1

How are traditional mailing addresses similar to/different from IP addresses?

Q #2

Why is it important for the Internet to have a protocol? Explain.

Knowledge Check Q&A

Q

What is a protocol?

A

A protocol is a set of rules that everything on the Internet abides by.

Q

What is an Internet Protocol (IP) address and how is one assigned to your computer?

A

An IP address is a string of numbers that is assigned to your computer or device by your Internet service provider when you connect to the Internet. It is used to identify where to send messages and receive messages on the Internet.

Q

What role do IP addresses play on the web?

A

Both your computer and the computer hosting a website that you want to visit have IP addresses. When you click on a link, the protocol on your computer sends a request for the web page using an IP address and the web page is delivered to your IP address. IP addresses allow information to be delivered from one computer to your computer--just like mail is delivered from one home address to another.

Q

Why are there two different versions of IP addresses?

A

The original version allowed for about 4 billion addresses, but that was not enough. The new version allows for nearly unlimited addresses.

Resources for Learning More

WhatismyIPaddress.com
"IP lookup"

http://whatismyipaddress.com/ip-lookup

How Stuff Works
Stephanie Crawford
"What is an IP address?" 1/2001

http://computer.howstuffworks.com/internet/basics/question549.htm

NBCNews
"The Internet now officially too big as IP addresses run out" 7/2015

http://www.nbcnews.com/news/us-news/internet-now-officially-too-big-ip-addresses-run-out-n386081

IANA (Internet Assigned Numbers Authority)
"About us"

https://www.iana.org/about

Online Tech Tips
"How to fix an IP address conflict"

http://www.online-tech-tips.com/computer-tips/ip-address-already-in-use/