

# There's a Great Classroom Just Outside the Door!



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San Diego Children and Nature  
Presented at Gardening With Class  
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# Let's start with you....

- Think about your first or favorite childhood memory....
  - Where?
  - With whom?
  - What were you doing?
  - What do you see, hear, feel?
- Turn to your neighbor, and share your story

# Let's start with you....

- Schools
- Grade(s) you teach
- Who uses the outdoors for lessons?
- What do you hope to learn today?





# Reflection Activity

## Activity:

- Have you taught lessons in nature?
- What keeps you from teaching in nature?
- What is the best experience you've ever had, taking students outdoors?
- What is the worst experience, taking students outdoors?
- What are your two greatest fears, about taking students outdoors? (individually, then pair-share, then group share the fears)



# Nature's Terrific Classroom

Activities/curricula sync perfectly with NGSS and Common Core

- Discover how you can help students delight in finding new, outdoor experiences that already exist on school grounds
- Learn how to create a new schoolyard habitat



# A Blueprint for Environmental Literacy

- Students can best develop environmental literacy through a combination of learning experiences in/out of the classroom
- Goal: all students spend a minimum of 40 hours/year outside the classroom (p. 25)

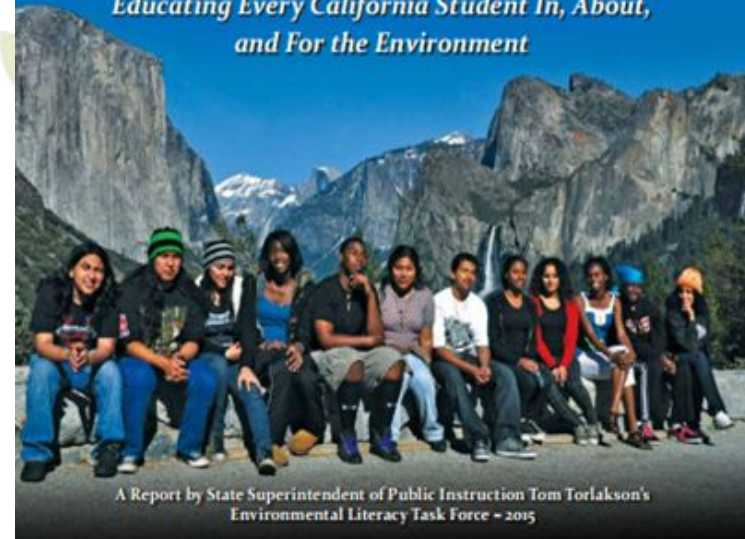
Issued September 15, 2015

- American Medical Association recommends 1 hour a day outdoors

## A Blueprint For Environmental Literacy



*Educating Every California Student In, About,  
and For the Environment*



A Report by State Superintendent of Public Instruction Tom Torlakson's  
Environmental Literacy Task Force • 2015

# My Outdoor Classroom

**Mary in action!**

<https://youtu.be/JITGYpM7xIM>

**Nature is:**

- **Affordable!**
- **Accessible!**
- **Awesome!**



# I. Why have an outdoor classroom and do nature-based learning?



**You want to go  
outside with the  
kids?**

**Why would you  
want to do that?**

**TELL US YOUR THOUGHTS:**

# What Research Says: The Benefits



Children are happier....

- Nature play increases self esteem, improves psychological health, and reduces stress
- Children learn self-discipline and are more cooperative



# What Research Says: The Benefits



Children are smarter....

- Nature play stimulates creativity, imagination, and problem solving
- Students learn to care for nature, and get a sense of the world around them



# What Research Says: The Benefits



Children are healthier....

- Nature play improves physical conditioning and reduces obesity
- Children develop lifelong habits of fitness and recreation

**“Sixty minutes of daily unstructured free play is essential to children’s physical and mental health.”**

American Academy of Pediatrics, 2008

# The Nature Deficit



- Children are spending less time in nature
  - 40 to 60 hours weekly on electronic media
  - Increased childhood obesity from 4% in the 1960s to about 20% today
  - Adult-directed activities
  - Replacing real with virtual nature



# SD Children and Nature

- Enhance schools' ability to connect children to nearby nature
- Partner with community groups to value, promote and provide opportunities for outdoor experiences
- Nature educators and community members work together to increase opportunities for children to learn in nature and play outdoors!

