



ARIZONA TROUT IN THE CLASSROOM



*“Teaching Hands-On Conservation By Connecting Students
To Their Watersheds”*



Trout in the Classroom (TIC)

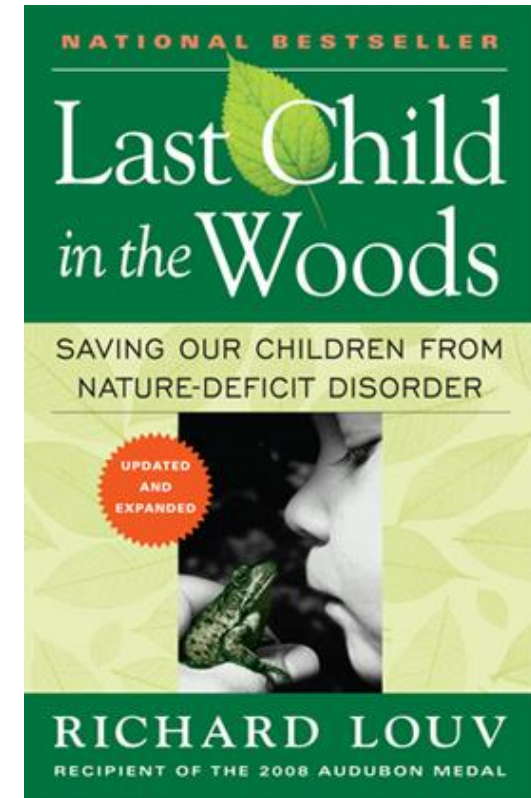
Environmental Education

- Raise trout from eggs to fingerlings
- Teach students about the trout that are only found in their backyards
- Give kids an appreciation for water resources
- Work side by side with Arizona Game and Fish Department (AZGFD) to show students what a wildlife career looks like
- Understand ecosystem connectivity
- STREAM: Science, Technology, Recreation, Engineering, Art and Math



Trout in the Classroom (Arizona)

- Why bring the outdoors indoors ?
 - Save Children from “Nature-Deficit Disorder”
- Why the disconnect?
 - In the past 20 years time playing outside has been cut in half
 - Time spent by youth per day looking at a screen (internet, video games, phone and TV):
 - Children: 7 ½ Hours
 - Teenagers: 9 Hours

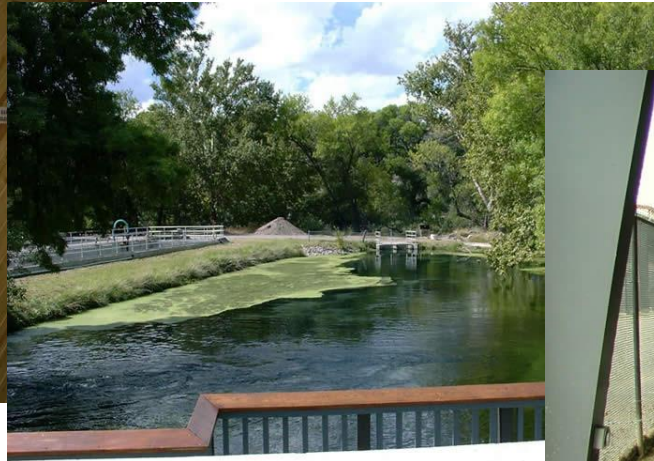


As a matter of policy, the conservation services should view the *child-in-nature* as an “endangered species”, an indicator species of the future – because if the young are not bonding with nature now, who will care about refuges in the future”?

