

# **Integration of ICT in Teaching-Learning Process & Creation of eContent**



**Subject-specific tools**  
**Social Sciences**

**Dr. Nidhi Singh**

# Introduction



- What?
- Why?
- Whom?
- How?

# What?



- Purpose
- Theme/Topic to be covered
- Conceptualisation

# Why?



- Need/purpose
- Advantage over traditional way of teaching-learning

# For Whom?



- Target group
- For which- Target area/subject

# How?

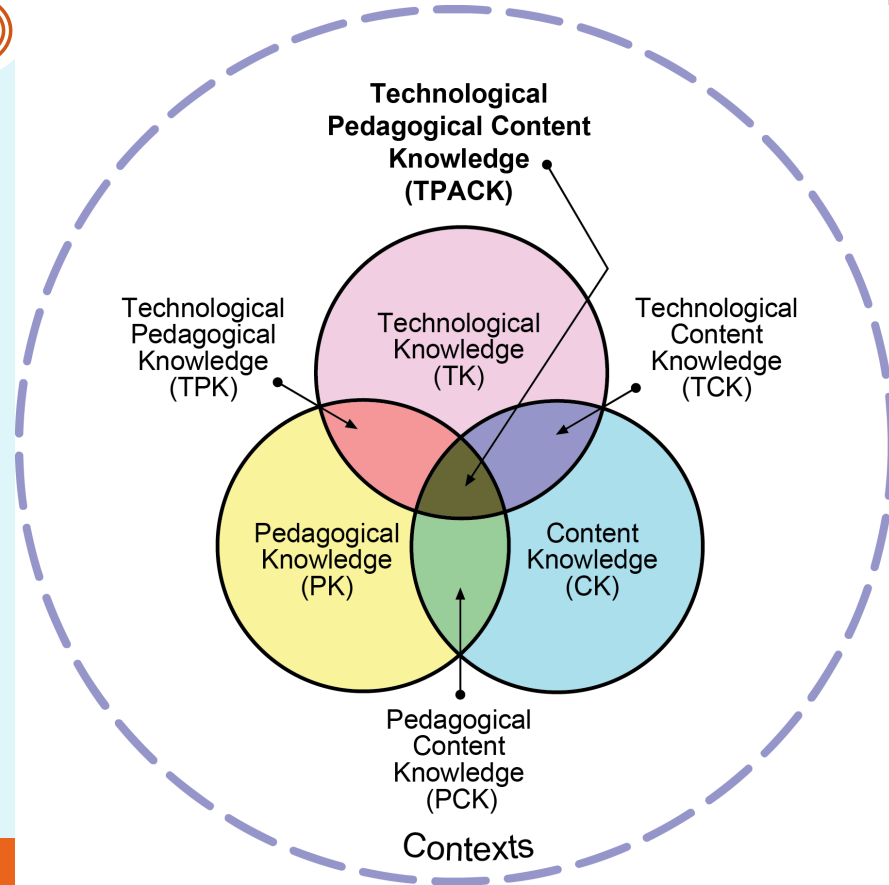


- Type of resources/e-content
- Tools used

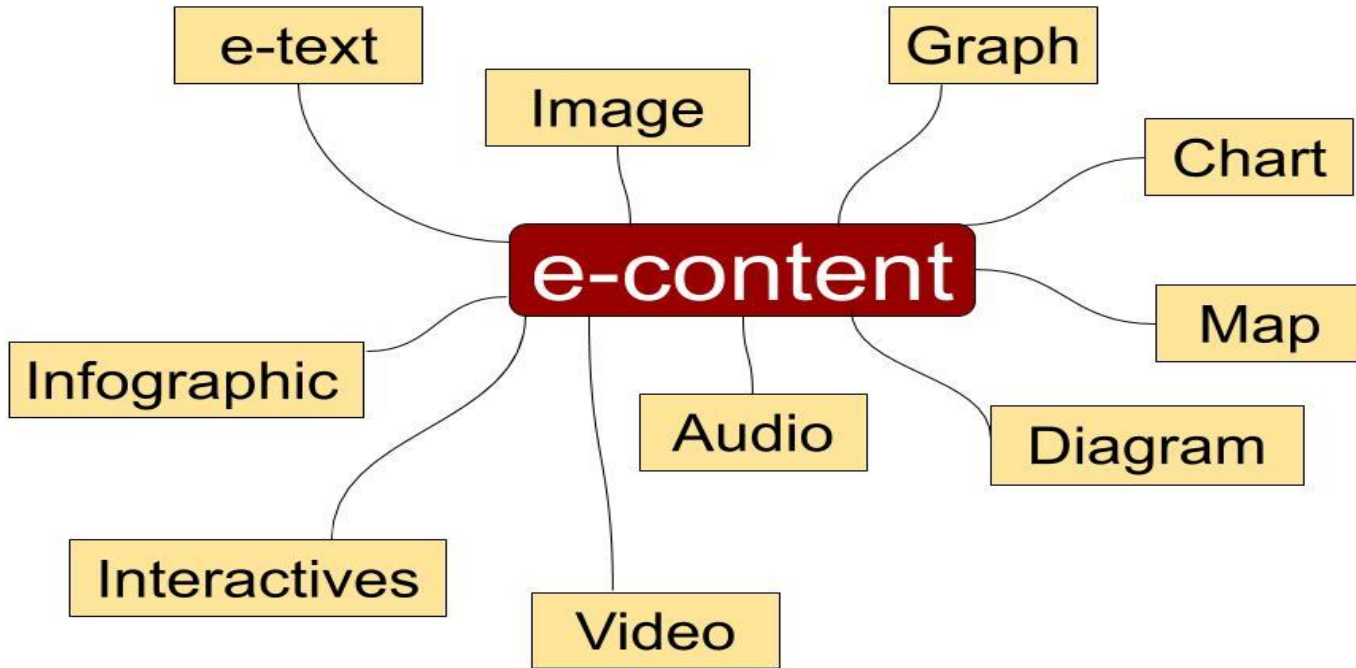
# Integration of Technology/ET&ICT

## TPACK

Describes kinds of knowledge required by teachers for successful integration of technology in teaching



# Types of eContent





# Type of eContent



## Importance of Himalayas



1

Climatic Influence



2

Source of Rivers and Water



3

Fertile Soil



4

Hydroelectricity



5

Ecology & Forest Wealth



6

Minerals



7

Tourism, Pilgrimage



# eContent Development

## ADDIE Model

Generic process traditionally used by instructional designers and training developers



- Analysis
- Needs, requirements, tasks, participants' current capabilities



- Design
- Learning objectives, delivery format, activities & exercises



- Develop
- Create a prototype, develop course materials, review, pilot session



- Implement
- Training implementation, tools in place, observation



- Evaluate
- Awareness, knowledge, behaviour, results

# Social Science Tools

- Bhuvan
- Marble KDE
- Google earth
