



# (ENG) Round Earth on Flat Paper

Introduction

Step 1 - Motivational Stage

Step 2 - Investigational Stage

Step 3 - Consolidation Stage

# Introduction

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#Online activity #In-class activity #Inquiry-based learning  
#Experiential learning #Simulation #Artwork #Paintings  
#Sculpture

Earth is a ball-shaped globe. When drawing a map of a globe to a more convenient shape - flat paper - there are some practical problems. Pupils try this hands-on.

## Learning Objectives



understand and experiment the basic description of drawing and reading maps

### ACTIVITY DETAILS

## Activity Details

### Connection of the activity with Art —

Old maps from Nordenskiöld map collection, Helsinki University collection  
Pinterest map art



### Link to local, national School Curriculum —

Accounting operations and their properties/ Solving real life problems



## Equipment required —

- One satsuma fruit for each pupil
- Permanent marker pen
- A4 paper
- Internet connection



## Duration of activity —

45 minutes



## Sources

Paula Havaste / Heureka Satsuma map projection 2022 1-4

# Step 1 - Motivational Stage

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Reflect on the following question:

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*"How can the pupils understand how the flat maps of the earth are done?"*

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## Step 2 - Investigational Stage

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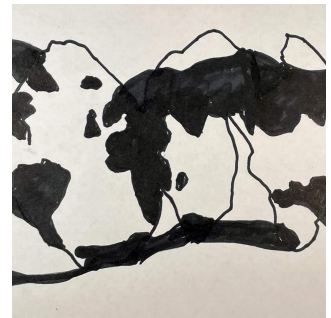
Drawing a flat map from a round object like the globe of earth produces distortions. Parts of the globe are stretched, some are narrowed so that the flat map looks uniform, not just a collection of strips. The parts in the middle of the map stay most precise, and since they are presented as a centerpiece of the map, they are also regarded as most important.

Pupils test this with a round object like a map drawn on the skin of a satsuma fruit.

### STUDENTS' TASKS

## Task 1

Pupils pick a satsuma fruit. They draw the earth's continents on it with a permanent marker. It is harder than you might think, as you can see from the picture accompanying this task. You can freely criticize the hand-drawn map of the picture.



## Task 2

Pupils peel their fruit, trying to make the peeled parts as identical as they can.



## Task 3

Then they spread the peeled skin flat on a piece of paper.

Ask the pupils to present answers to these questions:



*" How many gaps are there?  
How would they fill up the gaps? "*

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## Task 4 (faster learners)

The next task is for the faster pupils.

Find different map projections of the earth on the Internet and examine them, looking for good and bad solutions from the perspective of the user.

**Old maps from Nordenskiöld map collection, Helsinki University collection**

[GO TO LOCATION 1](#)

**Pinterest collection of maps of Earth**

[GO TO LOCATION 2](#)

**Map of the world with another perspective**

[GO TO LOCATION 3](#)

More information on an illustrative video on map projections:

 **YOUTUBE**



## Map Projections Explained - A Beginners Guide

Learn what a map projection is, why they are used and what impact they have on maps GIS systems. We will take a closer look at the popular Mercator projection and examine how the projection affects area and distance calculations. 0:00 Beginner's guide to map projections 0:37 What is a map projection?

**VIEW ON YOUTUBE >**

## Step 3 - Consolidation Stage

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Pupils fill up the flat paper map gaps with some lines and then copy the continent drawing. Then they put the satsuma skin back together and compare the dimensions of the two maps: the round and flat ones.

**End of the activity**

EXIT