

# **Integration of ICT in Teaching-Learning Process**



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

**CIET-NCERT**  
**New Delhi**

# 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?

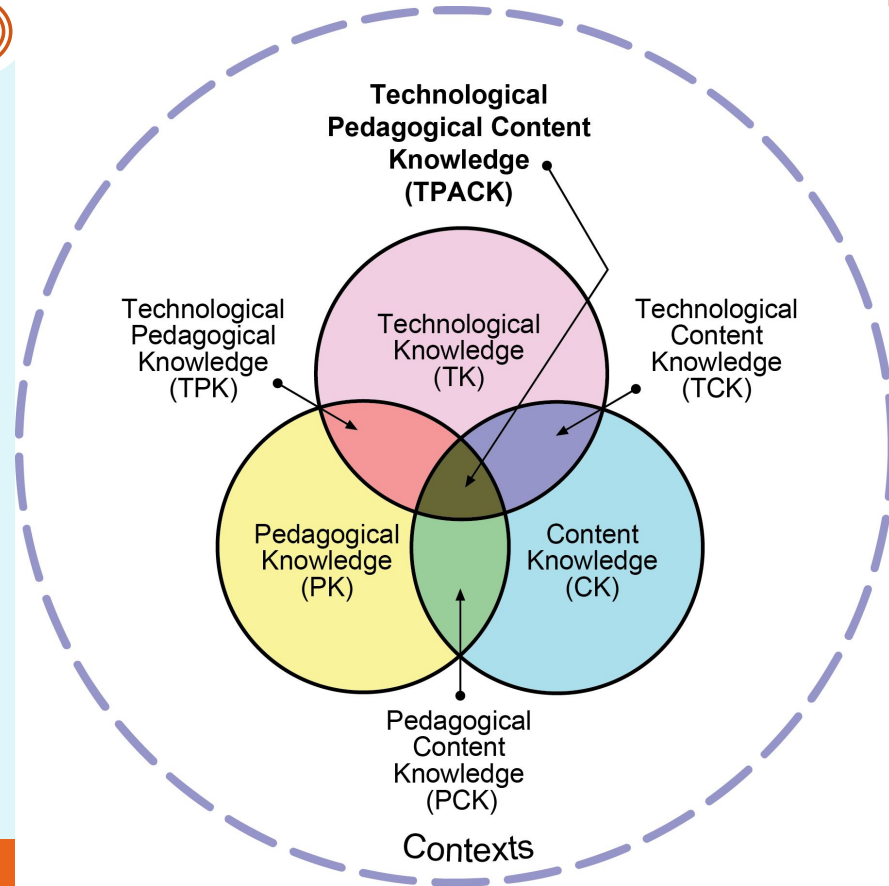


- Type of resources/e-content
- Tools used

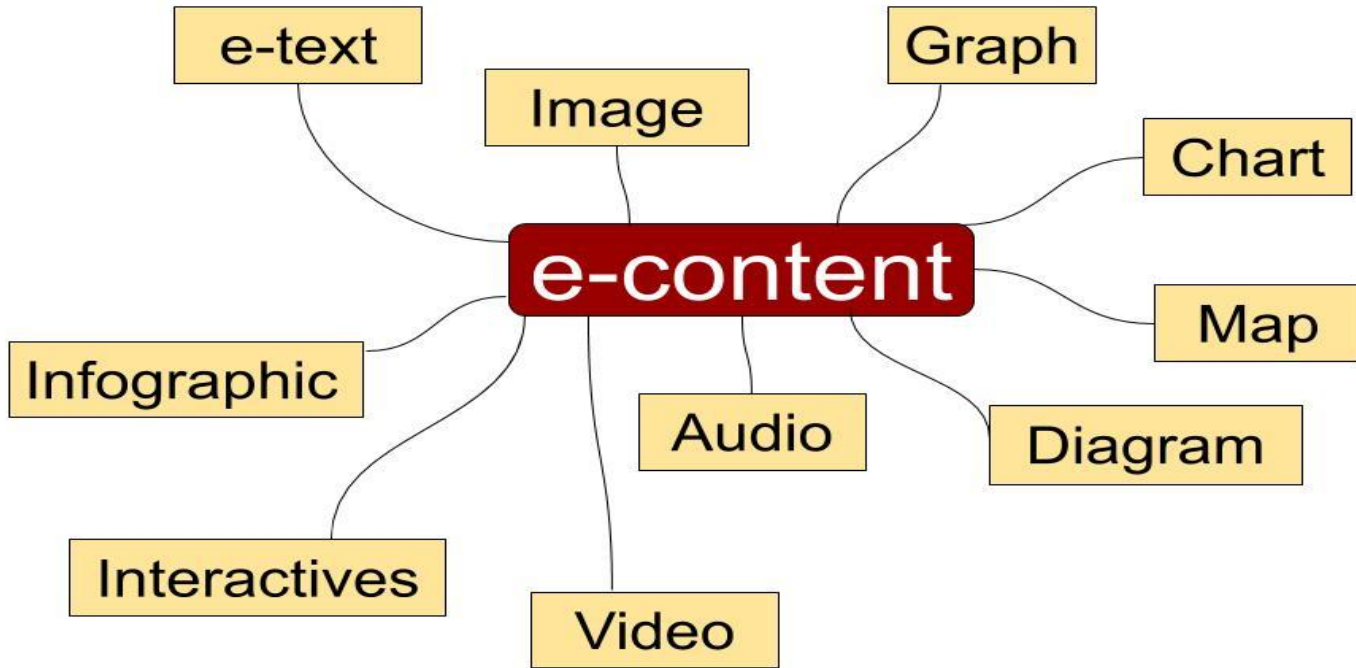
# Integration of Technology/ET&ICT

## 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



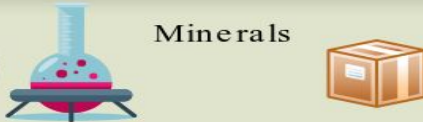
5

Ecology & Forest Wealth



6

Minerals



7

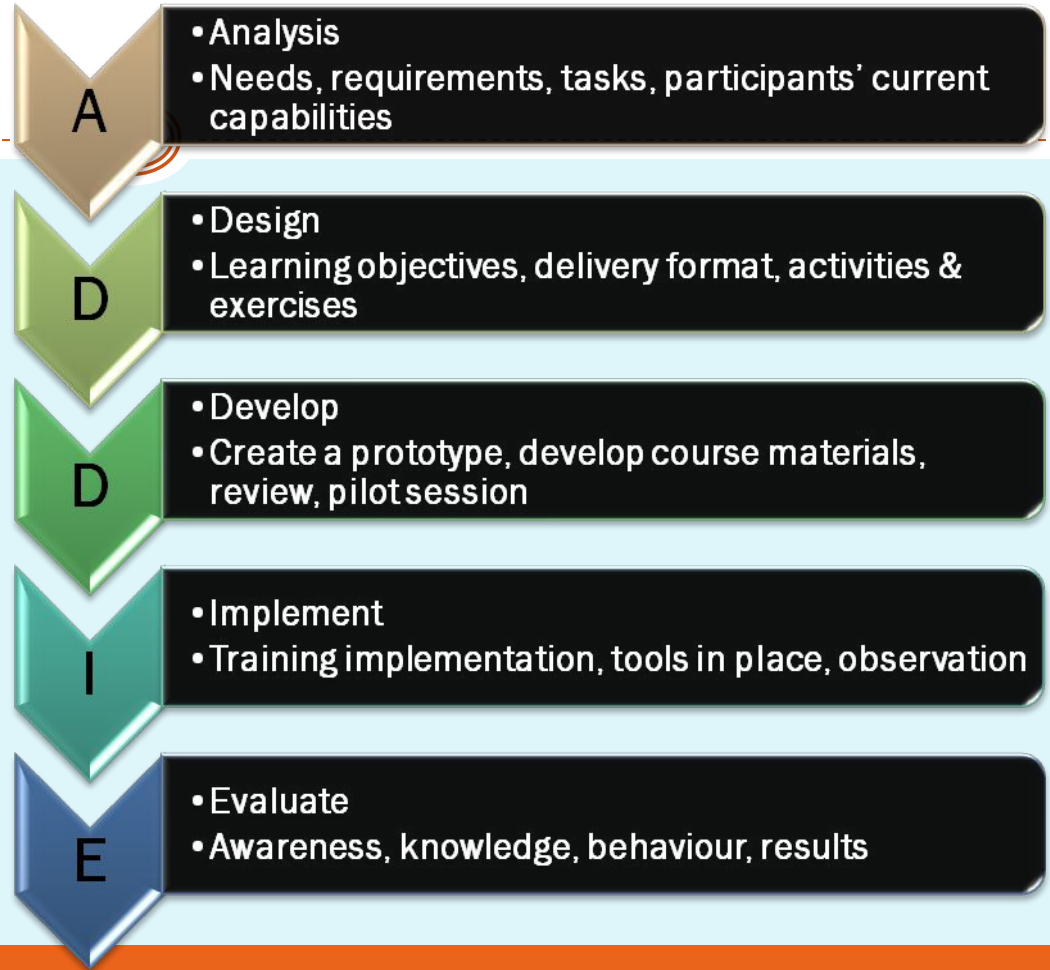
Tourism, Pilgrimage



# eContent Development

## ADDIE Model

Generic process traditionally used by instructional designers and training developers



