

# Manitoba Flooding Unit Gr. 7 Social Studies

Work through this unit at your own pace. This entire unit can be printed out and worked on or you can do it through the webpage <https://kfillion.weebly.com/manitoba-floods.html>.

Some videos are only on the website but links are here.

Lesson	Learning Opportunity Topic
1	Introduction to Floods in Manitoba
2	The 1950 Flood, The Floodway
3	The 1997 Flood, Floodway's Impact on Rural Mb
4	The 2011 Flood, Lake St. Martin
5	Strategic Planning Inquiry Project

## Learning Outcomes

-Identify on a map the major cities, landforms, and bodies of water of a society of Europe or the Americas.

-Identify human activities that contribute to climate change.

-Describe diverse approaches to land and natural resource use in a society of Europe or the Americas.

-Give examples of the impact of human activity on the natural environment in a society of Europe or the Americas.

-Construct maps that include a title, legend, compass rose, scale, and latitude and longitude.

-Appreciate history as an important way to understand contemporary life.

-Identify historical events that continue to affect a society of Europe or the Americas.

-Identify ways in which government decisions may affect human impact on the natural environment.

-Identify common challenges faced by large urban centres.

-Describe sustainable development issues in a society of Europe or the Americas.

# Lesson 1: Introduction to Floods in Manitoba

**What is a flood?** - A flood is an overflow of water that submerges land that is usually dry.

**Why are Floods of Interest in Mb?**

- Red River and Assiniboine River meet at the Forks in Winnipeg, Mb
- Historically, Mb has been heavily impacted by flooding
- Red River Floodway is built along East side of Winnipeg

