

# INVESTIGATION: CAN WE TRUST MAPS?

**Key question:** Can we trust maps?

Even though it's only four words long, this question is not as simple as it may seem. There are different things we need to consider when looking at a map.

- The **Origin** of the map. Who produced it? Where was it produced? When was it produced?
- The **Purpose** of the map. Why was it created? Who was it created for?
- The **Value** of the map. What can we learn about the person/group that created the Map? How does the map help us understand the perspective of the map maker?
- The **Limitation** of the map. What is omitted (left out) of the map? Is it possible to know if the information accurately represented on the map?

So what should we do to start this process? Perhaps the best step is to do some initial research, which might give us some ideas to direct our inquiry.

## PART 1 KEEPING A RECORD OF RESEARCH

One way to create a record of your research is to use small tables like the ones below.. This is the sort of thing that fits very well into an Action Plan for Criterion B. Notice the use of the words 'sources' and 'evidence'. In historical inquiry, they don't mean the same thing. A source is an item that is somehow related to the historical event under investigation, and evidence is what we can 'find' in the source to help answer our research question. Two sources have been provided. You need to find one more appropriate source.

**SOI** - Primary and secondary sources (text, images, maps, etc) provide insights into time, place and space and show how the world has changed over time, but they can be affected by different perspectives.

**Your Inquiry Question:** Can we trust maps?

**Sub-question:** What are the advantages and disadvantages of the Mercator and Gall-Peters projections?

**Source 1 Citation:**

<http://uk.businessinsider.com/boston-school-gall-peters-map-also-wrong-mercator-2017-3>

**MLA Format here:** Dodgson, Lindsay. "Boston schools have introduced a new world map — but it's just as wrong as the one you're familiar with." *Business Insider*. 20 Mar. 2017. Web. 9 Oct. 2018.

<<http://uk.businessinsider.com/boston-school-gall-peters-map-also-wrong-mercator-2017-3>>

Evidence	<p>Advantages and Disadvantages of Mercator</p> <p><b>Advantages</b></p> <ul style="list-style-type: none"> <li>● Excellent for navigation purposes</li> <li>● Gives a more accurate shape of countries</li> <li>● It is easier to understand especially by students</li> </ul> <p><b>Disadvantages</b></p> <ul style="list-style-type: none"> <li>● “Exaggerates the size of imperialist powers such as North America and Europe”</li> <li>● Greenland, for example, is actually a lot smaller than the Mercator shows</li> </ul>
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	<ul style="list-style-type: none"> <li>• South America is really twice the size of Europe.</li> <li>• The Equator is in the wrong place</li> </ul>
Evidence	<p>Advantages and Disadvantages of Gall-Peters</p> <p><b>Advantages</b></p> <ul style="list-style-type: none"> <li>• shows the size of countries more accurately such as Africa, South America and Greenland</li> <li>• The equator is in the right place</li> </ul> <p><b>Disadvantages</b></p> <ul style="list-style-type: none"> <li>• The shape and size is distorted such as South America</li> <li>• Countries are stretched horizontally near the poles and vertically near the Equator</li> </ul>
<p><b>Source 2 Citation:</b> <a href="https://www.wired.com/2013/07/projection-mercator/">https://www.wired.com/2013/07/projection-mercator/</a>  <b>MLA Format here:</b> "Get to Know a Projection: Mercator." <i>WIRED</i>. 29 Jul. 2013. Web. 9 Oct. 2018.  <a href="https://www.wired.com/2013/07/projection-mercator/">&lt;https://www.wired.com/2013/07/projection-mercator/&gt;</a></p>	
Evidence	<p>Advantages and Disadvantages of Mercator</p> <p><b>Advantages</b></p> <ul style="list-style-type: none"> <li>• Said that Greenland was the size of Africa and Alaska was bigger than Brazil</li> </ul> <p><b>Disadvantages</b></p> <ul style="list-style-type: none"> <li>• The shape of countries were distorted</li> </ul>
Evidence	<p>Advantages and Disadvantages of Gall-Peters</p> <ul style="list-style-type: none"> <li>• NA</li> </ul>
<p><b>Source 3</b>  <b>Citation:</b><a href="https://www.lifepersona.com/peters-projection-history-characteristics-advantages-and-disadvantages">https://www.lifepersona.com/peters-projection-history-characteristics-advantages-and-disadvantages</a>  <b>MLA Format here:</b> Bosco, Shayna Ph.D. "Peters' projection: history, characteristics, advantages and disadvantages." <i>Life Persona</i>. 15 Feb. 2018. Web. 10 Oct. 2018.  <a href="https://www.lifepersona.com/peters-projection-history-characteristics-advantages-and-disadvantages">&lt;https://www.lifepersona.com/peters-projection-history-characteristics-advantages-and-disadvantages&gt;</a></p>	
Evidence	<p>Advantages and Disadvantages of Mercator</p> <ul style="list-style-type: none"> <li>• NA</li> </ul>
Evidence	<p>Advantages and Disadvantages of Gall-Peters</p> <p><b>Advantages</b></p> <ul style="list-style-type: none"> <li>• gives the exact location of each country in the world</li> <li>• evades giving territorial favoritism to some specific area</li> </ul> <p><b>Disadvantages</b></p> <ul style="list-style-type: none"> <li>• The shape of the map is not pleasant for the eyes. The north of the American continent and Europe are perceived quite flat.</li> </ul>

