



STEM PBL Resources for Educators and Parents

Remote Learning Tools	Format	Sign-up required?	Notes
EdPuzzle	Web Platform	Yes	You can post video lectures for students to watch, and you can keep track of students' progress watching them
Educreations	App	Yes	Educreations is an interactive whiteboard and screencasting tool, allowing to annotate, animate, and narrate content.
FlipGrid - Empower every voice	App	Yes but teachers can generate user IDs for students	Students record videos in response to discussion topics
Padlet	Web Platform	No	Virtual sticky-note collaboration tool, and much more!
SeeSaw - Remote Learning	Web app	Yes but teachers can generate user IDs for students	Activities are not dependent on the platform (online research, writing, etc.)
STEM Teaching Tools - Supporting Student's Science Learning (article)	PDF Article	No	General guidelines to online STEM learning
Webinars for Teachers - by the MetroWest STEM Network	Webinars	Yes	Learn tools for online STEM teaching from the MetroWest STEM Network and the McAuliffe Center
Zoom - Virtual Meeting Tool	Web app	Only for meeting organizer	Meeting time-limit for free accounts has been temporarily removed

This resource for PK-12 educators and parents was put together by the STEM Education Center at WPI
Visit our website for additional resources and for STEM/PBL professional development offerings



WPI

STEM
Education
Center

STEM PBL Resources for Educators and Parents

General Science/STEM Online Resources	Format	Sign-up required?	Notes
cK-12 - Teacher version	Web platform	Yes for teachers to set up classrooms	Can be linked with many other LMS services
cK-12 – Student version (K-12)	Web platform, lessons are primarily text-based with	No, except to be part of a teacher's class	
Daily DE - (K-12)	Student activity guides in PDF format	No	5 weeks worth of daily STEM activities for different age groups
Data Nuggets – Bring real, scientific data into your classroom	Student activity guides in PDF format	No	Comes with rubrics, divided into difficulty levels, optional video content for further discussion
MA DESE – Model Curriculum Units	Word documents	No	Lesson plans, rubrics, etc
MA DESE – STEM at Home List of Resources	Excel document	No	List of resources
NASA - STEM Engagement	Website links to web-based content and activity documents.	No	This is specifically NASA-themed content
NSTA – Classroom Resources	PDF lesson and activity plans	No	Not all resources are free
NSTA - Daily Do	Website	No	Online lesson plans
Phenomena for NGSS	Website	No	Photos of scientific phenomena

This resource for PK-12 educators and parents was put together by the STEM Education Center at WPI
Visit our website for additional resources and for STEM/PBL professional development offerings



WPI

STEM
Education
Center

STEM PBL Resources for Educators and Parents

Purdue University – Engineering Resources (PK-12)	Variety	No	Links to a number of other STEM resources divided by type and target age groups
Science Friday	Website	No	Has many articles and educational resources relating to science and education
Skype a Scientist	Webinars	Yes	Get a scientist Q&A for with your class, group, or family!
STEM Ecosystems - Resource Library	Variety	No	An ever growing list of STEM resources, curated by the STEM Ecosystem Network
TeachEngineering – STEM Curriculum for K12	Printable/shareable documents with some Youtube videos for activities	No	Units, lessons, and activities all available
TryEngineering! – Engineering Resources for Teachers	PDF lesson plans and handouts	No	Lessons available for a variety of age groups
The Wonder of Science	PDF plans, videos, and other resources	No	Contains assessments, videos, phenomena, and other resources

This resource for PK-12 educators and parents was put together by the STEM Education Center at WPI
Visit our website for additional resources and for STEM/PBL professional development offerings



STEM PBL Resources for Educators and Parents

Interactive STEM Activities	Format	Sign-up required?	Notes
Citizen Science - NASA	Website	No	Links to different projects - submit your results to participate in a worldwide study!
Citizen Science - National Geographic (3 - 12)	Website	No	Links to different projects - submit your results to participate in a worldwide study!
Citizen Science - Zooniverse	Website	No	Links to different projects - submit your results to participate in a worldwide study!
Concord Consortium – Interactive STEM Activities (K-12)	Web-based activities	Yes	Some activities call for students to upload materials
Design Squad Global – Resources for Teachers and Parents	Videos and activity documents	No	Most activities use common/easily accessible materials
Design Squad Global- Engineering Activities (K-8)	Videos and activity documents	No	Instructions for at-home engineering activities
Explore Learning – Simulations (3-12)	Videos, web apps, documents	Yes	Activities divided by grades, subjects, standards, and textbooks
Learning Blade – Activities with Connections to STEM Careers (4-8)	PDFs	No (only for STEM At Home page)	STEM At Home page offers discussion guides and easy at-home activities for families of STEM learners
Microsoft - Hacking STEM Library (6-12, however many need microcontrollers)	Web-based activities and videos	No	Materials and software requirements may be inaccessible

