

STREAMING 101

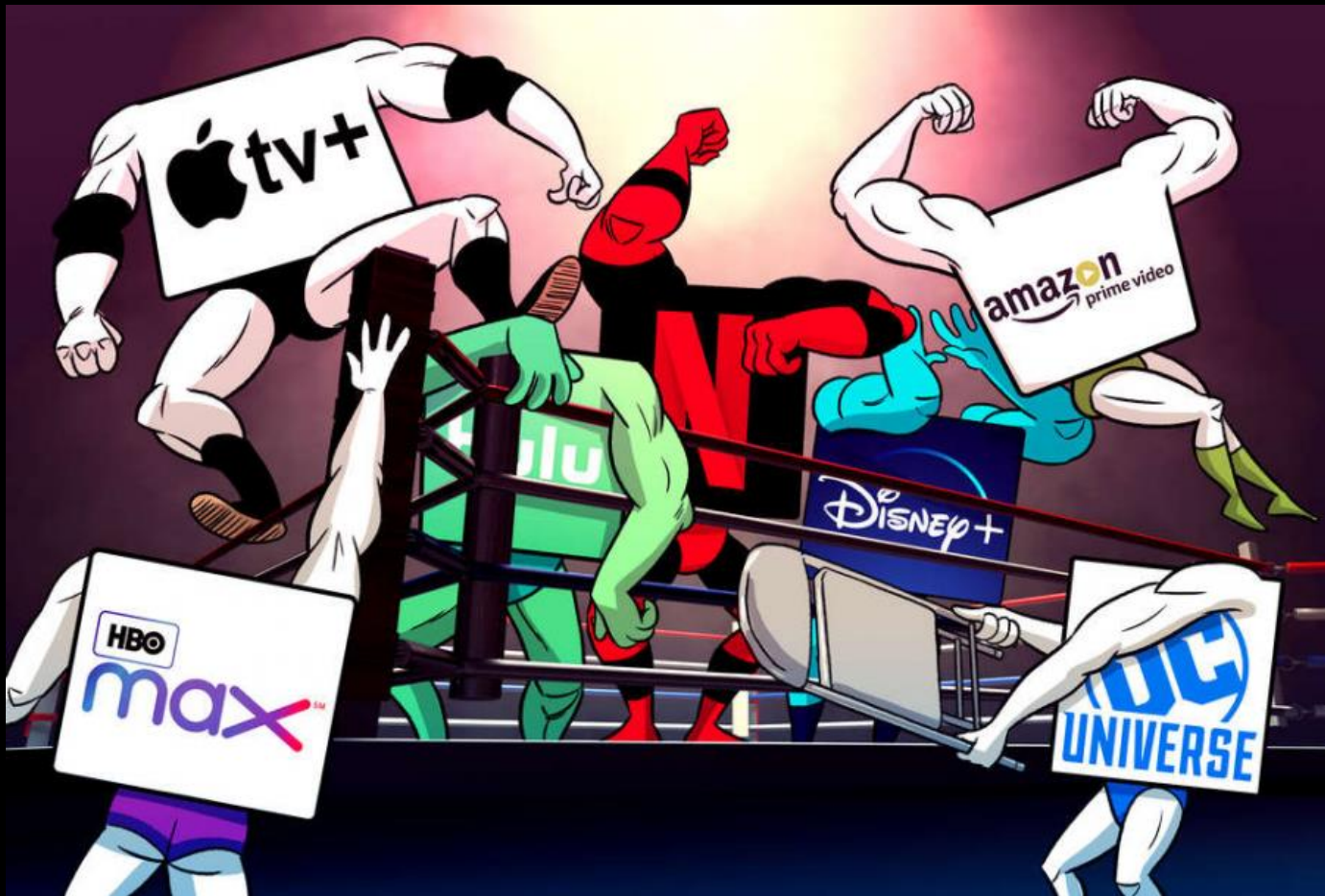




AGENDA

1. What do I need to get started?
2. Streaming Devices
3. Streaming Services

Looking to get away from cable television? To do this, you will need to find a different way to receive content. The most popular solution today is a method called “streaming”.



Currently, getting into streaming is more difficult than ever due to "the streaming wars". The purpose of today's class is to help you navigate the streaming landscape and decide what's right for you!

