

# Beyond Sea Perch

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Director

*Next Generation Sea Perch – Beyond the Classroom*

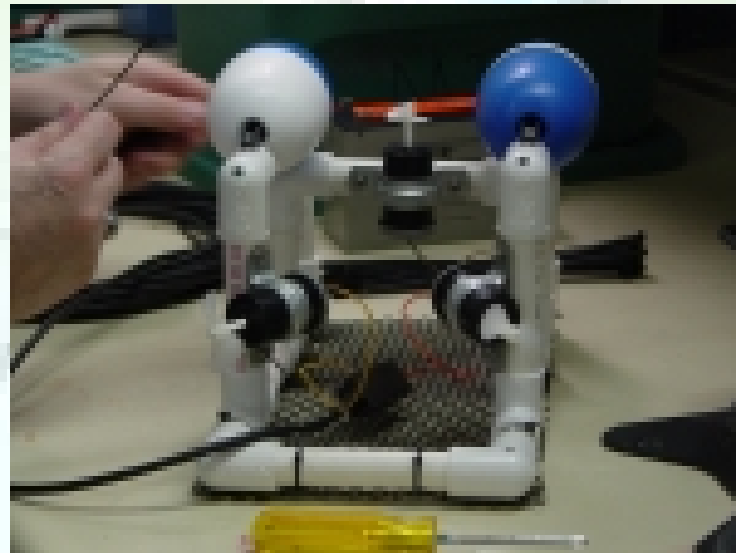
*June 28-29, 2004*

# Going Beyond the Classroom

- Hands On Education
  - Technology development
  - Moving forward with new projects
- Science Acquisition
  - use as science platform
- Classroom integration
  - Inter-disciplinary integration

# Goals

- Continue to provide inexpensive, hands-on projects for the classroom, focusing on science, technology and engineering.



