

The Digital Divide

Textbook

The Digital Divide



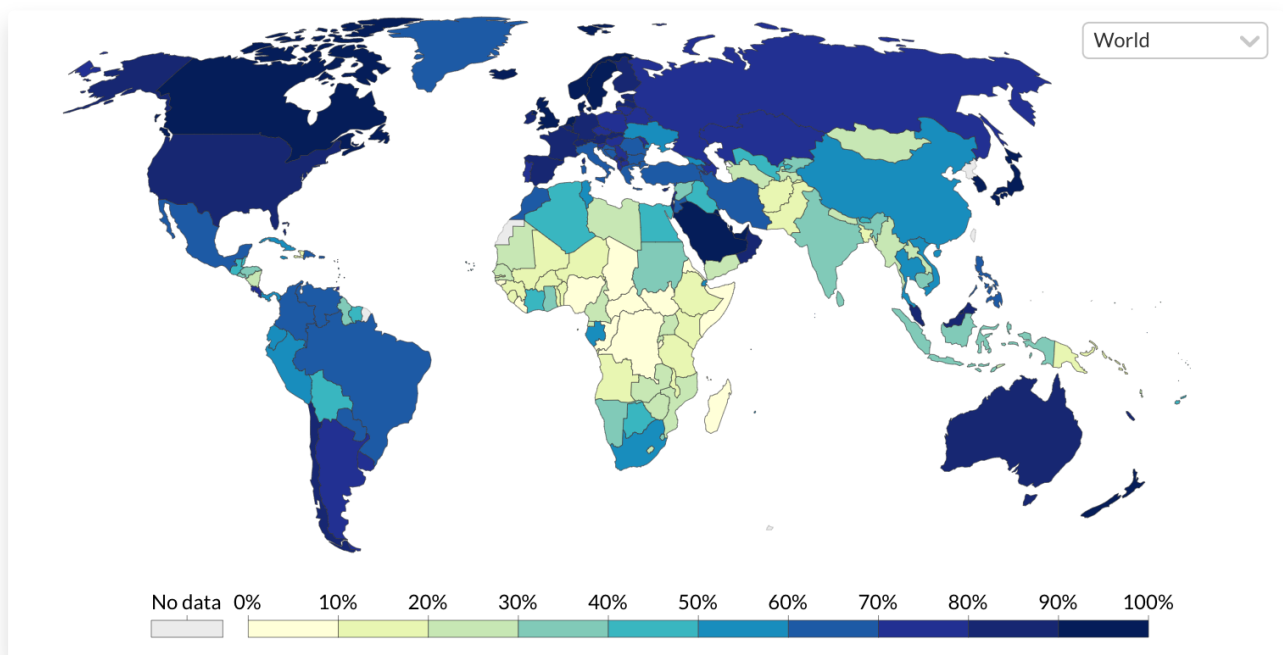
The internet is growing more and more prevalent in our everyday lives. People use the internet to buy cars, lock their front doors, get directions for driving, order food, and even measure the temperature on their fridges. The internet is becoming essential for everyday living. So what about the people who have limited access to the internet?

You might think it's not a big deal if they can't get on social media or watch videos online by using the internet. This may be true, but consider more serious matters that require the internet such as signing up for school, filing taxes, or accessing health care. The internet is starting to be an essential asset.

Internet access varies between characteristics, as well as between countries. This difference in access to the internet is often referred to as the [digital divide](#). We will explore some examples of the digital divide.

Global Digital Divide

Let's take a look at the differences in internet access across the globe from a study done in 2018. This is showing the percentage of the population that has accessed the internet in the past 3 months.