## SOURCE A

The Mercator Map Projection: 1569 by the Flemish cartographer Gerardus Mercator

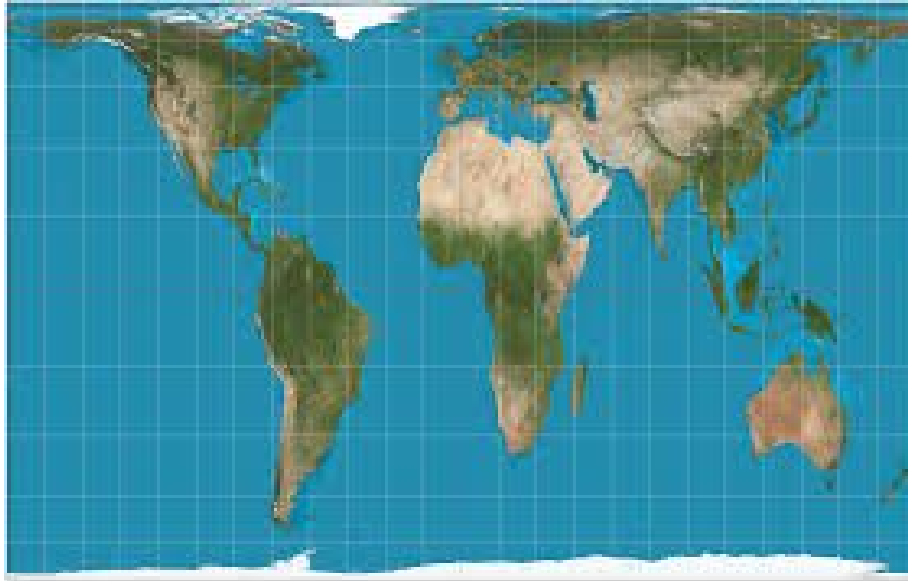


Based on **Source A**, discuss the advantages and disadvantages of the Mercator projection:

The Mercator map is a useful map for navigation purposes but it exaggerates the size of imperialist powers such as North America and Europe. The Mercator map was made in 1569 for the purpose of helping sailors explore the new world. The Mercator map gives a more accurate shape of countries and it is easier to understand especially by students which is why it is known for being used in schools. ( Dodgson) There are also a few disadvantages to the map as well. Greenland, for example, is actually a lot smaller than the Mercator shows and South America is really twice the size of Europe. Other than that, the Equator also seems to be in the wrong place. (Dodgson) The map also shows that Greenland was the size of Africa and that Alaska was bigger than Brazil but that is not true. ( wired) By using this map we would still be able to find places and locations of places but this map is probably not good to be used to teach students in school if they are studying about the sizes of countries

