
ABC
DESIGN
DESIGN
DESIGN
DESIGN
decimeter
10
millimeter
100
1000
centimeter
NEXT.cc
7
beauty
pow!
SHARE
THE
ROAD
LOCALLY
RAISED
BOOM
The Future
ZOOM

21st Century STEM is *STEAM*

Current STEM teaching (Science + Technology + Engineering + Math) supports students with necessary skills to prepare them for the career challenges and 20th century literacies designed to contribute scientists, mathematicians, engineers and technologists to the world's innovative economy. In the 21st century spirit of generous sharing and collaborative practices, design as an active practice learns from the world, engages the world and aims to improve the world. **STEAM *by Design*** introduces a multifaceted approach to 21st century education that transforms discreet subject introduction to trans disciplinary project based motivational learning with place based citizen engagement.

> ***"NEXT.cc hits the 21st Century learning sweet spot! It is brilliant scaffolding for design-based learning. NEXT.cc delivers content in context embedded in templates and tools.***
> ***It is at the right level between abstract concept and concrete instantiation. It builds both subject matter mastery and meta-cognitive skills. It reifies domain knowledge transparently as generative engagement. Seamlessly, it inculcates habits of attentive observation, heuristic discovery and self-reflection. It speaks epistemological authority with a light, non-pedantic voice.***

It frames design broadly as best expressed by Herbert A. Simon, pioneer of computer science and artificial intelligence:

> *"Everyone designs who devises courses of action aimed at changing existing situations into preferred ones."*

Beyond all that, NEXT.cc is intrinsically motivating - which is the fancy term for FUN!"

Arnold Wasserman www.arnoldwasserman.com, arnold@collectiveinvention.com, arnold@ideafactory.com

STEAM *by Design*

STEAM *by DESIGN* connects art and culture as dynamic creative processes combined with STEM practices as drivers of 21st century innovation. STEAM by DESIGN scaffolds design-based learning building subject matter mastery and developing meta-cognitive skills that encourage informal and life long learning in students and teachers. This session nurtures habits of attentive observation, heuristic discovery and self-reflection through access to sustainable art and design practices blurring boundaries between work, play, creativity and fun. Based on over 75 teacher professional development workshops, this award winning eLearning eco web, presented as a WAEA keynote and a TEDx, aims to empower art educators with new trans disciplinary connections, locally and globally, inspiring new ways of thinking, learning and making. Students use a wide range of physical and digital media to look at data, understand patterns, interpolate options, and strategize change. They use media to study, conceptualize, and engage their communities

NEXT.cc

NEXT.cc is an eco web that develops ethical imagination and environmental stewardship.

...it introduces what design is, what design does, and why design is important

...it offers activities across nine scales - nano, pattern, object, space, architecture, neighborhood, urban, region, world

NEXT.cc reaches young people, their teachers and families with meaningful learning experiences that create positive influence on lives.

...journeys connect the classroom with the world; integrating virtual field trips, museums, institutions, and contemporary practices. Its informal learning is being accessed in 87 countries and 37 states

...workshops have reached over 5,000 teachers and 25,000 students

mission

nurture imagination

inspire wonder of the built and natural world

promote stewardship of the environment

enable eco literacy and digital fluency through place based design projects

connect classrooms in an eco-web community

history

NEXT.cc is a collaborative effort by principals, teachers, architects, artists and college art, art education, design and architecture students (MIT, Harvard, NYIT, CCAC, Parsons, SAIC, UWM).

Founded as an educational non-profit in 2007, NEXT.cc researches and creates transdisciplinary journeys that engage local ideas with global practices. Participants move from the computer into the community and learn about themselves, their neighbors, and their friends as they engage history and culture of place and explore sustainable design possibilities. NEXT.cc delivers eco literacy and digital fluency changing STEM (Science, Technology, Engineering and Math) teaching to STEAM (Science, Technology, Environment, Engineering, Art and Math).

awards

National Environmental Education Green STEM Innovator 2012
Union of International Architects Architecture + Children Golden Cubes 2011
Wisconsin Arts Board Creative Communities Grant 2011
USGBC Excellence in Green Building Education Award 2009
SAIC Presidential Urban Engagement Award 2009
American Architectural Foundation Merit Award 2009
National Endowment for the Arts Design Education Award 2008
American Architectural Foundation Merit Award 2006

about: NEXT.cc

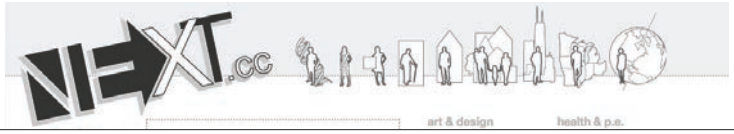
NEXT.cc is an eco web that develops ethical imagination and environmental stewardship.