[www.sdchildrenandnature.org](http://www.sdchildrenandnature.org)





# The Outdoor Classroom

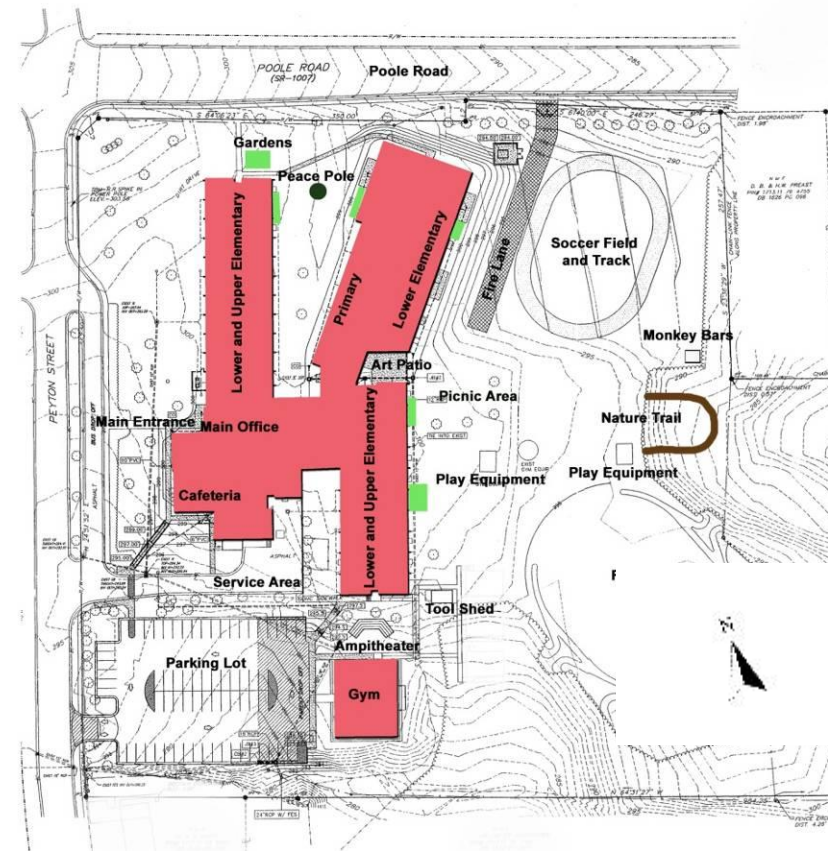




# School Site Assessment

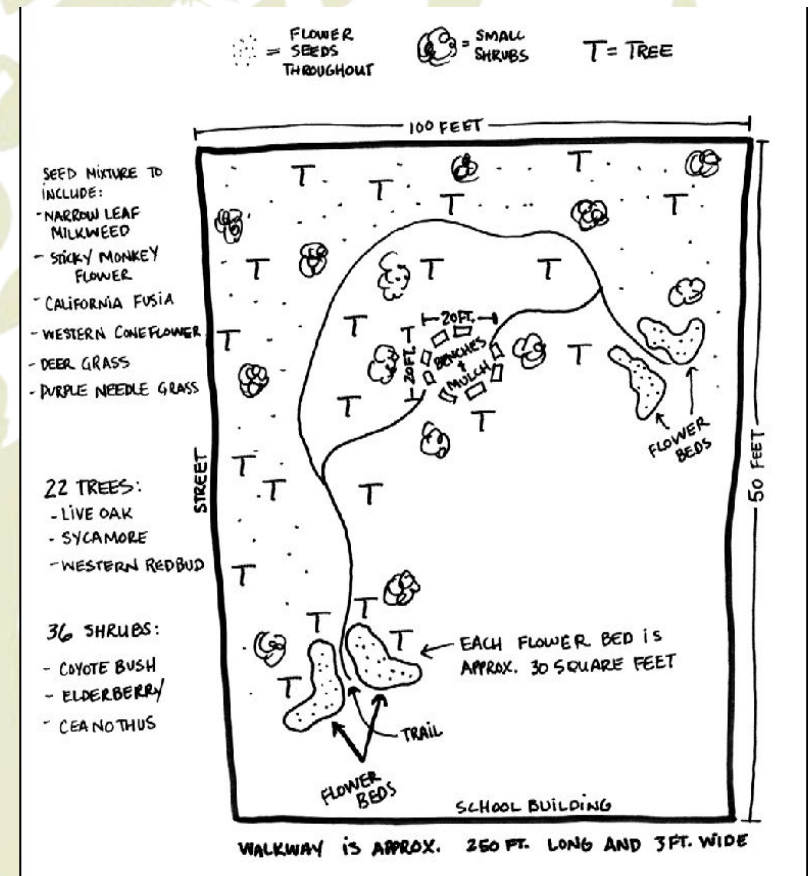
## *Existing Site Uses*

- **What and Where do activities take place?**
  - Areas used by teachers, students, community
  - Gathering/waiting areas
  - Entrances, pathways and boundaries
  - Age-separated areas



# Developing the Concept Plan

- Use an Aerial Photo, Plot Map, or Plans of the School
- Full School Site or Project Area
- Locate Hardscape and Planting Areas
- Indicate Phases





# LifeLab.org

## NGSS, Common Core aligned

### Exploring the Garden

1. Garden Treasure Mailbox  
What's inside? What treasures could you add for others to enjoy?
2. Tree O' Tunes  
Come play a song for the chickens!
3. Chickens  
How many different types of chickens can you find?  
How do chickens help us in the garden?
4. Worms  
How many kinds of worms can you find?  
What do they feel like? What are they doing?
5. Compost Piles  
What goes into a compost pile? What comes out?
6. Sundial  
Can you tell the time?
7. Circle Bench  
Relax in the shade, or find the four directions.
8. Bee Hive  
Open the door.... Look and listen!  
Be sure to close the door behind you!
9. Themed Garden Area  
Can you find a plant named after a animal, in our zoo garden bed?  
Can you find a garden bed with tropical plants?  
One with plants that are adapted for dry weather?  
Can you find any animal tracks?  
How many different types? Where do they go?
10. Apple Room  