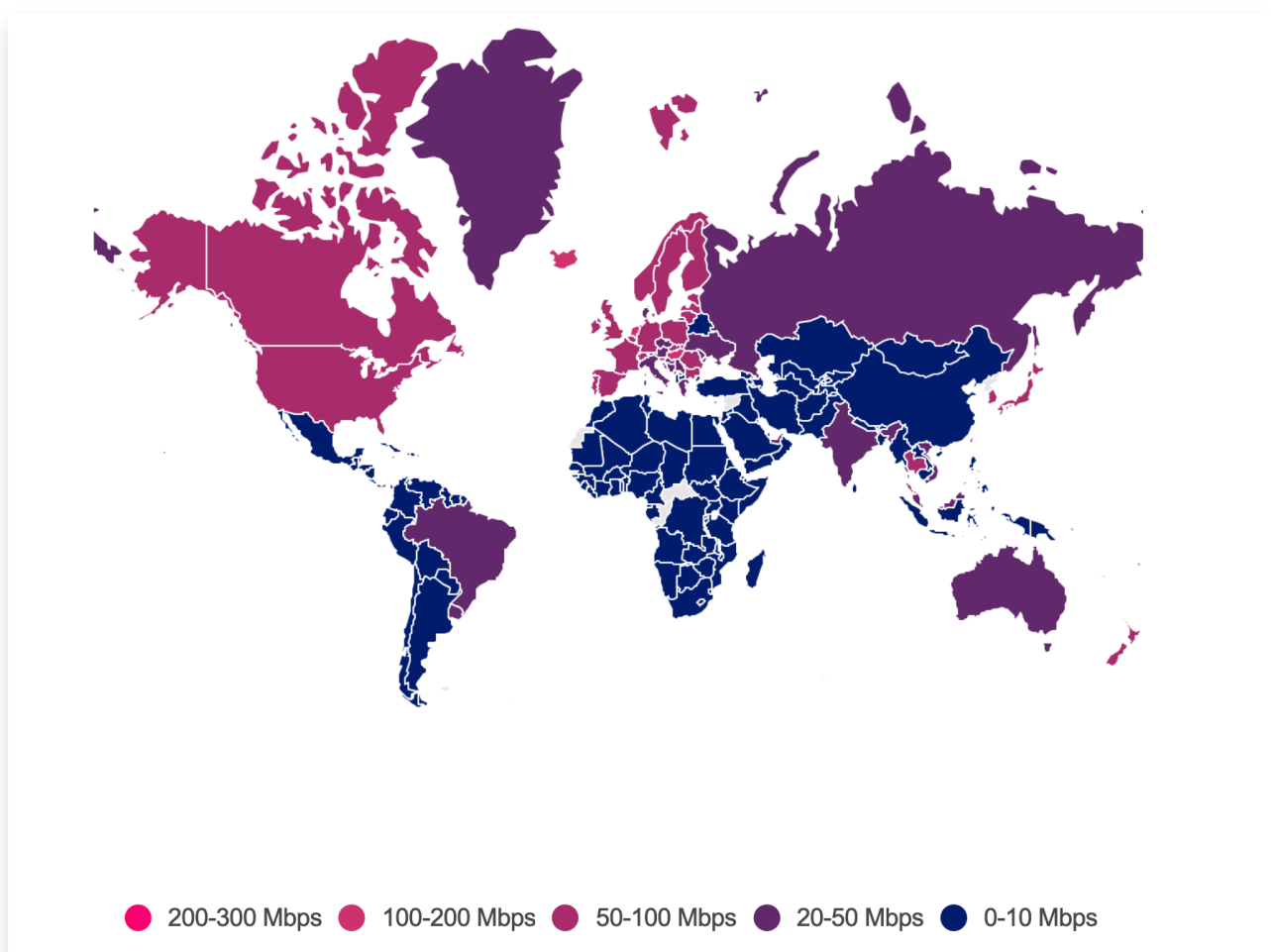


Explore this map further from ourworldindata.org [here](#).

In Norway 96% of the population has access to the internet while in Eritrea only 1% of the population accesses the internet. The internet vastly speeds up progress and provides opportunities for people to advance and improve their lives. Not all countries access the internet at the same rate.

Question: Why might some countries have more access to the internet than others?

Let's take a look at another map. This one shows the average internet download speed.



Explore this map from cable.co.uk further [here](#).

In Turkmenistan, the average download speed is .5 mbps while in Iceland the average is 191 mbps. In other words, to download a movie in Turkmenistan would take 20 hours and in Iceland it would take 3 minutes.

Discussion Question: Take a close look at the two maps. Why might some countries have more people who can access the internet (in the first map) but still have slow internet speeds? Why might some countries have high speeds but a low percentage of usage?

Why

So why is there such a difference in internet access?

The short answer is basically money. Although many different complicated and involved reasons affect internet availability for different countries, much of the problem comes down to cost. Some countries are able to afford putting in the infrastructure that the internet requires while others just cant. Geography also plays a big part. Some countries are physically easier to lay down internet cables than others.

