HOW THE INTERNET WORKS

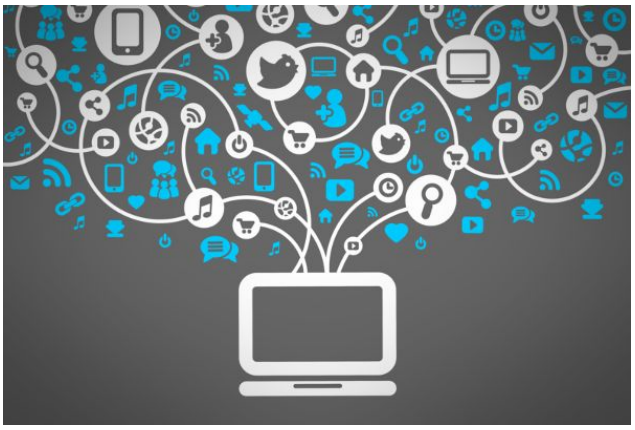


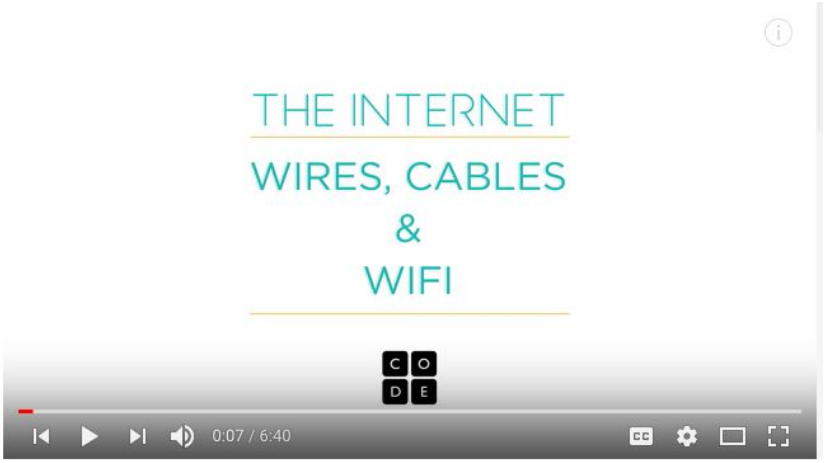
Photo Credit: BusinessTech

OVERVIEW

The Internet has changed the way that we get information, consume entertainment, and communicate with each other. But how does the Internet work? The videos below will explain some of the key components that keep the Internet up and running.

WIRES, CABLES, & WIFI

So you know that the Internet is a network of computer networks – but how do those computers send information from one machine to another? This video will introduce the different physical methods that the Internet uses to transmit data.



The Internet: Wires, Cables & Wifi

Consider the questions below as you work:

- What are bits? How are bits useful for sending information? How do you know if there are multiple 1's or 0's sent in a row?
- What is bandwidth? What is bitrate? What is latency? How are these three terms related?
- What are the different forms that information can be sent in? What are the pros and cons of each?

IP ADDRESSES & DNS

The Internet allows you to send information from one device to another. But how does one device know how to find the other? This video will explain how the Internet helps computers locate and talk to one another.

The Internet: IP Addresses & DNS

Consider the questions below as you work:

- What is a protocol? Why are protocols useful?
- What is IP? What is an IP address? How does your computer use IP addresses?
- What is a DNS? What does the DNS do? How does it work? Try writing out an algorithm for how DNS works.

PACKETS, ROUTING, & RELIABILITY

HOW THE INTERNET WORKS

How does the Internet make sure you get what you're looking for reliably? This video will explain how the Internet breaks up information into pieces and makes sure you get everything you need.

The Internet: Packets, Routing & Reliability

Consider the questions below as you work:

- How does a picture get from one place to another on the Internet?
- What is a packet? Why are packets necessary? What are the limits of a packet?
- What is a router? How does a router work? How does a router make decisions?
- Why might having more routers mean more reliability?
- How does the Internet ensure reliability?
- What is TCP? How does TCP work? Try writing out an algorithm for how TCP works.

HTTP & HTML

What happens behind the scenes after you enter a URL into your web browser? This video will explain how devices talk to each other on the Internet.

HOW THE INTERNET WORKS

The Internet: HTTP & HTML

Consider the questions below as you work:

- What is a URL?
- What happens when you enter a URL into your web browser? Try writing an algorithm for what happens.
- What is HTTP? What is it used for? What is the difference between HTTP and HTTPS?
- What is a server?
- What is HTML? What is it used for?
- What is the difference between a GET request and a POST request?
- What are cookies? How does your web browser use cookies?
- What are SSL and TLS? What are they used for? How does using SSL and TLS affect the algorithm for what happens when you enter a URL into your web browser?