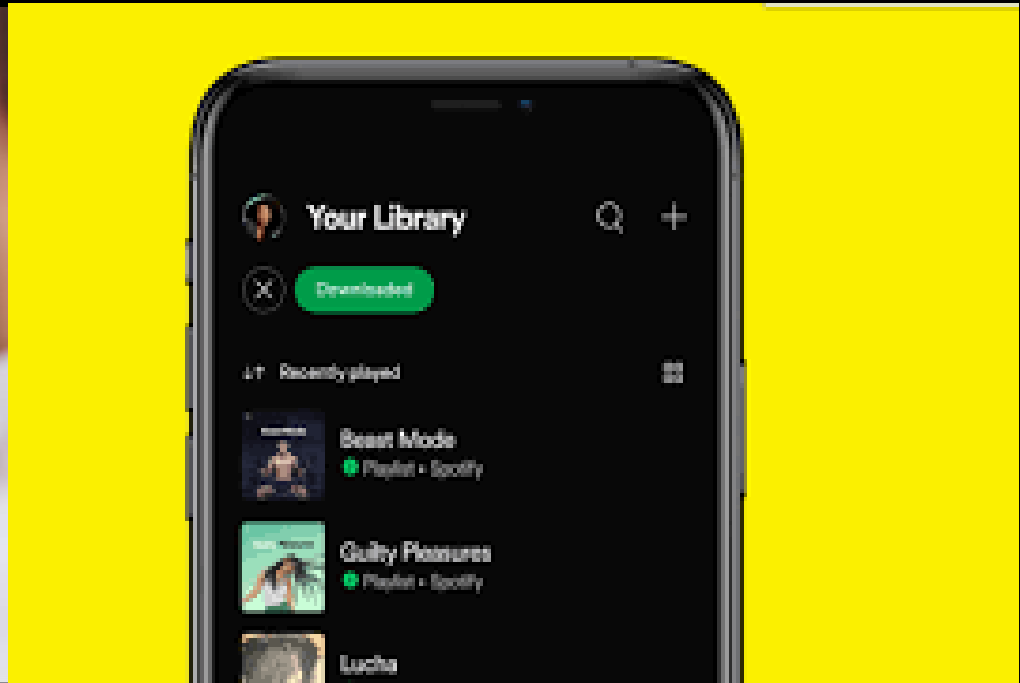
A hand holding a black remote control in front of a blurred television screen displaying a streaming interface. The text "WHAT IS STREAMING?" is overlaid in the center.

WHAT IS STREAMING?

Streaming is a technology used to deliver content to computers and mobile devices over **the internet**.

For example, Netflix is a service that allows you to stream movies while Spotify is a service that allows you to stream music.





People use **streaming** a lot with mobile devices such as **smartphones** and **tablets**, specifically for content such as movies, television shows, music, podcasts and more. These services are usually accessed through **apps**.

Streaming is different from downloading.

Downloading saves the content to your device, which comes in handy for when you're travelling or are going to a place where you won't have an internet connection.

But the large file sizes of movies and television shows often take up a lot of space on your device. **Streaming**, on the other hand, does not take up any space since you are loading the content through the internet.



But although streaming is fast and convenient, it has some downsides also.



Since **streaming** requires an internet connection, any trouble with the internet connection will result in videos that load slowly, look blurry or get stuck buffering- resulting in a frustrating experience! (And if you have no internet connection, you can't access your content at all...)

A close-up photograph of a network switch or router. The device has a dark grey or black plastic casing with a perforated top. In the center, a yellow Ethernet port is highlighted with a semi-transparent yellow box. To the left, there is an ADSL port and a USB port. To the right, there are several other ports, including one labeled 'Internet'. The text 'Ethernet' is printed below the yellow port. The background is dark and out of focus.

**HOW DO I MAKE SURE I
HAVE A GOOD INTERNET
CONNECTION?**

1. Download speeds of **4 mbps (megabits per seconds)** or higher is recommended by FCC for optimal streaming (3-4 for SD, 5-8 for HD and 25 for 4K). (Want to check your current speed? On an internet browser, go to **speedtest.net**)
2. For smartphones/tablets without Wi-Fi: a **high data cap** or **no data cap** on cellular data. Streaming an hour of video can use **0.7-3 GB** of data which is why it's better to use Wi-Fi)
3. Type of internet service from fastest to slowest: **Fiber (Verizon), Cable (Optimum), DSL, Satellite**
4. A **wired connection** is faster, but **Wi-Fi** is more flexible. The choice is yours!



**HOW DO I GET STARTED
WITH STREAMING?**



What you need to cut the cord:

1. A strong internet connection
2. A streaming device
3. A subscription (or subscriptions) to a streaming service.

Your **streaming device** is what you will plug into the television. It is a one-time fee to purchase these devices. (Example: Roku, Amazon Firestick, etc.)



Your **streaming subscription** is the service that provides the actual content, such as movies, television shows and live television channels. These services require a reoccurring monthly fee. (Example: Netflix, SlingTV, Hulu, etc.)