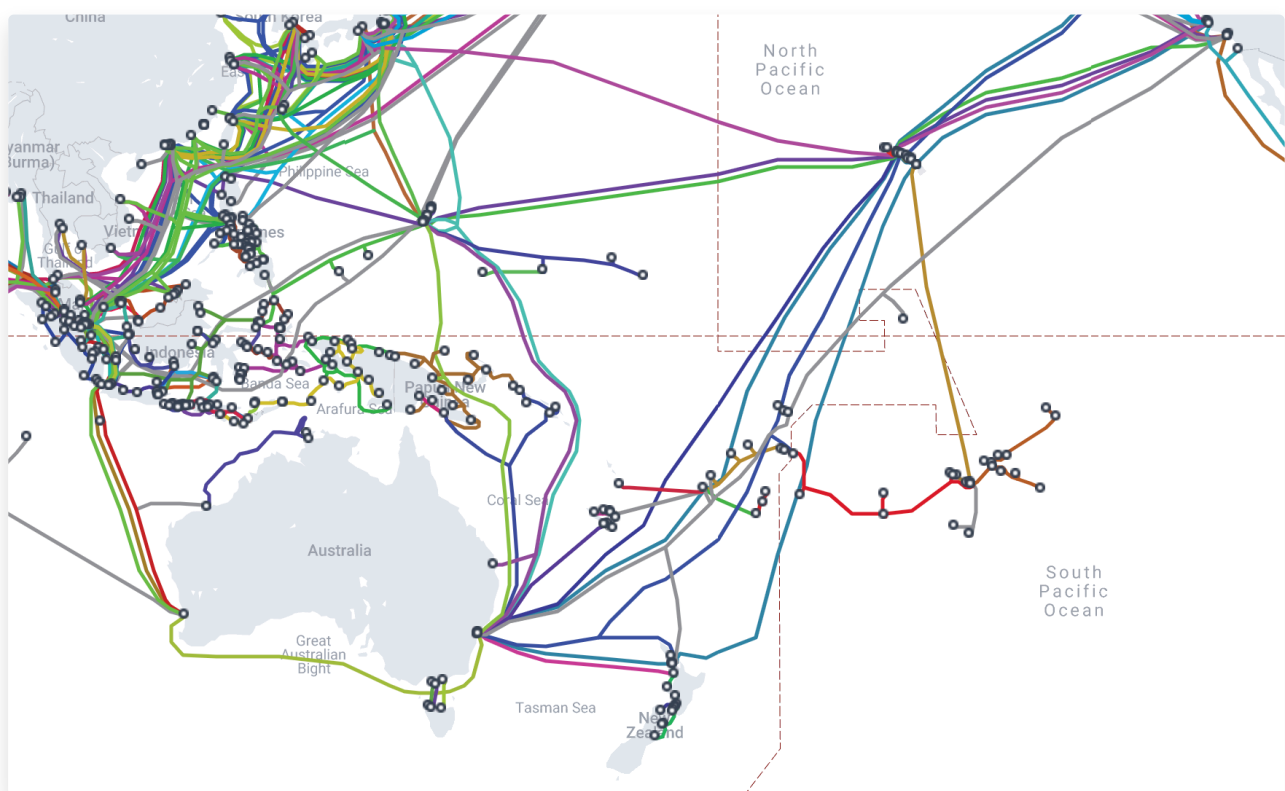
Geographic Digital Divide

Even with wifi and cellular data, we need physical cables to connect the computers together into the internet. What kinds of physical, geographical barriers can you think of that might make it difficult to lay internet cables?

Island Countries

Some countries are geographically separated by great stretches of water. Island countries in Oceania for example, have a harder time laying cables than other countries connected by land.

Here is a map of the underwater cables that connect islands in Oceania.



Explore this map from submarinecablemap.com [here](#).

The Marshall Islands have one cable connecting them to the rest of the internet. Updating this cable to support higher bandwidths under miles of ocean is much more expensive than just laying cable on land.

Difficult Terrain

Some countries have other physical barriers that make laying internet cable difficult. Terrain such as high mountains or dense jungle pose a formidable challenge to laying a reliable internet cable.

Bolivia has both dense Amazon Rainforest and high Andes mountains to deal with, which makes internet access a challenge.



Question: What other approaches could we take to make physically laying internet cables easier? How might this improve the lives of others?

Urban vs Rural

Since internet cable can be difficult and expensive to lay, people who live in urban areas have better access to internet than people who live in rural areas. Imagine if you lived in a cabin on a mountain that was far away from other buildings? Since the internet is still a new invention, we are still working on getting cables to every residence. Imagine again if you lived in an apartment building in the city right next to many other buildings? Installing an internet cable that's just a few meters through a wall is much more affordable than one kilometers long through mountain ranges.