This resource for PK-12 educators and parents was put together by the STEM Education Center at WPI
 Visit our website for additional resources and for STEM/PBL professional development offerings



STEM PBL Resources for Educators and Parents

Museum of Science + Industry Chicago - Science at Home	Website	No	Experiments you can complete at home
NASA – Fun STEM Activities to do at Home (K-4)	<i>See above entry about NASA resources</i>		Activities, eBooks, videos, games, coloring pages, and more
NSTA - Interactive eBooks (K-12)	eBooks	No	Interactive books you can read on the web
OKGo Sandbox	Videos and PDF lessons	No	Lessons you can complete at home related to OKGo's famous music videos!
Outschool - Lindsey Nelson's Bingo sheet of STEM activities for students to do at home with limited supplies. (K-8)	STEM activity bingo document - links to some web-based resources.	No	24 different activities students can complete at home
Outschool - Free online engineering-based classes (K-12)	Uses video chat	Yes	Online lessons you can sign your students up for - all run on specific dates
PBS Learning Media – Videos, Simulations (3-12)	Videos (can be downloaded) and web-based, interactive simulations	No	Alignment with standards is explained for each activity
pHet – Science Simulations (K-12)	Web-based, downloadable, interactive simulations	No	Available for a range of age groups
Seeds of STEM – Teacher & Parent friendly STEM resources for Preschool Students (PK)	PDF activities	No	At-home engineering activities for preschoolers
Space Foundation Discovery Center – STEM Lesson Plans (PK-12)	PDF activity plans	No	

This resource for PK-12 educators and parents was put together by the STEM Education Center at WPI
Visit our website for additional resources and for STEM/PBL professional development offerings



WPI

STEM
Education
Center

STEM PBL Resources for Educators and Parents

Technovation Families - great STEM Challenges to do at home (designed for a typical 4th grade classroom but can be modified up or down)	Videos and downloadable content	Yes	Some required materials are not common to have at home
TryEngineering! – Explore Engineering with Games and Activities (K-12)	Variety - links to other online resources	No	Games, information about engineers, and more

This resource for PK-12 educators and parents was put together by the STEM Education Center at WPI
Visit our website for additional resources and for STEM/PBL professional development offerings



STEM PBL Resources for Educators and Parents

Project Based Learning	Format	Sign-up required?	Notes
Buck Institute for Education, My PBL Works:	Videos and planning documents for PBL educators, articles with links to other resources	Yes for activity plans	Not STEM-specific
Problem Based Learning Teacher Resources	Links to projects and other resources	Yes	
School Closures: Using PBL in Remote Learning	Article	No	
Beyond the Worksheet Package: PBL Projects to Adapt for Remote Learning (PK -12)	Links to projects	Yes	
STEM Projects (K - 12)	Links to projects	Yes	
Edutopia - Project Based Learning for Educators	Online articles	No	Articles about Project-Based Learning and ideas of projects to implement
High Tech High – Student Projects – PBL Project Ideas (9-12)	Web page	No	Descriptions of past student projects including teacher and student reflections
WPI STEM Education Center	PDF design challenges	No	
Paper Bridge Design Challenge (PK-12)	Engineering design challenge	No	Can be applied to any grade
Project Transport Design Challenge (PK-8)	Materials engineering design challenge	No	Can be applied to grades PK-8

This resource for PK-12 educators and parents was put together by the STEM Education Center at WPI
Visit our website for additional resources and for STEM/PBL professional development offerings



WPI

STEM
Education
Center

STEM PBL Resources for Educators and Parents

Coding and Computational Thinking	Format	Sign-up required?	Notes
Code.org – Learning computer science when schools are closed (PK-12)	Videos and web platform, options available for smartphones	No (unless you want to save progress)	Code.org also links to a wide range of other suggested online coding resources https://code.org/student/beyondk12
Scratch – Imagine, Program, Share (3-12)	Web platform - an older version of Scratch can be downloaded and run locally	No (unless you want to save progress)	Many online resources and books exist for Scratch activity ideas
Scratch, Jr – Coding for young children (K-2)	App	No (unless you want to save progress)	Many online resources and books exist for Scratch activity ideas

This resource for PK-12 educators and parents was put together by the STEM Education Center at WPI
Visit our website for additional resources and for STEM/PBL professional development offerings