# Social Science Tools



- Bhuvan
  - Marble KDE
  - Google earth
  - QGIS
  - Trophy
  - 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 <<

A- A A+



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
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Downloads

### Application Sectors

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



# 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



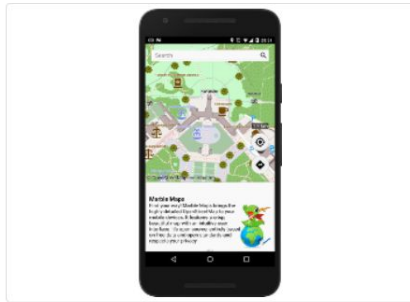
Marble packages are released together with many other [KDE Applications](#) and packaged in all major Linux distributions. Please use the package manager of your distribution for installation.

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

Ubuntu: [marble](#)  
Fedora: [marble](#)

openSUSE: [marble](#)  
Arch Linux: [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

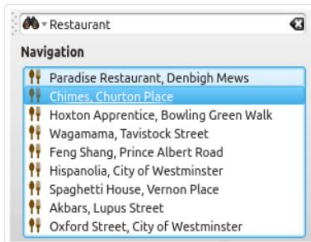


# Marble contd...

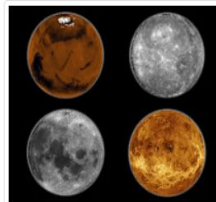
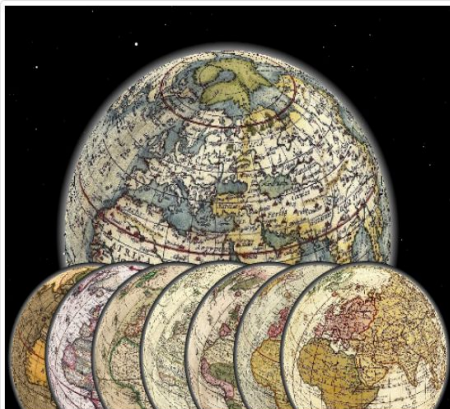
marble.kde.org/features.php

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.

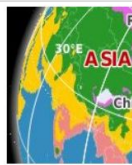


Start exploring the world. View clouds and sun shadow, follow satellites and space stations and display their orbits, all updated in real-time. Travel back in time and learn about historic views of our planet using maps from past centuries. Earth is not enough? Marble also offers maps of the moon and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

