Computers for Beginners 4: Google Search and Maps on the iPad

Learning Outcomes

In this class you will:

1. Build on tools and experience from **Computers for Beginners 3: Use the Internet**
2. Explore advanced search strategies by using *filters* and *tools* in search engines and google maps
3. Discuss how to assess your search results even before you tap on a web link
4. Experiment with interactive and multimedia sites
5. Apply new skills by using the mouse to scroll, drag and zoom in Google Maps
6. Test new skills learned by working on challenges
7. Review additional resources to help you learn more

Review Quiz

1. What part of the web site address **https://www.cbc.ca** would you need to put in the address bar to go to the CBC web site?
     a. The whole thing.
     b. www.cbc.ca
     c. cbc.ca

2. Which of the following addresses will take you to a Canadian web site?
     a. www.amazon.com
     b. www.amazon.co.uk
     c. www.amazon.ca

3. Google is:
     a. The world's only search engine.
     b. One of many different search engines.
     c. One of the three different browsers available on TPL computers.

Answers:

1c. You only need to enter the **domain name** (cbc.ca) in the address bar. The computer fills in the rest automatically.

2c. www.amazon.ca is the address of the Canadian branch of Amazon. The clue is at the end of the domain name: **.ca.**

3b. Google is the search engine we used today in-class, but it's not the only search engine available. Bing and Yahoo! Search are two other popular search engines.

What is the Internet?

In our previous class, Computers for Beginners 3: Use the Internet, you learned about the **Internet** and the **World Wide Web (Web),** how to understand a web address and common features of a website. You also learned how to visit a website if you know the address and how to **find** a website, using a search engine, if you do not know the address.

In this class you will learn more about how the internet and web work, continue to practice your web searching, website navigation, and mouse skills by trying out different search engines, looking at your results in detail, applying filters to refine your results, and exploring multimedia sites.

Optional: Let's start with a short video:

https://tinyurl.com/whatistheinternet2 (3:44 min)

[https://www.youtube.com/watch?v=Dxcc6ycZ73M]

I hope this video starts to help you build a picture in your mind of what the internet is and how it works. The more you practice and use the internet and the web, the more comfortable you will become.

## OPTIONAL: What is The Internet?

The internet is a massive network of networks. It connects millions of computers together globally, forming a network in which any computer can communicate with any other computer as long as they are both connected to the internet.

Quick Points about The Internet:

- It is a global network connecting millions of computers.
- The internet is decentralized.
- Each internet computer is independent.
- There are a variety of ways to access the internet.
- There are more than 3.5 billion internet users in the world. (2018)

What is the Web (World Wide Web)?

The World Wide Web, or simply the web, is a way of accessing information over the internet. It is an information-sharing model that is built on top of the internet. The web uses the HTTP protocol, to transmit data. The web uses browsers, such as Chrome, Internet Explorer or Firefox, to access and display Web documents called webpages that are linked to each other via hyperlinks. Web pages may also contain graphics, sounds, text and video.
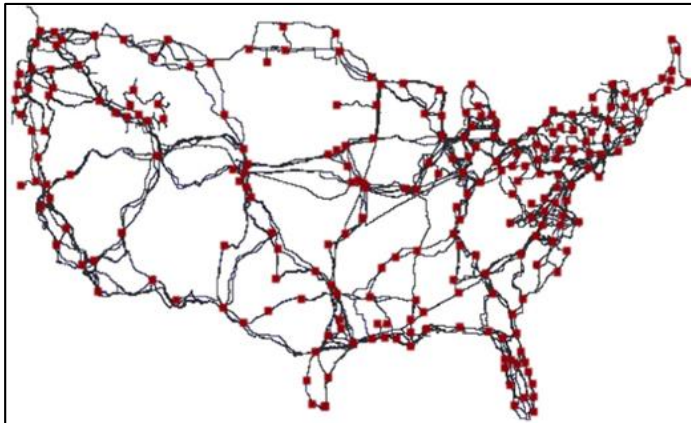
Quick Points about The Web:
- It is a system of internet servers (computers) that support specially formatted web pages or web documents.
- Documents are formatted in a language that supports links to other documents.
- You can jump from one document to another simply by clicking or tapping on hyperlinks.
- Applications called web browsers make it easy to access the World Wide Web.
- There are more than 1,275,000,000 websites.

From: The Difference Between the Internet and World Wide Web *by Vangie Beal*

Updated August 07, 2018 / Posted June 24, 2010

Quiz: How much of the internet is indexed by Google?
- Less than 1%
- 50%
- 75%
- All of it

Quiz Answer: The answer is Less than 1%!
This is a bit of a trick question because the internet is much more than the world wide web. So, why is this statistic true and how big is the internet?

How big is the Internet?

It's difficult to be accurate about the size of the internet as the numbers of computers connected to the internet changes all the time, and websites are created around the world everyday. As of May 2019, one site estimated that **Google indexes approx. 5.7 billion pages.** *From https://www.worldwidewebsize.com/*

However, there is a huge amount of the internet which is **not indexed** at all. This includes all the data behind firewalls (or network security systems). Such as user databases, business intranets (or internal networks), password-protected websites, etc. Examples include email or websites like Netflix where you need to login or fill in a form to gain access.

Lots of content is indexed by search engines. Google is the most popular of all the web search engines. But how does is work?

There is no central directory to the internet so Google runs a program called a "web **crawler**" or "spider" which methodically visits web pages, makes a copy and then **indexes** them according to a specific set of rules. When you search on Google.com, Google takes your search words and **serves** up the most relevant results based on many different factors: the meaning or intent of your query, relevance of webpages, quality of content, usability of webpages, context and settings. From https://www.google.com/search/howsearchworks/

Review: What is the difference between a browser and a search engine?

Web browsers are the software which reads information on the web and displays it on your computer. Examples are Chrome, Internet Explorer and Firefox.
Search Engines are websites which index other web sites and help you find information contained on them. Examples are Google, Bing and DuckDuckGo.

Google Advanced Searching

Let's get some more practice with a Google search.

Exercise 1: Google Search Tools

1. **Connect your iPad to TPL Wi-Fi (**do you remember how?**)**

2. Open the **Chrome Browser App**

3. Type in **google.com** in the address bar

4. **Type in a search of <u>your choice</u>** in the google search box

   My search word is **Whales.**

   As you type, **pay attention to the screen**. You will see words and search terms will start to auto-fill below your typing.

   When you are happy with your search words, press **Enter** on your keyboard
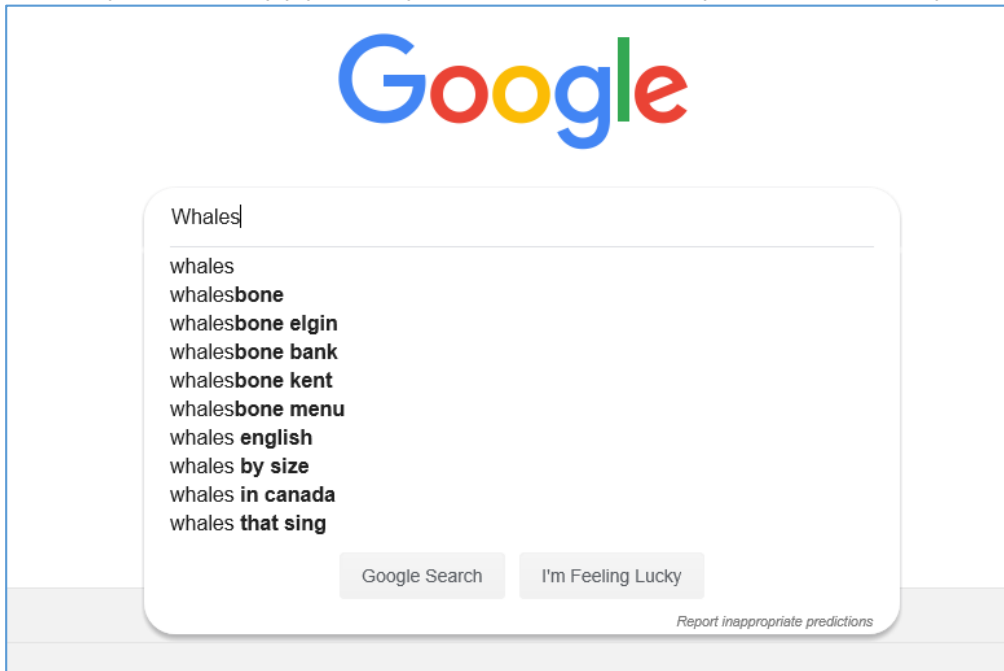
5. Let's have a **look at the results to understand** what Google served us, scroll down and have a look and **<u>discuss with your neighbour</u>**.

