

## Websites for Open Educational Resources

**<http://www.arvindguptatoys.com/>**

Arvind Gupta is an Indian toy inventor and popularizer of science. As a student in the 1970s in Indian Institute of Technology, Gupta became a socialist in belief but eschewed action-less discourse; he stated that instead he "placed more faith in small positive action than empty rhetoric."

Arvind Gupta is an Indian toy inventor and popularizer of science for kids. Creating simple toys out of trash and everyday goods, he illustrates principles of science and design in a memorably hands-on fashion. He works at the Children's Science Centre in Pune, India.

This website is a rich resource for science study materials. It has collections of Toys from Trash (Photos), Toys from Trash (Films Many Languages), Books in Hindi, English and Marathi Languages.

This website has vast collection of downloadable short films (Science), Books, Articles and translations by Arvind Gupta. A good collection of Eklavya Books, Books on Education, Science Books by Isaac ASIMOV, Children's books in Hindi, maths books in Hindi, Science Books in Hindi, Environment Books, Inspiring Books, Books by Sitaram Shastri.

**<http://www.nroer.in>**

National Repository of Open Educational Resources is initiated by the Department of School Education and Literacy, Ministry of Human Resource Development, Government of India and the Central Institute of Educational Technology, National Council of Educational Research and Training, the Repository belongs to all of us. Anyone can participate in, contribute, curate and organize resources and activities, growing it to reach every teacher and every student in all languages.

NROER Resource Library is organized in Videos, Audios, Interactives, Images and Documents sections.

Video Collection is organized subject wise and given short duration videos.

Audio Collection is basically a collection of audio story of famous scientists, social workers, renowned personalities and other.

Interactive library is a collection of simulations on various topics. The simulations are from mathematics, chemistry and physics. Interactives are java based simulations.

Images: It is a collection of images of Historical places, Minerals, Information Technology, Geography, Flower Art, Famous Personalities, Patterns, Maps of India.

Documents Library: It contains Documents on Mathematics, Physics, Chemistry and Biology. These documents are generally in English language.

We can also browse the website based on Elementary, Secondary and Higher Secondary level then selecting the subject.

The Repository runs on the MetaStudio platform, which is an initiative of the Knowledge Labs, Homi Bhabha Centre for Science Education.

### **<http://www.ebasta.in>**

eBasta is governments Digital India initiative, this project has created a framework to make school books accessible in digital form as e-books to be read and used on tablets and laptops.

Publishers can publish their resources on the portal for use by the schools. Students can then download such bastes from the portal, or the school may distribute them through media like SD cards.

eBasta App, downloadable from the portal, runs on any Android tablet. It can access the eBasta created using the portal and render it for easy navigation by the students.

### **<http://www.ncert.nic.in/ncerts/textbook/textbook.htm>**

This online service offers easy access to the NCERT textbooks. The service covers textbooks of all subjects published by NCERT for classes I to XII in Hindi, English and Urdu. The Entire book or individual chapters can be downloaded provided the terms of use as mentioned in the Copyright Notice is adhered to.

### **<http://www.ncert.nic.in/index.html>**

NCERT home page has various links to download syllabuses, books on education and other resources.

### **<http://www.geogebra.org/>**

### **<http://tube.geogebra.org/>**

GeoGebra is designed for Dynamic mathematics for learning and teaching. GeoGebra is a multi-platform mathematics software that gives everyone the chance to experience the extraordinary insights that math makes possible. It makes math tangible. GeoGebra makes a link between Geometry and Algebra in an entirely new, visual way students can finally see, touch and experience math. GeoGebra doesn't replace teachers. It helps teachers do what they do best teach.

**<http://ictcurriculum.gov.in/>**

The present curricula for ICT in Education aims at realizing the goals of the National Policy of ICT in Schools Education and the National Curriculum Framework.

Given the dynamic nature of ICT, the curricula, emphasizing the core educational purposes, is generic in design and focuses on a broad exposure to technologies, together aimed at enhancing creativity and imagination of the learners.

For the teacher, it is an initiation into:

- Exploring educational possibilities of technology,
- Learning to make right choices of hardware, software and ICT interactions, and
- Growing to become a critical user of ICT.

For the student, it is an initiation into:

- Creativity and problem solving,
- An introduction to the world of information and technologies, and
- An opportunity to shape career pursuits.

**<http://india.gov.in/>**

**<http://bharat.gov.in/>**

This is the National Portal of India, developed with an objective to enable a single window access to information and services being provided by the various Indian Government entities. The content in this Portal is the result of a collaborative effort of various Indian Government Ministries and Departments, at the Central/State/District level. This Portal is Mission Mode Project under the National E-Governance Plan, designed and maintained by National Informatics Centre (NIC), DeitY, MoCIT, Government of India.