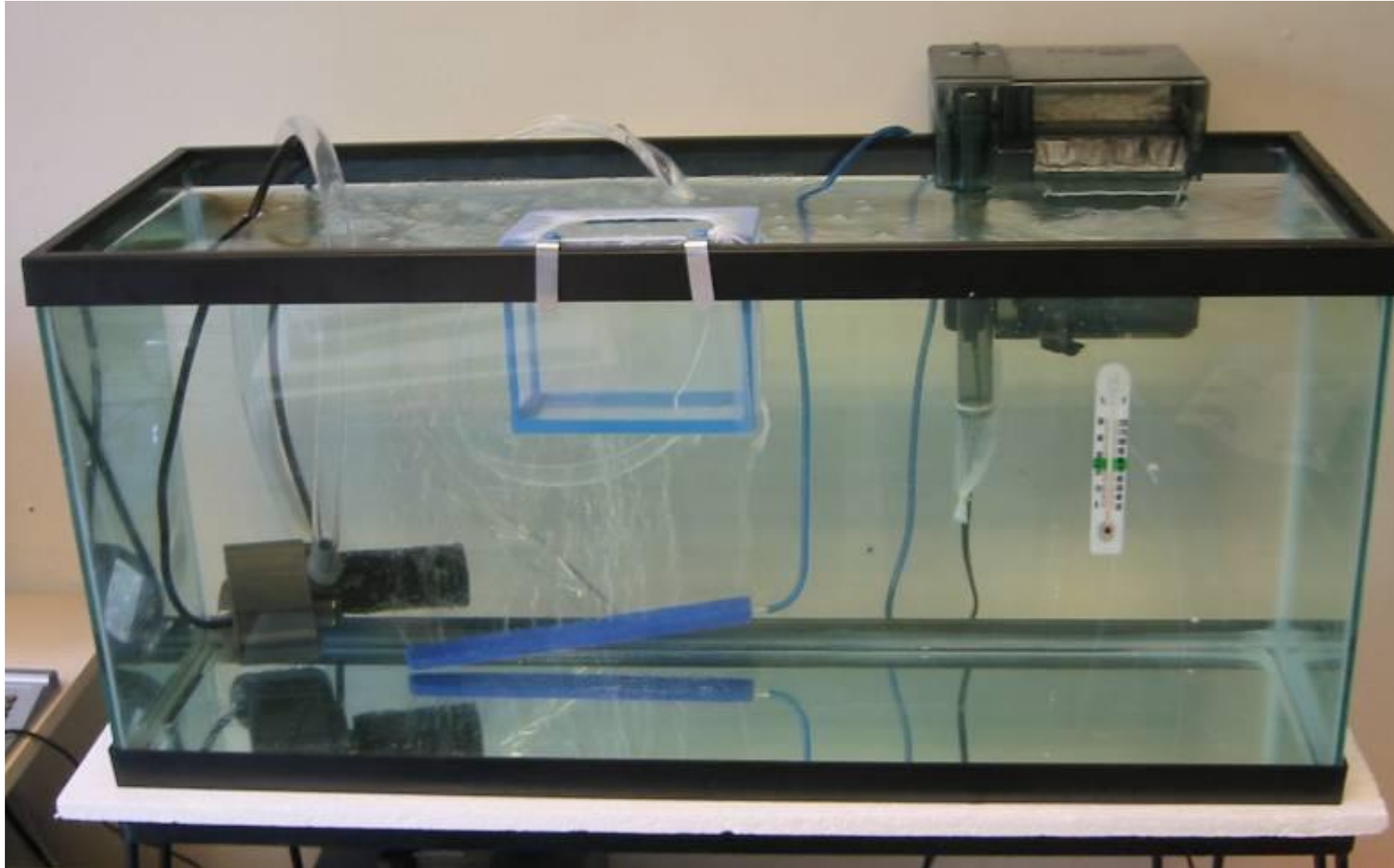
~Richard Louv, 2007

Sources for Eggs

Eggs are supplied by AZGFD state-approved hatcheries



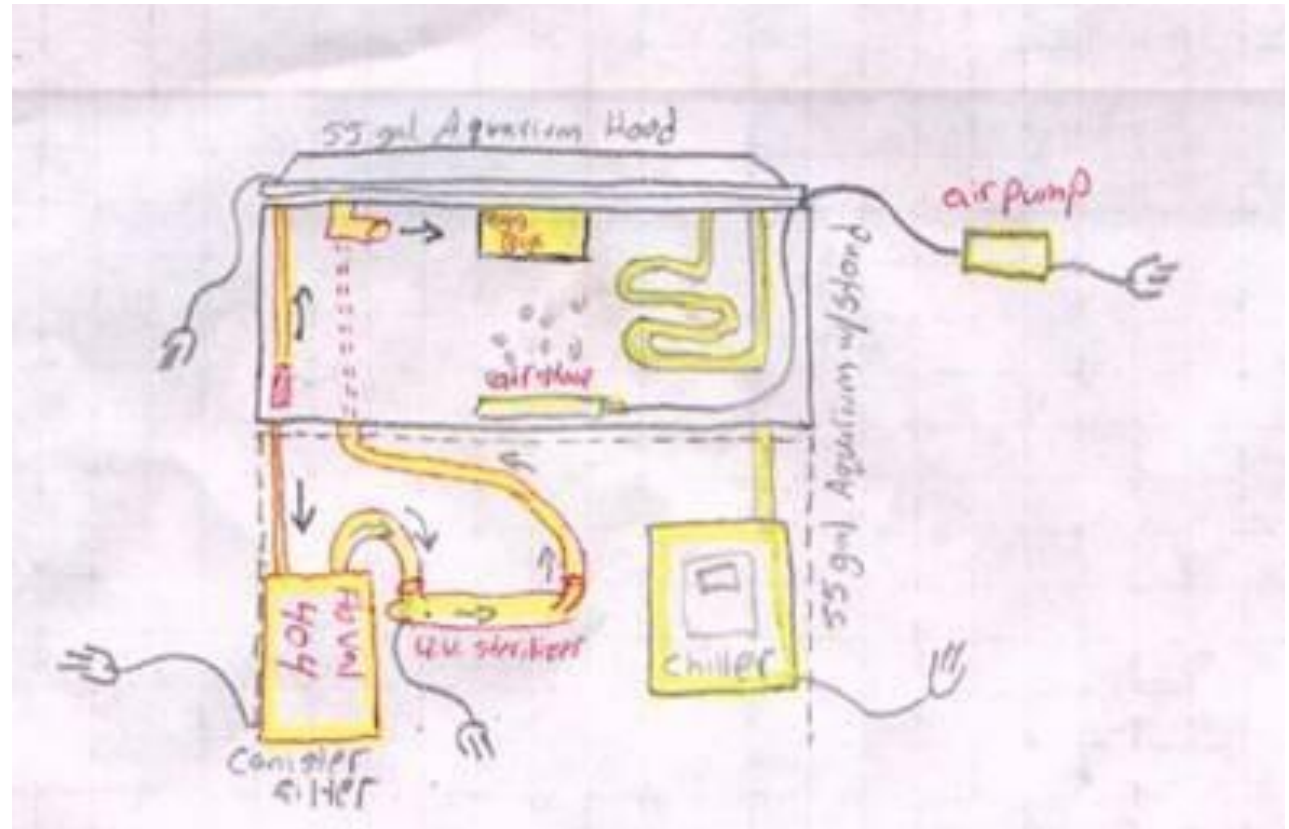
Equipment & Engineering



Equipment & Engineering

- 55 Gallon Aquarium
- Filter
- Chiller
- Pump
- Air Stone
- Egg basket
- Thermometer
- Aquarium Hood
- Aquarium Stand
- Miscellaneous accessories and supplies

New school set up - \$1,600



Education Approach - STREAM

- **Science**
- **Technology**
- **Recreation**
- **Engineering**
- **Art**
- **Math**



Data Collection: Science, Technology & Math

- Number
- Survival Rates
- Size
- Water Quality
 - pH
 - Nitrates/Nitrites
 - Ammonia
 - Dissolved Oxygen



