



STEM High Challenge/Ropes Course Program Description

Standard length of program: 1-5 days

Recommended group size: 8 – 150 participants

Standard small group size: 8-15 participants

Program Overview

The Boojum Institute Challenge Course Program uses ground initiative activities such as games, puzzles and creative problem solving tasks as well as high ropes elements to provide development in STEM subjects, as well as leadership skills, teamwork skills and personal growth for participants. The Challenge Course Program will increase student learning in science and mathematics classes. Students will be able to experience what they've been taught about concepts such as force, pulleys, angles, geology and forest ecology in a manner that helps them to better understand these subjects. This program also assists in the development of individual and group skills in the areas of commitment, involvement, leadership, self confidence, support and ownership of actions, all of which are important elements of an effective lab group. The Challenge Course Program facilitates discovery and exploration in a supportive and open environment while teams experiment with science and math, problem solving strategies and learn from both success and failure. Students collect data gathered while participating in each activity, to analyze when they are back in the classroom.

The course consists of several low and high “elements” located among tall pine trees. These elements are physical props or obstacles that challenge groups both physically and mentally. The low elements provide a level of challenge that is close to the ground and are generally protected by spotting provided by the group. High elements involve activity that is 30-45 feet off the ground on wire and ropes. Belaying systems that include the use of ropes, body harnesses and friction devices are used to control movement and protect participants during these activities. Boojum has the following low and high elements:

Sample Low Elements

Team Wall, Low V crossing, Mohawk Walk, Nitro Crossing, Trust Fall, Trolleys, The Maze, Spider's Web, Acid River, and others.

Sample High Elements

Giant Swing, Incomplete Bridge, Pirates Crossing, Vine Walk, Pipe Dreams, The Leap of Faith, The Giant's Ladder, Postman's Walk, Zip Line.

Sample Goals for Challenge Course Programs:

All Challenge Course goals are designed with the group's objectives for the experience in mind. Some STEM related Challenge Course goals include;

- To work effectively with a group to obtain scientific data, with accurate measurements and detailed observations.
- To draw free body diagrams showing the different forces at work on participants.
- To understand the difference between potential energy and kinetic energy.
- To study the geologic features, flora and fauna of the area
- To strengthen participants interest in learning about STEM through engaging, hands-on activities.

Challenge Course Program Logistics

The STEM Challenge Course Program will occur on site in Idyllwild at Boojum's Challenge Course. The course will begin with warm up activity to set positive and co-operative tones and finish with a closing activity to bring the group back together to share a few brief highlights of their experience. Throughout the day(s) the group will move through a series of activities starting with problem solving initiatives and moving onto low elements and finishing with the high elements.

Boojum Staff

Boojum instructors are among the most gifted and best-trained teachers in the outdoor education field. All of the staff are outdoor education professionals and have a passion for introducing young people and adults to new ways of looking at the world. The field staff members possess a blend of the interpersonal and group dynamics facilitation skills required to provide the best possible experience for educational groups. Boojum Institute staff members are selected to support the curricular program components of the Institute. Staff members will work in partnership with teachers on program to provide STEM based activities, to ensure a smooth transition from learning in the classroom, to experimenting at the Challenge Course, to analyzing the data once students are back in school. The Boojum Institute is dedicated to the continuous improvement, training and professional development of its staff. Boojum will provide one lead facilitator for approximately every 11-15 participants (including one STEM educator) and one Course Director per program group.

Risk Management

At the Boojum Institute, safety is our first and foremost priority at all times. The Boojum Institute has over a 30-year history of providing high quality outdoor education programs with an outstanding safety record. Our highly developed risk management safety systems set a high standard for the outdoor education world and have served as an international role model for adventure education safety management. Our activities focus on educational outcomes and are rigorously screened for safety. We train and supervise program participants to maximize fun and learning and to minimize risk. All Boojum instructors have specialized medical training and are trained in CPR and First Aid.