- QGIS
- Mapchart.net
- Trophy
- Visme, FusionCharts, Google Chart
- Windy.com
- Stellarium
- Sutori
- flightradar24.com
- Google Arts & Culture
- Google Cardboard
- Other generic tools- Audacity, Openshot video editor, easel.ly, Canva, animation tools, etc.
- Games-National Geographic Kids, GEOGUESSR, Google Arts & Culture etc.
- Songs on topics – Marais & Miranda-Nature Songs, balance of nature, how is silk made, parts of a tree, etc.

# Bhuvan

bhuvan.nrsc.gov.in/home/index.php

>> Navigate to Old Website <<



National Remote Sensing Centre

Home NRSC Application Sectors Bhuvan Collaborators Search Bhuvan Store Contact Us Newsletter **New**



## Bhuvan - Yuktdhara

Geospatial Planning Portal for Geo-MGNREGA

Features: Landscape Familiarization | Activity & Area Identification | Map Composition



Latest Updates

Lightning Detection Sensor Network

Launch of Bhuvan - Yuktdhara by Shri Giriraj Singh, Union Minister of Rural Development & Panchayati Raj on 23

### Visualisation & Free Download

Collaborative applications - Platform to share your data and create governance applications



Bhuvan 2D



Bhuvan 3D



Open Data Archive



Climate & Environment

Downloads

### Application Sectors

Collaborative applications - Platform to share your data and create governance applications

Type here to search

10°C Mostly sunny

10:03  
18-01-2022

# Bhuvan contd...

## Application Sectors

Collaborative applications - Platform to share your data and create governance applications



