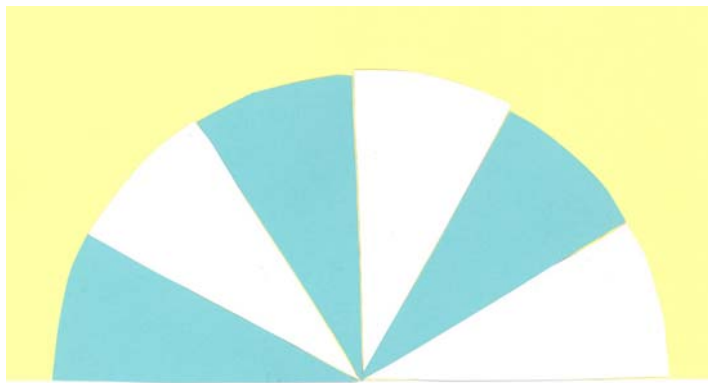


Angle Ruler

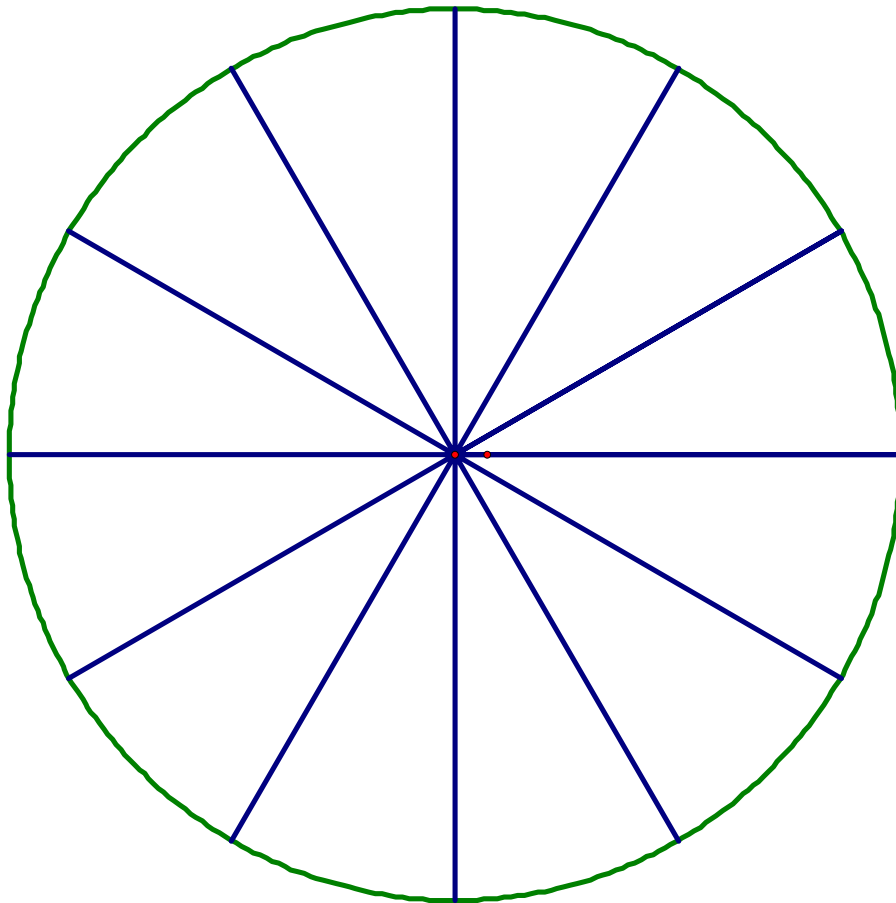
From your teacher, get 3 wedges of one color and 3 wedges of another. Use glue to paste these wedges onto a 5-by-8 index card, alternating the color of wedges. See the picture below.

Using this “angle ruler, decide how many “wedges” big each of the angles provided by your teacher.



Discussion, Suggestions, Possible Solutions

Materials: cut out wedges on two different colored papers, 5-by-8 index cards, glue, cut out angles



Give each student 3 wedges of each color (total of 6 wedges). Have them glue them on the index card as shown below to create their own “angle ruler” (or “protractor,” if you want to use the formal term).

Provide students with various cut-out angles that they can measure with this angle ruler.

Many students have difficulty using a protractor to measure angles. One reason for their difficulty is that 1-degree is such a small quantity. As a result, students may not understand that they are indeed filling up an angle with unit angles – as they

experienced while measuring length or capacity. This task allows students to develop the fundamental understanding that to measure an angle, just like length, capacity, area, etc., you can measure an angle by finding out how many units are needed to fill it up. Moreover, the shape of an angle unit is a wedge, and they have to be gathered at the vertex of the angle. ...

As a precursor to this task, you may want to have your students actually ‘cover’ angles using wedges as units. Students may have experienced similar activities in lower grades while they are learning to measure length – how a ruler made it easier to measure the length of an object compared to lining up 1” square as a unit, for example.

Extension:

Creating a home-made measurement instrument is a useful step to help students use various measurement instruments. You may consider a similar activity to create a home-made balance as a part of your investigation of weight measures.