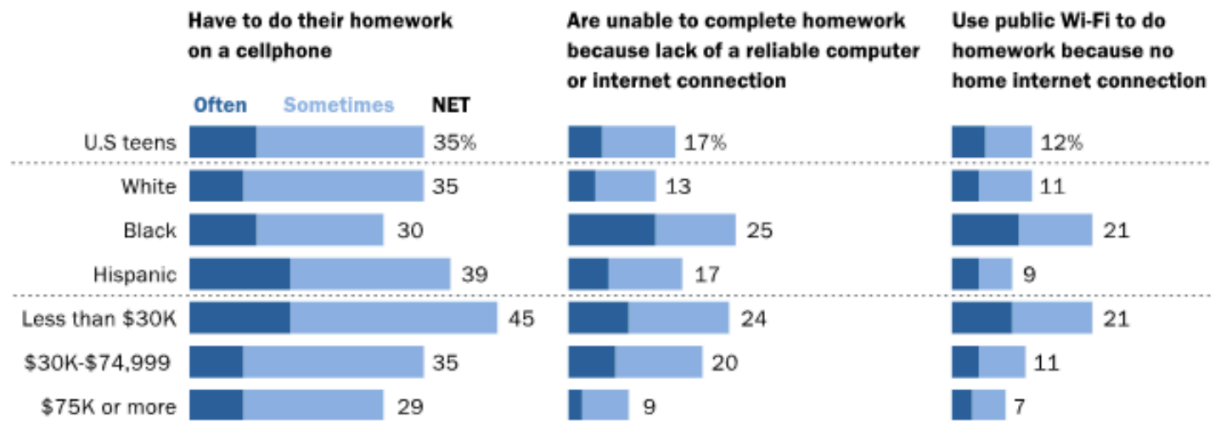
For very physical and logistical reasons, people in rural areas tend to have a harder time getting access to the internet than people in urban areas. Even cell phone internet needs a tower that is connected to a cable.

Imagine what it must be like to attend a school in a rural area with limited internet access? What would it be like if your school had limited internet connections? What if you got assigned homework to complete online but had a hard time getting internet at home? How might that affect your schooling opportunities?

Socioeconomic Digital Divide

Internet speed and quality can vary depending on location and available resources. Technology such as laptops, smartphones, and home internet connections can be costly, which may limit what devices people have access to. A 2019 study from the Pew Research Center found that smartphones are more commonly used than tablets or computers when other devices are unavailable. As a result, some students complete their homework primarily on a smartphone. At the same time, more school assignments are being assigned online.

% of U.S. teens, by race and ethnicity or annual family income, who say they often or sometimes ...



Learn more about this chart from the Pew Research Center [here](#).

Take a minute and think through all the homework you do. Do you have essays, coding assignments, math or research assignments? What would it be like to do all of that on a smartphone?

The difference in device availability for students dramatically affects their ability to perform in school, which consequently affects their future opportunities.

Digital Literacy Divide

Some people are limited in their ability to access the internet not because of internet availability but because of their understanding of how to use a computer.

[Digital literacy](#) refers to a person's basic knowledge of how to navigate a computer. Someone who is digitally literate would understand basic file structure, what scroll bars mean, how to enter and exit files, how to navigate a mouse and keyboard, etc. Imagine how difficult an online quiz would be to complete if you didn't have an underlying knowledge of how to work the machine?

Here's a short quiz to test your digital literacy.

What happens if you hit the following keys on a keyboard?

shift

[Show answer/example](#)

"return" or "enter"

[Show answer/example](#)

The long narrow key that stretches along the bottom of a keyboard.

[Show answer/example](#)

caps lock

[Show answer/example](#)

A basic knowledge of what certain keys do on a keyboard is a good example of what it means to be digitally literate. Many people take this knowledge for granted.

[Digital literacy](#) tends to be more of a challenge with older age groups. Digital literacy differences limit the opportunities and resources available to that person. Digital literacy is another important aspect to consider in the Digital Divide.

Summary

The [digital divide](#) can affect both groups and individuals. Some countries have better access to internet and have faster internet speeds than others. Some areas are geographically more difficult to connect the internet to than others. Some people are in socioeconomic positions that affect their ability to get online. [Digital literacy](#) issues also contribute to gaps in access to resources. The digital divide raises ethical concerns around computing.