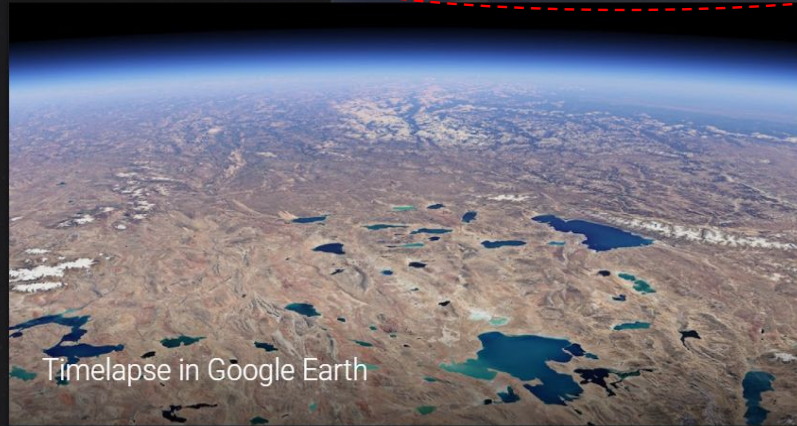
Layers

Street View

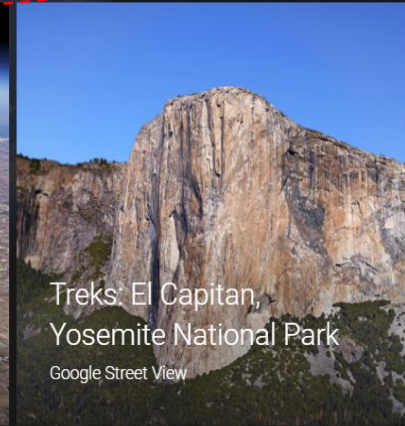
Culture

Travel

Education



Timelapse in Google Earth



Treks: El Capitan,  
Yosemite National Park

Google Street View

3D



# QGIS



← → ↻ 🔒 qgis.org/en/site/



3.22.3  
3.16.16 LTR

DISCOVER QGIS

FOR USERS

GET INVOLVED

DOCUMENTATION

Search

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!

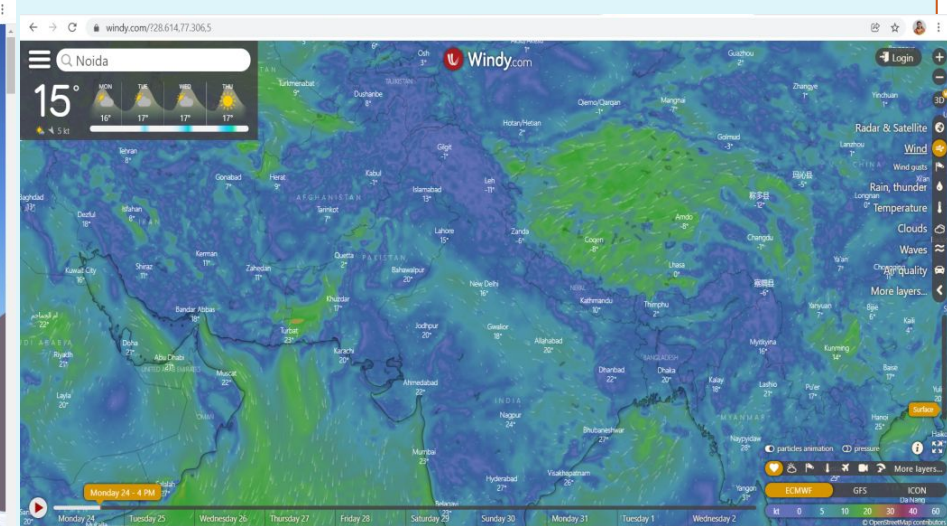
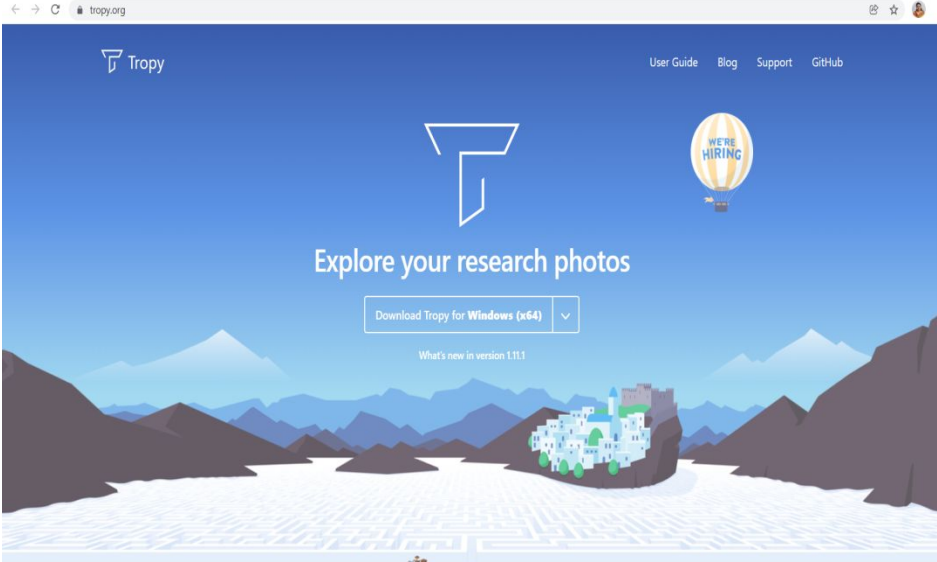
**New release: 3.22!**  
Get the [installer](#) or [packages](#) for your Operating System and read the [changelog](#).