### E - Governance

View the e-governance applications and its resources



### Tourism

View the tourism applications and its resources



### Urban

View the urban applications and its resources



### Rural

View the rural related applications and its resources

## Maps & OGC Services

Collaborative applications - Platform to share your data and create governance applications



Thematic Services



Ocean Services



Disaster Management Services



Create a Map

[My Map | My GIS](#)

## Bhuvan Central Applications

Collaborative applications - Platform to share your data and create governance applications



Central Ministries



Special Applications



G Governance Dashboard



State Wise Applications

# Marble KDE

marble.kde.org/install.php

Marble Features Documentation Support Blog **Install** Developers ▾

## Linux Desktop



Marble packages are released together with many other [KDE Applications](#) and packaged in all major Linux distributions. Please use the package manager of your distribution for installation.

Debian: [marble](#)

Ubuntu: [marble](#)

openSUSE: [marble](#)

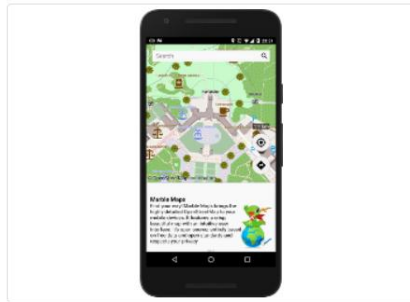
Linux Mint: [marble](#)

Fedora: [marble](#)

Arch Linux: [marble](#)

Gentoo: [kde-base/marble](#)

## Marble Maps Android



Marble Maps brings the highly detailed OpenStreetMap to your Android devices. It features a crisp, beautiful map with an intuitive user interface. We designed the map style to resemble the OSM standard tile layer, while introducing more vivid colors with a responsive selection of map features. Calculate routes to any destination and have Marble Maps guide you with its turn-by-turn navigation feature.



If you do not want to use the Google Play Store, you can [download an APK](#) or [build the package yourself](#).

## Behaim Globe Android

Martin Behaim and collaborators created the globe at the time of Columbus' first sea travel to the west. View

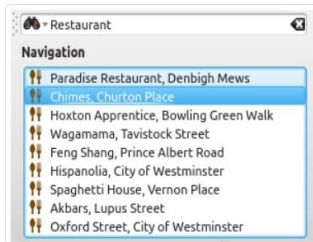
Activate V  
Go to Setting

# Marble contd...

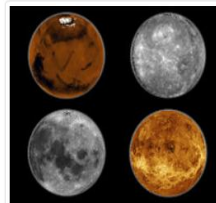
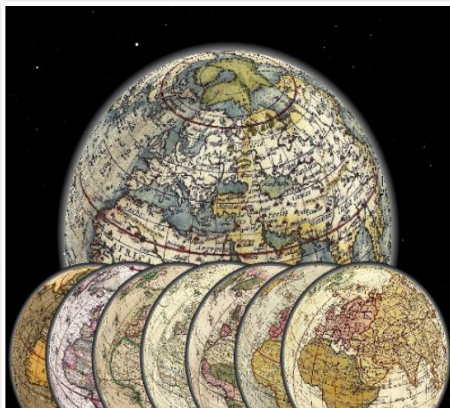
marble.kde.org/features.php

Marble Features Documentation Support Blog **Install** Developers

Explore the neighborhood with Marble's rich set of city and street level maps. Search for addresses and places of interest. Marble takes care of querying various search backends and presents their results in a unified view. Calculate pedestrian, bike and motorcar routes with ease — online and offline, with an arbitrary number of via points.



Start exploring the world. View clouds and sun shadow, follow satellites and space stations and display their orbits, all updated in real-time. Travel back in time and learn about historic views of our planet using maps from past centuries. Earth is not enough? Marble also offers maps of the moon and other planets.



**Earth Climate Zones**

- Ice cap Climate
- Tundra Climate
- Boreal Climate
- Warm temperate Climate
- Subtropical Climate



## Atlas

A classic topographic map.

It uses vector lines to mark coastlines, country



## OpenStreetMap

A global roadmap created by the OpenStreetMap (OSM) project.



## Satellite View

Earth as seen from Space.