**LEIGHTON AVE. (OFF HENDERSON HWY)**

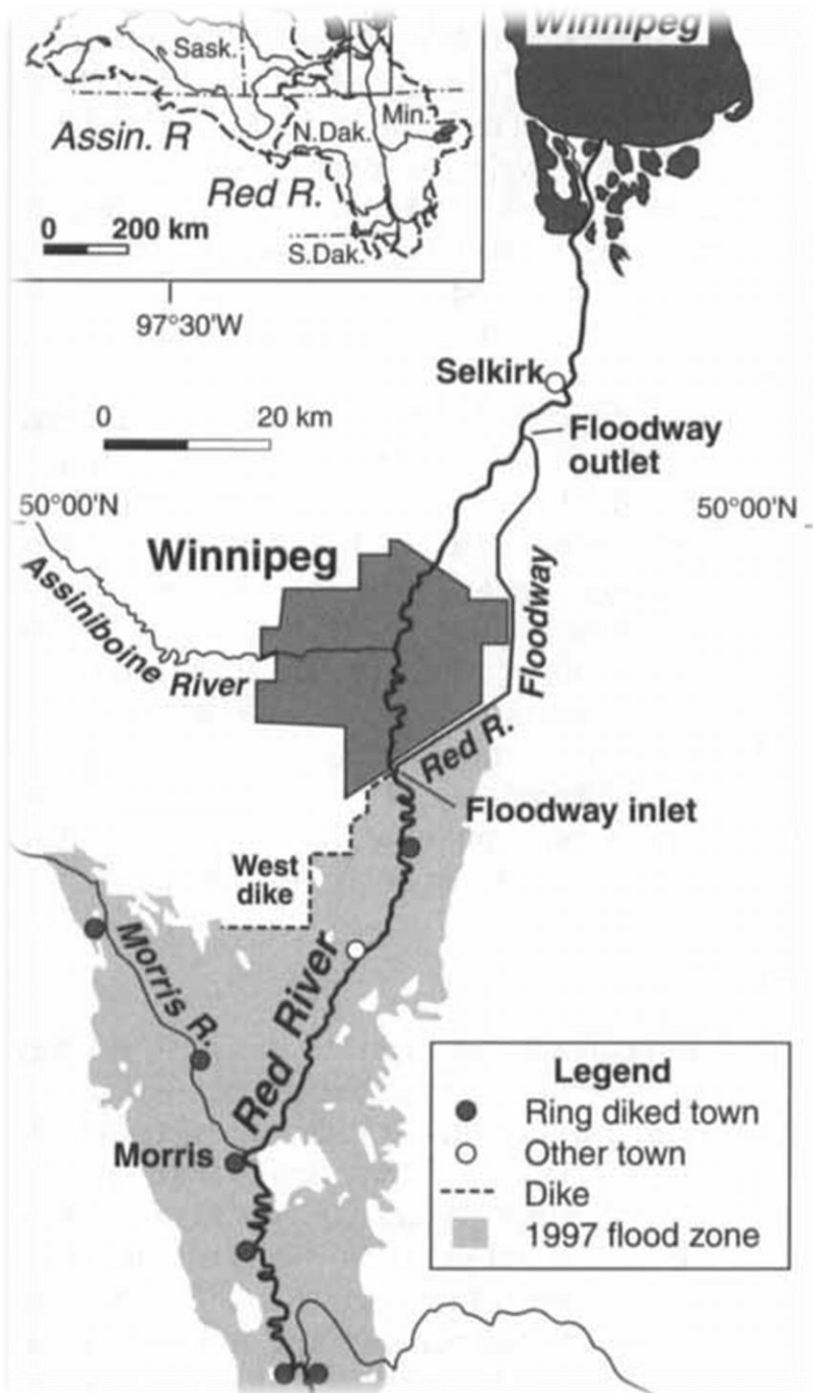
**1950**



Source: <https://www.livabl.com/2016/07/17-photos-flood-winnipeg-1950.html> Image by Stan Milosevic



Source: <https://www.google.com/maps/place/Manitoba>



[https://www.researchgate.net/figure/Map-of-the-Red-River-and-the-central-ponion-of-the-Red-River-Valley-Manitoba-depicting\\_fig1\\_227720854](https://www.researchgate.net/figure/Map-of-the-Red-River-and-the-central-ponion-of-the-Red-River-Valley-Manitoba-depicting_fig1_227720854) by Gregory Brooks

## Causes of Flooding:

- Fall soil moisture
- Amount of Snow
- Rate of spring melt
- Spring rain



Image Source: <https://pdfs.semanticscholar.org/6529/86956d5780e244f605624c628878de087beb.pdf>

## Can Climate Change Impact Flooding?

Yes! Warmer air can hold more water which can lead to stronger rainfall events.

**Human activity can also increase the risks:** Paving over areas which were previously covered by vegetation, reducing the capacity of the land to absorb rainfall and causing it to run off more quickly.

# Assignment 1: Floods

Choose **ONE** of the following options to "show what you know"

- Create an Infographic
- Write a News Article
- Make a News Report
- Record a Podcast Episode
- Change a popular song's lyrics so that it becomes a song about Manitoba Flooding

## Rubric

<i>Some Comments for improvement...</i>	<i>You meet the expectations if you include the following information...</i>	<i>You went above and beyond by...</i>
	<ul style="list-style-type: none"><li>-Explain what a flood is</li><li>-State 2 reasons why floods are of interest to Manitobans</li><li>-State 3 of the causes of flooding</li><li>-Explain how human activity can increase flooding</li></ul>	

## (Optional) Ways to Extend your Learning Further...

- Add 5-10 additional facts about Flooding in Manitoba
- Add quotes from an interview with a family member about flooding (respecting social distancing)
- Discuss flooding in Grand Forks in your assignment
- Discuss the economic impact that floods have had in Manitoba

## Examples and Tips for Assignment 1: Floods

I made this example **infographic** on an app called Canva. It was easy and fun to use! You can always do it by hand too.




If you are doing a **news cast or news article** it would be a good idea to watch a few news casts or read some news articles to see the format.

If you are doing a **podcast episode** you could use a voice notes app, other audio recording app. You could also make a video and then just cover the camera.

If you are doing the **re-writing of a song**, you might want to find the actual lyrics and Copy and Paste them into a word document and change them. You could also re-write it.

*Mrs. Fillion Presents*

# FLOODING IN MANITOBA



## WHAT IS A FLOOD?

Floods occur when areas of land that are usually dry become covered in water.




## WHY DO WE CARE?

In Winnipeg, Mb the Red River and Assiniboine Rivers meet. Manitoba has seen some very destructive floods.

## WHAT CAUSES FLOODING

Wet fall, amount of precipitation, rate of spring melt and amount of snowfall



## HUMAN ACTIVITY

When we pave over vegetation areas that may have absorbed water and have concrete, urban areas are more likely to flood.

# Lesson 2: 1950 Flood – Floodway

In 1950 Manitoba was flooded to the extreme. There were 100,000 people evacuated from their homes making it the largest mass evacuation in Canadian history. The Red River, which is usually 150m wide, became a 65 km wide and 100 km long lake!

