You Can't Miss the Mitten
Michigan Specific Collection

Audience – Elementary Social Studies  Time required – 15 minutes

Activity
Find Michigan within the country and region, and learn about its identifying features

Michigan Content Expectations
SS 3 – G1.0.1 Use cardinal directions (north, south, east, west) to describe the relative locations of significant places in the immediate environment.
SS 3 – G1.0.2 Use thematic maps to identify and describe the physical and human characteristics of Michigan.
SS 3 – G2.0.2 Describe different regions to which Michigan belongs

Learning Outcomes
• Students will be able to:
  o locate Michigan relative to other major places
  o use cardinal directions to describe the location of its major physical features
  o describe the flow of water through the great lakes

Map URL: https://arcg.is/1HGi59

Ask
Can you find the mitten?
➔ Click the URL above to launch the map.
?
What large body of water is to the West of North America? [Pacific Ocean] To the East? [Atlantic] To the south? [Gulf of Mexico]
?
A peninsula is land which is surrounded by water on three sides. What peninsulas can you find on this map? [MI, FL, Baja]
- Michigan is made up of two peninsulas. The Lower Peninsula of Michigan is shaped like a mitten. The Upper Peninsula is to the North and looks like a rabbit or maybe a wolf.
?
Can you find the mitten? [Yes, you can!] Can you find the Upper Peninsula of Michigan? [Yes]

Acquire
Why does Michigan's Lower Peninsula look like a mitten?
➔ Der Book marks click on "Great Lakes"
?
What physical features make Michigan look like a Mitten? [The water that surrounds the land]
?
What lake is West of Michigan's lower peninsula? [Lake Michigan] There are 2 lakes is to the East of the lower peninsula, what are they? [Lake Huron and Lake Erie] What lake is to North of the Upper Peninsula? [Lake Superior]
?
There is one more great lake which is even further East than Lake Erie. What is it? [Lake Ontario]

Explore
How does water travel through the great lakes?
➔ With Map details underlined, choose Content. Check the box next to "Great Lakes Region Watershed" to turn it on.
?
What states are withing this region? [Click on the table icon under "Great Lakes Region Watershed" to get a listing of states]
Explore continued

Water travels downhill to lower elevations. Click on each great lake to see the elevation, then answer the questions below:

 QuéWhich great lake has the highest elevation? [Lake Superior] QuéWhich has the next highest elevation? [Lake Michigan]

 QuéWhat order do you think water flows through the great lakes? [answers vary]

 QuéCan water flow from Lake Superior to Lake Michigan? Why? [No, they are not connected] Does this change how you think water flows through the great lakes?

 Under Content, check the box next to "Great Lakes Flow" to turn it on.

 QuéHow does water flow through the great lakes? Is this what you expected?

Analyze

How does water get in to the great lakes?
-> Click to turn off the "Great Lakes Flow", "Great Lakes", and "Great Lakes Region Watershed" Layers.

 Turn on the layer, "MI Watershed Sub-Regions".

 QuéWhat do you think the different colors represent? (Different watershed regions)

 -> Click to turn on the "Michigan Rivers" layer.

 QuéWhat is the relationship between the rivers you see and the different color regions? (the rivers in each watershed region (color) drain into that particular great lake)

Act

How does water make it from you to the great lakes?

 -> Use your address bar to search for your school address. Find the closest stream or river.

 -> Zoom in and out to follow that stream to a great lake.

 QuéWhich great lake does your stream or river empty into? [answers will vary]

 -> Find the head water (starting point) of your river system.

 QuéWhich direction does the water flow to the great lake? [answers vary]

 QuéWhy is it important to keep your stream healthy? What can you do to keep streams healthy? [Streams eventually make it to the great lakes then the ocean, keep trash and pollution out of streams]

MEASURE

• Click the Measure tool.
• Select Distance, and then choose the unit of measurement.
• Click once to start measuring, click once to change direction, and double-click to stop measuring.

TRANSPARENCY

• From the Details pane, click the Content button.
• Click the three small blue dots and hover your pointer over the word “Transparency” to open a drop-down list.
• You can modify transparency to see an active layer below the top layer. Set it to 50%.

Next Steps

DID YOU KNOW? ArcGIS Online is a mapping platform freely available to public, private, and home schools. A school subscription provides additional security, privacy, and content features. Learn more about ArcGIS Online and how to get a school subscription at http://www.esri.com/schools.

THEN TRY THIS...

• Use analysis tools such as Find Nearest to calculate straight-line distance between your location and the great lakes.
• Create a story map of a bottles journey from your school to the ocean and what can happen along the way.

TEXT REFERENCES

This GIS map has been cross-referenced to material in sections of chapters from these texts:

• The Michigan Open Book Project- Michigan Studies– Chapter 1
• Michigan Studies by Macmillan/McGraw-Hill-Unit 1, chapter 1