## SOURCE B

## The Gall-Peters projection, 1974



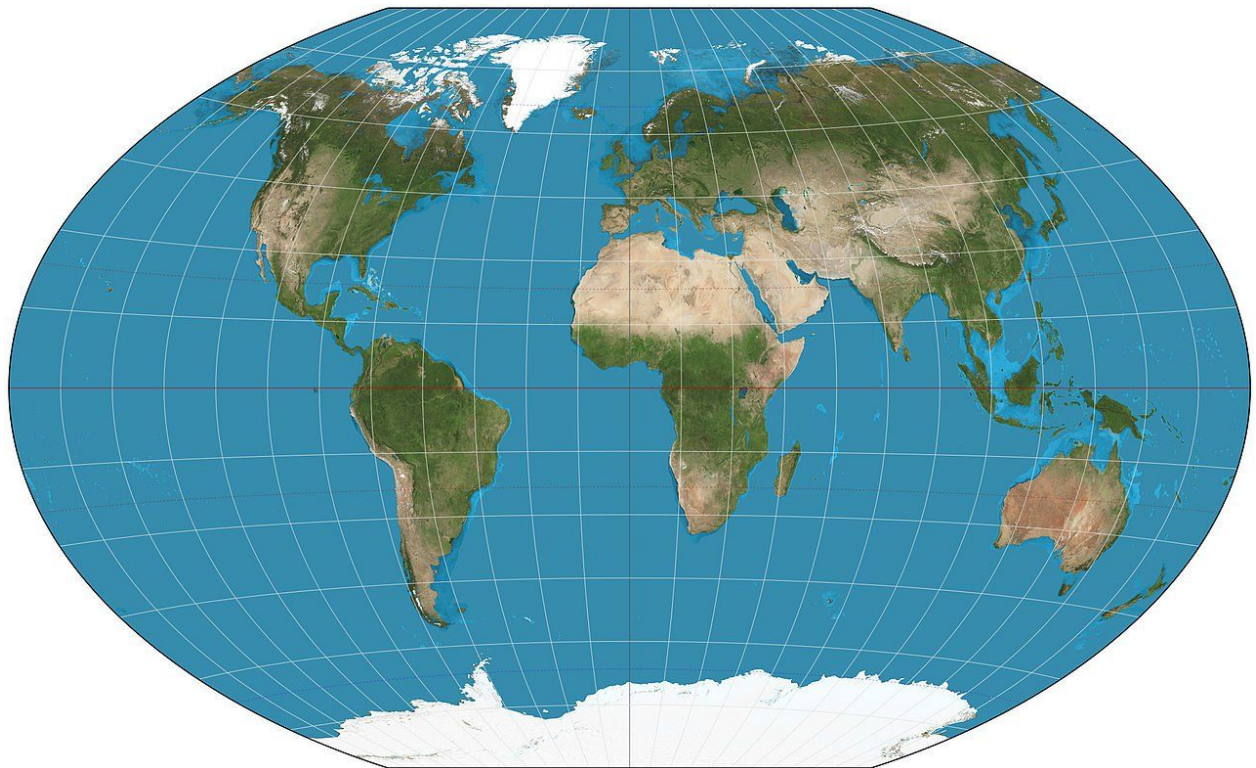
Based on **Source B**, discuss the advantages and disadvantages of the Gall-Peters projection:

The Gall-Peters map shows the size of countries such as Africa, South America and Greenland more accurately but “countries are stretched horizontally near the poles and vertically near the Equator”. ( Dodgson) The Gall-Peters projection was made in the 1970’s by a German Historian. The map shows that the equator is in the right place unlike the Mercator projection and it also gives the exact location of each country in the world. ( wired) This shows that the map can help tourists find places as it is more accurate. It also “evades giving territorial favoritism to some specific area”. (Bosco) Besides that, the shape and size of some countries such as South America are distorted. ( Dodgson) “The north of the American continent and Europe are perceived quite flat.” (Bosco) This concludes that this map is excellent for helping people out to find places but is but probably not for learning purposes.

## ALTERNATIVE PROJECTIONS

Research other projections that have been created over the years. Are there any they think do a better job at showcasing our world? Choose copy and paste a picture of the projection in the space below.

### The Winkel tripel projection (Winkel III)



You are now going to answer the following question in paragraph form.

**What the advantages and disadvantages of the (Winkel Tripel) projection and is it superior to the Mercator and Gall-Peters projection?**

This paragraph should:

- Be written in full sentences and use proper grammar.
- Include at least three in-text citations in MLA format.
- Contain a topic sentence, evidence and an explanation.
- Be approximately 200 to 300 words long.

I will be talking about the Winkel III projection. This projection was created by Oswald Winkel in 1921. Tripel is not somebody's name and is actually a German term meaning a combination of three elements. Winkel chose the name Tripel because he had developed a compromise projection. (Winkel)

In the Winkel Tripel map, the shapes are somewhat distorted by shearing away from the central meridian and toward the poles. However, the areas of continents and countries are shown much more accurately. Only in the polar regions near the east and west edges of the map do areas grow significantly with latitude because it shows areas and shapes with only a small amount of distortion. This projection is very useful for displaying world maps because it shows the true shapes and areas of countries and continents, with only small distortions as compared to the Mercator or other global projections. The Mercator map shows the shape of Australia correctly, but the area of Australia is shown more accurately in the Winkel Tripel map. (Gasper)

The scale of this map is true along the central meridian and is constant along the equator. This map is moderate except for the near outer meridians in the polar regions. ( manifold)

In my opinion, I think that this map is superior to the Mercator and the Gall-Peters projection because it has fewer mistakes such as showing the size and the shape of some countries and continents such as South America and Africa. It also has fewer distortions compared to the Mercator as mentioned previously. It might have some disadvantages such as growing the polar regions in the east and west edges of the map significantly, I would still choose this map instead of the Mercator and the Gall-Peters as it is more accurate.