In my case I have:

- an encyclopedia style article on the right from **Wikipedia**
- **videos** of whales from **YouTube**
- **information** about whales from the **World Wildlife Foundation**
- **news** stories and **articles** about whales
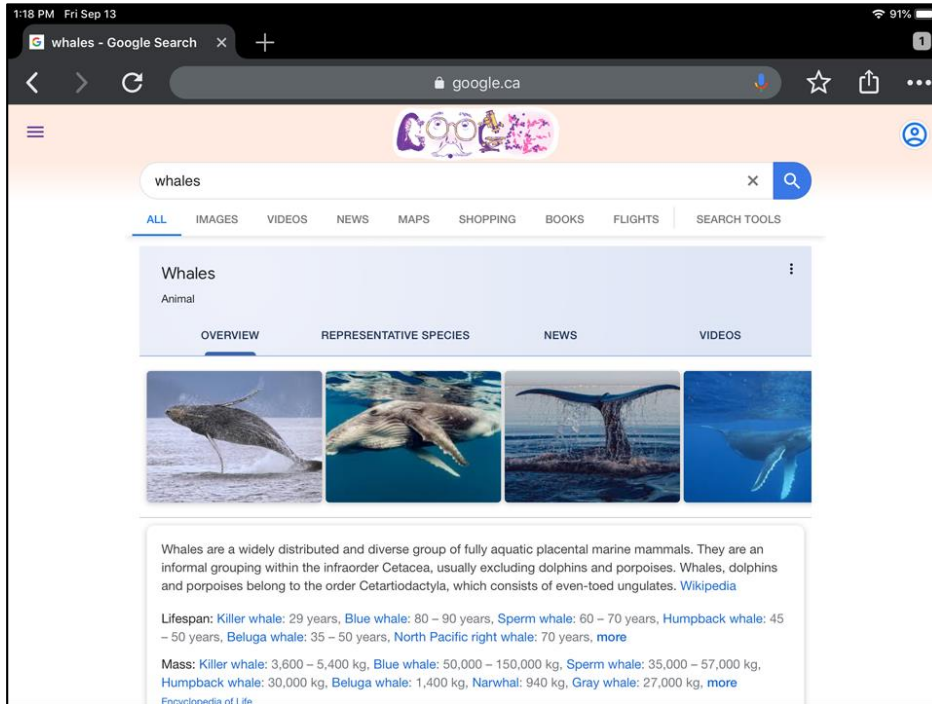
6. Take a few minutes, look at your results in detail. Tap on links to see more. **Use the back button** to return to your search results.
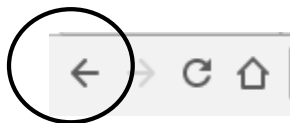
7. You may also have noticed under the search box there are a few headings: Images, Videos, News, etc., Take a few minutes and try them out. When you are done **use the back button** to return to your original search results.

TIP: Use the refresh button to reload your webpage if it is not displaying properly.

Exercise 2: Challenge – Try your own search!

Practice by repeating the exercise above with your **own choice of search**.
Here are a few ideas if you need one:

bonjour
pi
uk pound
quartz
hurricanes
Toronto
Ottawa
arctic
Ireland
India
Paris
Pompeii
dolphins
flamingos
Einstein
Earhart
flu shot
Nobel prize
atomic clock
wool

Take a Stretch Break!

It's important to take breaks when using a computer for any length of time.

Take a minute now - shake out your hands and arms, and stand up if you are able.

Exercise 3: Filter for Images

Now we know there is a whole range of different types of results out there and we can use **Filters** at the top to refine our search. Let's explore these features in detail together.

1. If you have tapped to follow any of your links, tap on the **back button** until you are back to your **first Search screen**

2. Under your search box you will see categories for your results:

    All, Images, Video, News, Maps, More.

    Tap on **Images**
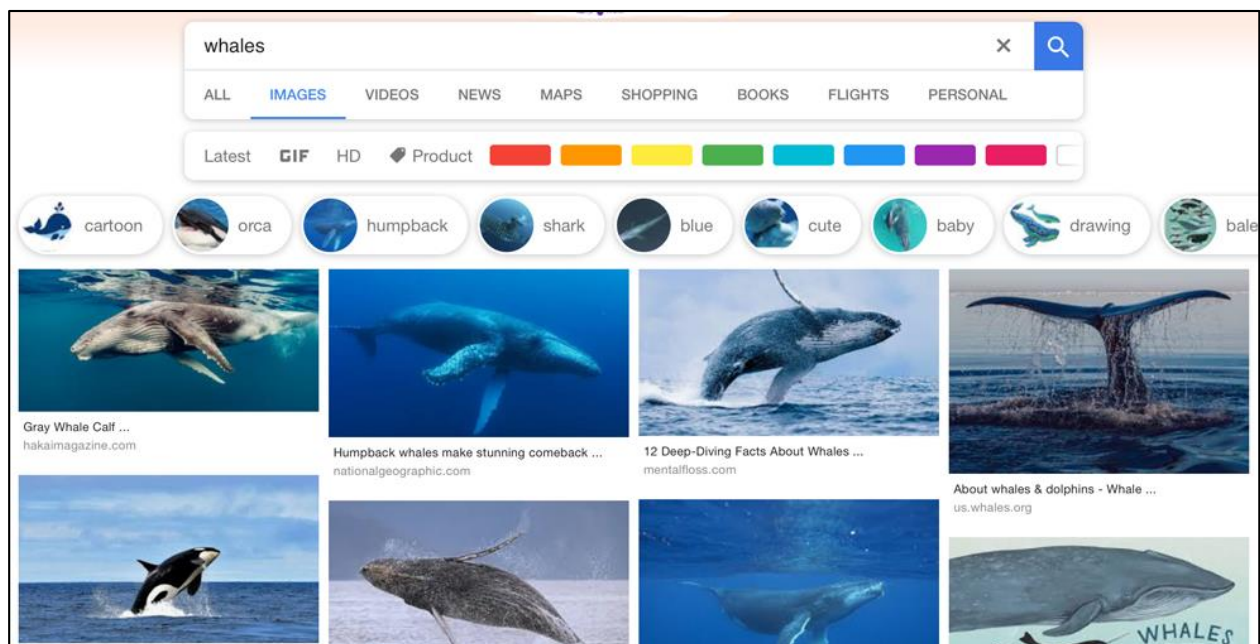
3. Have a look at your results and notice:

    - A page of "**thumbnails**" (small versions of the pictures)
   - **Name** of the picture
    - **Website** name
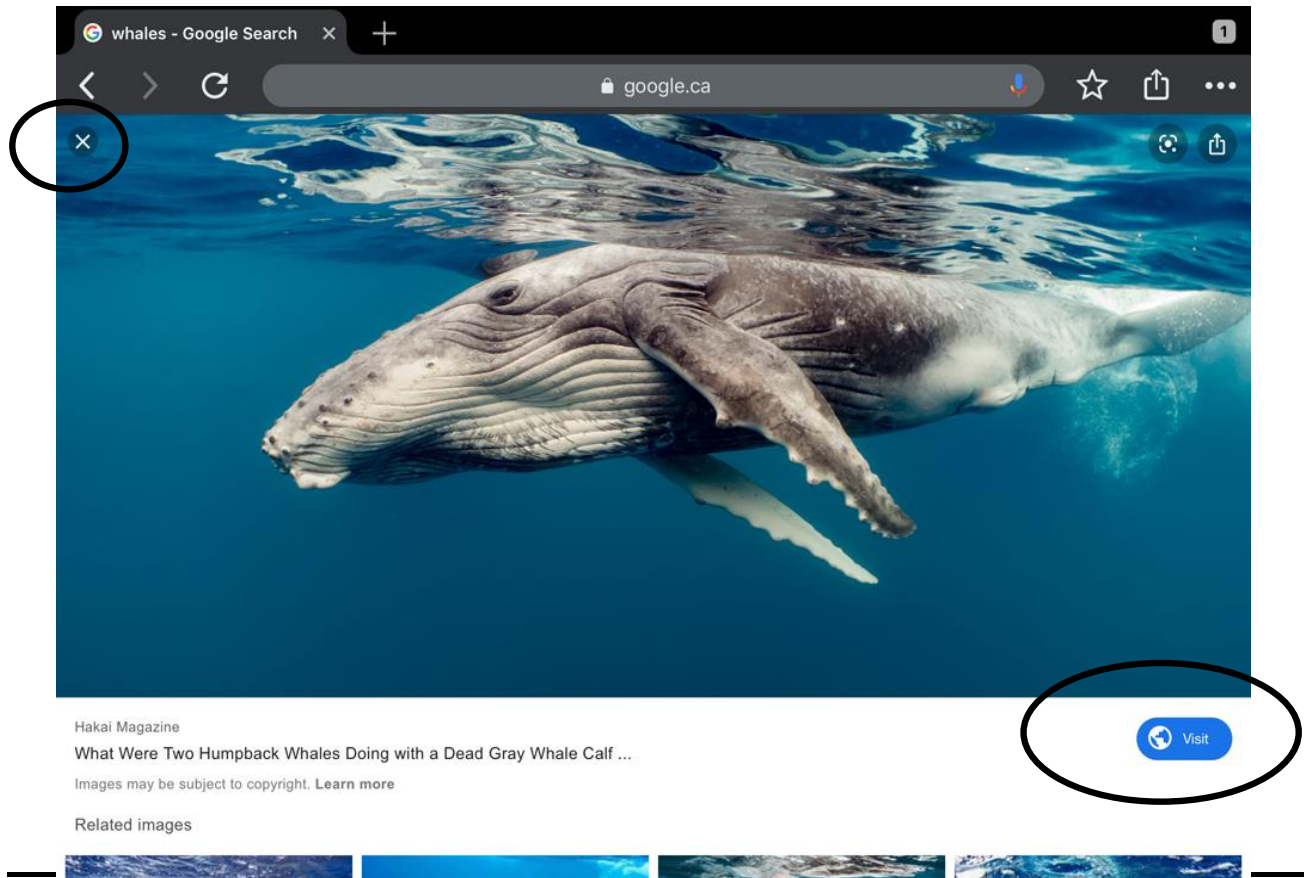
4. **Tap once** on a picture (or thumbnail) to see a **larger Preview version** of the image

