Getting connected.

A quick guide to understanding Wi-Fi.

SaskTel

Let’s get started.

When it comes to getting online, there are two ways to connect your devices to the internet – using Wi-Fi or with a wired cable.

These days, most of the things we use (i.e. smartphones and tablets) use Wi-Fi to get online, but some of your devices (i.e. PCs, Smart TVs and gaming consoles) can still use wired connections.



Wired

For a wired connection, an ethernet (cat5e) cable is plugged into a port on the device.



Wi-Fi

Some devices (i.e. smartphones and tablets) can only connect through Wi-Fi. This works through radio waves that spread out in all directions. Anything in range of these waves can connect to the internet, but the further they travel, the weaker the signal.

WIRED VERSUS WI-FI

Wired		Wi-Fi	
Pros	**Cons**	**Pros**	**Cons**
Fast & reliable	Can be difficult to install wires	Easier to setup	May have interference
Low latency (lag)	Limited mobility	Great device mobility	May be unreliable & slower
No “dead spots”		Easier to reconfigure	Higher latency (lag)

Hitting the wall.

What can cause poor performance.

Wi-Fi works best when it has space to travel around freely. If you're noticing that your connection isn't so great in certain spots in the home, it could come down to any of these things:



Building materials:

The materials used to build your house have the potential to weaken the strength of your Wi-Fi signal. But, some things interfere more than others.

High interference	Moderate interference	Low interference
Concrete/brick	Argon/Low-e windows	Drywall
Stone/tile	Spray foam insulation	Particle board cabinets
Metal	Hardwood floors	Plastics
Electrical panel	Stucco siding	



Distance:

Signal strength will weaken with distance, even in open air. The further you are from your gateway, the weaker your connection will be. If you're noticing that your connection loses strength as you move further from your gateway, you might want to consider a Wi-Fi extender to help cover more of the home.



Number of connected devices:

Having more devices connected all at once means having a lot of devices all trying to use the same connection. Try to limit the amount of devices you use at any one time.



Age of equipment:

Older and inexpensive devices will use older technology that takes more of a toll on your connection speeds.



Peak usage times & congestion:

A lot of us like to relax after a long day at work or school by doing things online, for example, streaming shows, listening to music or playing games with friends. Each device shares the bandwidth, which means you might see slower speeds at peak times. This is especially noticeable in apartments and condos where there may be interference with other networks.



Insufficient speed:

Some of the things you do online can use more bandwidth than you think. For example, if you stream a lot of video, then these are the typical speeds you'd need:

- 3-5 Mbps per Standard Definition (SD) stream per device
- 5-10 Mbps per High Definition (HD) stream per device
- 25-40 Mbps per Ultra High Definition (UHD) stream per device

Remember that the speed of your internet plan is the maximum available to all devices, so if there are two (or more) people trying to watch separate HD streams, you'll need a faster internet plan to be able to handle that.



Interference:

Some external sources and appliances can get in the way of your connection. Here are some things that might cause issues:

- Wireless game controllers and keyboards
- Wireless thermostat
- Microwaves
- Cordless phones
- Bluetooth devices
- Smart lights and switches
- Car starters and key fobs
- Garage door openers
- Baby monitors
- Fluorescent bulbs
- Remote control toys

Why do I have multiple network options?

Understanding 2.4 GHz vs 5 GHz vs 6 GHz

As Wi-Fi has developed, so have our options for how we connect our devices. You might see the numbers 2.4 GHz and 5 GHz or 6 GHz and wonder whether they matter. These bands will let you get online, but there are important differences.

Heads up, it gets a bit technical here:

2.4 GHz

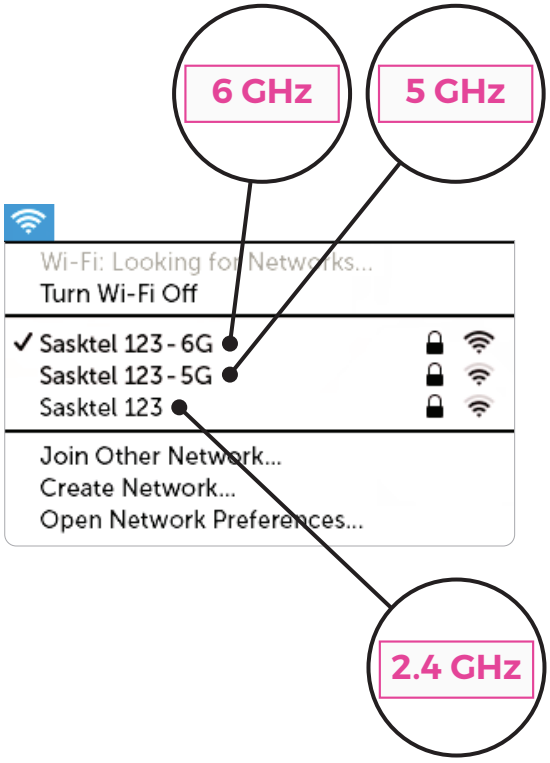
- Uses a low frequency which gives further range and travels through material better
- Only has 3 proper channels to select from (1, 6 and 11)
- Often congested with neighbouring wireless networks and devices
- Compatible with all devices
- Can experience a lot of interference from other devices

5 GHz

- Uses a high frequency which reduces signal range
- Has up to 25 proper channels to select from
- Reduced congestion from neighbouring wireless networks and devices
- Less interference from other devices

6 GHz

- Uses the highest frequency of the 3 bands which further reduces range but offers the fastest network speeds
- Almost twice as many channels as 5 GHz
- Even less interference and network congestion
- Only visible if you have a device or access point that supports 6 GHz Wi-Fi



WI-FI NOT RUNNING SMOOTHLY?

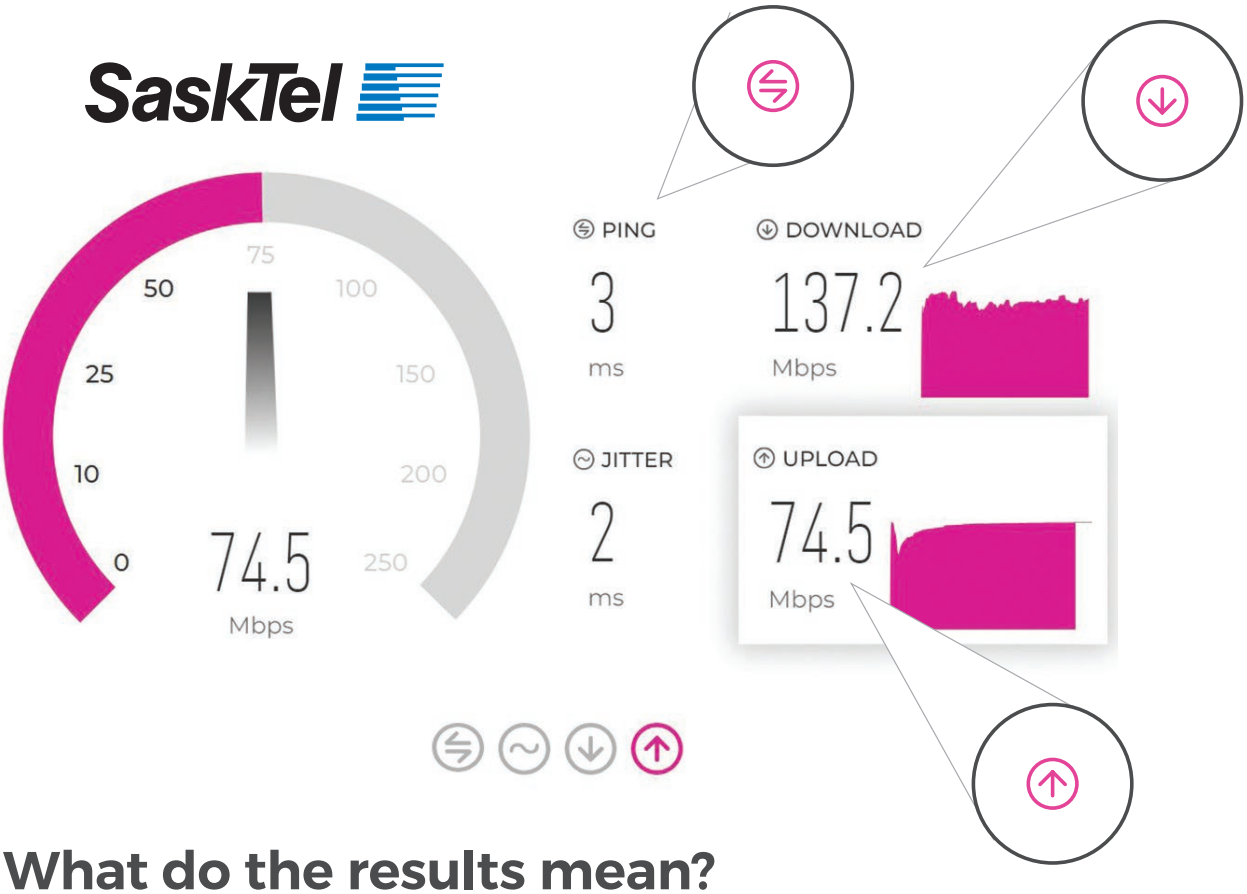
Check out our Wi-Fi support page:

sasktel.com/wifisupport

Testing your internet connection.

Running speed tests helps you know if your internet connection is working the way it should be.

For the most accurate results, visit **sasktel.com/speedtest** on a wired device.



What do the results mean?

This is the time it takes for data to travel from you to the test server (known as latency or ping). On Wi-Fi, this can be over 100 ms when wired a normal range is 1-30 ms. The lower the number the better, so consider plugging in when you can.

This is your download speed in Megabits per second (Mbps), it's what lets you do things like stream shows and movies, download music or even load websites.

This is your upload speed in Megabits per second (Mbps), you use this to make video calls, upload photos to social media or send an email.

WI-FI NOT RUNNING SMOOTHLY?

Check out our Wi-Fi support page:

sasktel.com/wifisupport

Wi-Fi troubleshooting.

Tackling slow connections and password updates.

If you notice your Wi-Fi connection speed isn't what you expect, then these steps are a good starting point to help get things moving again:

1. **Unplug**

   Unplug your gateway for 30 seconds and plug it back in. Please allow up to 10 minutes for it to fully restart before attempting to reconnect.

2. **Turn off unused devices**

   In the settings menu, turn off Wi-Fi on unused devices. Remember, a device with the screen off or locked might still be connected to Wi-Fi, so check everything.

3. **Use a cable**

   If possible, for the best performance, hard wire your devices that don't move around your house regularly (for example, Smart TVs and gaming consoles).

4. **Find a plan to suit you**

   We have a plan to suit every household's needs. Contact us to make sure you're on the plan that's right for you.

5. **Track patterns**

   Keep track of any patterns you may notice such as: times of day when things are particularly slow, issues when you use a certain device or app, issues when a certain person comes home.

6. **More info**

   For more info, visit: **sasktel.com/wifisupport**

CHANGING YOUR WI-FI PASSWORD

Setting your own, memorable password makes it easier to connect new devices. To reset or change your Wi-Fi password, visit mysasktel.com or use the **mySASKTEL** app. For other ways to change your Wi-Fi password and security settings, check out the **Wi-Fi Support Hub** on our website.

Whole Home Wi-Fi

Another way to improve your Wi-Fi experience is with SaskTel Whole Home Wi-Fi. It provides fast, reliable Wi-Fi to manage your smart home devices, control what content your family can access, and help keep your devices protected against online threats.

SaskTel Whole Home Wi-Fi gives you a connection that won't slow you down while helping to keep your online experience safe and secure. To learn more, visit **sasktel.com/wholehomewifi**.

Technically speaking.

Your Wi-Fi cheat sheet.

Bandwidth, gigahertz, latency–there's a lot of jargon out there that can make things confusing. Here's a handy sheet with simple explanations for some of those words you might keep seeing.

Bandwidth	Bandwidth is how much information can move through your connection at one time. The higher it is, the faster you can do things like stream videos.
Latency	Otherwise known as lag, latency is the time it takes for information to travel from one point to the next. The lower the latency, the smoother things will be.
SSID	This is the name of your internet connection. When you're trying to connect to Wi-Fi, you can find the network name on your gateway (you can also change it to make it easier to remember).
Ethernet	The cable that allows you to plug in your devices to your internet source.

STILL NOT SURE?

No problem, if there's anything we haven't covered in our guide, please give us a call and we'll be happy to talk you through it.

1.800.SASKTEL (727.5835)