## USING SOURCES CRITICALLY

Your investigation depends on your critical use of sources. Let's take a look at the following sources

### Critical use of sources

This is where **OPVL** comes in. In the tables below, you can record your thoughts on the following map sources

<a href="#">Map: The Countries That Feel the Most Love in the World</a> Source (MLA)	
Summary of the source	Evidence
<p>This map shows which people in which part of the world feels loved the most. It is to tell people which country out of 136 countries has the people who feel most loved.</p>	<p><b>Origin:</b> an article called " Map: The countries that feel the most loved" from, <i>The Atlantic</i>, dated February 14 2014, written by Uri Friedman</p> <p><b>Purpose:</b> To find out how much people feel loved, how happy people are around the world and which country has the most people that feel loved.</p> <p><b>Value (of the origin and purpose):</b> We can compare the happiness in the world and The Atlantic is a very big company which makes it reliable.</p> <p><b>Limitations (of the origin and purpose):</b> I was written in 2014 and the number of people who feel loved could have changed in the past 4 years.</p>

<a href="#">Israeli Palestinian Conflict Map of Shrinking Palestinian Territory</a> Source (MLA)	
Summary of the source	Evidence
<p>This source tells us about the Palestine and Israel conflict for political control over land for most of the past century. It might not be very detailed but it still tells us the major events throughout the years.</p>	<p><b>Origin:</b> From an Arabian news company called AlJazeera, talking about Mapping the Israeli-Palestinian conflict, written by Tony Karon and Lam Thuy Vo on Sept. 12, 2013</p> <p><b>Purpose:</b> To explain the conflict between Palestine and Israel so people can understand and learn more about it</p> <p><b>Value (of the origin and purpose):</b> It is a news company that is used in many countries which means it is reliable</p> <p><b>Limitations (of the origin and purpose):</b> The writers of the article is not from Palestine or Israel so they might have made up some of the information. It was written in 2013 and things could have changed since then which means it is not so reliable for present usage.</p>

## YOUR WORKS CITED

In your own investigation, you would, of course, need to create a works cited list that goes at the end of your research paper or project. The works cited list should be the last page, it should be on its own page, and it should not have a page number on it. The title should be **WORKS CITED**, centered at the top of the page. Your references should be listed (but not bulleted), in alphabetical order by the author's last name. The second line (and any subsequent lines) of a reference should employ a hanging indent - you can see what one is [here](#). You can use Easybib or Bibme etc., but the most accurate one I've found so far is still **Apogee 2** - if you haven't tried it yet, give it a try!

In the box below, create a works cited list for the sources included here, that follows the advice above.

1. Bosco, Shayna Ph.D. "Peters' projection: history, characteristics, advantages and disadvantages." *Life Persona*. 15 Feb. 2018. Web. 10 Oct. 2018.  
<<https://www.lifepersona.com/peters-projection-history-characteristics-advantages-and-disadvantages>>
2. Dodgson, Lindsay. "Boston schools have introduced a new world map — but it's just as wrong as the one you're familiar with." *Business Insider*. 20 Mar. 2017. Web. 9 Oct. 2018.  
<<http://uk.businessinsider.com/boston-school-gall-peters-map-also-wrong-mercator-2017-3>>
3. Gašper. "Winkel Tripel projection | All Geography Now." *Allgeographynow.wordpress.com*. 19 Feb. 2016. Web. 18 Oct. 2018.  
<<https://allgeographynow.wordpress.com/tag/winkel-tripel-projection/>>
4. Karon, Tony Lam Thuy Vo "Interactive: Mapping the Israeli-Palestinian conflict." *America.aljazeera.com*. n.d. Web. 18 Oct. 2018.  
<<http://america.aljazeera.com/articles/multimedia/interactive-mappingtheisraelipalestinianconflict.html>>
5. N.a. "Winkel Tripel Projection." *Manifold.net*. 16 Oct. 2018. Web. 18 Oct. 2018.  
<[http://www.manifold.net/doc/mfd9/winkel\\_tripel\\_projection.htm](http://www.manifold.net/doc/mfd9/winkel_tripel_projection.htm)>
6. Friedman, Uri. "Map: The Countries That Feel the Most Love in the World." *The Atlantic*. 14 Feb. 2014. Web. 18 Oct. 2018.  
<<https://allgeographynow.wordpress.com/tag/winkel-tripel-projection/>>
7. N.a. "Winkel Tripel Projections." *Winkel.org*. 19 May 2007. Web. 18 Oct. 2018.  
<<http://www.winkel.org/other/Winkel%20Tripel%20Projections.htm>>
8. WIRED. "Get to Know a Projection: Mercator." *WIRED*. 29 Jul. 2013. Web. 18 Oct. 2018.  
<<https://www.wired.com/2013/07/projection-mercator/>>