The difference in opportunities between those who have the internet and those who don't is growing more and more drastic. The [digital divide](#) raises issues of, both globally and locally.

Questions (8)

1. What are some of the geographic challenges that affect internet availability for different countries? Select all that apply.

SELECT MULTIPLE

Select all that apply:

- A. Oceans
- B. Mountains
- C. Jungles
- D. Urban areas
- E. Roads

2. What is the short answer as to why some countries have better internet availability than others?

MULTIPLE CHOICE

Choose the correct answer:

- A. Money
- B. Philosophy
- C. Size
- D. Politics

3. True or False: Having access to the internet doesn't affect a person's opportunities very much.

MULTIPLE CHOICE

Choose the correct answer:

- A. True
- B. False

MULTIPLE CHOICE

4. Which country would have an easier time getting an internet cable connection?

Choose the correct answer:

- A. An island country.
- B. A country surrounded by mountains.
- C. A country connected to another country with several land borders.

5. True or False: People from low income homes are more likely to afford a computer than a smart phone or tablet.

MULTIPLE CHOICE

Choose the correct answer:

- A. True
- B. False

6. True or False: Digital literacy tends to be more of an obstacle for elderly age groups.

MULTIPLE CHOICE

Choose the correct answer:

- A. True
- B. False

7. True or False: Digital literacy affects a person's ability to access opportunities online.

MULTIPLE CHOICE

Choose the correct answer:

- A. True
- B. False

8. Which of the following contribute to the Digital Divide? Select all that apply.

SELECT MULTIPLE

Select all that apply:

- A. Digital Literacy problems.
- B. Geography barriers.
- C. Money problems.
- D. Country spoken language.

Answer Keys & Solutions

Questions

1. What are some of the geographic challenges that affect internet availability for different countries? Select all that apply.

SELECT MULTIPLE

Correct Answers:

- | | |
|----------------|-------------|
| A. Oceans | ✓ Correct |
| B. Mountains | ✓ Correct |
| C. Jungles | ✓ Correct |
| D. Urban areas | ✗ Incorrect |
| E. Roads | ✗ Incorrect |

Explanation:

Areas that are geographically difficult to lay cables make internet access difficult.

2. What is the short answer as to why some countries have better internet availability than others?

MULTIPLE CHOICE

Correct Answer:

- | | |
|---------------|-------------|
| A. Money | ✓ Correct |
| B. Philosophy | ✗ Incorrect |
| C. Size | ✗ Incorrect |
| D. Politics | ✗ Incorrect |

Explanation:

Laying internet cables is expensive.

3. True or False: Having access to the internet doesn't affect a person's opportunities very much.

MULTIPLE CHOICE

Correct Answer:

A. True

✗ Incorrect

B. False

✓ Correct

Explanation:

Internet access greatly affects a person's opportunities.

4. Which country would have an easier time getting an internet cable connection?

MULTIPLE CHOICE

Correct Answer:

A. An island country.

✗ Incorrect

B. A country surrounded by mountains.

✗ Incorrect

C. A country connected to another country with several land borders.

✓ Correct

Explanation:

Mountains and water are difficult to lay internet cable through.

5. True or False: People from low income homes are more likely to afford a computer than a smart phone or tablet.

MULTIPLE CHOICE

Correct Answer:

A. True

✗ Incorrect

B. False

✓ Correct

Explanation:

People from low income homes usually prioritize a smart phone over a computer.

6. True or False: Digital literacy tends to be more of an obstacle for elderly age groups.

MULTIPLE CHOICE

Correct Answer:

A. True

✓ Correct

B. False

✗ Incorrect

Explanation:

Elderly people often have a hard time understanding technology.

7. True or False: Digital literacy affects a person's ability to access opportunities online.

MULTIPLE CHOICE

Correct Answer:

A. True

✓ Correct

B. False

✗ Incorrect

Explanation:

If a person has a hard time navigating the mouse or the keyboard, they will have a hard time accessing online resources.

8. Which of the following contribute to the Digital Divide? Select all that apply.

SELECT MULTIPLE

Correct Answers:

A. Digital Literacy problems.

✓ Correct

B. Geography barriers.

✓ Correct

C. Money problems.

✓ Correct

D. Country spoken language.

✗ Incorrect

Explanation:

The language spoken doesn't affect their ability to get online.