Seeing the Big Picture



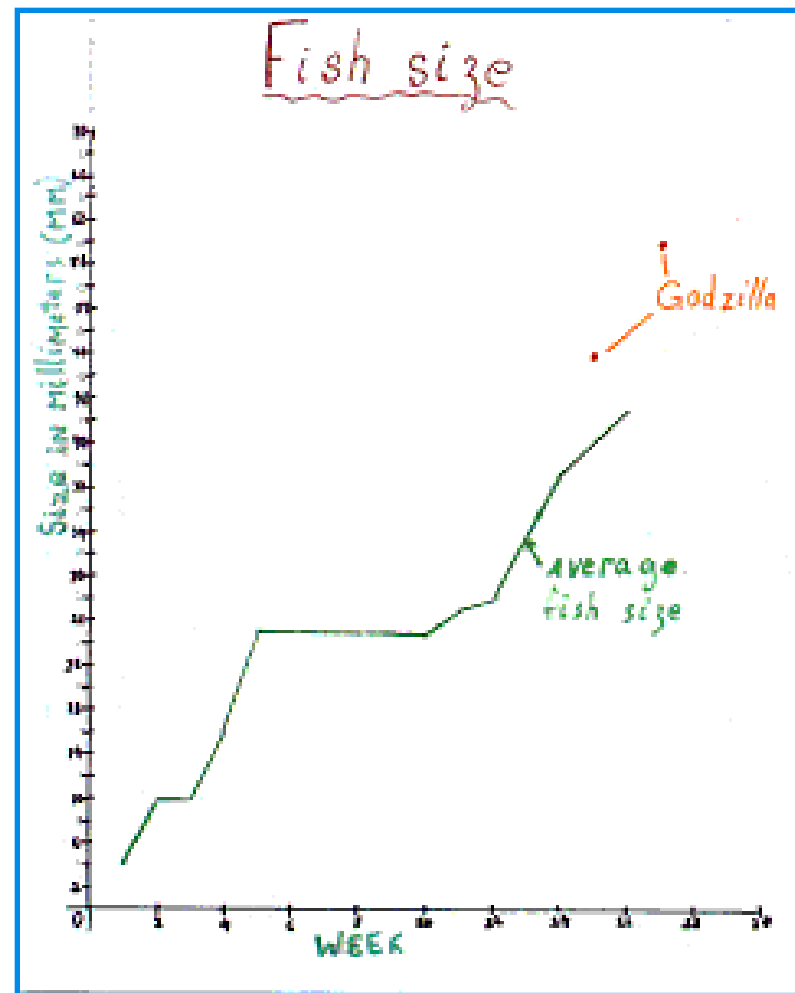
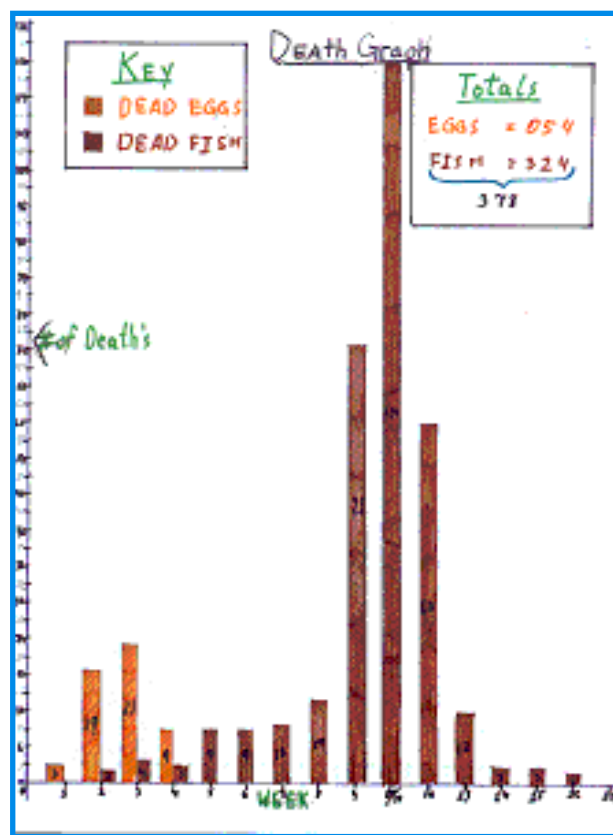