5. **Swipe right/left to see more pictures**

6. **Close the preview** by tapping on the X in the top left corner of the preview

7. **Tap** on another thumbnail to open the larger version, then **tap on the Visit button** to visit the website where the picture lives

Exercise 4: Use Tools to refine your search

Below the filters are additional Tools to refine your search even further
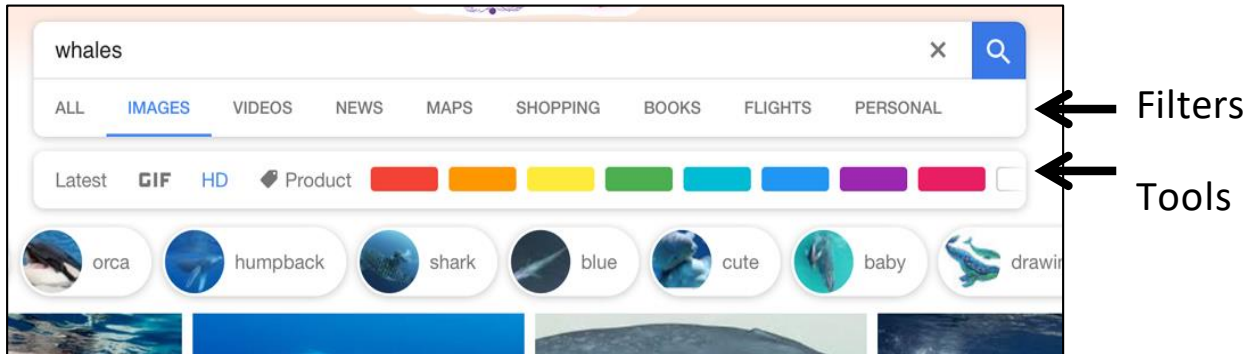
1. Tap on the Pink Colour Tool to see pink Whale illustrations
2. **Explore and test some of the other Tools on your own**
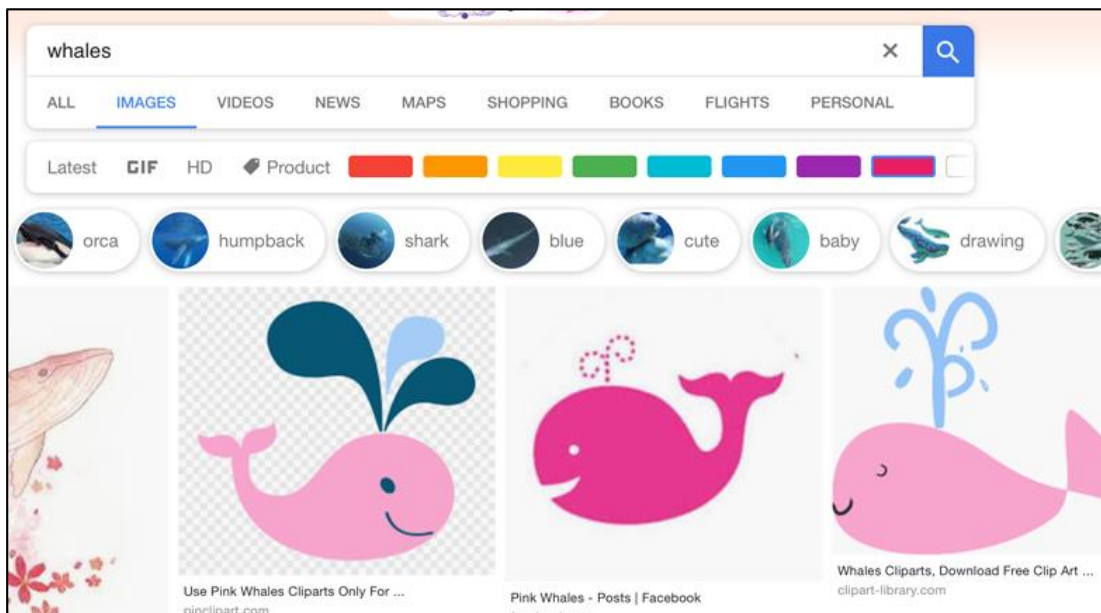
Exercise 5: Filter by News

1. Go back to the top of your results page and **Tap on News**

2. Have a look at your results:

   - Can you tell how old they are?

   - Who published them?

3. **Compare with your neighbour's results**

4. **Tap on Search Tools** and **tap on Recent**

   Notice you can refine your search even further by timeframe: Recent, past hour, past week, and so on...

Explore the World with Google Maps

Exercise 6: Google Maps – Address Search

Let's have a look at an interactive website which is very useful for locating addresses and travel directions. This will give you a chance to see another type of **filter** in action.

1. In your browser's address bar **type google maps** to perform a search for google maps. Tap on the result for: **www.google.ca/maps**
2. **You will see a local or Canadian map. Why do you think that is?**

   Google Maps pulls your current location from the IP or web address of the library computer. You can block this type of location information at home but for this exercise it's useful if we've started in Toronto.

Address Search
1. **Search using any address.** This is my example: **4040 Finch Ave East**. You can try any address you like: your home, your library, a vacation destination, etc.,

   As always, **check the drop-down menu as you type** for suggested text.
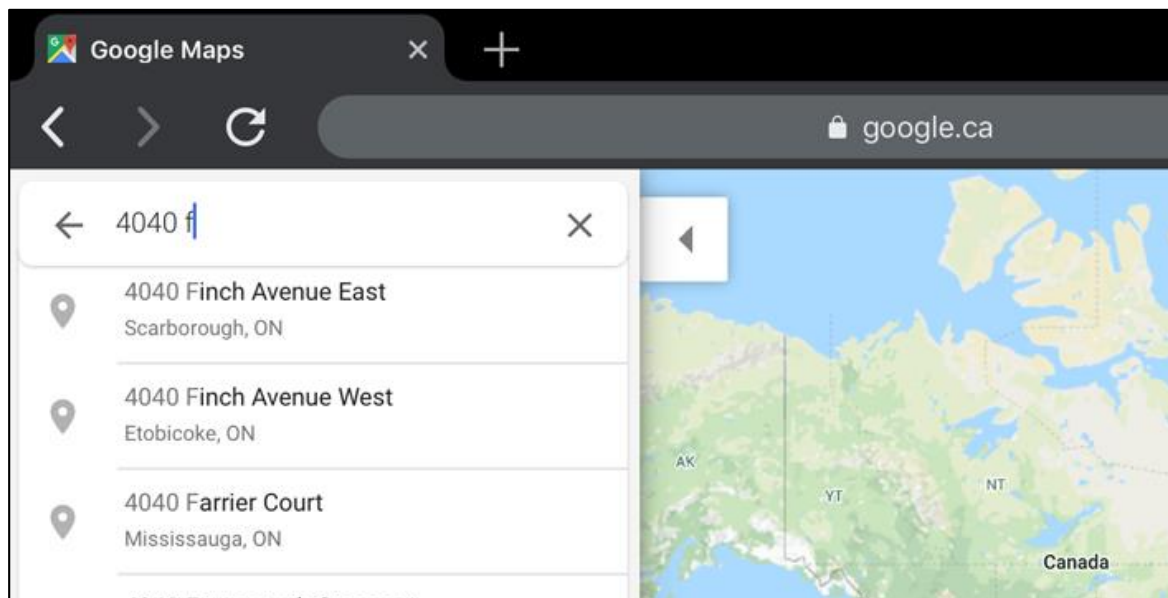
2. Stop and look at the results carefully. **What do you see?**