**<https://www.khanacademy.org/>**

Khan Academy offers practice exercises, instructional videos, and a personalized learning dashboard that empower learners to study at their own pace in and outside of the classroom. We tackle math, science, computer programming, history, art history, economics, and more. Our math missions guide learners from kindergarten to calculus using state-of-the-art, adaptive technology that identifies strengths and learning gaps. We've also partnered with institutions like NASA, The Museum of Modern Art, The California Academy of Sciences, and MIT to offer specialized content.

**<http://www.tess-india.edu.in/>**

The TESS-India project is led by The Open University in the UK and is funded by UK aid from the UK government. It is working towards improving the quality of teacher education in India. Initiated in November 2012, the project focuses on the professional development of teacher educators and teachers in the states of Bihar, Madhya Pradesh, Uttar Pradesh, Odisha, Karnataka, Assam and West Bengal.

The TESS-India Open Educational Resources (OER) comprise 105 units for classroom teachers in elementary and secondary schools (Teacher Development OER), and 20 units for school leaders (School Leadership OER). The OER are available in multiple versions for use in a range of linguistic and cultural contexts. Here you will find the English language versions.

TESS India has learning resources in Elementary Maths, Elementary English, Elementary Science, Elementary Language and Literacy, secondary English, Maths and Science.

**<https://www.edx.org/>**

EdX was created for students and institutions that seek to transform themselves through cutting-edge technologies, innovative pedagogy, and rigorous courses.

Through our institutional partners, the xConsortium, along with other leading global members, we present the best of higher education online, offering opportunity to anyone who wants to achieve, thrive, and grow.

Our goals, however, go beyond offering courses and content. We are committed to research that will allow us to understand how students learn, how technology can transform learning, and the ways teachers teach on campus and beyond.

As innovators and experimenters, we want to share what we discover. The edX platform is available as open source. By conducting and publishing significant research on how students learn, we will empower and inspire educators around the world and promote success in learning.

Our aim is to become a leading resource for learners and learning worldwide by staying focused on the goals and principles set forth when forming edX:

### **Our goals**

- Expand access to education for everyone
- Enhance teaching and learning on campus and online
- Advance teaching and learning through research

### **Our principles**

- Nonprofit
- Open source platform
- Collaborative

- Financially sustainable

EdX is based in Cambridge, Massachusetts and is governed by MIT and Harvard.

**<https://books.google.co.in/>**

**Search:** Book Search works just like web search. Try a search on Google Books or on Google.com. When we find a book with content that contains a match for your search terms, we'll link to it in your search results.

**Browse books online:** If the book is out of copyright, or the publisher has given us permission, you'll be able to see a preview of the book, and in some cases the entire text. If it's in the public domain, you're free to download a PDF copy.

**Buy books or borrow from the library:** If you find a book you like, click on the "Buy this book" and "Borrow this book" links to see where you can buy or borrow the print book. You can now also buy the ebook from the Google Play Store.

**Learn more fast:** We've created reference pages for every book so you can quickly find all kinds of relevant information: book reviews, web references, maps and more.

### **Google Books Library Project – An enhanced card catalog of the world's books**

We're working with several major libraries to include their collections in Google Books and, like a card catalog, show users information about the book, and in many cases, a few snippets – a few sentences to display the search term in context.

**<https://scholar.google.co.in/>**

### **Stand on the shoulders of giants.**

Google Scholar provides a simple way to broadly search for scholarly literature. From one place, you can search across many disciplines and sources: articles, theses, books, abstracts and court opinions, from academic publishers, professional societies, online repositories, universities and other web sites. Google Scholar helps you find relevant work across the world of scholarly research.

### **Features of Google Scholar**

- Search all scholarly literature from one convenient place
- Explore related works, citations, authors, and publications
- Locate the complete document through your library or on the web
- Keep up with recent developments in any area of research
- Check who's citing your publications, create a public author profile

**<http://phet.colorado.edu/>**

PhET provides fun, free, interactive, research-based science and mathematics simulations. We extensively test and evaluate each simulation to ensure educational effectiveness. These tests include student interviews and observation of simulation use in classrooms. The simulations are written in Java, Flash or HTML5, and can be run online or downloaded to your computer. All simulations are open source (see our [source code](#)). Multiple [sponsors](#) support the PhET project, enabling these resources to be free to all students and teachers.

To help students engage in science and mathematics through inquiry, PhET simulations are developed using the following design principles:

- Encourage scientific inquiry
- Provide interactivity
- Make the invisible visible
- Show visual mental models
- Include multiple representations (e.g., object motion, graphs, numbers, etc.)
- Use real-world connections
- Give users implicit guidance (e.g., by limiting controls) in productive exploration
- Create a simulation that can be flexibly used in many educational situations

**<http://nlvm.usu.edu/>**

The National Library of Virtual Manipulatives (NLVM) is an NSF supported project that began in 1999 to develop a library of uniquely interactive, web-based virtual manipulatives or concept tutorials, mostly in the form of Java applets, for mathematics instruction (K-12 emphasis). The project includes dissemination and extensive internal and external evaluation.