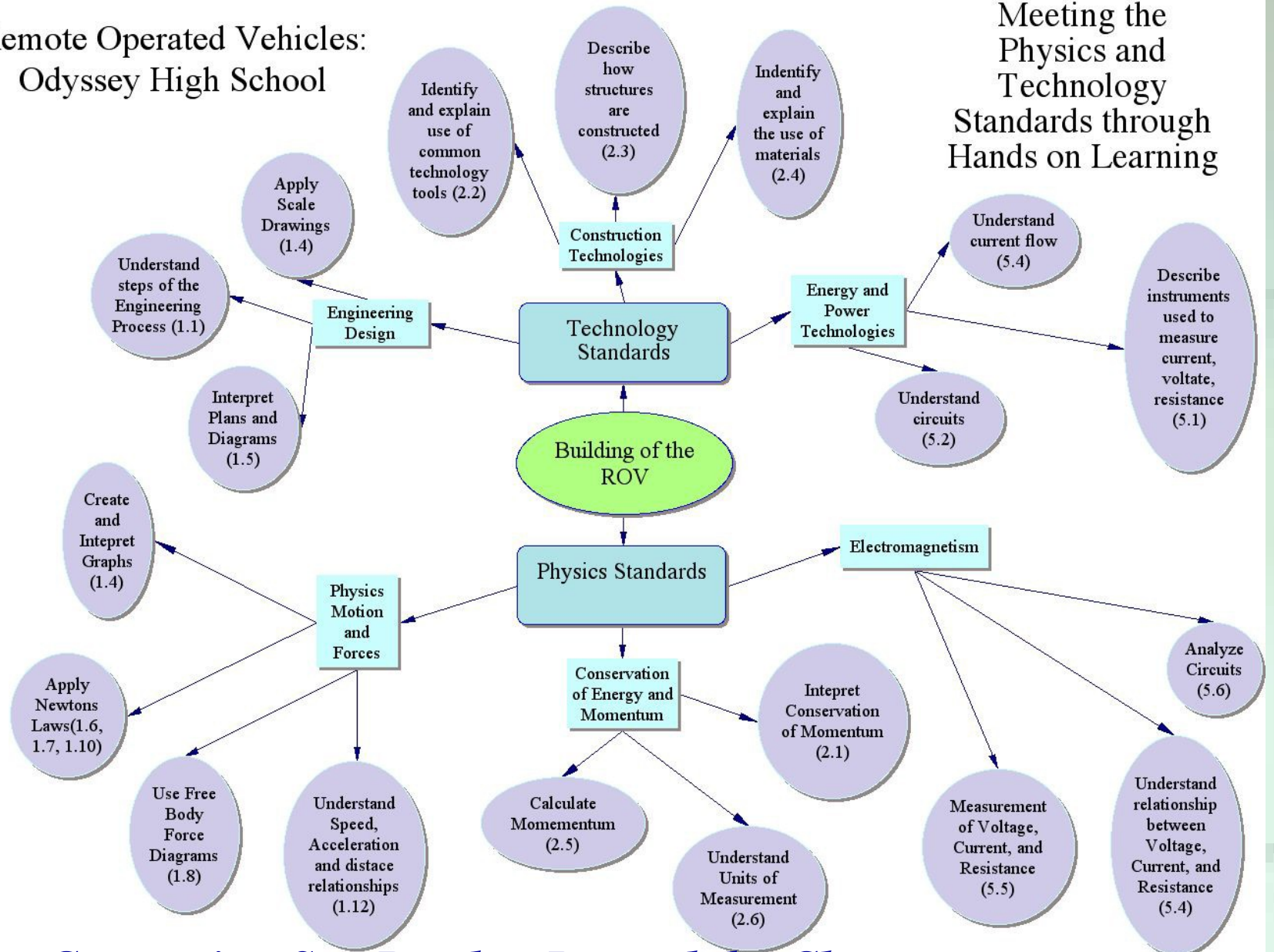
# Inter-disciplinary Integration

- Math
  - Engineering Calculations
  - Collecting and Plotting data – statistics
- Physics
  - Bouyancy, vectors, electricity, circuits
- Engineering & Technology
  - Design, construction, tools, management
- Chemistry
  - Water chemistry, water quality, pollution (point & non-point), adhesives
- Earth Sciences
  - Geology, weather, ocean processes
- Living Sciences
  - Biology, ecology, biodiversity
  - Habitats, plankton tows, behavior
- History
  - Of Engineering, exploration, trade, Navies, military technology
- English
  - Literature/Novels, Journal writing
- Social sciences & politics
  - Role of ships & subs in society
  - Marine, environmental and water issues
- Economics
  - Trade, naval, project management