[Image on next page 16]

On the right side of the screen

- a local map for your address and the surrounding area
- a **red icon (or placemarker**) indicates your search address
- **local businesses with icons** for different types of businesses
- **street** names and **traffic flow** direction

On the left side of the screen you can see:

- **photos** of the location
- an option to get **directions** and more

3. **Practice zooming in and out of the map by using 2 fingers:** spread them apart to zoom in and see more detail; bring them together to zoom out and get a wider perspective on the neighbourhood.

4. **Practice moving around the map by using one finger and dragging.**
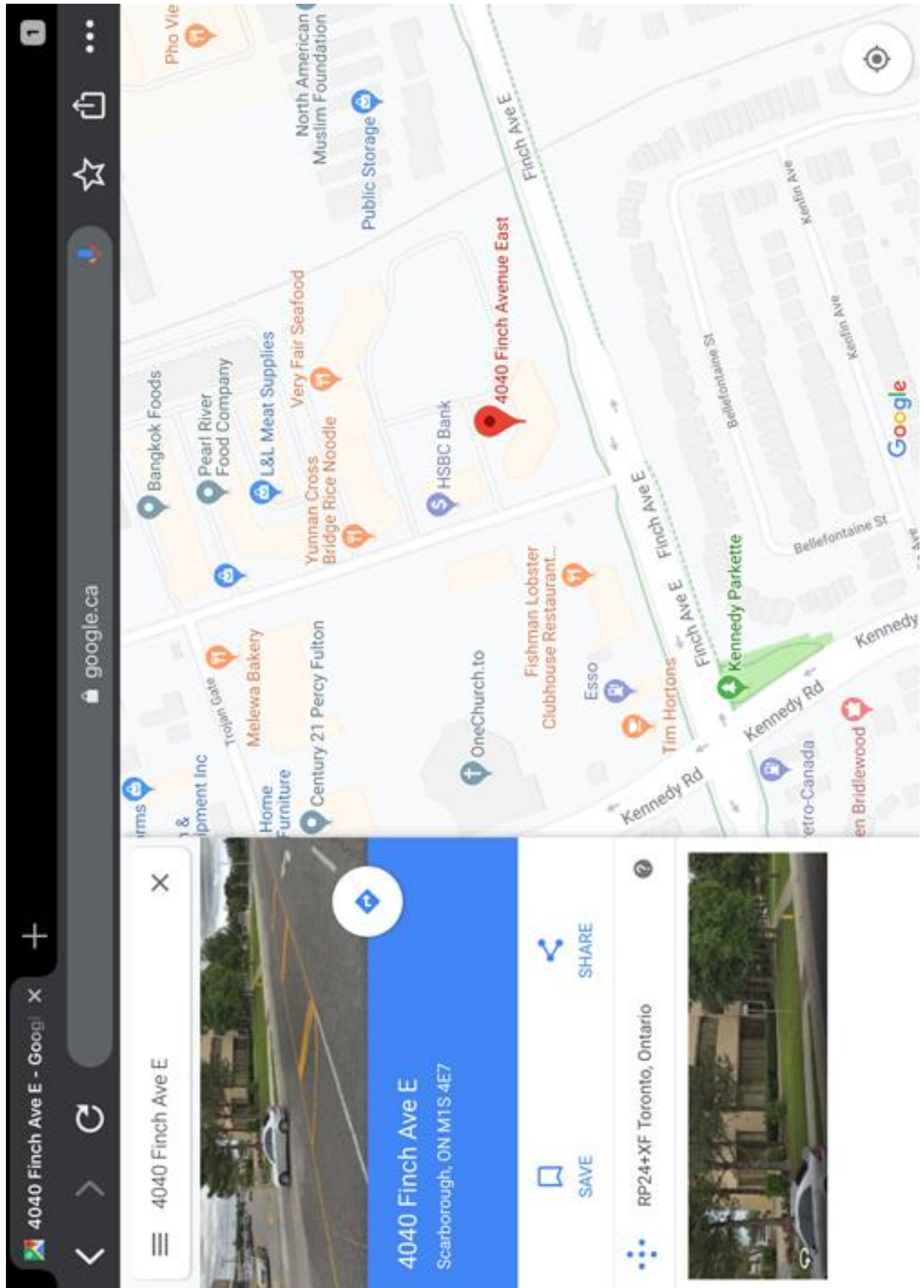
Exercise 7: Getting Directions

1. In the left panel, **tap on Directions** (the arrow next to the picture in the left panel)
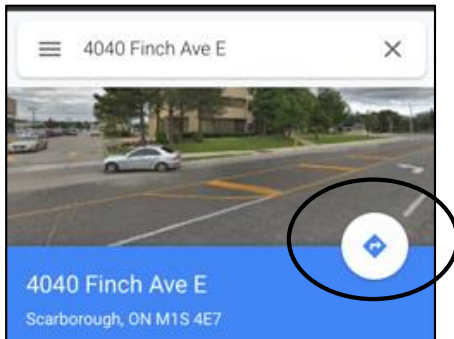
2. Type in an address of **your choice** (such as your home address) or follow along: **789 Yonge Street**

3. Let's look at the results again, you will see

   - Several **recommended routes** with distance and **travel time** estimates (by car, transit, walking, biking, etc.,) – **these are also filters!**
   - **Detailed descriptions** for routes with estimated travel time
   - **Slow travel** stretches on the roads may be marked in yellow or red
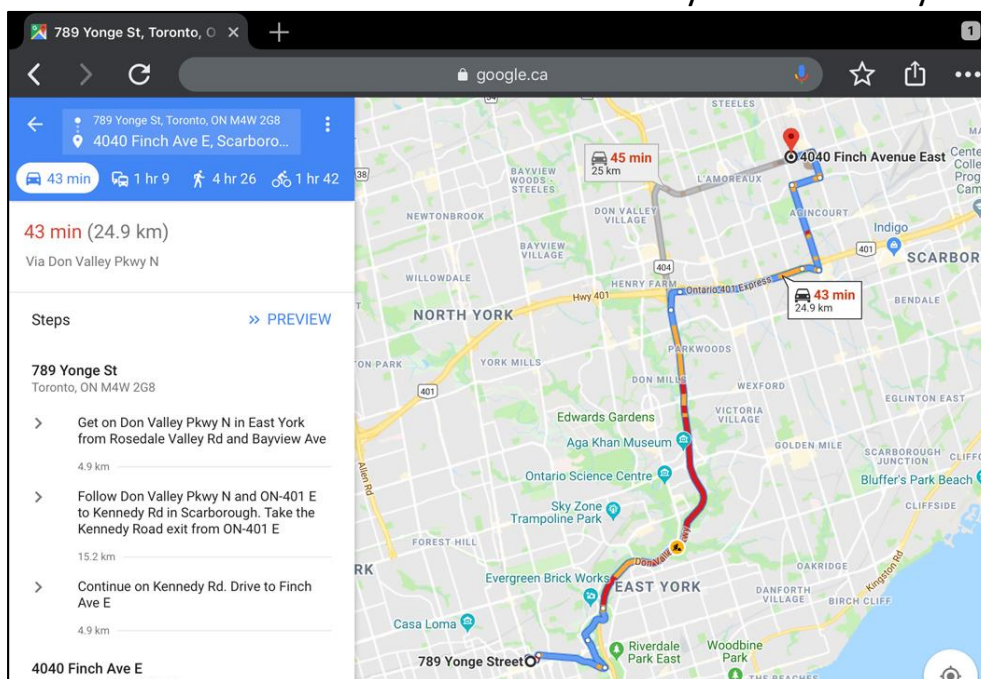
- Options for travel by **car**, **transit**, **biking**, **walking**, etc.,
- The opportunity to **change the time/date** of travel
- And more…

4. Take a few minutes to **explore and tap**

WRAP UP: Be curious and fearless!

