

Cross Category Issues:

Have I considered	Question:	Logistical	Pedagogical	Technical	Content
	Do I have appropriate safety and first aid equipment and materials?	√		√	
	What content do I want to address?	√	√	√	√
	Do I have connections in mind to at least a couple of the bigger ideas and overarching questions? <ul style="list-style-type: none"> • The Earth is a System of Systems. • The Flow of Energy Drives the Cycling of Matter. • Life, including human life, influences and is influenced by the environment. • Physical and chemical principles are unchanging and drive both gradual and rapid changes in the Earth system. • To Understand (Deep) Time and the Scale of Space, Models and Maps are Necessary. • How do we know what we know? • How does what we know inform our decision-making? 		√		√
	How much time do I realistically have to spend on fieldwork?	√			
	How much class time do I want to dedicate to fieldwork?	√	√	√	√
	Am I ok with the trade-off between some expected frustration and the pedagogical payback?	√	√	√	√
	Can I productively engage students in fieldwork? <i>Or is that something to aspire to for next year?</i>	√	√	√	√
	How does the technology I have serve the goals I wish to meet?	√		√	
	Do I have enough batteries for my powered equipment?	√		√	
	Is the site accessible to me? <i>This includes legal, safety and proximity considerations.</i>	√	√		
	Are my students familiar with the site? If not, is it accessible to <i>all</i> of my students? <i>If the answer to both questions is no, select another site.</i>	√	√		
	Are the required pedagogical, technological, and content skills and knowledge needed to for fieldwork within my reach? <i>Ideally, select challenges that are just within (or just beyond) your reach so that you grow professionally.</i>	√	√	√	√
	Do I have the hardware (including field equipment) and software needed for Virtual Fieldwork creation? <i>The bare essentials are an Internet-connected computer, a digital camera, and either PowerPoint or Google Earth.</i>	√	√	√	

Excerpted from: *The Teacher-Friendly Guide to the Earth Science of United States*

<http://teacherfriendlyguide.org/>

Specimen Labels:

http://virtualfieldwork.org/Assessments_and_Student_Materials_files/SpecimenLabel.pdf

The Essentials and Near Essentials:

For Safety and Comfort	For Extending the Senses	For Preserving and Extending Observations
<ul style="list-style-type: none"> <input type="checkbox"/> Yourself <input type="checkbox"/> Appropriate footwear <input type="checkbox"/> First aid supplies <input type="checkbox"/> Water <input type="checkbox"/> Sunscreen <input type="checkbox"/> Insect repellent <input type="checkbox"/> Food <input type="checkbox"/> Safety goggles <input type="checkbox"/> Flashlight 	<ul style="list-style-type: none"> <input type="checkbox"/> Ruler or scale card <input type="checkbox"/> Measuring tape or meter stick <input type="checkbox"/> Magnifying loupe or hand lens (about 10x magnification) <input type="checkbox"/> Water test kit <input type="checkbox"/> Compass <input type="checkbox"/> Clinometer <input type="checkbox"/> Field microscope <input type="checkbox"/> Field guides 	<ul style="list-style-type: none"> <input type="checkbox"/> Notebook <input type="checkbox"/> Pencil <input type="checkbox"/> Materials for collecting <ul style="list-style-type: none"> ○ Baggies ○ Specimen labels ○ Sharpies <input type="checkbox"/> Rock hammer <input type="checkbox"/> Camera
<p><i>Common sense should be your guide to determine what is needed for a particular visit to the field. Trips that last a class period and are adjacent to the school may require nothing beyond materials for a typical class – a notebook and a pencil.</i></p>	For Both Extending the Senses and Preserving Observations	
	<ul style="list-style-type: none"> <input type="checkbox"/> Maps <input type="checkbox"/> Camera (possibly with video) <input type="checkbox"/> Probeware and interface (like the Vernier Labquest) <input type="checkbox"/> Digital field microscope <input type="checkbox"/> GPS unit, smartphone, or, tablet <input type="checkbox"/> Apps used in the field might include: <ul style="list-style-type: none"> ○ GPS ○ Google Earth or other virtual globe ○ Skitch or other image-annotating app, for adding notes to photos. Skitch also includes a map annotation function. ○ Photosynth or other panorama app ○ Video (Youtube’s Capture App allows for basic video editing on your smartphone or tablet) ○ Other specialized photography apps ○ Audio recorder ○ Notes ○ Photo management software, like Web Albums 	
<p>Figure 2 Materials to Take in the Field. Items in bold are highly recommended.</p>		