[https://www.youtube.com/watch?v=BUdg1Nt\\_5OI](https://www.youtube.com/watch?v=BUdg1Nt_5OI) Click to see Footage!

Almost a quarter of Winnipeg was under water. Over one million pounds of equipment and 1,200,000 sandbags were airlifted in from as far as San Francisco. The flood damaged 10,500 homes in Winnipeg alone.

Source: <https://www.cbc.ca/archives/entry/a-city-submerged-winnipeg-and-the-flood-of-1950>



## The Red River Floodway: "Duff's Ditch"

In 1962 Manitoba began building the Red River Floodway. It inputs South of Winnipeg and its output is in Lockport. There was a lot of opposition to the project.

The Floodway was complete in 1968 after 6 years of construction.

The Red River Floodway is an artificial flood control waterway.

<https://globalnews.ca/video/5146874/floodway-101-how-does-the-red-river-floodway-work-anyway>

Click above to see a video of how the floodway works

# The Red River Floodway



Photo Credit: Gordon Goldsborough

- The Purpose of the Red River Floodway is to prevent the flooding of Winnipeg
- It is 47 km long
- The Red River Floodway takes water from the Red River around Winnipeg and puts it back in Lockport



Photo Credit: George Penner

# Assignment #2: Map of The Floodway

Using this template or a blank sheet of paper, construct a Map of Southern Manitoba that includes the following components:

## Features:

- Title
- Legend
- Compass Rose
- Scale (can be an estimate)

## City/Towns:

- Winnipeg
- Selkirk
- Lockport
- Emerson

## Bodies of Water:

- Red River
- Assiniboine River

## Other:

- The Red River Floodway
- Where the Floodway inputs (begins)
- Where the Floodway outputs (ends, meets up with Red River again)

## Optional items to include:

- Brunkild, Mb
- Morris, Mb
- La Salle River
- The "Z" Dike

## Rubric:

Each item on the list is worth a mark!

## Optional: Ways to Extend Your Learning

Go to this Article: (Also on the next page)

<https://www.cbc.ca/news/canada/manitoba/manitoba-floodway-early-2020-activate-1.5526870>

Video of me reading it if that is helpful:

<https://www.loom.com/share/8d77024ed9fd4111a37f555b357bc7c9>

Questions: 1) Would you feel differently if your property flooded as a result of a decision to open the floodway versus if it just flooded naturally?

2) Are there ways to break up the ice? What are the methods used?



Manitoba

## Ice jams cause flooding south of Selkirk, as province prepares to activate Red River Floodway

Water levels expected to peak at Emerson April 15-20

CBC News · Posted: Apr 08, 2020 4:47 PM CT | Last Updated: April 8



Blocks of ice pile up on the Red River south of Selkirk on Wednesday evening.  
John Einarson/CBC

comments 

The Manitoba government is preparing to activate the Red River Floodway as soon as Thursday evening.

The announcement Wednesday comes as the province issues a high water warning for the Red River from Emerson to the Red

River Floodway inlet, just south of Winnipeg.

The government said the river is close to spilling its banks in most of the region. A high water watch has been issued for the Red River from Lockport to Netley Creek due to potential of some overland water in low-lying areas from ice jamming.

A large ice jam accumulated just south of Selkirk, and as of 7:20 p.m. Wednesday, PR 204, from the Red River Bridge to Highway 212, had been closed due to flooding and water over the road.

Selkirk Mayor Larry Johannson saw the ice jams and told CBC News that it looks pretty thick. But if it can get past Netley Creek, he thinks there won't be any issues.

"We're still optimistic," said Johannson, citing the cooler temperature and the ice broken up by Amphibex machines last month.



The province shut down PR 204, from the Red River Bridge near Selkirk to Highway 212, due to flooding and water on the roads caused by ice jams in

# Create a Map Template

Legend

Title: \_\_\_\_\_

# Lesson 3: The 1997 Flood

In 1997 Manitoba experienced what has been called "The Flood of the Century." With the Floodway in place, parts of Winnipeg were protected and the Red River Valley South of Winnipeg and Selkirk, St. Andrews and Netley take the brunt of the flood.