The map is based on NASA's beautiful "Blue



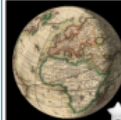
## Behaim Globe 1492

Martin Behaim's *Erdapfel* is the oldest existent globe of the Earth. Credits: Germanisches Nationalmuseum, Nurembera. License: CC BY-SA



## Earth at Night

This image of *Earth's city lights* was created with data from the Defense Meteorological Satellite Program (DMSP) Operational Linescan System



## Historical Map 1689

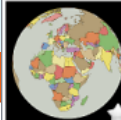
*Historical world map* from the year 1689 created by G. van Schagen in Amsterdam.



## Plain Map

A plain map.

It uses vector lines to mark coastlines and country



## Political Map

A Political Map.

The theme displays various countries.

# Google Earth



← → ↻ earth.google.com/web/@0,0,0a,22251752.77375655d,35y,0h,0t,0r



Google Earth <



Nidhi Singh  
nidhisingh.cietncert@gmail.com

Sign out



Search



Voyager



Projects



Map Style



Photos



Settings



Feedback



Help

Download Google Earth on desktop

Version 9.154.0.1 - WebAssembly with threads  
Tips & Tricks  
Privacy - Terms - Open Source Licenses



3D





# Google Earth contd...



← → ↻ earth.google.com/web/@0,0,0a,22251752.77375655d,35y,0h,0t,0r/data=CgQSAggB



Voyager

3D Imagery in Google Earth

Nature

Games

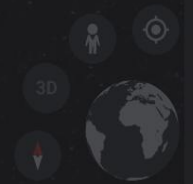
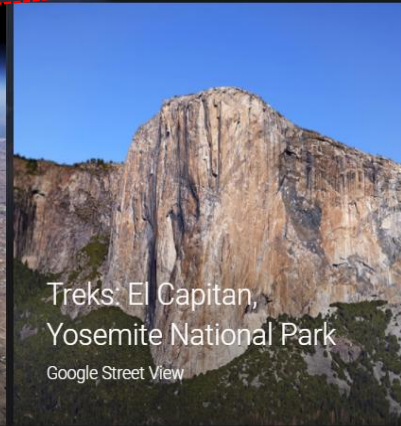
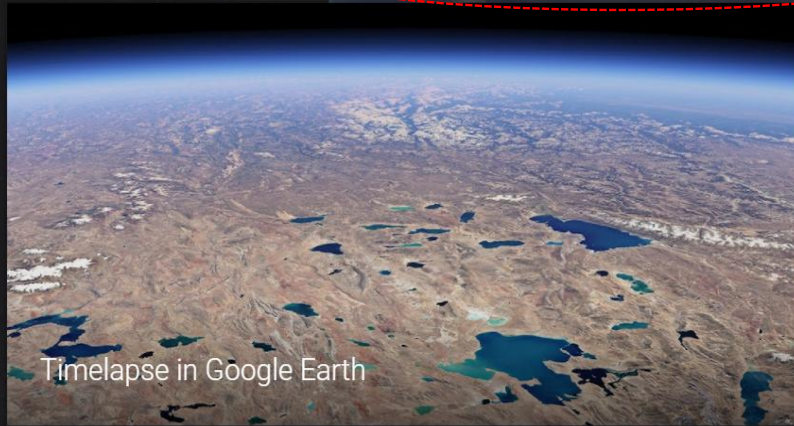
Layers

Street View

Culture

Travel


Education



# QGIS



← → ↻ 🔒 qgis.org/en/site/ 🔗 ☆ 👤 ⋮

 3.22.3  
3.16.16 LTR

DISCOVER QGIS FOR USERS GET INVOLVED DOCUMENTATION

English ▾

3.23 frozen since 2022-01-14 12:00:00 UTC  
Time until packaging 2022-02-18 12:00:00 UTC 25d 0h 49m  
Time until next pointrelease 2022-02-18 12:00:00 UTC 25d 0h 49m

## QGIS

A Free and Open Source Geographic Information System



**QGIS 3.22 Białowieża**  
has been released!

**New release: 3.22!**  
Get the [installer](#) or [packages](#) for your Operating System and read the [changelog](#).

Create, edit, visualise, analyse and publish geospatial information on Windows, Mac, Linux, BSD and mobile devices

For your desktop, server, in your web browser and as developer libraries

# Trophy

# Windy.com



The screenshot shows the homepage of the Trophy website. At the top left is the Trophy logo, and to its right are navigation links for "User Guide", "Blog", "Support", and "GitHub". The main content area features a large white outline of the letter 'T' on a blue background. Below the 'T' is the text "Explore your research photos". To the right of the 'T' is a hot air balloon with the text "WE'RE HIRING". Below the main text is a button that says "Download Trophy for Windows (x64)" with a dropdown arrow. Underneath the button, it says "What's new in version 1.11.1". The background of the page is a stylized landscape with mountains and a city.