It takes time to learn a new skill. Computer applications are no different. But with time and practice it gets easier. It's also fun to learn something new!

At first you might be concerned about making a "mistake" but try not to be. You can't really "break" anything! There is always a way to get back to where you started when you explore the internet, you can make a copy of a file before you edit it, you can usually undo the last action you took in most software.

Explore without fear and let your curiosity drive you to learn (and practice) new skills.

Today we learned:
- more about the internet and how big it is and the difference between the internet and the web
- how to filter your search and then use tools to refine that search even further
- that different websites may also have filters
- that if we slow down and read our search results carefully we can understand more about the type of information available online

Where to Learn More

Books:
Internet for Dummies (2015) by John R. Levine
My Internet for Seniors (2016) by Michael Miller

Online Courses:
Internet Basics from **Digital Learn**:
https://training.digitallearn.org/courses/internet-basics

Internet Basics from **GCF Global**
https://edu.gcfglobal.org/en/topics/internet/

Videos:
Where Does the Internet Come From?
https://tinyurl.com/whatistheinternet1 (2.40 min)

What is the Internet?
https://tinyurl.com/whatistheinternet2 (3:44 min)

How the Internet Works in 5 Minutes
https://tinyurl.com/whatistheinternet3 (4.30 min)

Articles and more:
44 Google Map Tricks You Need to Try (for either mobile or desktop)
https://www.pcmag.com/feature/328592/44-google-maps-tricks-you-need-to-try

Google Maps Treks: https://www.google.com/maps/about/treks/#/grid

23 Google Search Tips You'll Want to Learn
https://www.pcmag.com/feature/326078/23-google-search-tips-you-ll-want-to-learn/3

Practice Exercises

Google Maps: Street View
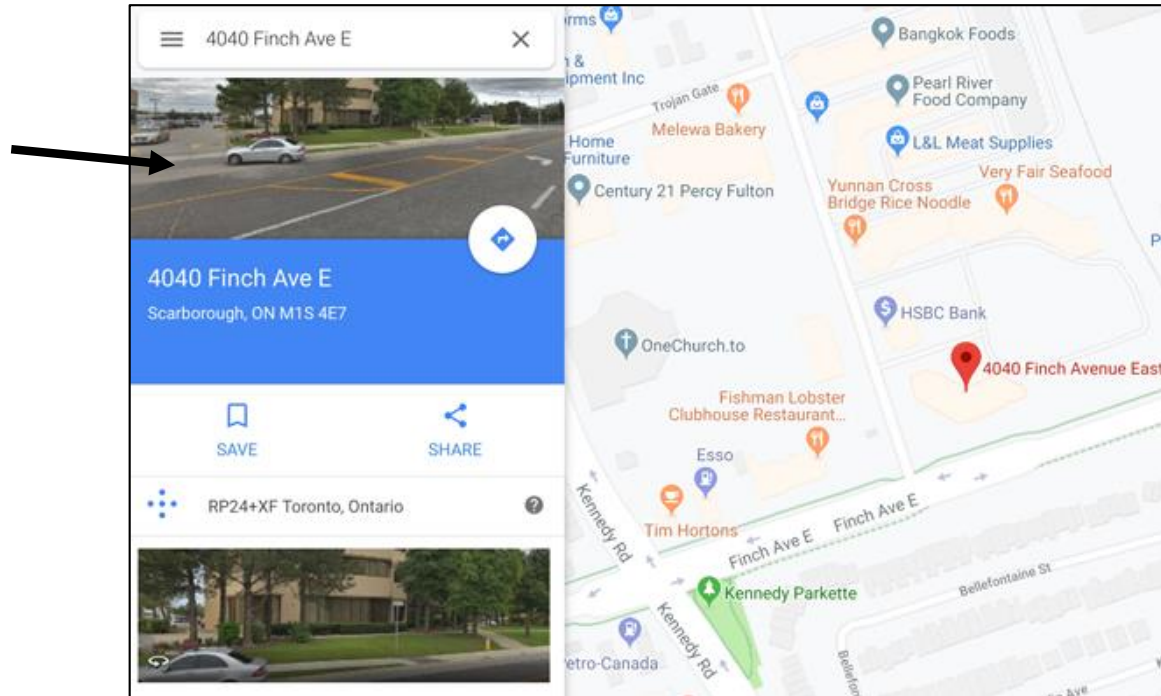
1. Using our same 4040 Finch Ave East address, or any address of your choice, **tap on the photo** on the left panel under the address search box

2. This will open a 360 "Street View" of your location. **Press and hold and drag your finger** to spin and tilt your perspective on the picture
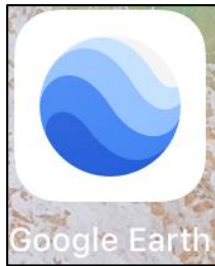
   Notice: you can tap on the **grey arrows, tap to travel along the street.**
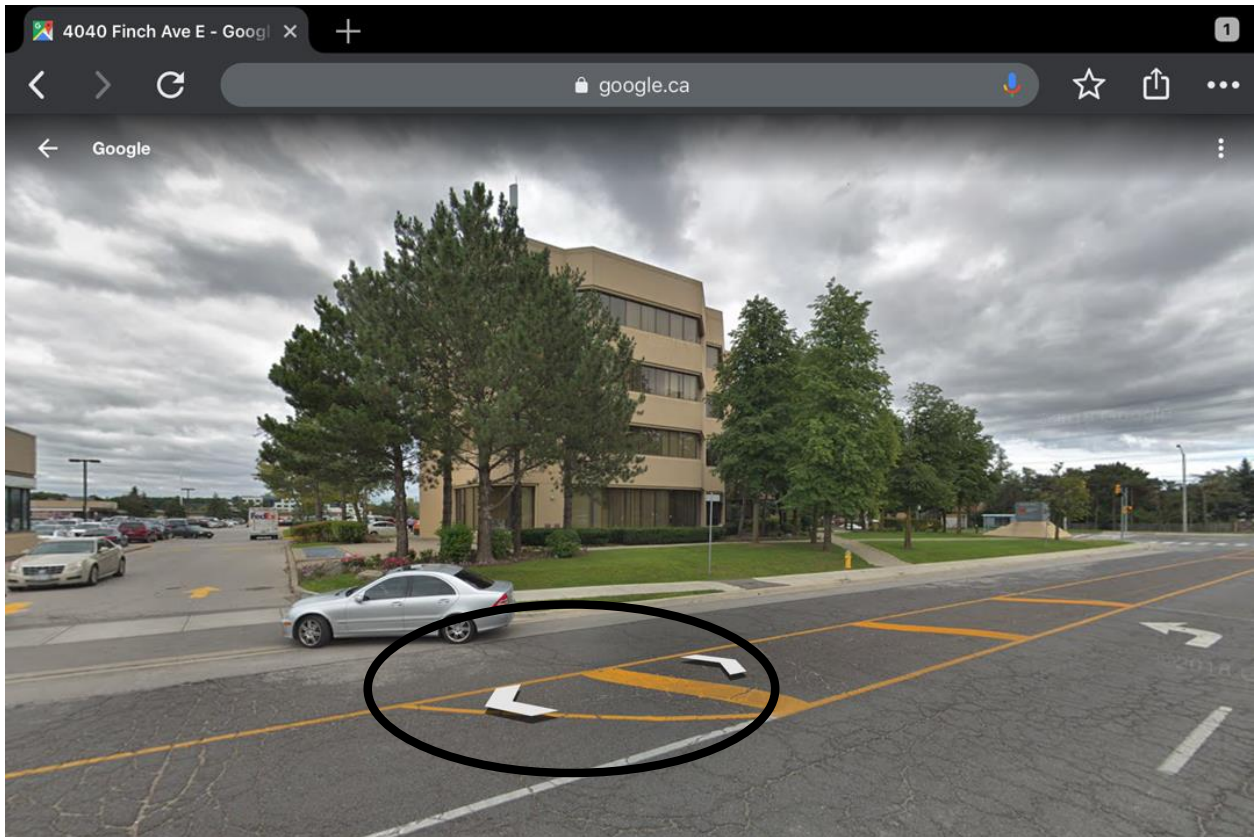
3. **Practice navigating the 3d space using different gestures with your fingers**.

   It takes a while to get used to but it can be fun to do some virtual exploring
   this way.

