Technology “Menu” & Student Survey

Having technological skills to pursue goals in science is vital for students, and now also much easier for teachers to include in class assignments than ever before. The survey (see next document after menu below) is designed to help you assess the skill needs of your students and to integrate ways to address their needs in your course while learning science content.

Throughout these 10 units you will find activities which can be adapted to students’ needs, interests, and also can be delivered in “high tech” or “low tech” classes.

Unit offerings to increase or link technology skills used in science careers are:

<table>
<thead>
<tr>
<th>Technological Skill</th>
<th>Unit &amp; Description of Student Learning Activity</th>
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</table>
| **Internet Research**     | Unit 4  
  • Is Our Schools’ Drinking Water Safe? (water quality monitoring)  
  Unit 5  
  • Google Earth (remote sensing & habitat research)  
  Unit 6  
  • Local Meteorological Observations activity  
  Unit 7  
  • Learning Styles  
  • “Order it Up Game” (planetary objects)  
  • Inferences in Astronomy Project (see Unit 7 Appendix on CD)  
  • GIS in Hawai'i resource (see Unit 7 Appendix on CD)  
  Unit 8  
  • Hale Maquette Project  
  Unit 9  
  • Marine Life Dichotomous Key bonus activity                                                                 |
| **Accessing Internet Web sites** | Unit 7  
  • Telescope Research  
  • Online Video Viewing (Mauna Kea: Gateway to the Universe)  
  • Online Reading & Visuals (Dark Matter; Wayfinding & Polynesian Voyaging; Hubble Web Site & Telescope Photos; Hawaiian Planet Names)  
  Unit 10  
  • Advocacy & Activism Resources  
  • Online Video Viewing (Go Green Films; Story of Stuff; Blessed Unrest; The Science of 350)  
  • Online Readings (Fair Trade Action Plan; Hawaii 2050 Web site; Coral Web sites; Green Collar Jobs Web sites) |
| **Graphic Display & Presentation** | Units 1 project options  
  • ,Ohana Interview Follow-up: Interview Project option  
  • Bulletin Board Project |
| Graphic Display & Presentation (cont’d) | Unit 2 project options  
- Science Career Research Project option  
Unit 3  
- La „au (Plants) Worksheet  
Unit 7  
- Inferences in Astronomy Project (see Unit 7 Appendix on CD)  
Unit 8  
- Hale Maquette architectural drawing  
- Architectural Design: Responses to Site Conditions worksheet  
Unit 10 project options  
- Group Community Action PSA Project option & Ho„ike  
- Giving Legislative Testimony |
|---|---|
| Video Making | Units 1, 2 & 10 project options  
- „Ohana Interview Follow-up: Interview Project option  
- Science Career Research Project option  
- Group Community Action PSA Project option |
| Powerpoint Making | Units 1, 2 & 10 project options  
- „Ohana Interview Follow-up: Interview Project option  
- Science Career Research Project option  
- Group Community Action PSA Project option |
| Podcasting | Units 1, 2 & 10 project options  
- „Ohana Interview Follow-up: Interview Project option  
- Science Career Research Project option  
- Group Community Action PSA Project option |
| Word™ & Keyboarding | Units 2 project option  
- Science Career Research Project essay option  
(See 2 Word™ activity options below also) |
| Data Gathering & Analysis | Assessments (Section I: Introduction)  
- Student Surveys (Attitude, Behavior, Career, Technology) can be compiled across classes & compared at start & end of course  
Unit 1  
- „Ohana “Know How” surveys data can be compiled across classes  
Unit 3  
- Family Health Survey data can be compiled across classes  
- Heart Rate Lab  
Unit 4  
- World Volcanoes matrix data entry can be done on Excel™ or Word™ table  
- Collect & Profile Soils  
- Soil is a Filter Lab  
Unit 6  
- Local Meteorological & Climate Observations activities  
- Measuring Cloud Coverage & Classifying Types can be done on Excel™ or Word™ table |
| Data Gathering & Analysis cont'd | Unit 7 | • Plot Distance of Planetary Objects  
• Glacial Experiment Lab sheet (see Unit 7 Appendix on CD)  
Unit 9 | • Tide Chart worksheet  
• Using Quadrat & Transect Sampling activities, data can be compiled (see also Measuring Abundance in Unit 9 Appendix)  
• Microbe City (Winogradsky Column) Observation sheet  
• Marine Life Dichotomous Key activity & Powerpoint  
Unit 10 | • Future „Aha survey data can be compiled across classes & compared |
| Data Reading | Unit 4 | • Is Our Schools’ Drinking Water Safe?  
Unit 7 | • Ordered Solar System Powerpoint |
| Graphing | Unit 6 | • Reading Humidity Tables & Graphs  
Unit 7 | • Graphing Distance Between Planets lesson  
• Impact Crater Data Charts activity |
| Measuring | Unit 7 | • Solar System Scale lesson  
• Glacial Slope (see Unit 7 Appendix on CD) |
| Map Making | Unit 9 | • Mapping the Intertidal Zone marine pond activity |
| Map Reading | Unit 4 | • Calculating Slope with Topographic Maps  
• Resources for Map Reading (scale conversion; contour maps; cross sections; measuring slope with a protractor; using a protractor with contour maps of volcanoes)  
Unit 5 | • Google Earth Activity  
Unit 6 | • Reading Humidity Maps |
| Computer Assisted Drafting (CAD) | Unit 8 | • Eco-Housing & Drawing/Drafting  
• Hale Maquette architectural drawing can be done with Computer Assisted Drafting software  
• Wavegen™ Model Turbine Making &/or Model Energy Demonstration Model Project can be done with CAD |
| Following Instructions | Unit 3 | • Dry Box Making can be done with CAD (see Unit 3 Appendix)  
Unit 4 | • Create & Use a Conductivity Meter |
### Following Instructions cont’d

| Unit 5 | • Create & Use a Clinometer (see Resources for Unit 4)  
| Unit 6 | • Build Your Own DNA activity  
| Unit 6 | • Make a Meteorological Tool Project (Barometer, Storm Glass, Rain Gauge, Weather Vane, etc.)  
| Unit 7 | • Telescope Making  
| Unit 8 | • Wavegen™ Model Turbine Making  

### Following or Designing Scientific Method/Inquiry

| Unit 2 | • Experimental Science Research Project (Step 3)  
| Unit 3 | • Peppermint Test & Activity  
| | • Biomolecules in My Food Lab  
| Unit 4 | • Volcano Lab  
| | • Modeling Earth’s Layers & Soils  
| Unit 5 | • Chromatography Lab  
| | • DNA Extraction Lab  
| Unit 7 | • Impact Craters Lab  
| | • Glacial Experiment Lab (see Unit 7 Appendix on CD)  
| Unit 8 | • Earthquake Lab  
| | • Model Energy Demonstration Model Project  
| Unit 9 | • Microbe City activity  
| | • Local Waters Student Science Inquiry project examples (see akulikuli resources in Unit 9 Appendix)