

## NOAA California B-WET Program Evaluation Website Document

### **Planning A Meaningful Project**

The California Bay Watershed Education and Training Program (B-WET) defines "meaningful" as experiences in the local watershed that:

- make a direct connection to the marine or estuarine environment
- are an integral part of the instructional program
- are project-oriented, hands-on, and investigative
- are part of a sustained activity
- reflect an integrated approach to learning
- involve external sharing and communication.

### **Tool: "Meaningful" Checklist for Students (K to college)**

To assess how well your proposed project meets the definition of "meaningful" we've developed this checklist based on a review of "best practices" in the research literature. The sources for each item on the checklist are provided in parentheses and you can view the literature review by clicking on this [link].

As part of your project do you...

- engage students in interdisciplinary, hands-on learning (Ernst & Monroe, 2004; Jelinek, 1998)
- provide each student with at least two field experiences in the local watershed (Bixler & Carlisle, 1994; Falk & Balling, 1980; Palmberg & Kuru, 2000; Sivek, 2002)
- assess students' knowledge and attitudes about the field site and experiences prior to the field visits to determine misconceptions and misgivings or fears (Brody, 1996)
- orient your students to the field site before the field experience, that is, where they will go and what they will do, and what, if any, natural hazards they will or won't encounter (Backman & Crompton, 1985; Bixler & Carlisle, 1994; Falk, Martin & Balling, 1978; Falk & Balling, 1980; Kubota & Olstad, 1991)
- allow students to practice skills (use new equipment, etc.) at a familiar site, such as at school, before going on the field experience (Backman & Crompton, 1985; Zelezny, 1999)
- allow exploration time (scavenger hunt or similar guided exploration) on the first field visit to help reduce the novelty and familiarize students with the site (Chipeniuk, 1995; Falk & Balling, 1980; Kubota & Olstad, 1991)
- allow for exploration and reflection time at the site during each visit, in addition to doing meaningful "work" (Kubota & Olstad, 1991; Yerkes & Haras, 1997)
- allow students to investigate a local environmental issue through their own or an ongoing project (Haluza-Delay, 2001; Vaske & Kobrin, 2001)
- have students learn and apply new knowledge (Ernst & Monroe, 2004)
- enable students to engage in environmental actions (habitat restoration or teaching of others) related to local environmental issues (Ballantyne et al, 2001; Bowler et al, 1999; Shean & Shei, 1995; Vaske & Kobrin, 2001; Volk & Cheak, 2003; Yerkes & Haras, 1997)
- allow students to contribute in some way to the betterment of their community through their own or an ongoing project (Billig, 2000; Scales et al, 2000; Yerkes & Haras, 1997)
- develop students' skills to research and resolve a local or personal environmental issue (Ballantyne et al, 2001; Culen & Volk, 2000; Jordan et al, 1986; Ramsey, 1993; Yerkes & Haras, 1997).