The screenshot shows the Windy.com weather map interface. At the top, there is a search bar with "Noida" entered. Below the search bar, the current temperature is 15°C, and there is a 4-day weather forecast showing temperatures of 16°, 17°, 17°, and 17°. The main part of the page is a weather map of Asia, showing various weather layers like wind, clouds, and precipitation. On the right side, there is a vertical menu with options like "Radar & Satellite", "Wind", "Rain thunder", "Temperature", "Clouds", "Waves", "Air quality", and "More layers...". At the bottom, there is a timeline for the week of Monday 24 to Wednesday 27, and a legend for the weather layers.

# Stellarium

# Sutori



stellarium.org

Other languages: English (en)

stellarium  
latest version is 0.21.3

Linux source Linux setup Linux 64 bit AppImage Mac OS X 10.12+ 64 bit Windows 12 bit Windows 64 bit Stellarium (Web) User Guide 0.21.3-1

Stellarium is a free open source planetarium for your computer. It shows a realistic sky in 3D, just like what you see with the naked eye, binoculars or a telescope.

Try the Web Version

The dance of the planets above ESO headquarters, near Munich.

view screenshots >

features

- sky
  - default catalogue of over 600,000 stars
  - extra catalogues with more than 177 million stars
  - default catalogue of over 80,000 deep-sky objects
  - extra catalogue with more than 1 million deep-sky objects
  - astrometry and illustrations of the constellations
  - constellations for 40+ different cultures
  - impact of up to the full Messier catalogue

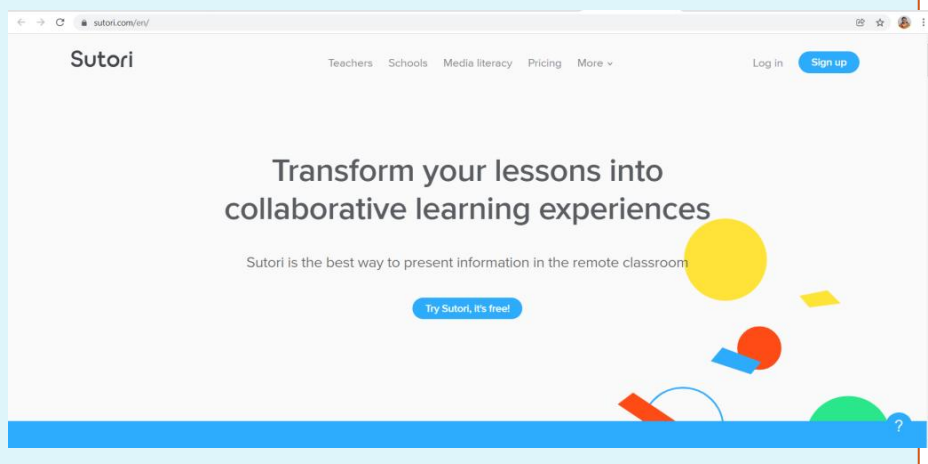
news

- Stellarium v0.21.3 released
- Stellarium v0.21.2 released
- Stellarium v0.21.1 released
- Stellarium v0.21.0 has been released!
- Presentation of Stellarium for the Chinese VO
- Stellarium v0.20.9 has been released
- Presentation of Stellarium at IAU367
- Stellarium v0.20.3 has been released!
- Stellarium v0.20.2 has been released!
- Stellarium v0.20.1 has been released!

collaborate

You can learn more about Stellarium, get support and help the project from these links:

- discussions
- mailing list
- wiki
- FAQ
- scripts
- landscapes
- sky cultures



Sutori


Teachers Schools Media literacy Pricing More v

Log in Sign up

## Transform your lessons into collaborative learning experiences

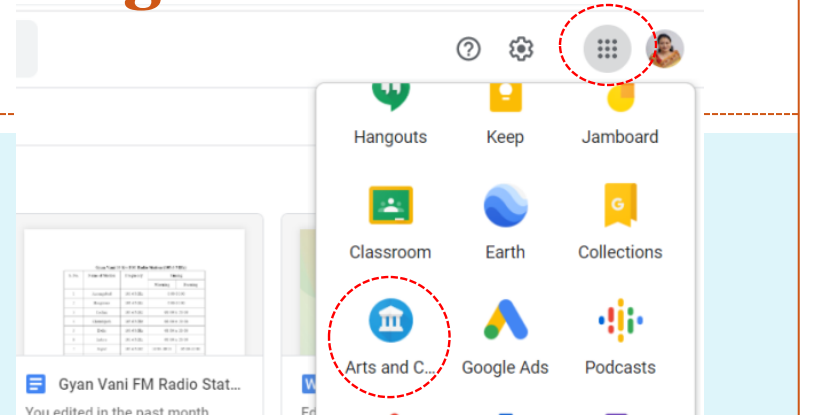
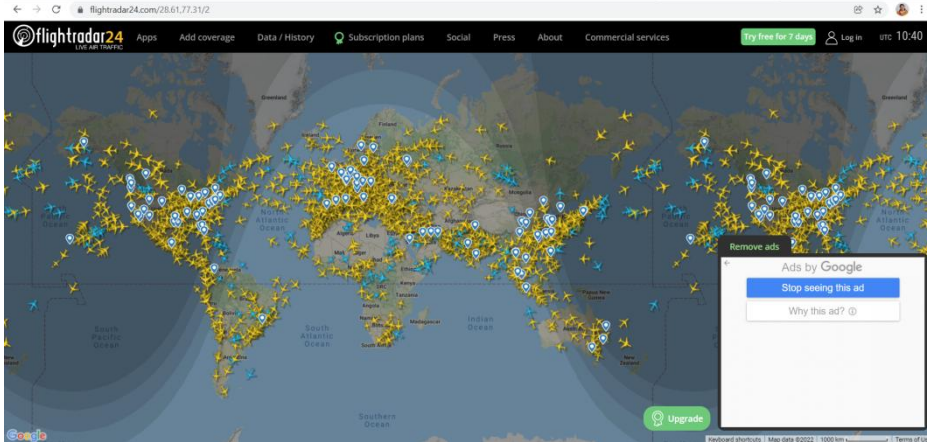
Sutori is the best way to present information in the remote classroom

Try Sutori, it's free!



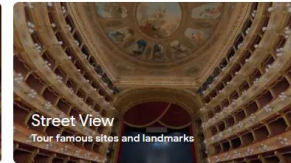
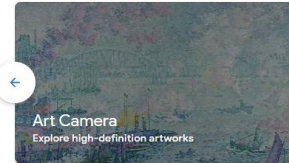
# flightradar24