## The 1997 Flood in Facts:

- Was the most severe flood in Manitoba since 1852
- Winter of '96 there were four blizzards including the "Blizzard of the Century" on April 5-8, 1997
- An estimated 1000 homes were damaged in Winnipeg alone
- 8.1 million sandbags were filled
- The flood hotline handled 126,000 calls per day
- 22,000 people evacuated from rural Mb and 6,000 from Winnipeg
- 350 farms impacted



[https://winnipeg.ca/History/flood/flood\\_scenes/1997\\_flood/](https://winnipeg.ca/History/flood/flood_scenes/1997_flood/)

## INTERESTING ANECDOTE...

"DURING THAT 1997 FLOOD I WORKED WITH THE ARMED FORCES SANDBAGGING IN THE FLOWING RED RIVER. THERE WAS A BERM SOUTH OF LOCKPORT THAT WAS FAILING/LEAKING WE WERE IN THE RIVER PLACING SANDBAGS THAT WERE BEING LOWERED TO US BY A CHINOOK CANADIAN FORCES HELICOPTER. ONE OF THE WILDEST THINGS I HAVE EVER DONE!"

-IAN COCKERILL, RESIDENT OF SELKIRK



[https://www.cbc.ca/news2/interactives/1997\\_manitoba\\_flood/](https://www.cbc.ca/news2/interactives/1997_manitoba_flood/)

Sources of Information:

<https://ya-webdesign.com/image/gta-helicopter-png/694954.html>  
<https://www.gov.mb.ca/flooding/history/index.html>

# Tough Times Bring Manitoba Together

Uncertainty and urgency drove the people of Manitoba to come together in record time and begin helping neighbours sandbag. With the Armed Forces deployed to Manitoba and the help of THOUSANDS of volunteers, people mobilized.



St. Agathe, Mb 1997



Image Source: <https://www.theglobeandmail.com/news/national/red-river/article25520090/>

St. Andrews, Mb 1997



Winnipeg, Mb 1997

[https://winnipeg.ca/History/flood/flood\\_scenes/1997\\_flood/](https://winnipeg.ca/History/flood/flood_scenes/1997_flood/)

## Pause for Thought...

1. How does the Flood of 1997 compare to the current COVID-19 pandemic we are experiencing?
2. How is the Flood of 1997 different from the COVID-19 pandemic?
3. What do you think is meant by the phrase "The whole is greater than the sum of its parts?"
4. How does the above phrase relate to both the 1997 Flood and the COVID-19 pandemic? (1 mark each)

## The Floodway's Impact on Rural Mb

One drawback to the floodway is that it can pose a threat to properties North of the Floodway output in Lockport. Water can flow faster and in higher quantities depending on how the Floodway is utilized.



Residents of the Netley Creek area worry each year when they hear that they are opening the Floodway.

## Some ways residents protect their properties:

- Lifting threatened properties (Building up the land before building a home)
- Building dikes around the property to make it more difficult for water to reach homes
- Rural Municipalities try to get a head start on flood preparations each year

Click the Link to see a video of Netley Creek residents speaking about floods:  
<https://winnipeg.ctvnews.ca/rm-of-st-andrews-gets-a-jump-on-spring-flood-preparations-1.1731872>

## The Amphibex: Insect-Like Ice Breaker

The Amphibex machines are a sight we may be familiar with seeing on the Red River. They are large machines that try to ease flooding along the North Red River by breaking up ice and preventing larger chunks from causing jams during the spring melt.

