Calculating Cloud Cover

Grade Level: 5-12
Subject Areas: Earth Science
Duration: 1 class period
Setting: classroom, school grounds
Skills: estimating

Related State Content Benchmarks Objectives
- **Describe weather conditions and climates**

Objectives
Students will be able to:
- estimate percent cloud cover; and,
- test their observations against objective measures of cloud cover.

Materials
- Two sheets of paper (preferably one blue and one white) for each pair of students.

Background
During the Schoolship Program, students estimate percent cloud cover. As students look out from horizon-to-horizon, percent cloud cover can be a very subjective measure. Both students and adults tend to overestimate percent cloud cover. Described here is an activity that will give students a reference point for estimating percent cloud cover.

The Activity
1. Bring students outside, away from the building, and have them look up at the sky. Ask them to estimate percent cloud cover.

2. After they have made their estimates, ask them to return to the classroom and test their estimates with a simple activity.

3. Each pair of students should be given one blue sheet (sky), and one white sheet of paper (clouds).

4. Demonstrate the activity. Hold up the blue sheet representing the sky and the white sheet of paper representing the clouds. Fold the white sheet of paper in half and cut in half. Take one half of the sheet and rip these into various sized small pieces. Scatter these small white pieces of paper over the blue sheet. Ask students to look at this and give their answer of percent cloud cover. It should, or course, be 50%.

5. In pairs, have students using their blue sheet and white sheet of paper, to replicate this activity but to try other percentages. You may help them to replicate the activity using their estimate of percent cloud cover when they went outside.

6. Ask students to share their cloud cover and request that others in the class try to estimate the percentage of cloud cover shown.

7. As a follow-up, ask students to estimate cloud cover outside again. Did the activity help?