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

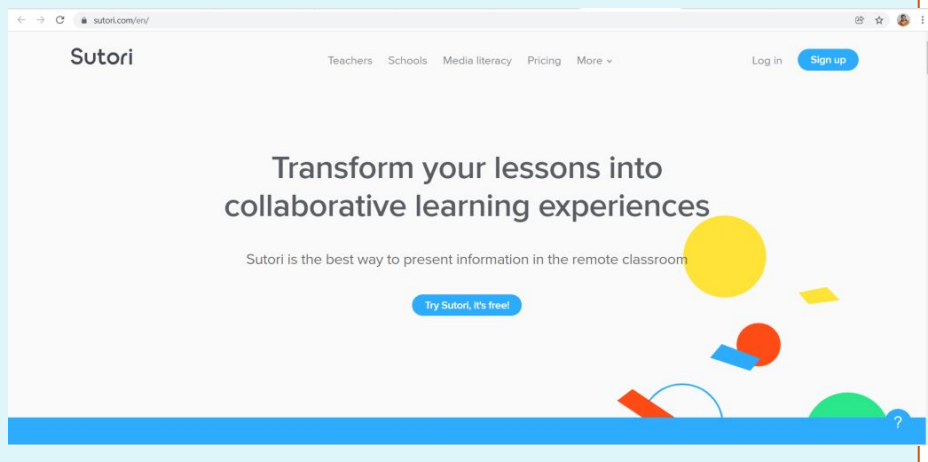


# Stellarium

# Sutori



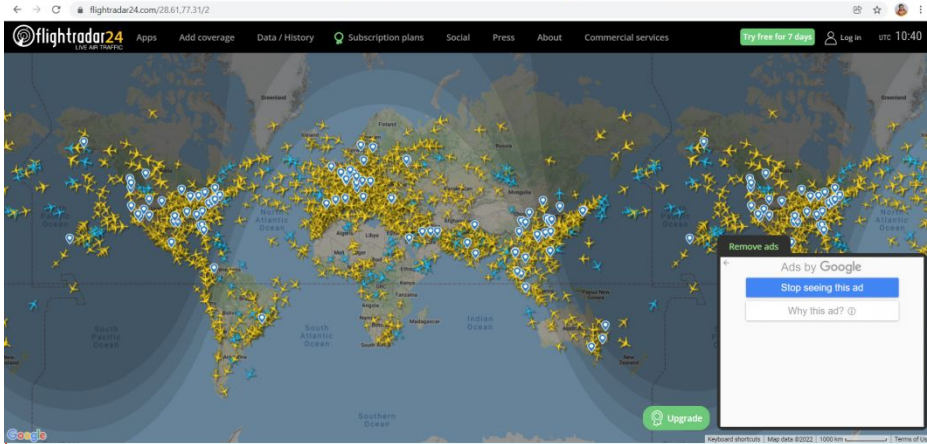
The screenshot shows the Stellarium website homepage. At the top, there's a navigation bar with the Stellarium logo and the text "latest version is 0.21.3". Below this, there are icons for various operating systems: Linux (Ubuntu, Fedora, CentOS), Mac OS X, Windows, and Stellarium Web. The main content area is divided into three columns. The left column has a text block describing Stellarium as a free open source planetarium, a "Try the Web Version" button, and a "features" section with a list of capabilities like "default catalogue of over 600,000 stars" and "extra catalogues with more than 177 million stars". The middle column features a large image of a starry sky with a red line indicating a celestial path, and a "news" section with a list of recent releases. The right column has a "collaborate" section with links to "discussions", "mailing list", "wiki", "FAQ", "scripts", "landscapes", and "sky cultures".