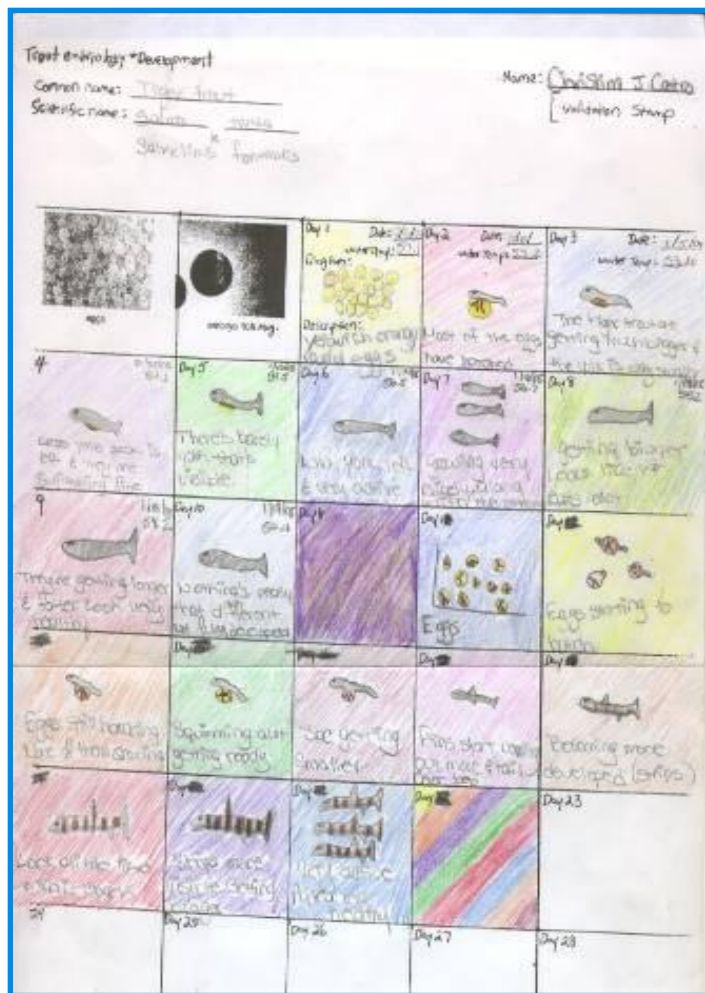
“It is about conservation.