Google Earth and 3D Travel

1. **Tap on your Home Button** to return to your home screens

2. Find the **Google Earth App and tap once** to open it.

3. There is a magnifying glass on the left**, tap once then type in Toronto, ON**

4. **Use 2 fingers (side by side) to drag up and tilt the image in 3d**
5. **Explore!**
6. Let's tour the screen. On the left panel:

   - **Search icon** magnifying glass
   - **2d/3d toggle**
   - **Compass**
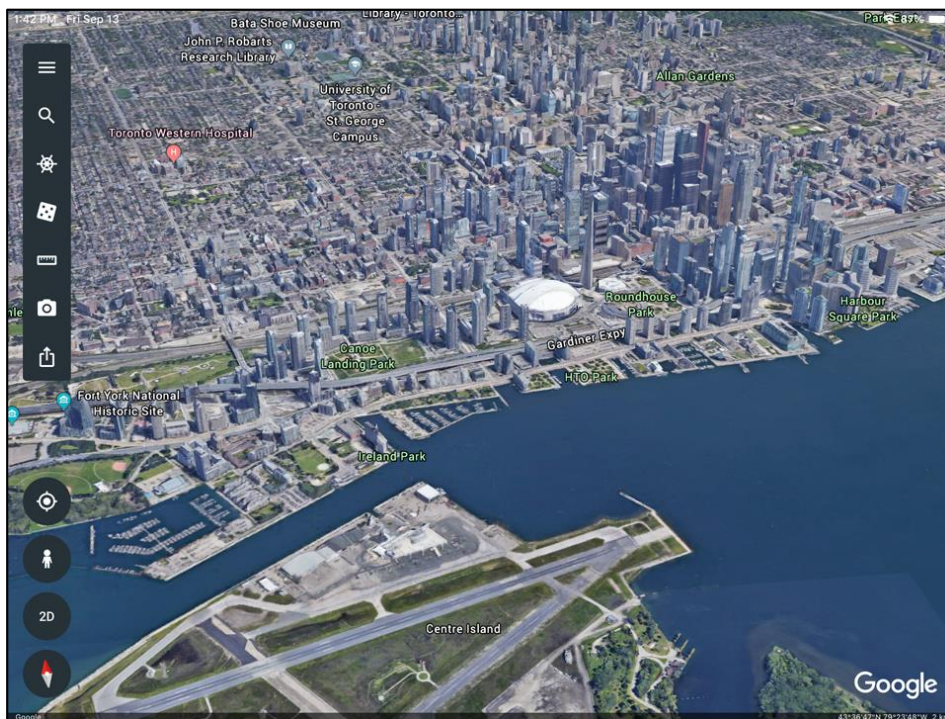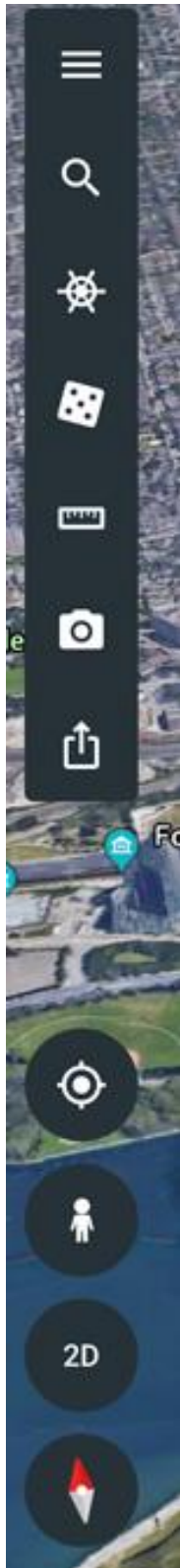
Layers

Search

Editor's Pick

Roll the dice – generates random search

Scale

Take a picture of the screen

Share a link

Your location (permission required)

**Street View** – tap on a blue line to place your

2D/3D Toggle

Compass

Choose your own Destination

1. **Search for a place in the world you'd like to visit**

2. Use **3D View** to see a different perspective than the flat 2D map

3. Tap on the person icon to go to **Street view** to take a virtual tour of that place at street level!

For example:

1. **Tap on search** then type in **London UK**

2. **Tap on the 3D icon** to switch to **3D View**
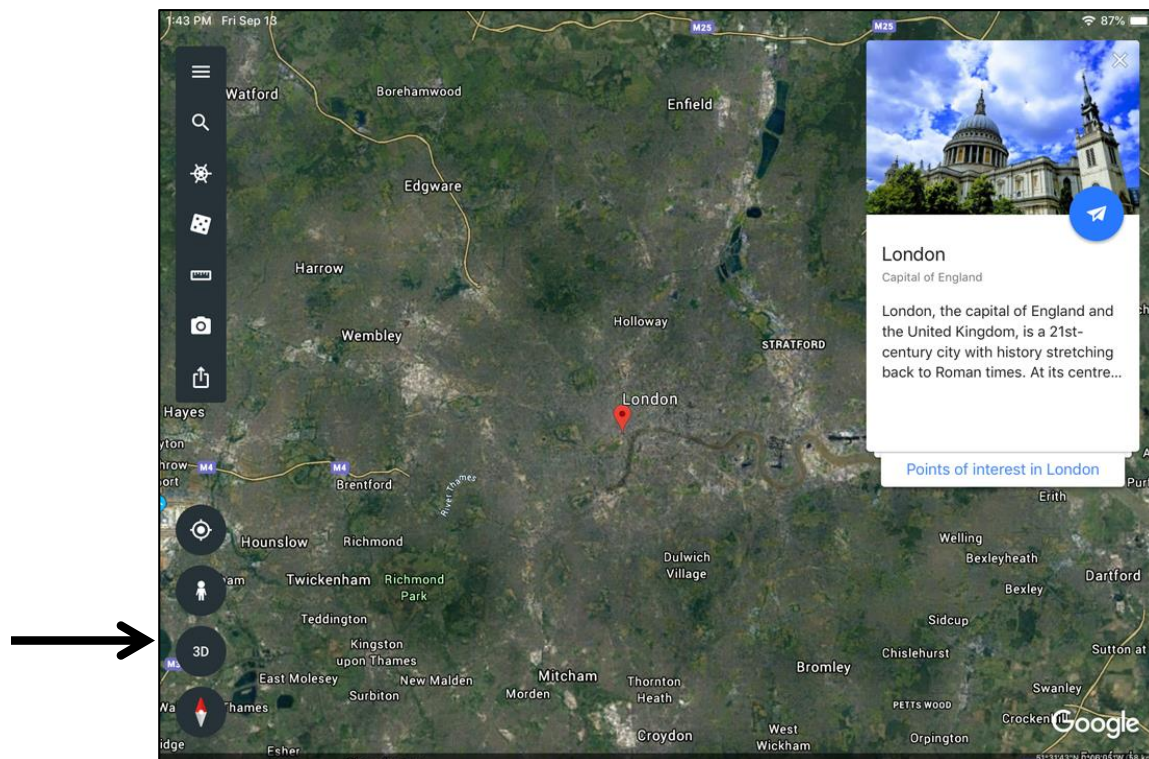
3. **Tap on the person icon – then tap on a spot on the blue street lines** to get to Street View

Search Engine Comparison in Tabs

We have focussed on **Google** as a search engine because it is the one used most often: approximately 73% of all searches, in 2018. What about the rest of the searches?