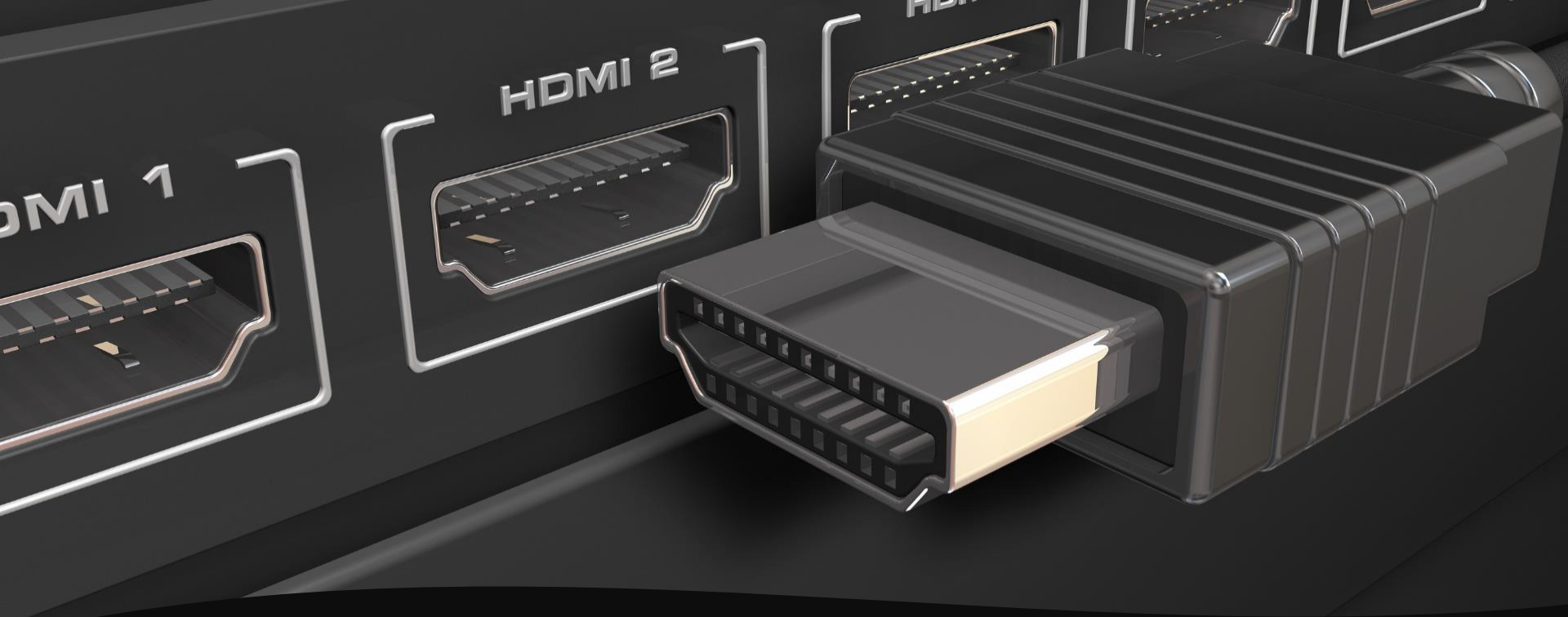
A hand is holding a black remote control in the foreground, positioned in front of a television screen. The screen displays a grid of colorful, blurred images, likely from a streaming service interface. The remote control features a red power button at the top, followed by playback controls (stop, play/pause, previous, next), search buttons, a central blue OK button with directional arrows, volume controls, and a numeric keypad. The text "STREAMING DEVICES" is overlaid in large, bold, white capital letters across the center of the image.

STREAMING DEVICES



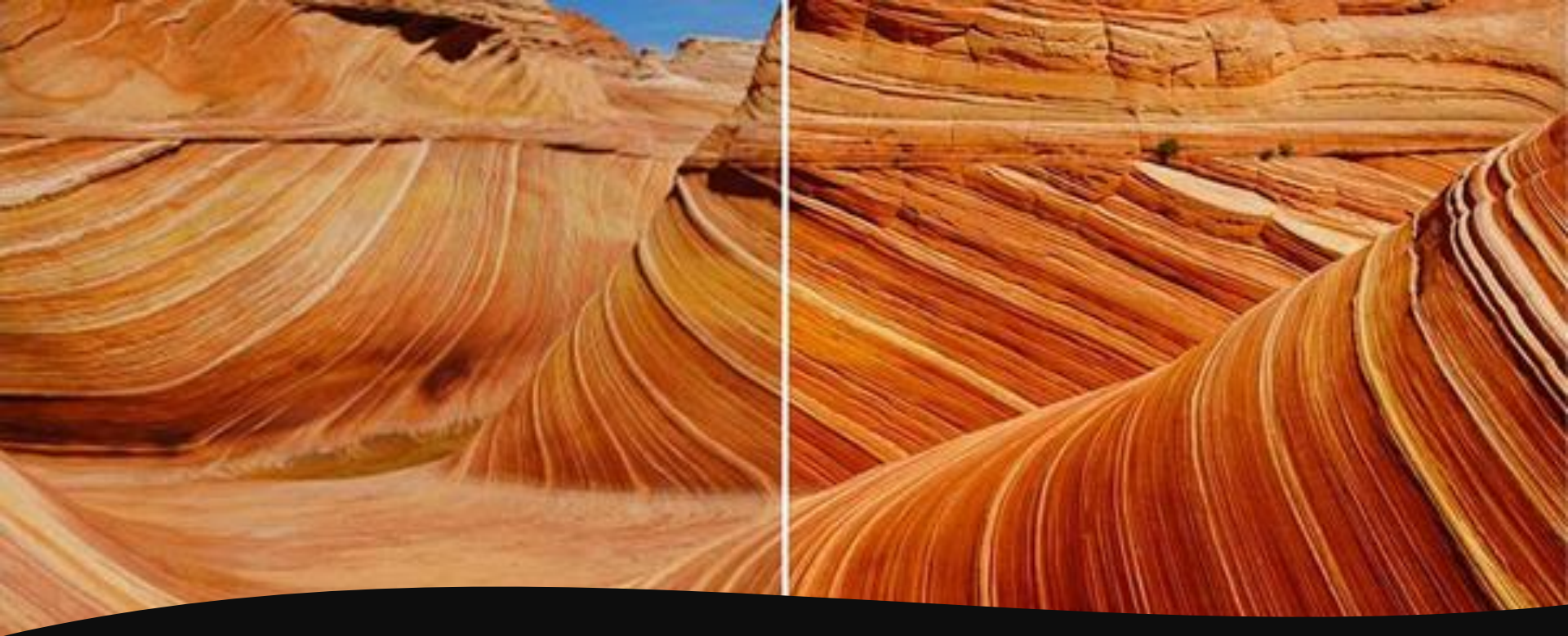
WHAT IS A STREAMING DEVICE?