## Criterion B: Investigating

Level	Achievement level descriptor	Demonstrated when
0	The student does not reach a standard described by any of the descriptors below.	<ul style="list-style-type: none"><li>Your research doesn't reach a standard described by any of the descriptors below.</li></ul>
1–2	The student: iii. <b>collects</b> and <b>records limited</b> or <b>sometimes irrelevant</b> information	<ul style="list-style-type: none"><li>Much of your information is <b>limited</b> or <b>irrelevant</b> and you haven't used a <b>research log</b> to record your information.</li></ul>
3–4	The student: iii. <b>uses</b> a method(s) to collect and record <b>some relevant</b> information	<ul style="list-style-type: none"><li>Although you use a research log to collect and record <b>information</b>, some of it is not detailed or relevant</li></ul>
5–6	The student: iii. uses methods to collect and record <b>appropriate relevant</b> information	<ul style="list-style-type: none"><li>Your research log is mostly complete to collect and record <b>relevant</b> information</li></ul>
7–8	The student: iii. uses methods to collect and record <b>appropriate</b> and <b>varied relevant</b> information	<ul style="list-style-type: none"><li>Your <b>research log</b> is completed and has varied information from appropriate sources</li><li>Your works cited page is incorrect MLA format</li></ul>

## Criterion D: Thinking critically

Level	Achievement level descriptor	Demonstrated when
<b>0</b>	The student does not reach a standard described by any of the descriptors below.	<ul style="list-style-type: none"> <li>You do student does not successfully reach a standard described by any of the descriptors below</li> </ul>
<b>1–2</b>	The student: <ul style="list-style-type: none"> <li>ii. <b>begins to identify</b> connections between information to make simple arguments</li> <li>iii. <b>recognizes</b> the origin and purpose of <b>few</b> sources/data as well as <b>few</b> values and limitations of sources/data</li> </ul>	<ul style="list-style-type: none"> <li>You attempt to link content to make simple arguments but it is not clear.</li> <li>You attempt to use sources presented to identify</li> <li>You attempt to origin and purpose of the source to identify a value and limitation. These terms are not effectively used (signposted) in your analysis</li> </ul>
<b>3–4</b>	The student: <ul style="list-style-type: none"> <li>ii. <b>summarizes</b> information to make <b>some adequate</b> arguments</li> <li>iii. <b>analyses</b> sources /data in terms of origin and purpose, recognizing some values and limitations</li> </ul>	<ul style="list-style-type: none"> <li>You attempt to explain using some content, the perspective of the source being summarized to support your arguments but it is not clear.</li> <li>You attempt to identify perspectives from sources presented.</li> <li>You attempt to use the origin and purpose of the source to identify some value and limitation. These terms are not consistently used (signposted) in your analysis.</li> </ul>
<b>5–6</b>	The student: <ul style="list-style-type: none"> <li>ii. <b>summarizes</b> information in order to make usually valid arguments</li> <li>iii. <b>analyses</b> sources /data in terms of origin and purpose, <b>usually</b> recognizing values and limitations</li> </ul>	<ul style="list-style-type: none"> <li>You explain, providing some terminology and data from the content, the perspective of the source being summarized to support your arguments.</li> <li>You identify perspectives from sources presented.</li> <li>You attempt to use the origin and purpose of the source to identify its value and limitation. These terms are mostly used (signposted) in your analysis.</li> </ul>
<b>7–8</b>	The student: <ul style="list-style-type: none"> <li>ii. <b>summarizes</b> information to make <b>consistent, well-supported</b></li> </ul>	<ul style="list-style-type: none"> <li>You clearly explain, providing specific terminology and data from the content, the</li> </ul>

	<p>arguments</p> <p>iii. <b>effectively analyses</b> a <b>range</b> of sources/data in terms of origin and purpose, <b>consistently</b> recognizing values and limitations</p>	<p>perspective of the source being summarized to support your arguments.</p> <ul style="list-style-type: none"><li>● You clearly identify contrasting perspectives from a varied range of sources presented.</li><li>● You use the origin and purpose of the source to identify its value and limitation. These terms explicitly used (signposted) in your analysis.</li></ul>
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