# Google Arts & Culture



## ts & Culture

### Highlights



### Categories



Artists  
13,399 artists



Mediums  
240 mediums



Art Movements  
124 art movements

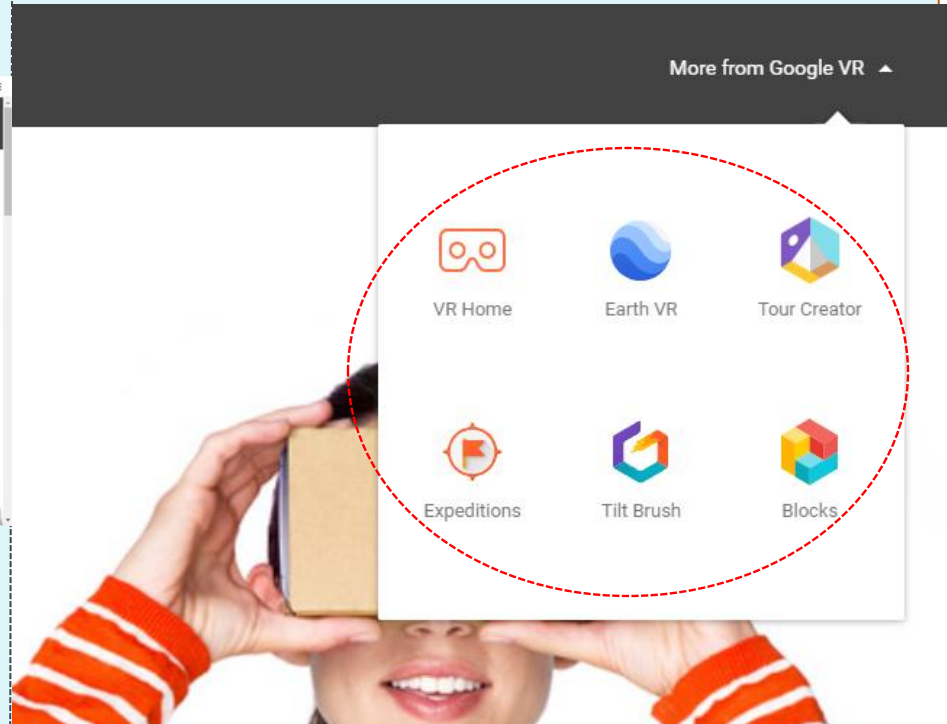
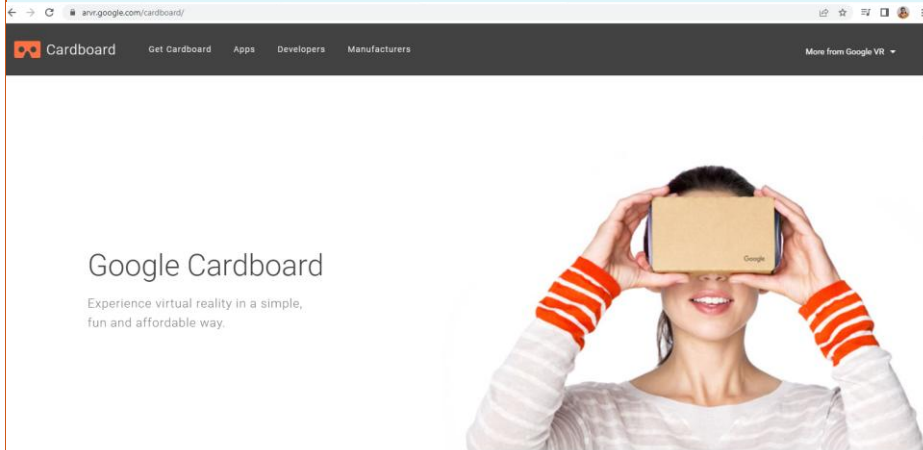


Historic Events  
631 historical events



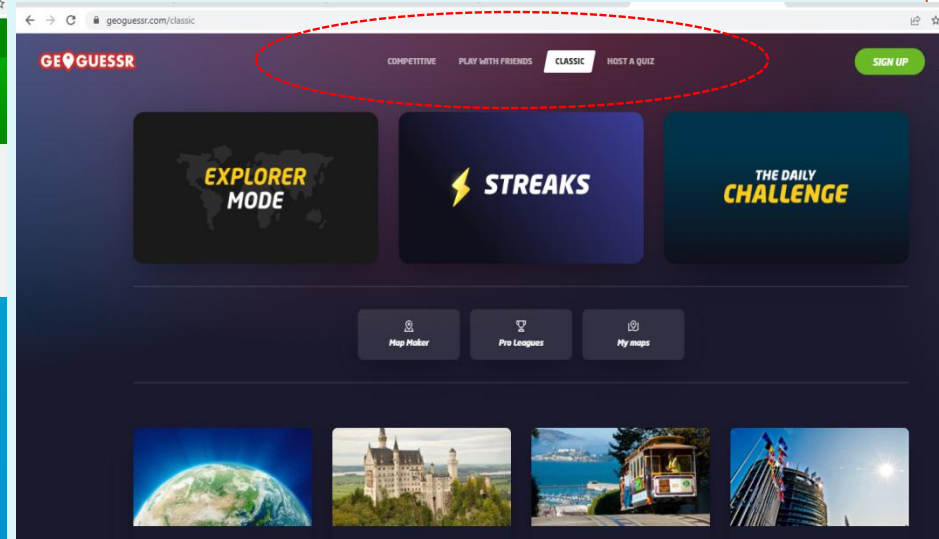
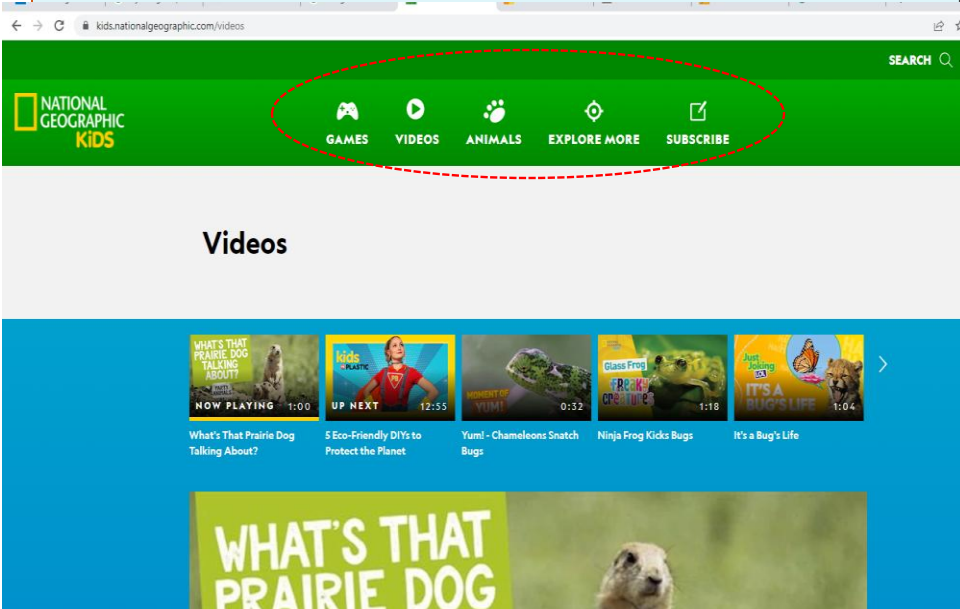
Historical Figures  
8,586 historical figures