NEXT.cc introduces what design is, what design does, and why design is important. It offers activities across nine scales – nano, pattern, object, space, architecture, neighborhood, urban, region, and world.

NEXT.cc's journeys introduce activities online, in the classroom, in the community and globally. NEXT.cc journeys and activities are supported with links to virtual field trips, museum interactives, and contemporary architecture, art, science & design practices.

how to: NEXT.cc

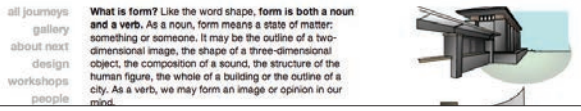
1. Go to www.NEXT.cc



2. Select a journey

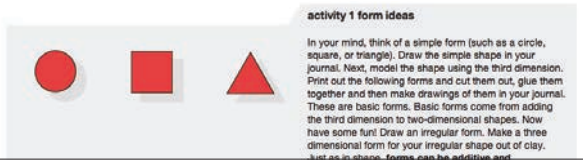
Choose from 200+ journeys.
At the top of the page, you may also select to view journeys that relate to specific topics.

3. Introduction to Journey



To begin your journey, become familiar with background and terms associated with the journey.

5. Activities



Observe, write, sketch, model, make, imagine, and create... in your community!

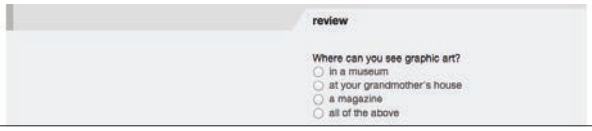
4. Explore

Check the Explore links to learn from contemporary art, science and design practices.

6. Submit to Gallery

After you complete the activities, submit your work to the Gallery!

7. Review



Review what you learned!

8. Relate and Repeat

See related journeys and continue exploring natural and built systems, objects, media and environments.

9. Show your teacher

Share with friends.
Like us on Facebook.
Watch our videos on YouTube.

10. Tell us if you're using it <lkeane@next.cc>

NEXT.cc

Complete List of Journeys

listed alphabetically

Tools

2d Geometry
Air
Alphabet
Collaboration
Color
Composition
Decoration
Design Thinking
Detail
Diagramming
Film+Video
Font
Food
Form
Frames
Imagination
Information
Journal
Land
Line
Listening
Maps
Matter
Measure
Media
Mind Mapping
Modeling
Nanotechnology
Natural Light
Numbers
Objects
Organization
Painting
Paper
Patterns
Perspective
Photography
Placemaking
Plants
Play
Questions
Rhythm
Scale
Senses
Shading
Shape
Shelter
Site Analysis
Sketching
Soil
Speech
Symbols
Time
Visual Note Taking
Walking
Water
Waves
Weave
Well Being
Word Webs
Words
Writing

Language

3d Geometry
Adobe
Animals
Area
Art Nouveau
Artificial Light
Beams
Biomimicry
Birds
Books
Categories
Ceramics
Chairs
Cities
Classical Architecture
Climate
Clouds
Columns
Design Research
Drawing Types
Energy
Ergonomics
Experience Design
Facade Elements
Family Tree
Figure Ground
Fish
Food Culture
Glass
Grass
Grid
Housing Styles
Insects
Isometric
Materials
Metrics
Nature Patterns
Objects
Object Description
Optics
Origami
Place Exploration
Pocket Parks
Poems
Precipitation
Proportion
Rocks
Sculpture
Sound
Story Telling
Streets
Structure
Symmetry
Systems Thinking
Temperature
Tree Identification
Trompe L'oeil
Vernacular Architecture
Walls
Water Quality
Watershed
Weather Windows

Discovery

21st Century Classroom
7 Natural Wonders
Acoustics
Air Quality
AquaCulture
Architectonics
Bauhaus
Bicycles
Biofuel
Biomes
Bridges
Building Types
Buildings as Bodies
Coral Reefs
Cycles
De Stijl
Design Process
Digital Modeling
Earth
Electricity
Farmers Markets
Forests
Germs
Green Building
Green Materials
Green Schools
Growing Food
Iron
Lakes
Landfills
Mass Transit
Mobiles
Modern Architecture
Music and Architecture
Oceans
Outdoor Classrooms
Paper Airplanes
Paper Engineering
Pavilions
Place Experience
Plastic
Prairie
Prairie Architecture
Public Space
Rain
Recycling
Rivers
Self Portrait
Site Programming
Solar Energy
Solar System
Sound Mapping
Stairs
Textiles
Texture
Truss
Vermiculture
Vertical Farming
Water Conservation
Wind
Wood
Word Forms