- If you want to watch television shows and movies on an actual television, instead of a smart-phone or tablet, you will need a device that will allow you to access streaming content.
- Streaming devices are very much like smartphones and tablets. They allow you to access your streaming services through apps. Apps can be downloaded for free through the device's store.



Streaming devices are usually plugged into the HDMI port of your television. You can then change the input of the television (like you do when switching your television to a DVD player). They also require a power source, so make sure you are near an outlet!

Most devices come with an HDMI cable. Stick devices (like the Roku Streaming Stick or the Amazon Fire Stick) plug directly into the HDMI port.



When discussing streaming devices, it's important to pay attention to video quality. The capabilities of your television will determine which device you want. Some terms to pay attention to are:

- **HD (2K)- High Definition. HD video is slowly becoming the new standard. (720p is lower resolution, 1080p is high resolution).**
- **Ultra HD (4K)- Improved video quality from HD.**
- **High Dynamic Range (HDR)- Improved contrast/expanded color.**

A television screen with a black frame and a light blue, textured background. The screen displays the word "WAIT!" in large, bold, black capital letters. Below it, in smaller bold black capital letters, is the text "BEFORE YOU BUY A STREAMING DEVICE, ASK YOURSELF THESE QUESTIONS!".

WAIT!

**BEFORE YOU BUY A STREAMING
DEVICE, ASK YOURSELF THESE
QUESTIONS!**

SMART TELEVISIONS



Smart televisions are televisions that function like smartphone and tablets, allowing you to access apps and browse the internet directly from your television.

Smart Televisions

Pros:

- All-in-one: No need to add extra devices, your smart television can do everything!
- Range in quality from budget-friendly to expensive. Sometimes available in 4K!

Cons:

- Even at the cheapest price, it's cheaper to get a streaming device rather than replace a functional non-smart television.

OTHER DEVICES



**NEED A DEVICE?
CHECK THESE OUT!**





ROKU[®]



Roku

- **Roku Express (\$29.99) and Express + (Walmart Exclusive- \$41.99):** The Roku Express and Express + allow you to stream HD quality video. The Express + is slightly more expensive but allows you to use an older television without an HDMI port (it's being discontinued, so find it quickly!). Also includes a remote! HDMI cable.
- **Roku Express 4K + (\$39.99):** HDR & 4K streaming. HDMI cable.
- **Roku Streaming Stick 4K (\$49.99):** The Roku Streaming Stick is a portable streaming device that plugs into a HDMI port. Has improved WiFi and processor.
- **Roku Streaming Stick 4K+ (\$69.99):** Same as previous, but adds Roku Voice Remote Pro
- **Roku Ultra (\$99.99):** This is Roku's most expensive model. Streams in HD, 4K UHD and HDR color. Other features: voice search, improved wireless receiver, ethernet port.
- **Roku Streambar (\$129.99):** Combines RokuOS with a speaker bar.

ROKU

Streams



Streams



15 Channels

My Channels

Channel Store

Search

Settings

NETFLIX

amazon
instant video

huluPLUS

vudu
HD Movies

HBO GO

CRACKLE
IT'S ON

Disney



PANDORA

ROKU

The Amazon logo, featuring the word "amazon" in a lowercase, sans-serif font with a curved orange arrow underneath it, pointing from the letter 'a' to the letter 'z'.

Amazon

- **Fire TV Stick Lite (\$29.99):** HD, Alex Voice Remote Light.
- **Fire TV Stick (\$25.99) and Fire TV Stick 4k (\$33.99):** Portable and capable of streaming 1080 p video. Also includes Alexa-powered voice remote. 4k has 4k.
- **Fire TV Stick 4K Max (\$54.99):** Improved performance hardware and support for WiFi 6.
- **Amazon Fire TV Cube (\$99.99):** Completely voice controlled (although it does come with a remote). Cross between Fire TV Stick and an Amazon Echo.
- **Nebula Soundbar (\$179.99) and TCL Alto 8+ Soundbar (\$199.99):** FireTV combined with a sound bar.



