


Angle Hunting

What angles can you find in playground equipment?



Materials

- Pocket Protractor  (Pocket Protractor should be done ahead as a separate activity)
- playground equipment (swing set, climbers, and so on) or other structures
- pencil
- paper
- clipboard or book to create a sturdy writing surface

Group Size

individuals

Related Activities

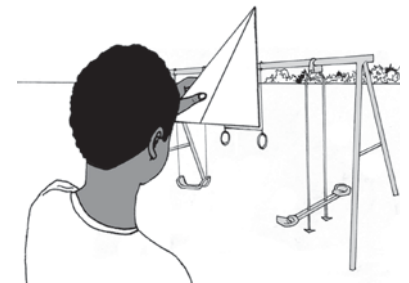
- Pocket Protractor 
- Playground Patterns of Cracks  (An easier use of the Pocket Protractor)

Background

With a Pocket Protractor, you can measure angles at a distance.

Try This

1. Make sure that all the angles on your Pocket Protractor are labeled.
2. On the playground, make a list of structures that have measurable angles. Without using your Pocket Protractor, can you identify right angles, angles with less than 90° , and angles with more than 90° ?
3. To measure a structure's angles, squarely face the angle you are measuring. In other words, stand directly in front of it and not off to the side.
4. Hold the Pocket Protractor at arm's length, close one eye, and try to fit one of the angles of your Pocket Protractor into the angle of the structure. You may need to fold or unfold your Pocket Protractor to find the best fitting angle. If none of the angles of the Pocket Protractor fit the angle you are measuring, come up with a reasonable estimate.
5. After you have measured an angle, record it on your list.
6. Try measuring the same angle from a different distance, making sure you're still squarely facing the angle you are measuring. What do you notice?
7. Try to find examples of each angle that's labeled on your Pocket Protractor.
8. If you have time, sketch the structures and label the angles you've measured.



What's Going On?

You may have noticed that angle measurements don't change with distance. Angle measurements are *distance invariant*, or constant.

Extension

Take your Pocket Protractor someplace where there are trees, and then measure the angles formed by the branches and the tree trunk on several different trees. What do you notice about these angles?