Design

Aeronautics
Airport Design
Animation
Aquaponics
Architecture
Architecture and Fashion
Bike Lanes
Bridge Design
Bus Stops
Business Card
Car Design
Cartoons
Cereal Box
Chair Design
Design Making
Eating Local
Fashion Design
Furniture Design
Game Design
Graphic Design
Graphic Novel
Great Lakes
Green Cities
Green Home
Green Roofs
House of the Future
Industrial Design
Information Architecture
Interiority
Jewelry
Kites
Landscape
Light Design
Logo Design
Magazines
Mobile Meal
Murals
Package Design
Play Space
Poster Design
Rain Gardens
Rainwater Harvesting
ReBuild
River Walks
Shoe Design
Signs
Skyscrapers
Space Planning
Stage Set Design
Suburbia
Sunglasses
Tiny House
Tessellations
Toy Design
Urban Agriculture
Urban Design
Vegetable Gardens
Water Taxis
Wind Power
Work Stations
ZOOMS

What people are saying about NEXT.cc

I just wanted to let you know that after 2 or 3 years of being on your list of pilot teachers, I am finally using the site in my classroom. My kids LOVE it. They are 12-14 yrs. old and are finding so many great journeys to go on. We are using it as a way to teach independent projects in a more guided way before they leap off in designing their own journeys. I have never seen a group of 7th and 8th grade students so engaged for an hour working independently on their computers... wow.

Victoria Rydberg, RIVER CROSSING 7-8, Teacher of the Year 2009, WI DPI Environmental Education Consultant

I wanted to let you know I think your web site is amazing and such a wonderful resource.

Katie Netti, K-8 Visual Arts Teacher, Chicago, IL

Design thinking has taught us and our students new skills that traditional schools do not focus on. As a teacher I am more focused on the design process (are they brainstorming? are they coming up with solutions? how will you defend their answers? what are they going to build/mold/design?) as compared to many teachers who are focused on content deliverables (do they know which battles were key in the Civil War? Do they understand photosynthesis?). Students themselves are able to think for themselves and think OUTSIDE THE BOX! We started our school with many students thinking that display/trifold boards and key notes were "projects," but now they are coming up with much more innovative ideas such as writing a diary as if a girl from the holocaust, designing an all green home -everything from blue prints, to samples of materials, to an actual model, an i phone application, a story about different animals for preschoolers, etc. They are realizing that they can use their talents and embed them into their education.

Ashley Hiser, LaCrosse Design Institute, LaCrosse, WI

I looked over your work on NEXT and I offer my congratulations on a great project.

Bruce MAU, DESIGN WITHOUT BOUNDARIES, MASSIVE CHANGE

NEXT.cc is a brilliant concept encouraging our students to be active in their communities as architects and educators. It introduces environmental issues and inspires design and education as ethical practices.

Sean S. Miller Director of Education Earth Day Network

Your presentation was great and the NEXT.cc web site is fabulous. What a great gift to the rest of us.

Richard D. O'Connor Ph.D., Executive Director, Oregon Building Congress

Thanks very much for an awesome workshop! You inspired me to collaborate to start a new architecture curriculum for this year including the whole school of nearly 1600 4th and 5th graders.

Craig Hammett

I find NEXT.cc to be a powerful, intuitive and disarmingly engaging learning platform for students. We have deployed NEXT.cc at SUPAR, and it has been a great vehicle for supporting student directed exploration and discovery. As a project based high school, we value learning opportunities that engage our students in ways that require them to take leadership for their learning, NEXT.cc supports our pedagogical objectives very well. The modular nature of the NEXT.cc platform allows for the scaffolding of knowledge building, thus rewarding students by promoting their increased level of content competency while encouraging them by giving them opportunities to demonstrate their increased capacity to apply what they know. That said, NEXT.cc is a robust learning platform that could be applied in various education settings where creativity, global thinking and student-center learning is valued.

Dr. Kirk E. Harris, Faculty, UWM School of Architecture and Urban Planning
& Founder, School for Urban Planning and Architecture