Bing (from Microsoft) powers approx. 8% of searches, **Yahoo** with 4%. Other search engines in the top ten include **DuckDuckGo**, Ask.com, Baidu (China), WolphramAlpha, Internet Archive, Yandex (Russia).
From [*https://netmarketshare.com*](https://netmarketshare.com)

Let's Compare three search engine results: **Google vs Bing vs DuckDuckGo.**
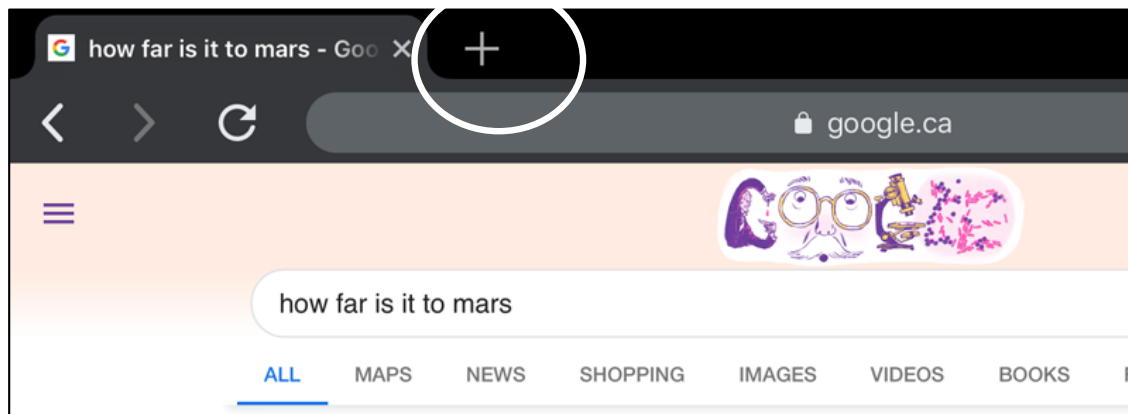
Google
1. Type in **Google.com** in the address bar of the Chrome Browser App

2. In the Google search box type in **How far is it to Mars? Press Enter** on your keyboard

3. Have a quick **look at your results**: we have articles from space.com, NASA, plus videos and more
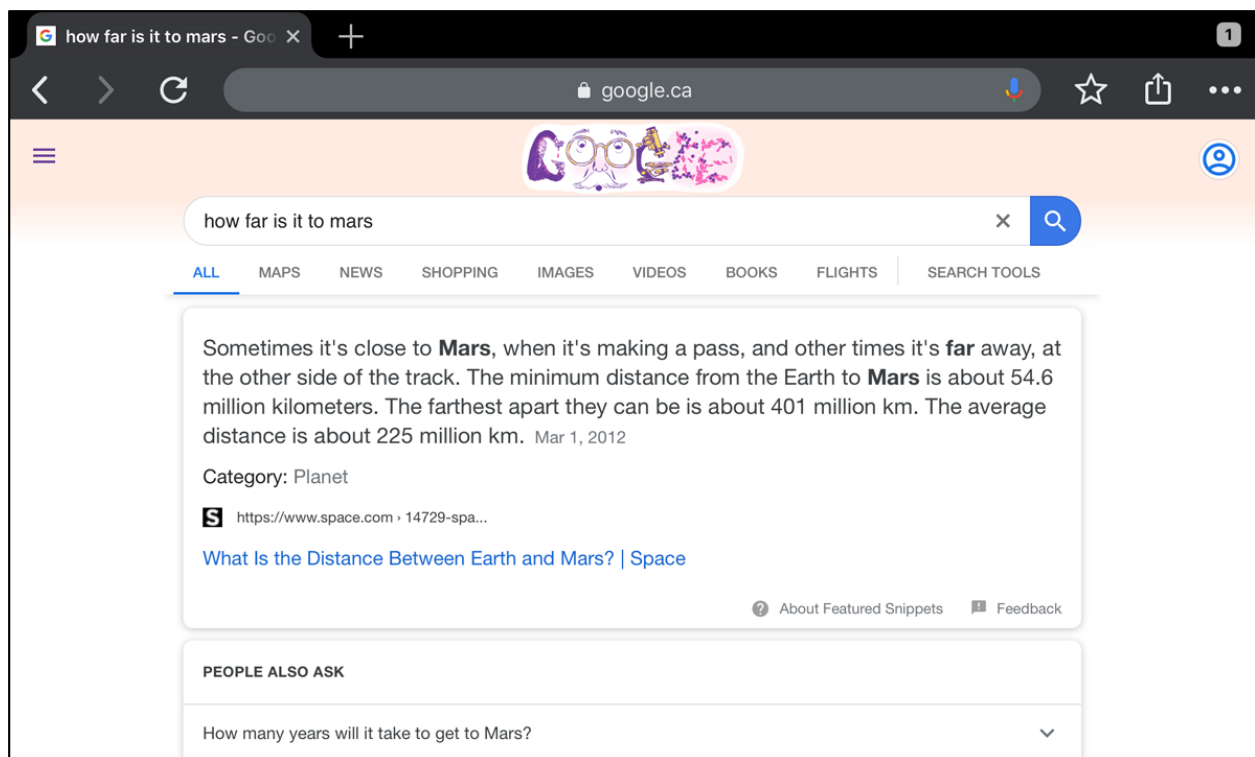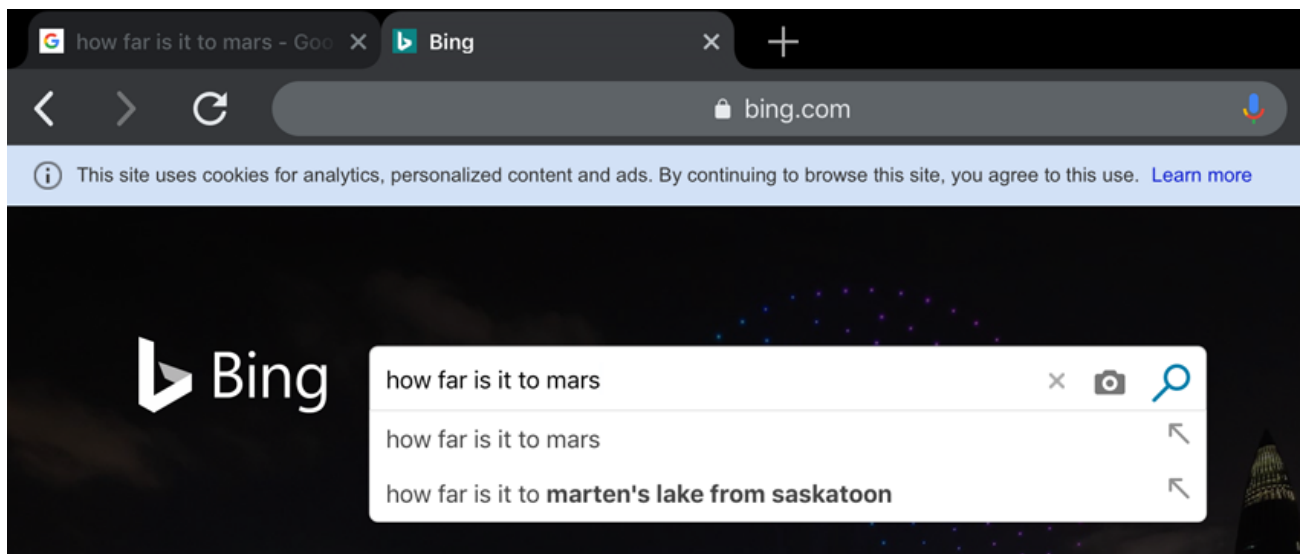
Bing

1. Let's add a Tab for Bing

2. Look up to the top of your window. Above the web address bar you can see a tab labeled with your search. Let's **open another tab by tapping on the Plus sign** immediately to the right of your tab


3. Type in **Bing.com** in the address bar

4. In the Bing search box type in **How far is it to Mars? Press Enter** on your keyboard

TIP: you now have 2 tabs open, each with a different search engine. Tabs are a great tool which allows you to have multiple web pages open at the same time and switch between them.