*But its also about restoring nature
while we restore ourselves.*

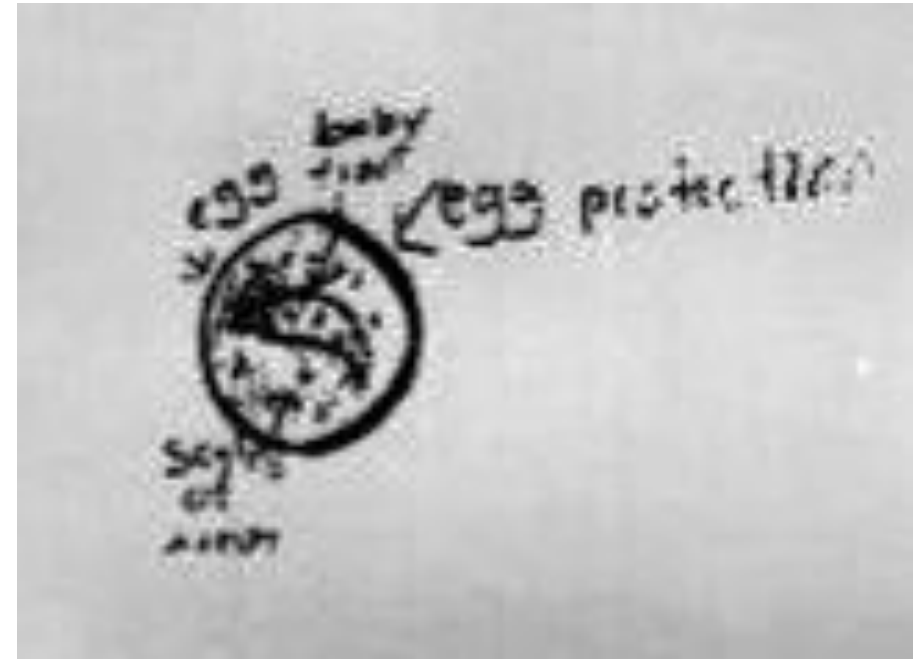
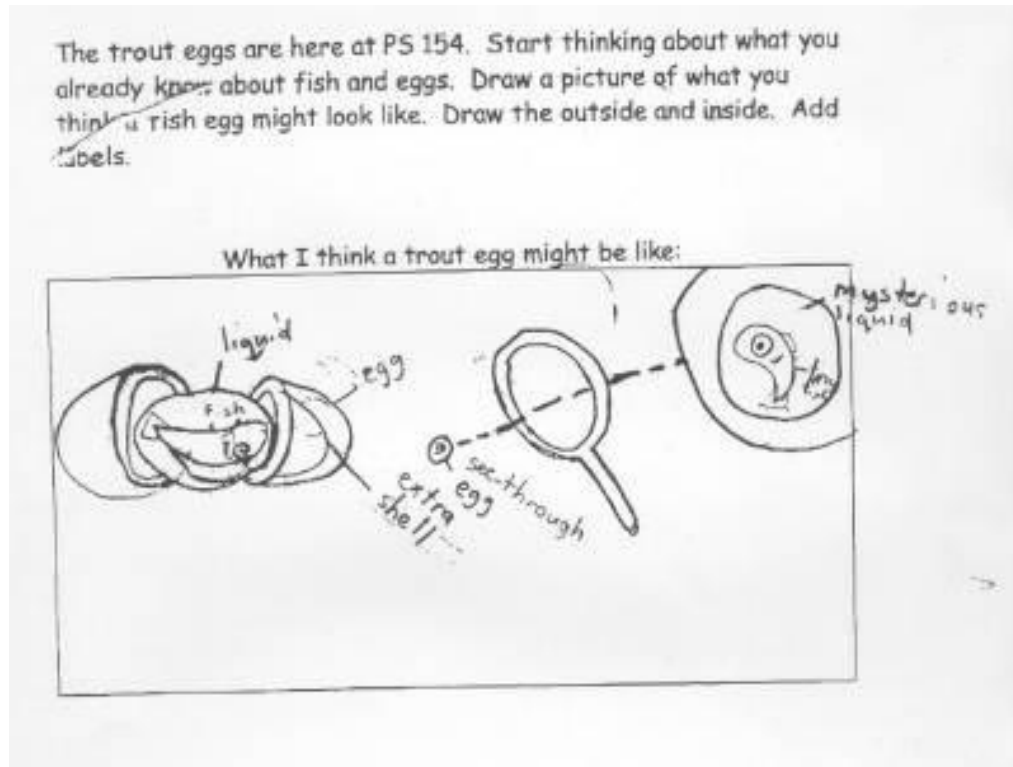
*Its about the power of living in
nature.*

Not with nature, but in it!”

Art & Math

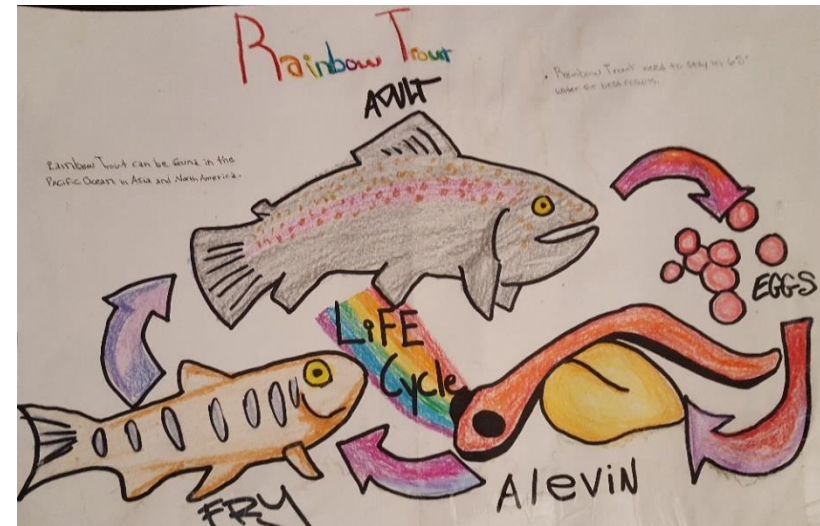


Student Work: More Art & Science



Recorded Observations

Student Art



Class Presentations

- Outside guest speakers for classroom
- Topics can vary:
 - Water quality
 - Water conservation
 - Watershed management
 - Aquatic wildlife conservation and management
- Students provide presentations to other classes and at school events