Learning and understanding mathematics, at every level, requires student engagement. Mathematics is not, as has been said, a spectator sport. Too much of current instruction fails to actively involve students. One way to address the problem is through the use of manipulatives, physical objects that help students visualize relationships and applications. We can now use computers to create virtual learning environments to address the same goals.

There is a need for good computer-based mathematical manipulatives and interactive learning tools at elementary and middle school levels. Our Utah State University team is building Java-based mathematical tools and editors that allow us to create exciting new approaches to interactive mathematical instruction. The use of Java as a programming language provides platform independence and web-based accessibility.

The NLVM is a resource from which teachers may freely draw to enrich their mathematics classrooms. The materials are also of importance for the mathematical

training of both in-service and pre-service teachers. The library is actively being extended and refined through projects including the [eNLVM](#), a project to develop interactive online learning units for mathematics.

### **<http://nrich.maths.org>**

NRICH is a team of qualified teachers who are also practitioners in RICH mathematical thinking. This unique blend means that NRICH is ideally placed to offer advice and support to both learners and teachers of mathematics.

NRICH is directly and indirectly involved with educational policy makers. This means that we can offer informed guidance and practical advice about working in schools.

#### **NRICH aims to:**

- Enrich the experience of the mathematics curriculum for all learners
- Offer challenging and engaging activities
- Develop mathematical thinking and problem-solving skills
- Show rich mathematics in meaningful contexts
- Work in partnership with teachers, schools and other educational settings

#### **For teachers of mathematics, we:**

- Offer FREE enrichment material (Problems, Articles and Games) for all ages that really can help to inspire and engage learners and embed RICH tasks into everyday practice.
- Help to promote RICH thinking in classrooms by offering on-line and face-to-face support at Primary and Secondary level.
- Deliver professional development courses and workshops in rich mathematics.
- Help teachers to think strategically about 'next steps' and progression in problem solving.

#### **And for those learning mathematics, we:**

- Provide FREE and interesting mathematical games, problems and articles.
- Encourage you to share your solutions to our mathematical problems.
- Have mathematicians who can help you to solve problems - just 'Ask NRICH'!
- Offer a safe online space where you can meet others with similar interests.

### **<http://illuminations.nctm.org/>**

Illuminations is a project designed by the [National Council of Teachers of Mathematics](#) (NCTM) and supported by the Verizon Foundation. NCTM serves as a content partner for Thinkfinity, the Verizon Foundation's free online professional learning community, where

Illuminations is the primary contributor of resources for teaching and learning mathematics for grades pre-K—12.

Illuminations works to serve you by increasing access to quality standards-based resources for teaching and learning mathematics, including interactive tools for students and instructional support for teachers.

### **<http://www.shodor.org>**

Established in Durham, NC in 1994, Shodor is a nonprofit organization serving students and educators by providing materials and instruction relating to computational science (scientific, interactive computing).

With an Internet presence producing 3 to 4 million page views per month, Shodor has an international impact. Its [award-winning](#), free online education tools such as [Interactivate](#) are popular with students and educators alike.

Shodor is transforming learning through computational thinking. In the Raleigh-Durham, NC area, Shodor offers [workshops](#), [apprenticeships](#) and [internships](#) for youth and teens to build excitement for science, technology, engineering, and mathematics (STEM) through interactive explorations using hands-on and computer-enhanced activities, giving them the experience they will need to pursue a technology-intensive career path.

### **<http://americanenglish.state.gov/>**

American English is a resource center for teaching and learning about American English language and culture. This website provides a variety of engaging materials and resources for teachers' professional development and for students in the classroom. Both teachers and students will find new ways to practice English and learn more about the United States.

### **<http://www.englishgrammar.org/>**

Here you'll learn all aspects of the English written language, enabling you to improve your writing skills in both personal and formal communications. Whether you're starting with the very basics such as understanding the meaning of verbs and nouns and correct apostrophe placement, or wanting to understand more complex topics such as conjunctions, syntax optimization and creative writing techniques, we have it all covered.

### **<http://www.edutopia.org/>**

A comprehensive website and online community that increases knowledge, sharing, and adoption of what works in K-12 education. We emphasize core strategies: project-based learning, comprehensive assessment, integrated studies, social and emotional learning, educational leadership and teacher development, and technology integration.

Edutopia is dedicated to transforming the learning process by helping educators implement the strategies below. These strategies -- and the educators who implement them -- are empowering students to think critically, access and analyze information, creatively problem solve, work collaboratively, and communicate with clarity and impact. Discover the resources, research, experts, and fellow Edutopia members who are changing our schools. Join us in reinventing the learning process!

**<http://nptel.ac.in/>**

NPTEL provides E-learning through online Web and Video courses in Engineering, Science and humanities streams. The mission of NPTEL is to enhance the quality of Engineering education in the country by providing **free online courseware**.

**<http://youtube.com>**

YouTube has digital content on almost all topics. The searching for the right content may be tricky.

**Compiled by  
Santosh Tamboli  
Lecturer, SCERT,  
Chhattisgarh, INDIA**