What season is it now? How do the apple trees look in this season?  
What is your favorite way to eat apples?
11. Weather Station  
What's the weather like today?  
Open the door to find the temperature and humidity!  
Has it rained? What direction is the wind blowing?
12. Pond  
What grows here? Who lives here?
13. Tunnel  
Run/walk/crawl through...or sit quietly inside and watch birds come close.
14. Solar Bird Bath  
Where does the fountain get its energy? Can you turn the flow off by blocking the sun?
15. Root View Box  
Pull the door down to see roots growing. What colors are they? How are they helping the plants?
16. Garden & Pizza Bed  
How many pizza ingredients can you find growing here?
17. Garden Kitchen  
What foods from the garden could you imagine cooking here?
18. Rainwater Catchment System  
Where does the water come from? Why do we store it in this barrel?
19. Orchard and Berries  
Zig zag through the trees! How many different kinds of leaves can you find?
20. Food, What?! Field  
How many different crops are growing here? Which one is your favorite?



www.josemiguelmayo.com



# Gardens



February 28, 2015

# What materials might you need for your Outdoor Classroom?

Your Ideas





# Tools of the Trade!

- Backpack, bin, clip boards with pencils attached
- Get a scope!
- Collections for a science table with official and student made field guides





# Tools of the Trade!

- Bug Rugs
- Recycled Bug Boxes or Insect Observation Containers
- Don't have to be costly!



# How can you use your schoolyard for:

- Science?
- Language Arts?
- Math?
- History?
- Stewardship?
- Art? Music?