School Year Activities

- Fish cannot be released in Arizona
 - Teacher's advice: "Don't let them name the fish"!
- Opportunities within the program include:
 - Invitation to participate in conservation work projects with Trout Unlimited members
 - Fishing clinics (classroom & field instruction).
 - Field trip to a trout stocking / release
 - Field trip to a hatchery



What TU & AZGFD Provide

- Eggs and fish food
- TIC curriculum, equipment, curriculum resources (kit)
- Funding support – 100%
- Start-up and training information for teachers and volunteers
- Support in aligning with education standards and curricula
- Website resources: FAQ, tips, links, data sharing
- Activity ideas for class lessons and field trips
- Aid in utilizing the national TIC network
- Brochures and materials for program promotion
- Volunteer support (phone, email, on-site)



Program Challenges

- Volunteers needed!
- Volunteers with water chemistry experience
- Volunteers with varied experiences and talents
- Logistics to support schools throughout the state
- Delivery within 24 hours of obtaining eggs
- Teachers who can commit to the program with their existing workload
- Funding!



There's 1, 2, 3...

Investments

- Each classroom set-up is approximately \$1,600 which includes:
 - 55-gallon tank
 - Chiller
 - Filters & miscellaneous items
 - Teacher Resource Kit
- Annual supplies - \$150
- Grants by the Arizona Sportsmen for Wildlife Conservation License Plate Fund & US Fish and Wildlife Service - Partners Program
- Donations and grants are welcomed!



Program History

- Three (3) Schools Participating in 2014 - 2015
 - 2 - Gila TU (Payson)
 - 1 - Zane Grey TU (Phoenix)
- Thirty-six (36) Schools in 2023 - 2024
 - 21 - Zane Grey TU (Phoenix)
 - 8 - Old Pueblo TU (Tucson)
 - 6 - Grand Canyon TU (Flagstaff)
 - 1 - Gila TU (Payson)



Participating Schools

Avondale Middle School	Avondale
Basha High School	Chandler
Biltmore Prep Academy	Phoenix
Buckeye Union High School	Buckeye
Centennial Elementary School	Gilbert
Chandler Nature Center	Chandler
Coolidge High School	Coolidge
Desert Edge High School	Goodyear
Desert Shadows Middle School	Scottsdale
Desert Wind Middle School	Maricopa
Fairbanks Middle School	Morenci
Flagstaff Junior Academy (2)	Flagstaff
Horizon Community Learning	Phoenix
Julia Randall Elementary	Payson
Madison Meadows Middle	Phoenix
Maine Consolidated	Parks
Mingus Union High School	Cottonwood
Mount Elden Middle School	Flagstaff



Participating Schools

Mountain View High School	Tucson
Our Lady of Mount Carmel	Tempe
Queen Creek High School	Queen Creek
Rattlesnake Ridge Elementary	Tucson
Ruth Fisher Middle School	Tonopah
Safford K-8	Tucson
Saguaro High School	Scottsdale
San Manuel High School	San Manuel
Sky Crossing Elementary	Phoenix
Sonoran Science Academy	Peoria
St Johns High School	St Johns
St Mary-Basha Catholic School	Chandler
Tanque Verde High School	Tucson
Tucson Country Day School	Tucson
University High School	Tucson
Wellton Elementary School	Wellton
Western Sky Middle School	Goodyear



Where We Plan to Go

- Schools participating in the TIC program for the 2023 - 2024 school year (total of 36).
- Currently 4,300+ students annually directly experience the TIC program.
- Over 11,000 other students, teachers, parents and school visitors who see the fish display.
- Long Range Goal - TIC program expanded and maintained in 100 schools across Arizona!



Ask About Sponsoring a School



Our Vision

By the next generation, we will ensure that robust populations of native and wild coldwater fish once again thrive within their North American range, so that our children can enjoy healthy fisheries in their home waters.





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www.aztic.org

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