5. Have a quick **look at your results**: We see most of the results we saw on Google.

**Note**: Bing has **similar filters** to Google
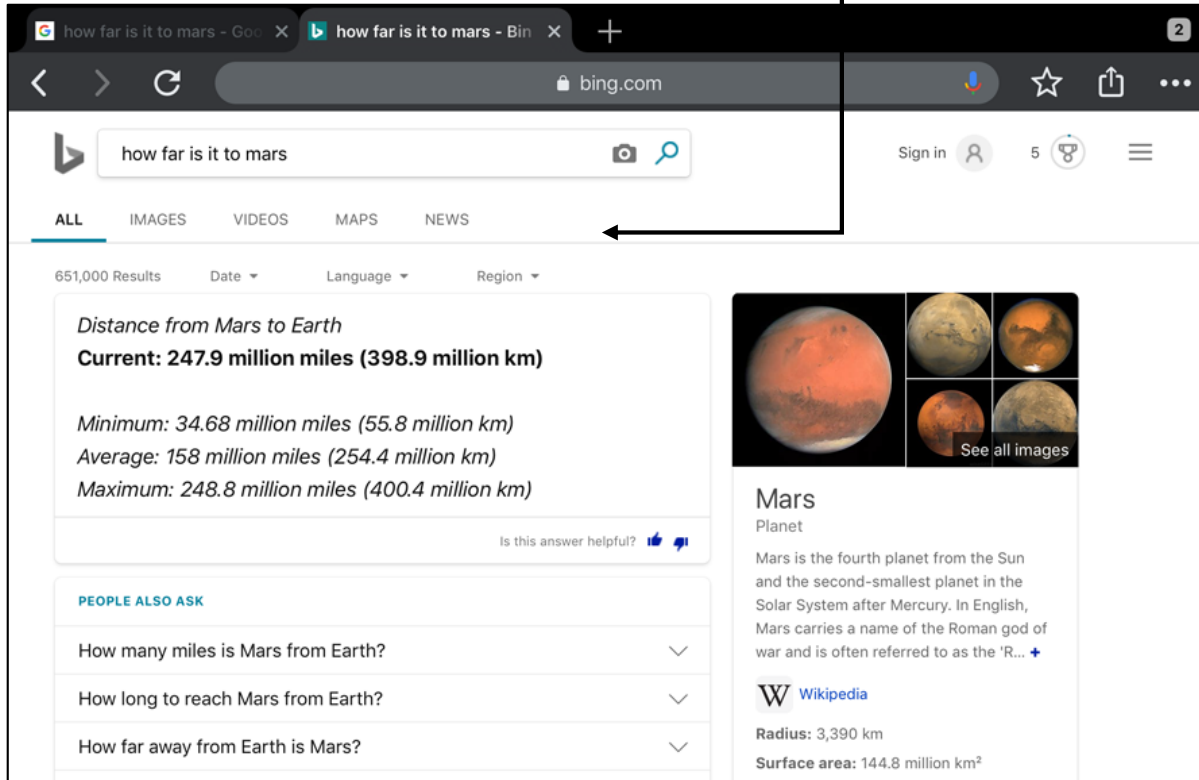
DuckDuckGo

1. Let's **open another tab**

2. **Type in Duckduckgo** in the address bar

3. You should get a google search which includes the DuckDuckGo.com website. **What just happened?**

4. **Yes! the address bar now also acts like a Google search box! That's a real time-saver.**

5. In the DuckDuckGo search box type in **How far is it to Mars? Press Enter** on your keyboard

6. Have a look at your results: this is a no-frills list with most of the same results we've seen so far.

   Why use DuckDuckGo? It's an alternative web search engine which blocks ad trackers and keeps your search history private. *From: https://searchenginewatch.com/2019/04/25/whats-it-like-using-duckduckgo-in-2019/*

7. You should have **three tabs open** at the top of your window now. **Practice moving between them** by tapping on each one

8. Close a tab by **tapping on the X** on the right side of the tab
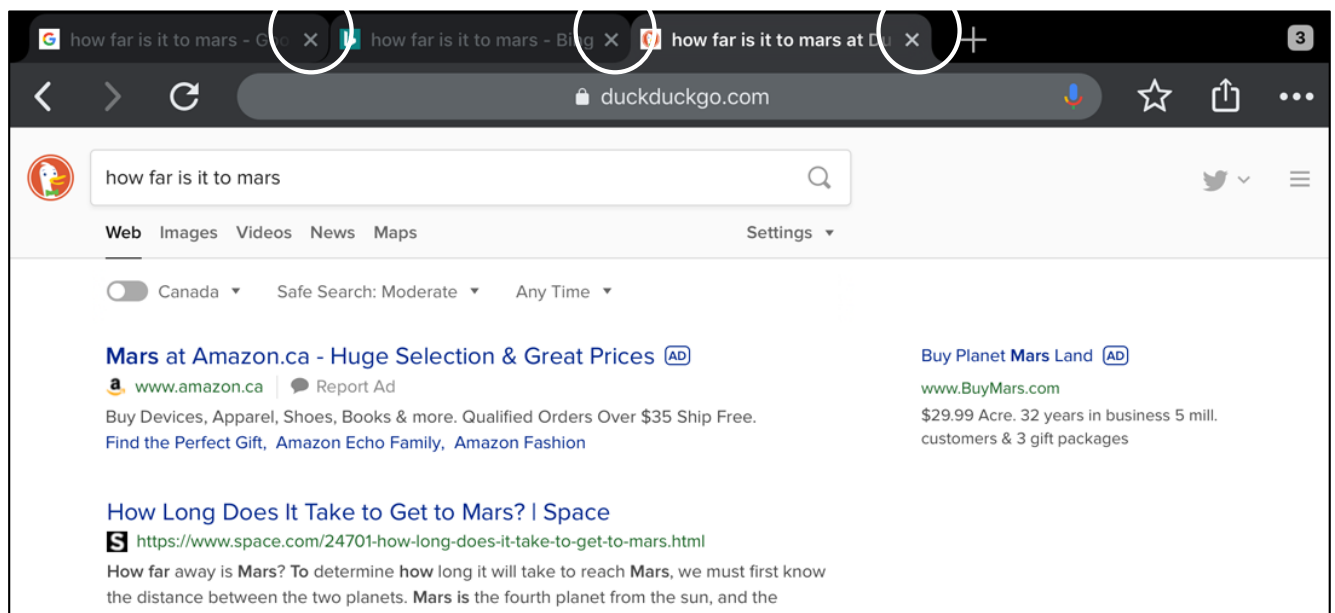
Internet Archive

This is another site which offers a **search box** to help you find content and **filters to refine your search**. The website offers free access to loads of information and entertainment and a wide variety of formats.

1. Open the Chrome browser app and type in the address **archive.org**

2. Scroll down to the Internet Archive Search box (Tip: this site has more than one search box)

3. Search for **Hugh Fraser**
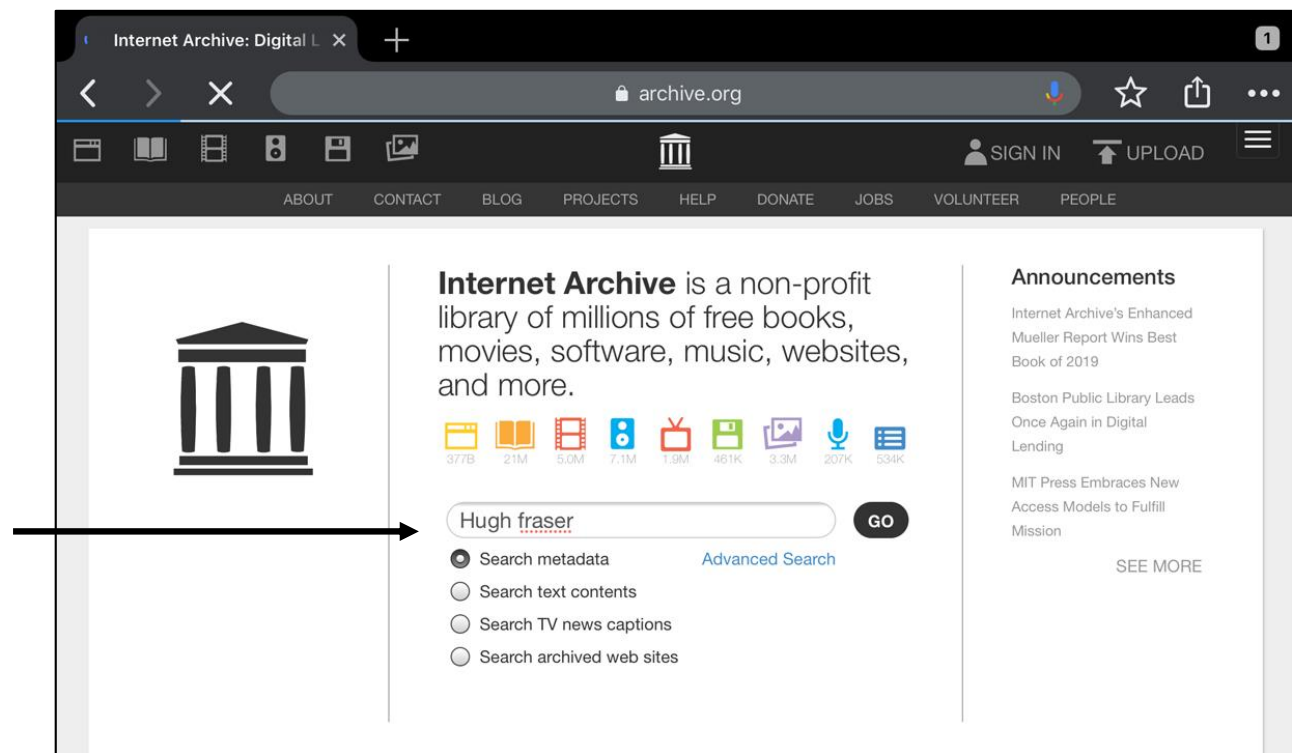
Filter for **Audio** (tap on the checkbox)

4. Filter for **Agatha Christie**

5. You will now see 29 audiobooks to enjoy. Listen online or download.

6. Explore the site to see what else is available