

The Lost Art of Fort Building (STEM Principle: Engineering)

By: Matt Paulson

Have you or your kids ever wondered what to do if you were lost on a hike? Being lost in the wilderness is very dangerous, but with a few skills and engineering know-how, you can practice together how to keep yourself warm, safe, and on the right track out!

First, make sure that before anyone goes on a hike anywhere, you've had a safety talk with the whole group. Ask your kids about water, and remind them to drink often. Next, reinforce the importance of staying together. Running ahead makes you a nice target for a cougar, and may get you lost if you pass an important trail junction. If a child does get separated, it is very important that he or she has a whistle and knows how to use it. Staying put and making a lot of noise will help people find the missing person.

When you start hiking, it's a good idea to point out a couple of landmarks like lakes or mountains, so that if you see them later, you'll know you're going in the right direction to get home. As you get out on the trail, quiz your kids on their compass directions. Where is North? Help them out by pointing out where the sun is and whether or not it's rising or setting. If it's rising, it's always in the west, and if it's setting, it'll always be in the east. The moon does the same, but usually at night. If the moon rises before the sun sets, the lighted side faces west. The sun also keeps the North sides of most trees moist and dark enough to make them attractive for moss. While it doesn't always grow on the north side, if most of the moss points in one direction, it's probably north. (This neat factoid doesn't seem to hold true in Washington state, though! It is just too damp all the time, so moss grows around the entire tree.)

Ask your kids to imagine what would happen if it got dark. How would they navigate without the sun, or if the moon wasn't out? How would they stay warm? The first part can be answered by the stars. One star always points to the North, called Polaris, and it can be found in the Little Dipper, at the very end of the handle. The last two stars in the Big Dipper form a line pointing to the North Star. All the other stars in the sky rotate around this point, and it has been used for navigation for thousands of years.

Wearing lots of jackets might keep you and your kids warm, but a shelter would be even better. If you bring a plastic tarp with you, you can practice making one for snack time. Work together to find a nice site for this engineering project: a good location should have a nice dip in the ground or a hillside that you can lean logs and sticks against. A tree with a low fork works well, too. Set up a few larger sticks as the frame and then lean others up against it. When you're finished, the logs and the tarps will help trap heat inside your shelter. If you don't have a tarp, use fallen pine boughs. They will also provide insulation and some protection from rain. Crawl inside and snuggle up together, and see how long it takes before you get too hot! (Or before brothers start marauding each other!)