### Cool Video:

<https://www.youtube.com/watch?v=zEaNP6F5Jds>

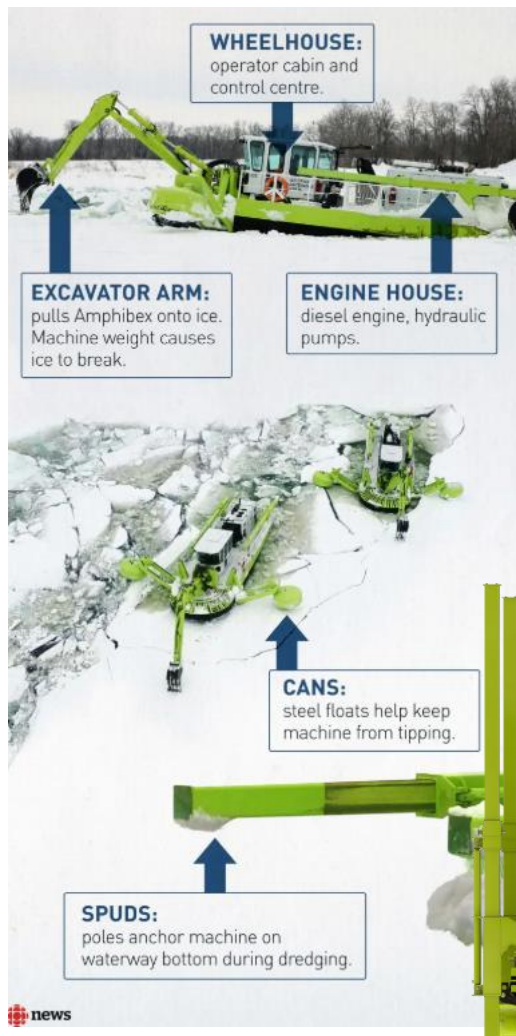


Image Source: CBC NEWS: [https://interlaketourism.com/news\\_articles/manitoba-amphibex-program-had-to-write-the-book-on-odd-art-of-ice-breaking/](https://interlaketourism.com/news_articles/manitoba-amphibex-program-had-to-write-the-book-on-odd-art-of-ice-breaking/)

Image Source: [www.amphibex.com](http://www.amphibex.com)

# The "Z" Dike

In 1997 in a matter of just a few weeks the province built an extension dike to protect Winnipeg. They used earth, gravel, old cars and even old school busses to block the water! Although the Z dike did protect most of Winnipeg, it came at a price. Many communities around Sandford and Brunkild experienced significant damage. Twenty years later some farmland has still not been able to recover.

*Video about the Z Dike:*

<https://globalnews.ca/video/rd/924811843776/?jwsourc=cl>



Old school busses and old cars were just some examples of objects used to block the flood waters.

Image Source: <https://globalnews.ca/news/3390142/1997-flood-z-dike-saves-winnipeg-farmland-still-not-recovered-20-years-later/>

## Optional: Ways to Extend Your Learning

Using your research skills, learn more about the "Z" Dike that was built in 1997 in just a few weeks near Brunkild, Mb.

You could use a search engine, speaking with family members (respecting social distancing) or using newspaper articles.

1. Why was it built?
2. What were some items used to block the water?
3. What were some drawbacks or negatives to the Z dike?
4. Do you agree with flood official's decision to build the dike that would damage farmland but protect 1000's of properties in Winnipeg?

# Assignment 3: Interview

Contact a family member who remembers "The Flood of the Century" in 1997.

**Respect Social Distancing Measures. Use Facetime, phone calls, texting, Skype, or other measures to connect.**

You could **document your interview** by writing the responses, typing them, having the person write their responses, or simply enjoy hearing about their experiences.

## Interview Questions

1. What area of Manitoba were you living in during the 1997 flood?
2. Did you or someone you know participate in sandbagging or other volunteer efforts?
3. Did you or someone you know have their property/house flooded? What was that experience like?
4. What was one interesting or surreal thing you remember from the 1997 flood?
5. What is one long lasting change from the events of the 1997 flood?
6. Have you been following the flood outlook for this year?

**To submit for marks: Email me telling me how your interview went and 2 things you learned.**



# Lesson 4: The 2011 Flood Lake St. Martin



In 2011 the government decided to divert water from the Assiniboine River into Lake Manitoba leading to extreme flooding in Lake St. Martin. The entire First Nation was flooded, destroying community infrastructure, all homes and buildings.

A new community has been built about a 10-minute drive from the original one. So far 475 evacuees have returned, but 994 people are still displaced.

Nine years later, the rebuilt community contains 350 units for families to live, 182 more than when it flooded in 2011.

Source: <https://winnipeg.ctvnews.ca/lake-st-martin-residents-looking-for-answers-after-flood-evacuation-benefits-end-1.4795558>

## Assignment 4: Perspective

Consider the perspective of those whose community was flooded as a result of a government decision.

Using any **ONE** idea you are comfortable with, create a representation of that situation.