**YOUR IDEAS?**





# Lessons in Nature

- "Any lesson can be taught in nature"
- Common Core Standards
  - Language Arts and Math
- Next Generation Science Standards
- Allows for range of learning styles

# Common Core



- Daily journals
- Letters
- Poetry
- Instructions
- Presentations
- Making a claim and arguing from evidence
- Math

# Next Generation Science Standards

- Earth's Systems
- Earth and Human Activity
- From Molecules to Organisms: Structures and Processes
- Heredity: Inheritance and Variation of Traits
- Earth's Place in the Universe
- Ecosystems
- Biological Evolution
- Earth's Systems
- Engineering Design
- Biological Evolution
- Energy



# Management Tips

1. **Check with your school and board policies**
2. **Know your class**
3. **Timeline.** Establish a rally point/ signal
4. **Theme/Goal** a well-defined purpose and well-defined expected outcomes.
5. **Establish the ground rules**
6. **Teams/journals**
7. **Roles for students**
8. **Debrief**



# Outdoor Classroom “Agreements”

Consider these:

- Walk quietly outdoors.
- Freeze when the teacher rings the bell.
- Stay inside the boundaries.
- Don't make noise near the classrooms.
- Be gentle-Don't injure plants and animals in any way.
- Leave the outdoor environment the way you found it.  
Never release living organisms into the local environment unless they were collected there.

(from page 22, *Taking FOSS Outdoors*)

# Outdoor Classroom Management

*Involve students in coming up with rules too!*

- **Resource: Taking FOSS Outdoors**





# Technology for Science Exploration

- iNaturalist
- Audubon apps
- Project Noah
- “I don’t know, let’s google it together!”
- Camera for documenting

# Science through Art in Nature

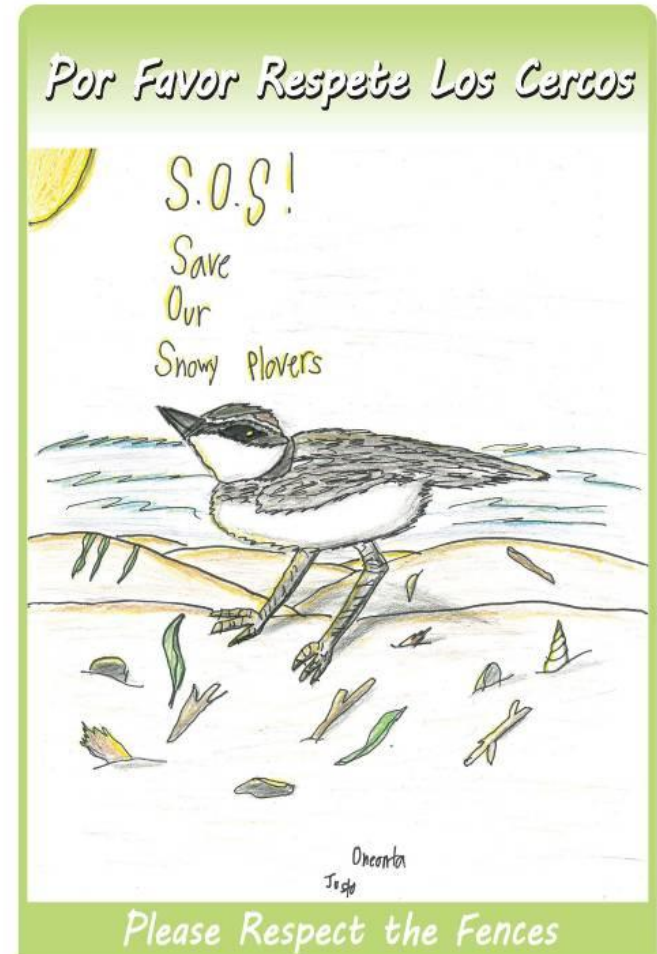
- Observing and noticing details
- Scientific illustration
- Close up drawings using magnifiers
- Leaf veins, flowers, insects
- Bark and leaf rubbings
- Before and after drawings





# Student Study Impacts

- San Diego Audubon Society Idea-Imperial Beach
- Students' art made into signs at beaches
- Protect Western snowy plover shorebirds



# Earth Sciences and Geography

- Mediterranean climate
- Topography and surface geology
  - Coast, shrublands, forest, desert
- Watersheds and water conservation
- Geography
  - Native American uses of plants
  - Community-based history
- Mapping, GIS





# Life Sciences in Nature

- Biodiversity
- Biomimicry
- Native species and adaptations
- Birds and insects/arthropods
- Investigation and experimentation
  - Citizen science data collection
  - Science Fair projects

# Creating a Native Habitat a Native Habitat

- Project-based science
- Native bees, birds, butterflies
- What do they need?