Plugs directly into an HDMI port,
can tuck neatly behind your TV

Search

Home

Movies

TV

Watchlist

Video Library

Games

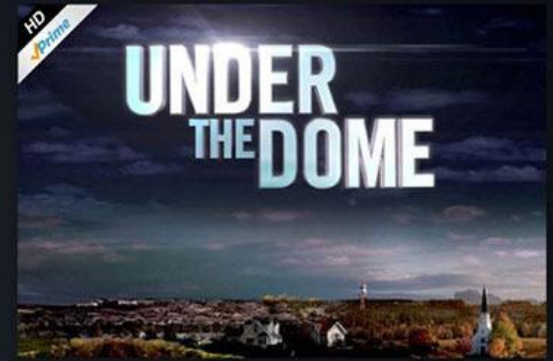
Apps

Photos

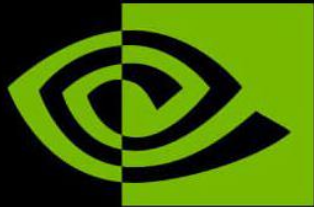
Recent



Recently Added to Prime Instant Video



Amazon



NVIDIA®

Nvidia Shield TV

- **Nvidia Shield TV (\$149.99):** Great for gamers, especially when adding the Shield Controller (\$59.99). 4K & HDR. OS is Android TV. Ethernet.
- **Nvidia Shield TV Pro (\$199.99):** Also 4K, two USB 3.0 ports to expand space and a PLEX Media Server. Can also act as a smart home hub.





Nvidia



Apple

- **Apple TV (\$149.00):** HD only. This is, however, a good choice for people with multiple Apple products (iPhones, iPads, Macs, etc.) as AirPlay makes casting Apple devices easy. Siri-powered voice remote! It can also be used with services like Fitness +.
- **Apple TV 4K (\$179.99):** Same thing but 4K and HDR!



Netflix



Netflix



Apple |



Google

- **Google Chromecast (\$29.99):** HD streaming. A simple device that allows you to cast directly from your smartphone/tablet to a television. There's no interface or remote, everything is handled through your device! Just look for apps with the Chromecast icon:



- **Google Chromecast w/ Google TV (\$49.99):** HD, 4K adds an OS (Android TV) and a remote.





Search movies, TV, and more



12:45



Apps



Subscriptions



My Channels



Prime Video



Google



Side note: Altice One

The Altice One is a streaming box with built-in WiFi, meaning that the device also acts as the router for your home. (You can purchase the Altice One Mini to extend your signal.)

A row of computer monitors in a dimly lit room, each displaying a colorful bar chart. The charts feature vertical bars in shades of blue, red, yellow, and purple, with numerical values ranging from 100,000 to 600,000. The text 'STREAMING SERVICES' is overlaid in large white letters across the center of the image.

STREAMING SERVICES



Now that you have a strong internet connection and a device to stream to your television, it's time to find a **streaming service!**

A television screen with a black frame and a light blue, textured background. The screen displays the word "WAIT!" in large, bold, black capital letters. Below it, in smaller bold black capital letters, is the text "BEFORE YOU SUBSCRIBE TO A STREAMING SERVICE, ASK YOURSELF THESE QUESTIONS!".

WAIT!

**BEFORE YOU SUBSCRIBE TO A
STREAMING SERVICE, ASK YOURSELF
THESE QUESTIONS!**

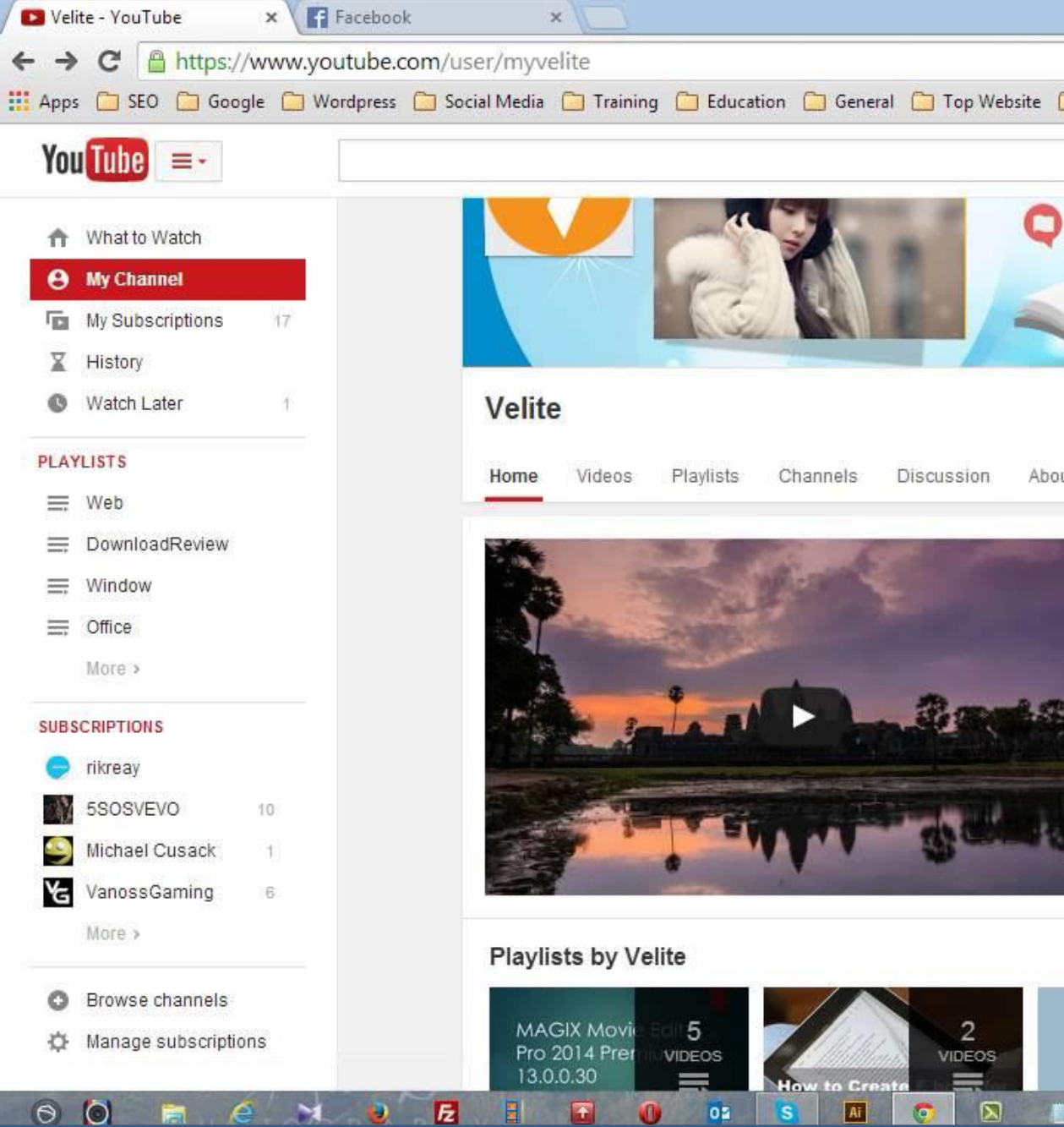
Three things to consider:

- ***What do you want to watch?*** Knowing what shows or channels you are interested in will determine which subscription services you decide to subscribe to. Remember, there may not be a single service that has everything that you want!
- ***How much are you willing to pay?*** Your bill can get expensive depending on which service, which level of service and how many services you decide to get. Before subscribing, remember to do the math. If it's going to be more expensive than your cable bill, you may need to readjust!
- ***What streaming device do I have?*** Though many services are expanding, not every device has an app for every streaming service. Therefore, it's important to keep in mind what device you have and check to make sure the service you want is compatible with it.

READY TO
SUBSCRIBE?

A person with short, dark hair is seen from behind, wearing a light-colored sweater with dark horizontal stripes. They are looking at a large screen that displays a grid of various colorful images, possibly a social media feed or a gallery. The text "FREE SERVICES" is overlaid in the center of the image in a bold, white, sans-serif font.

FREE SERVICES



YouTube

Youtube, a popular video-sharing website owned by Google, is a great way to find free content! Vlogs, tutorials, adorable animal videos, web-series and much, much more- Youtube is not a service to be overlooked!

hoopla

digital done right



Hoopla

Hoopla is a free streaming service offered for free with your library card! Use Hoopla to stream movies, television shows and music. You can even read eBooks and listen to audiobooks!

MOVIES AND DOCUMENTARIES FOR FILM LOVE

New to Kanopy



Dear Zachary



The Messenger



Sip'ohi el Lugar

Buzzworthy



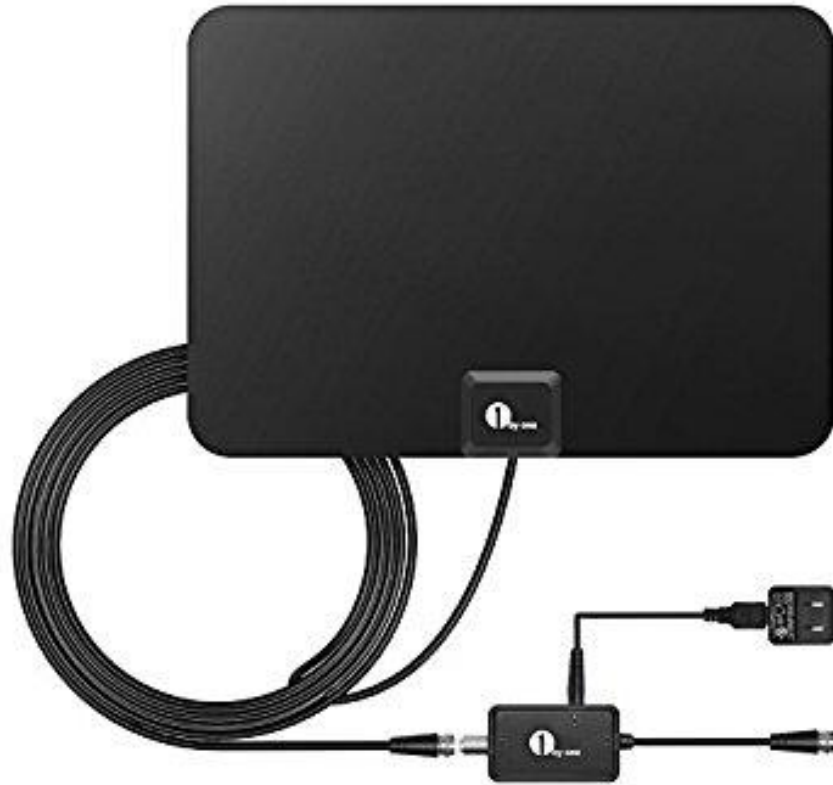
Kanopy

Kanopy is a new service we will be offering in the near future. Offers 26,000 documentaries, art house, and indie films for free with your library card.