# Example: Physics Curriculum Connections

Remote Operated Vehicles:  
Odyssey High School

Meeting the  
Physics and  
Technology  
Standards through  
Hands on Learning



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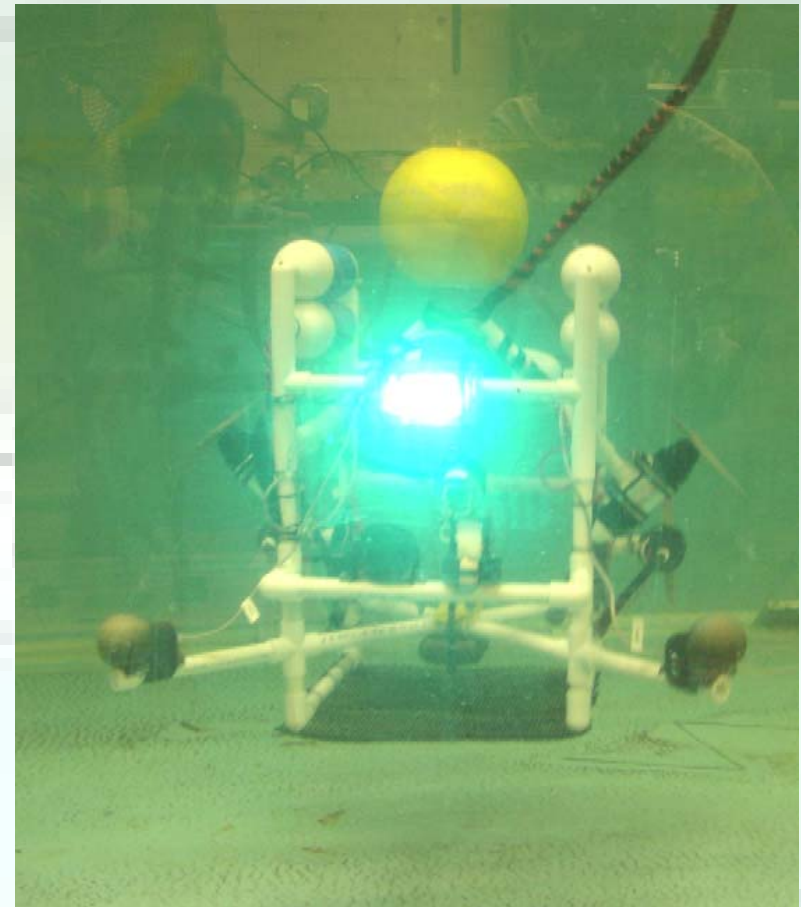
# Sensors

- Video (camera)
  - Animal and behavioral observation
  - Structural and mechanical inspection
- Data Loggers (Hobo, etc.)
  - Temperature
  - Light
  - Depth (pressure)
- Compass
- Plankton net
- Water Sampler
- Scoop or soil sampler
- Lifting devices or grabber



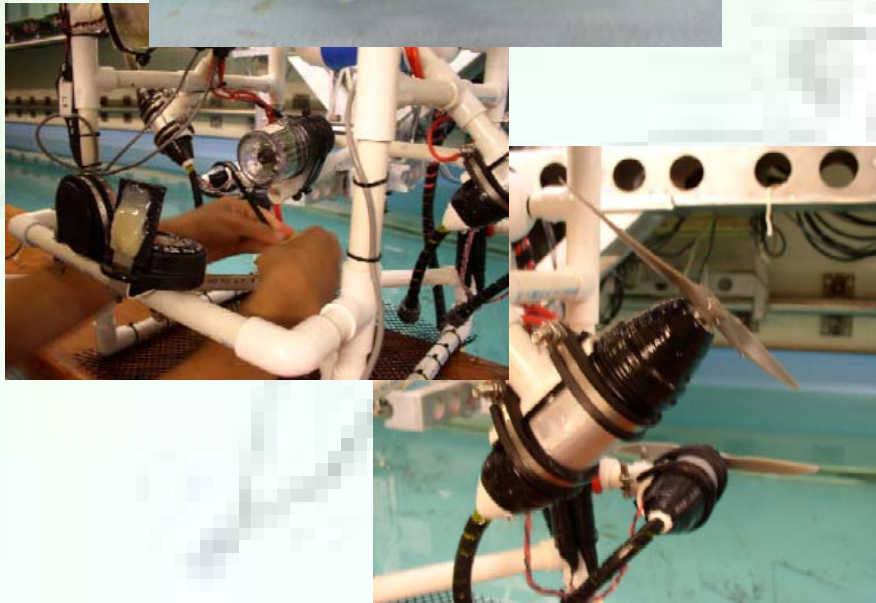
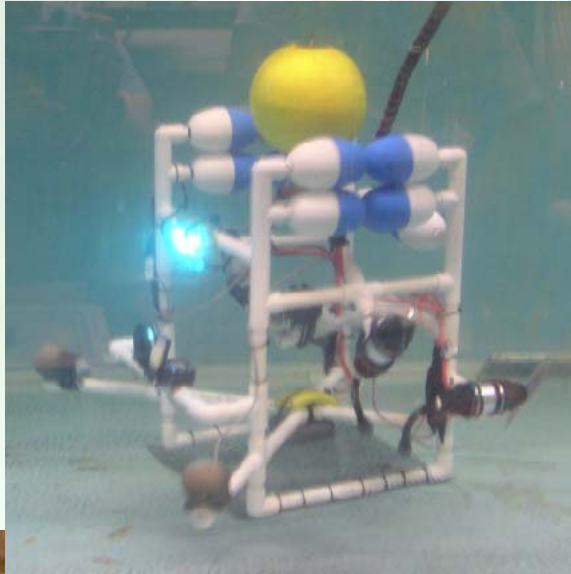
# Super Sea Perch