# Native Shrubs

- Small shrubs, most are drought deciduous
  - Black sage, white sage, buckwheat, bladderpod
- Lemonadeberry, laurel sumac, toyon





# Native Shrubs

- Medium shrubs
  - Manzanita, Ceanothus



February 28, 2015



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# Oaks and Other Trees

- Think shade!
- Trees in lawns (sycamore, cottonwood)



# Resources



Go to [www.mastergardenerssandiego.org](http://www.mastergardenerssandiego.org)

Click on School Program and choose Request a School Garden Consultant

- SkypeAScientist
- <https://thebugchicks.com/videos/>
- Ocotillo Wells Interpretive Program



# “How-to” for Schoolyard Habitats

U.S. Fish & Wildlife Service

## Schoolyard Habitat Project Guide

*A planning guide for creating  
schoolyard habitat and  
outdoor classroom projects*

<http://www.fws.gov/cno/pdf/HabitatGuideColor.pdf>



# Local Nature-based Lessons sdchildrenandnature.org



Convert Select

Suggested Sites Web Slice Gallery Bucket\_Graphic\_Cropped\_...

SD CHILDREN & NATURE

ABOUT US FIND NATURE EDUCATION NATURE PLAY HEALTH DESIGN

## Resources for Teachers

### Native Chaparral and Coastal Sage Scrub

- [San Diego's Native Habitats: Shrublands curriculum for fourth-grade teachers.](#)
- [Local species cards for web chain activity, full color](#)
- [1-page descriptions of local habitats MSCP\\_SDHabitats\\_1pgDescriptions\\_2007](#)
- [Chaparral Shrublands of Southern California –A Pocket Naturalist Guide.](#) Order for resale from Sunbelt Publications ([www.sunbeltbook.com](http://www.sunbeltbook.com)), or buy at Mission Trails Regional Park for \$6.95. To purchase copies for educational use (not for resale) at \$5.00 + tax, contact [afege@sdchildrenandnature.org](mailto:afege@sdchildrenandnature.org)

### Nature Lessons for Schoolyards

Learn more about enhancing nature in your schoolyard, and use lessons for grades K-5 to explore their schoolyard-based nature, and for grades 6-8 to discover insects and other arthropods. Lessons and three videos at <http://sdchildrenandnature.org/wp/education/school-yard-habitat/>.

Check out our Facebook page

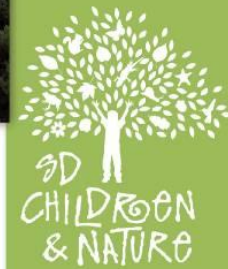
### Collaborative Partners

- [Birch Aquarium at Scripps](#)
- [Cabrillo National Monument](#)
- [California State Parks-South Sector](#)
- [Earth Discovery Institute](#)
- [Family Adventures in Nature](#)
- [Friends of Rose Canyon](#)
- [Girl Scouts San Diego](#)
- [I Love A Clean San Diego](#)
- [Living Coast Discovery Center](#)
- [Ocean Discovery Institute](#)
- [Olivewood Gardens and Learning Center](#)
- [Outdoor Education Foundation](#)
- [Project Wildlife](#)
- [San Diego Audubon Society](#)
- [San Diego Botanic Garden](#)

# Exploring San Diego's Shrublands

- Fourth grade
- Adaptation lessons
- Food chain cards

Exploring San Diego's Shrublands  
Grade 4 Curriculum





# Nature-based Lessons for NGSS

- Lesson packets
  - Adaptation-plants
  - Adaptation-animals
  - Energy and matter
  - Watersheds
- Field trips
- Pre-field trip
- Post-field trip



## Watershed Lessons

### Science Lessons and Field Trips

#### 4-ESS2-Earth Systems and 4-ESS3-Human Impacts

Teacher Lesson Packet (draft February 27, 2015)

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# Let's turn back to you....

- What would you like to try?
- What will it take, to make it happen?
- Who can help with this?
- What is your next step?!

# Nature-based Learning in Schoolyards



Questions?

[www.sdchildrenandnature.org](http://www.sdchildrenandnature.org)



# THANK YOU!