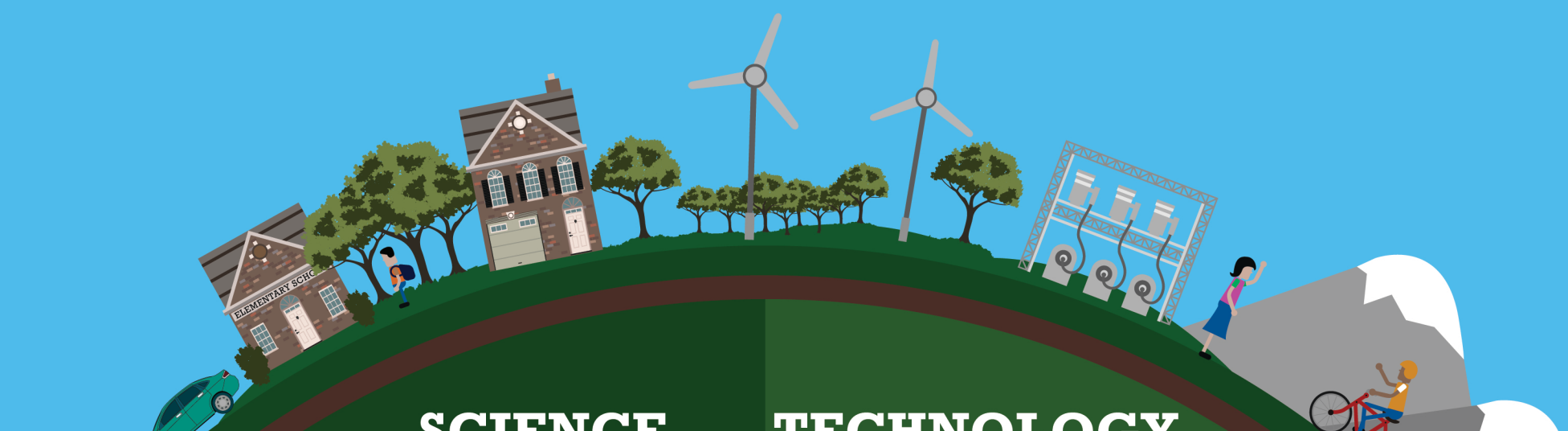
I just opened the NEXT.cc book, it looks fabulous.

Cathy Mott, Curator of Education, Muskegon Art Museum

National Environmental Education Foundation
Knowledge to live by

STEM & Our Planet

The environment is a compelling context for teaching and engaging today's students in science, technology, engineering and math (STEM).



SCIENCE

Green chemistry alone is expected to grow from a **$2.8 billion** industry to about **$100 billion** by **2020**.

Environmental science jobs are expected to grow by **25%** by **2016** — the fastest among the sciences.

By **2014**, about **2 million** STEM-related jobs will be created.

Only about **1** in **18** workers in America currently are in STEM fields.

99% of kids ages 6-11 believe that it's important to care for the environment.

92% of teens are concerned about our environment.

95% of STEM college students believe that math/STEM can help prepare students to address the world's toughest problems.

57% of math/STEM college students say that, before college, a teacher or class got them interested in STEM.

Nearly **4** in **5** STEM students decided to study math/STEM in high school or earlier.

22%

Employment of mathematicians is expected to grow by **22%** between **2008–18**, much faster than average for all occupations.

TECHNOLOGY

78%

78% of businesses and organizations believe that the value of job candidates' environmental knowledge will increase in importance as a hiring factor.

29%

By **2018**, there will be **1.4 million** American computing job openings, but only **29%** of those are expected to be filled by U.S. graduates.

About **2 million** organizations and businesses now produce or offer green goods or services.

Environmental engineers are expected to have employment growth of **31%** between **2008-18**, much faster than average for all occupations.

$** **$

Workers with a STEM background have earned about **26%** more, with engineers earning some of the highest avg. starting salaries for bachelor's degrees.

Civil engineers, who increasingly deal with the environment, are expected to have employment growth of **24%** between **2008-18**, much faster than avg. for all occupations.

MATH

ENGINEERING

Sources:

Boys & Girls Clubs of America
Bureau of Labor Statistics, U.S. Dept. of Labor
Business & Environment Program of NEEF
Economics and Statistics Administration, U.S. Dept. of Commerce
Harris Interactive
Kelton Research
National Center for Women & Information Technology
NC STEM Community Collaborative
Pike Research
Rutgers, The State University of New Jersey

Find out more: www.eeweek.org

Water Journeys

Ethical Imagination and Environmental Stewardship

The Wyland Foundation has partnered with NEXT.cc to provide the following water journeys to reach young people, their teachers and their families with meaningful learning experiences that create positive influences in their lives.

- Water
- Waves
- Watershed
- Water Quality
- Water Conservation
- Precipitation
- Rainwater Harvesting
- Raingardens
- Clouds
- Climate
- Rivers
- Great Lakes
- Oceans
- Coral Reefs
- Aquaponics
- Water Taxis

NEXT.cc is a 21st century Eco Web of researched resources dedicated to transforming teaching and learning into a relevant, fun, anywhere anytime activity. NEXT.cc's resources encourage exploration of local communities while enabling virtual field trips to international institutions, museums, and contemporary practices. Participants learn the humane role of the built environment exploring journeys and working on the computer, in the classroom and in their cities. NEXT.cc introduces a systems thinking approach to connect traditional subjects in place based projects across nine scales- nano, pattern, object, space, architecture, neighborhood, city, region and world. Journeys introduce tools that artists, scientists and designers use to engage the world. Language journeys introduce vocabularies and principles tied to CCSS. Discovery expands awareness of relations between systems. Design journeys present opportunities for active citizenry and real world innovation.

Learn More

Photo Gallery