# Google Cardboard



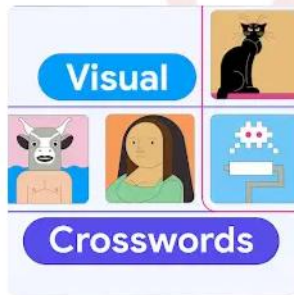
# National Geographic Kids

# GEOGUESSR



# Google Arts & Culture

Pick a game to play





# Suggested references

NCERT Official YouTube Channel (Playlist → Webinar ICT tools)

- Marble (English):  
<https://www.youtube.com/watch?v=1iFTkLRiRQ&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=536&t=714s>
- Marble (Hindi):  
[https://www.youtube.com/watch?v=VDEzx1Z\\_\\_rc&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=316](https://www.youtube.com/watch?v=VDEzx1Z__rc&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=316)
- Google Earth (English):  
<https://www.youtube.com/watch?v=ioAEesB6XZ8&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=534>
- Google Earth (Hindi):  
[https://www.youtube.com/watch?v=yEyzimQEf\\_w&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=218](https://www.youtube.com/watch?v=yEyzimQEf_w&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=218)
- QGIS (English):  
[https://www.youtube.com/watch?v=pr9Jm\\_Cbtiv&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=538](https://www.youtube.com/watch?v=pr9Jm_Cbtiv&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=538)
- QGIS (Hindi):  
<https://www.youtube.com/watch?v=UA4BWUMfLQc&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=257>
- NAVIC:  
<https://www.youtube.com/watch?v=ZHWu0JTCKHE&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=101>

# Suggested readings



- NCF 2005 Position papers- Teaching of Social Sciences ([https://ncert.nic.in/pdf/focus-group/social\\_sciencel.pdf](https://ncert.nic.in/pdf/focus-group/social_sciencel.pdf))
- NCF 2005 Position papers- Educational Technology ([https://ncert.nic.in/pdf/focus-group/educational\\_technology.pdf](https://ncert.nic.in/pdf/focus-group/educational_technology.pdf))
- Strategies to regulate content development and interactivity in the classroom, Isabel Gómez Alemany and Teresa Mauri Majós, European Journal of Psychology of Education, **Vol. 15, No. 2 (JUNE 2000)**, pp. 157-171 (15 pages), Published By: Springer
- Information and Communication Technology (ICT) : Its Origin in India and Pedagogical Integration in the Study of Geography, Nidhi Singh (<https://imanagerpublications.com/index.php/article/15975>) DOI : <https://doi.org/10.26634/jet.16.1.15975>



Thank you