- Larger Frame
- Powerful Thrusters
- Longer Tether
- Depth Guage
- Compass
- Lights
- Stereo Hydrophones





# Super Sea Perch Capabilities

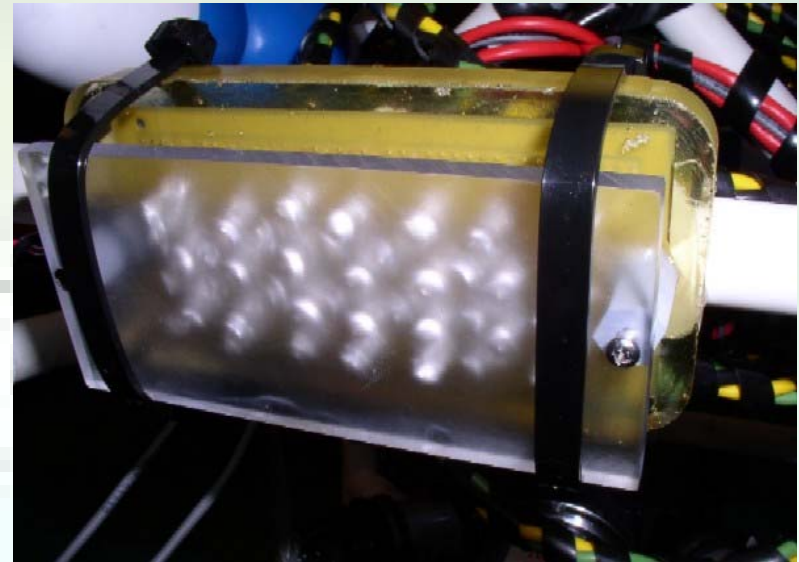


- Deeper rated
- Improved control
- Can handle some current
- Larger payload
- Better navigation
- More design possibilities
- Easily adapted



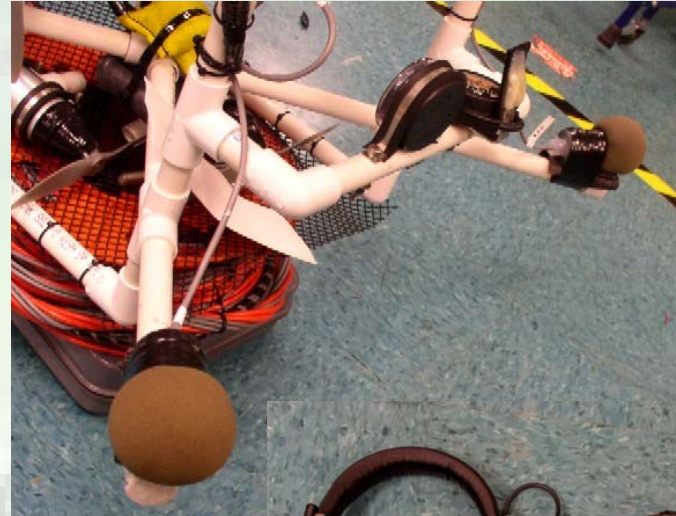
# LED Lighting Bank

- 42 LEDs
- Potted in Epoxy
- Bright & Dim settings
- Illuminates field of view and gauges



# Stereo Hydrophone System

- Combine two hydrophones
- Use stereo headphones
- Adjusted for sound speed in water
- Directional hearing



# Surface Craft

- Hull Design
- Hull Construction
- R/C controls integration
- Surface Exploration