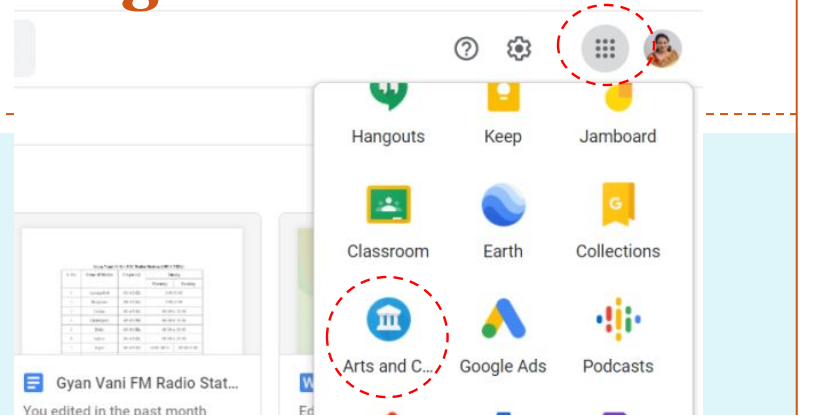
The screenshot shows the Sutori website homepage. At the top, there's a navigation bar with the Sutori logo and links for "Teachers", "Schools", "Media literacy", "Pricing", and "More". On the right, there are "Log in" and "Sign up" buttons. The main content area features a large heading: "Transform your lessons into collaborative learning experiences". Below this, a sub-heading reads: "Sutori is the best way to present information in the remote classroom". A prominent blue button says "Try Sutori, it's free!". The right side of the page is decorated with colorful geometric shapes (circles, squares, triangles) in yellow, red, blue, and green.



# flightradar24

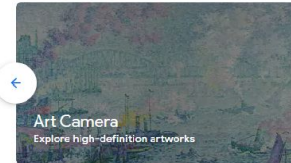


# Google Arts & Culture



## ts & Culture

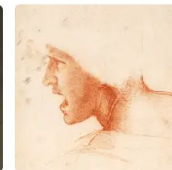
### Highlights



### Categories



Artists  
13,399 artists



Mediums  
243 mediums



Art Movements  
124 art movements

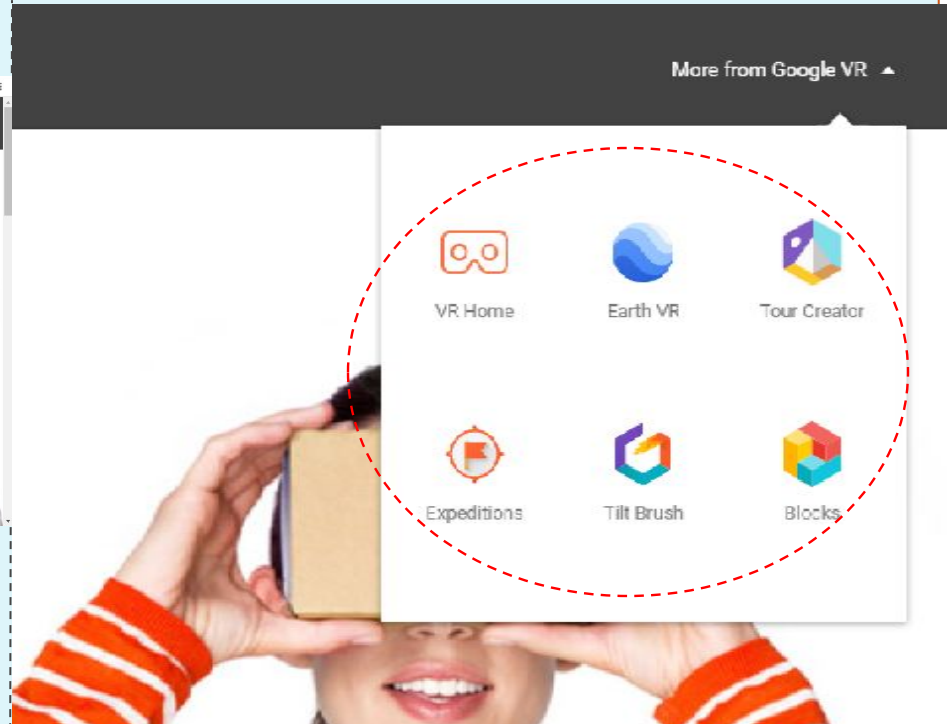
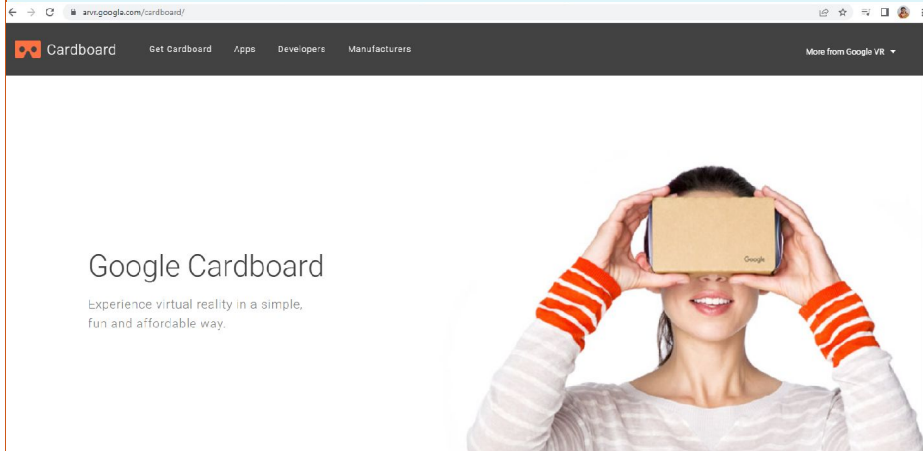