- Journal or diary entry
- Drawing/painting
- Poem
- Photograph with caption
- song (sung, instrumental or lyrics written)
- Letter to government official



Photo Credit: Myrle Ballard

CLICK FOR A VIDEO OF ME DESCRIBING THIS ASSIGNMENT:

<https://www.loom.com/share/Of3f4bb776a14634b600cb72ceb3586b>

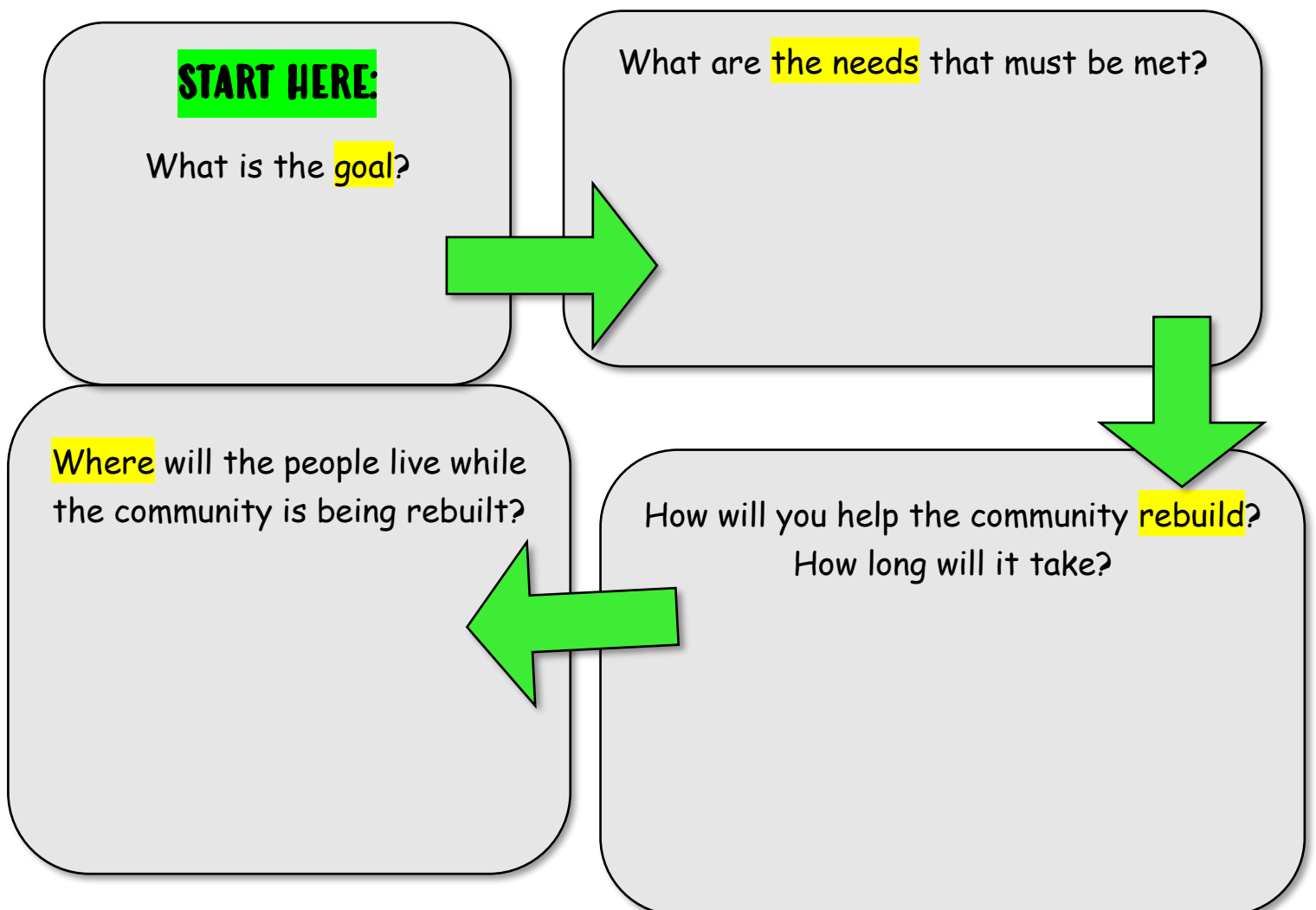
# Lesson 5: Strategic Planning Inquiry Project

FOR A VIDEO OF ME EXPLAINING THIS PROJECT

<https://www.loom.com/share/e57f6606d2b94a81a80cb99b77238fa0>

## FLOOD DISPLACEMENT PLAN

You have just been appointed as the Premier of Manitoba. You are told that an entire community has been destroyed by flooding and 100 people need to be evacuated immediately. They are currently about 200 km West of Winnipeg.



## MAP OUT YOUR PLAN

(use a web, timeline, list, whatever makes sense to you!)

What are some **problems** that may be faced by this group of people while they are away from home?

What could be done to help avoid these problems?

### *(Optional) Ways to extend your learning:*

- Design the new community
- How will you prevent the new community from flooding in the future?