Other Free Services

There are also free content libraries. These services are “ad-supported” and run off money from advertisers. A few of these include:

- **Crackle**
- **Pluto TV**
- **Peacock (free tier)**
- **IMDB TV**
- **Tubi TV**
- **Plex**
- **Vudu (has an ad-supported section)**
- **Redbox- has a free section.**
- **Xumo- also lends content to Redbox.**



Side Note: HD Antennae

An HD antennae is another way to pick up free content but the effectiveness of it varies a lot depending on your location, the antennae's placement in the house, etc. For more information, go to: antennaweb.org

Subscription Streaming Services

Want to watch movies and television shows? These services are for you!
With extensive libraries and content from multiple companies, it is difficult not to find something you enjoy!





Netflix

- **Basic**- 1 device \$8.99
- **Standard**- 2 devices \$13.99
- **Premium**- 4 devices + 4K streaming \$17.99
- As one of the first and still the most popular streaming service, Netflix boasts an impressive library of content licensed through content providers.
- In addition to the amount of licensed movies and television shows, Netflix also produces popular Netflix exclusive shows such as House of Cards, Orange is the New Black, Stranger Things and Black Mirror. These titles are available for Netflix subscribers only.

hulu

Hulu

- \$5.99 (ads), \$11.99 (ad-free) per month.
- Hulu & Disney +, ESPN + \$13.99. Hulu (no ads) & Disney + & ESPN+ 19.99.
- Hulu with Live TV, Disney + and ESPN + and \$72.99
- Since being purchased by Disney, Hulu has become a major streaming contender and has many original series of it's own such as The Handmaid's Tale, Ms. America, Little Fires Everywhere. Also include shows from ABC, Fox and NBC.



Amazon Prime Video

- \$119 per year or \$12.99 per month for Amazon Prime
- Are you already an Amazon Prime subscriber? Then you already have access to a quality streaming service!
- Amazon Prime Video now boasts a larger library than Netflix and Amazon Prime memberships also include other benefits such as free two-day shipping and Prime music. (You can subscribe to prime video without Amazon Prime for \$8.99 per month)



Disney +

- \$7.99 per month, \$79.99 per year alone.
- Hulu & Disney +, ESPN + \$13.99. Hulu (no ads) & Disney + & ESPN+ 19.99.
- Hulu with Live TV, Disney + and ESPN + and \$72.99
- New streaming service from Disney!
- Includes the Disney vault (including content from both Disney and Pixar) as well as new content, including original content from large franchises such as Marvel's Avengers (Wandavision, Falcon & Winter Soldier, Loki) and Star Wars (The Mandalorian).



HBO Max

- \$9.99 (ads), \$14.99 (ad-free) per month
- HBO's streaming catalog includes many of their popular television series such as Game of Thrones, as well as many new series. They also have an exclusive contract with Studio Ghibli.



Apple TV +

- \$4.99 per month
- Apple's television service (separate from Apple TV). Includes a content library of original and licensed programs.
- Also, this service will be compatible with many different streaming devices such as Roku, Firesticks and more.



Paramount Plus
(formerly CBS
All-Access)

- \$4.99 per month (ads). \$9.99 per month (ad-free)
- Has live news & sports, as well as on-demand shows from CBS, Viacom/Nickelodeon, Comedy Central and more. Originals include new Star Trek series, The Stand, Kamp Koral and more.
- Also includes livestream for award shows like the Tonys and the Grammys.



Peacock


- Free with ads and limited content \$4.99 per month (ads) but full content. \$9.99 per month (ad-free)
- Lots of classic TV shows and live WWE events.



discovery+

Discovery +

- \$4.99 per month
- Content from HGTV, Food Network, Animal Planet, TLC, Discovery, History Channel, Magnolia Network and more.

A collage of vintage audio equipment including amplifiers, speakers, and a television set with a test pattern. The background is a dark, textured pattern of various audio gear components. The text is overlaid in the center in a bold, white, sans-serif font.

There are so many more streaming services than the ones I just mentioned- make sure you check their offerings vs. pricing!



Live Television Subscription Services



Live TV

Now that you have a streaming service for movies and television shows, you will have plenty of content to keep you entertained! But what about live television? Although Netflix and its competitors have a lot, they don't have broadcast sports, news, or traditional television channels like Food Network and HGTV. But don't worry! That's what live television subscription services are for! These services will give you access to the channels you care about without the expensive bill!

Home

Guide

Saved

Search

8:30am

Looking for Mr. Right

10:10am

Jack's Family Adventure

11:50am

7th Heaven

9:00am

Home for Christmas Day

11:00am

Debbie Macomber's Dashing..