Historic Events  
631 historical events



Historical Figures  
8,586 historical figures

# Google Cardboard



# National Geographic Kids

# GEOGUESSR



The screenshot shows the National Geographic Kids website. At the top, there is a green navigation bar with the National Geographic Kids logo on the left and a search icon on the right. In the center of the bar are five icons representing different content categories: Games, Videos, Animals, Explore More, and Subscribe. Below the navigation bar, the word "Videos" is displayed in a large, bold font. Underneath, there is a horizontal row of video thumbnails. Each thumbnail includes a title, a duration, and a small image. The first thumbnail is titled "WHAT'S THAT PRAIRIE DOG TALKING ABOUT?" and is marked as "NOW PLAYING". Below the thumbnails, there is a large banner for the "WHAT'S THAT PRAIRIE DOG" video, featuring a close-up of a prairie dog's face.

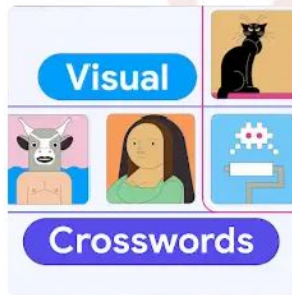
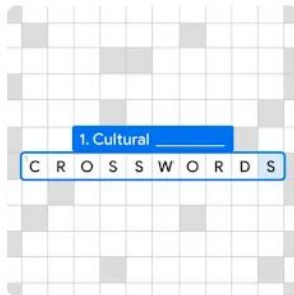
The screenshot shows the GEOGUESSR website. At the top, there is a dark purple navigation bar with the GEOGUESSR logo on the left and a search icon on the right. In the center of the bar are four icons representing different game modes: Competitive, Play with Friends, Classic, and Host a Quiz. Below the navigation bar, there are three large, dark-colored buttons for "EXPLORER MODE", "STREAKS", and "THE DAILY CHALLENGE". Below these buttons, there are three smaller buttons for "Map Maker", "Pro Leagues", and "My maps". At the bottom of the page, there is a row of four small images: a globe, a castle, a bus, and a building.

# Google Arts & Culture

☰ Google Arts & Culture

[Home](#) [Explore](#) [Play](#) [Nearby](#) [Favorites](#)

Pick a game to play





# Suggested references

NCERT Official YouTube Channel (Playlist  Webinar  ICT tools)

- Marble (English):  
<https://www.youtube.com/watch?v=iiFTkLRiRQ&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=yEyzimOEF\\_w&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=218](https://www.youtube.com/watch?v=yEyzimOEF_w&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=218)
- QGIS (English):  
[https://www.youtube.com/watch?v=pr9Jm\\_Cbtiw&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=538](https://www.youtube.com/watch?v=pr9Jm_Cbtiw&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=538)
- QGIS (Hindi):  
<https://www.youtube.com/watch?v=UA4BWUMfLQc&list=PLUgLcpnv1YiflGMircqddoBovRwGgJOi&index=257>
- NAVIC:  
<https://www.youtube.com/watch?v=ZHWuoJTCKHE&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