Safety Alert

flying objects, scissors

Water Pipe Angle Finder

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Getting Ready

You need to be able to find angles in this activity. However, you won't find any water!

Stuff to Make it Happen (Materials)

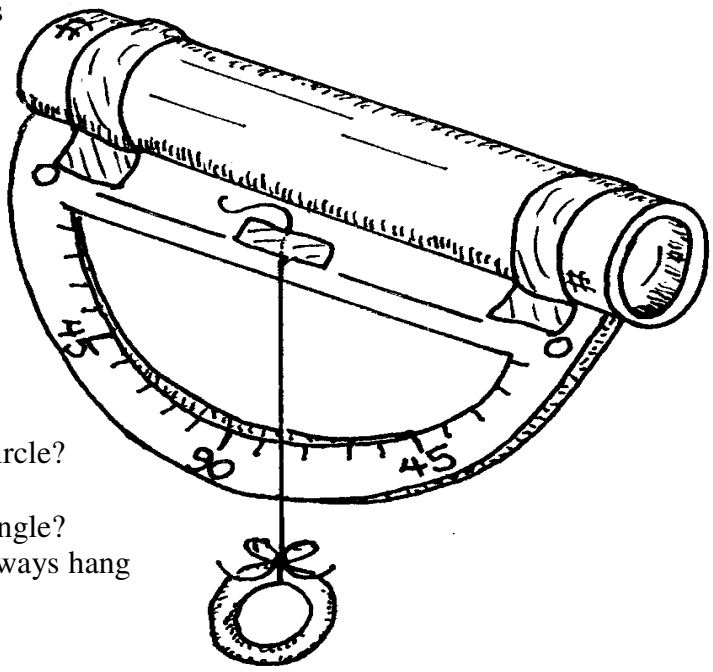
protractor	tape*	ball	small washer
PVC pipe	6" string	scissors*	ruler*

Making it Happen *(Don't look at the Sun for any reason!)*

1. On the flat part of the protractor you'll find the reference point. It could be a hole, a line, or a mark of some type, depending on your protractor. You will use this place for your string's attachment point. Measure and cut a 6" piece of string.
2. Tape one end of the string at this reference point. Tie the washer on the other end.
3. Tape the PVC pipe even with the flat side of the protractor.
4. Practice a little with the *Water Pipe Angle Finder.* While seated, look through the pipe at a clock or picture hanging on the wall. Use your finger to "trap" the string against the curved part of the protractor. Hold the string tightly, don't let go. Look at the protractor.
5. Notice where the string is being held against the curved part of the protractor. If your protractor has two sets of numbers, read only the smaller set of numbers. If you're still having trouble, the teacher will help you decide the angle! Try "capturing" the angle of several different objects or locations above your head.
6. Go outdoors to practice "capturing" angles on moving objects! Have a partner stand ten feet or so away from you and toss a ball straight up. "Capture" the highest point the ball gets to with your *Water Pipe Angle Finder.* Measure the angle on your protractor! Be careful *NEVER* to look at the sun with your *Water Pipe Angle Finder*!!!

Understanding the Science

The distance or **Circumference** around a **Circle** can be divided into small, even sized little pieces. Math and science call these measurements **Degrees**. A circle has 360 degrees! Your **Protractor** is half a circle, so it's only 180 degrees. With your *Water Pipe Angle Finder* held level in front of you, the washer hangs straight down. (Thanks to **Gravity**!) As you "sight in" on the object through the water pipe, the washer still hangs straight down, only your protractor isn't level anymore! A protractor is an important tool for **Measuring** an **Angle**!!!



Let's Check the View!

(Questions and Assessments)

1. How many degrees are there in a circle? How many degrees in a half circle?
2. How many degrees are there in a right angle?
3. What makes the washer on the string always hang straight downwards?