1:00pm

Last Vermont Christm

9:00am

Love It or List It

S7 | E7 Tree House Trouble

Ken and Mark bought a cabin that needed work, but haven't accomplished ...



HOLD OK FOR INFO



10:00am

Love It or List It

S7 | E21 Room for One More

A couple are fed up with the lack of functionality in their home; she thinks the house is t...

11:00am

Love It or List It

S6 | E19 Separate

A mother and daughter disagree over the

9:00am

10 Things You Don't Know Ab..

10:00am

Hooked: Illegal Drugs: Opium..

11:00am

Hooked: Illegal Drugs

7:30am

Big Daddy

9:30am

Live Free or Die Hard

12:30pm

Beverly Hills Cop

9:00am

The Perfect Murder

10:00am

The Perfect Murder

11:00am

The Perfect Murder

Basic Info:

- Brands itself as “a la carte” television service! Sling TV offer two cheap packages, which you can then customize with bundles of other channels. (However, it lacks most local stations- Fox/NBC is only available in select areas, no ABC or CBS)
- **Orange:** \$35/mo (adds ESPN and Disney)
- **Blue:** \$35/mo (adds Fox/NBC in certain areas)
- **Orange & Blue: \$50**
- Local channels can be offered when connected to AirTV products and an HD antenna, which is paired with Sling.



See lineup here:

<https://www.sling.com/>



Extras:

- *NO HBO ANYMORE*
- Sports Add-On: \$10
- Comedy: \$5
- Kids: \$5
- News: \$5
- Lifestyle: \$5
- Hollywood: \$5
- Heartland: \$5
- Showtime: \$10
- Epix: \$5
- Starz: \$9

Basic Info:

- DirectTV Stream (previously Direct TV & AT&T TV NOW and AT&T TV) has reconfigured their offerings again.
- Packages:
 - \$69.99 for 65+ channels, Showtime & Epix for first three months.
 - \$84.99 for 90+ channels and adds HBO Max/Cinemax for 3 months. (Includes regional sports networks)
 - \$94.99 for 130+ channels and adds more channels
 - \$139.99 for 140+ and permanent HBO Max, Showtime, Starz and Cinemax.
- Great selection and interface looks the most like a television. Includes the ability to flip through channels by swiping side-to-side.

The logo for DIRECTV Stream. The word "DIRECTV" is in a bold, blue, sans-serif font with a white diagonal slash through the "D". Below it, the word "stream" is in a smaller, black, lowercase sans-serif font.

See lineup here:

<https://www.directv.com/stream/packages/>

Basic Info:

- FuboTV is a live television streaming service with a wide selection of channels and is aimed at sports fans (including ESPN).
- Packages:
 - \$64.99/mo for 116+ channels and 3 screens or \$69.99 for Unlimited Screens
 - \$79.99/mo for 162+ channels.
 - \$32.99/mo for Latino Plus, prepaid every 3 months.



See lineup here:

www.fubo.tv

Basic Info:

- Philo is the cheapest option on the list! Offers a decent selection of channels with a few add-ons. Great for beginners!
- \$25/mo for 60+ channels.
- \$6/mo for Epix.
- \$9/mo for Starz.
- \$3/mo for Movies & More.



See lineup here:
www.philo.com

Basic Info:

- YouTube TV has a great selection of channels and is the only service offering local PBS stations. Also includes NFL, NBA and MLB networks.
- \$64.99 for 85+ channels
- Add-ons include HBO Max, Showtime, Epix, and Sports.

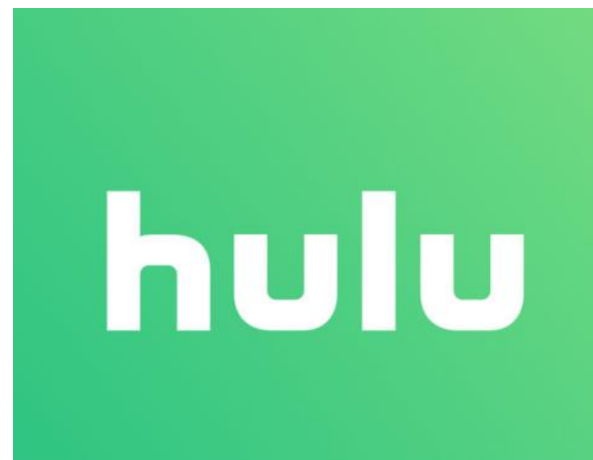


See lineup here:

<https://tv.youtube.com/welcome/>

Basic Info:

- Hulu Plus Live TV isn't as expansive as YouTube TV and Fubo, but its Disney bundles make it an attractive option. With a solid collection of channels, Hulu Live TV is a great mix of live television with extra access to content Hulu to Disney +.
- \$64.99 for Hulu and Hulu Live TV
- \$70.99 for Hulu and Hulu Live TV, Disney and ESPN
- Add-ons, unlimited screens, enhanced cloud, sports add-on, etc.



Live TV

See lineup here:

www.hulu.com/live-tv



That's it!

Remember, as with your streaming service, live television streaming services are billed monthly and can be cancelled at any time.

Don't be afraid to experiment and find out which service is right for you and your family.