

SNOW COMPARISONS AND CONVERSIONS

STUDENT EXPECTATIONS

Upon completion of this unit, students will be expected to know or have an understanding of:

- How snow forms in the atmosphere.
- How snow measurements are taken.
- How water equivalent is measured.
- The difference between wet and dry snow.
- How mean, median and mode are calculated.
- How to convert measurements to the SI system.
- How decisions are made locally concerning snow events.

STATE STANDARDS

The following **Colorado** Model Content Standards for Science will be met or exceeded: (Unless otherwise noted, the standards for grades 5 through 8 are used.)

Standards: 1, 2, 2.1, 2.2, 2.3, 4.2, 4.3, 5, and 6.

The following **Texas** Essential Knowledge and Skills for Science will be met or exceeded: (Unless otherwise noted, the TEKS for Middle School Science are used.)

TEKS: 6.1A,B, 6.2A,B,C,D,E, 6.3A,C, 6.4A, 6.6A,C,6.8B, 6.9A,B, 6.12B, 6.14C, 7.1A,B, 7.2A,B,C,D,E, 7.3A,C, 7.4A,B, 7.6A,B, 7.14A,B, 8.1A,B, 8.2 A,B,C,D,E, 8.3A,C, 8.4A,B, 8.5A,B,C, 8.8A, 8.10A,B,C

ACTIVITY DESCRIPTION/teacher notes

In this activity, students will get actual snow measurements from a CoCoRaHS data map. If there are no snow precipitation measurements that day, select another day when measurements were taken for snow accumulation. If you don't have a copy or copies of the book mentioned below, get them. Discuss how local decisions are made during a snow event in your area for the city, county, state and school district.

ALL YOU NEED ABOUT SNOW

Obtain a copy or classroom set of **The Snow Booklet, A Guide to the Science, Climatology, and Measurement of Snow in the United States.** By Nolan J. Doesken and Arthur Judson.

MATERIALS

- CoCoRaHS map of snow accumulation
- Pen or Pencil
- Graphing paper
- Calculator (optional)

METHODS

- Obtain a CoCoRaHS map of snow accumulation
- Make a chart or table of reporting stations and amount of snowfall. (If computers are available, a spreadsheet.)
- Make a graph using the data you have on your chart/table.
- Calculate the mean, median and mode for the snowfall amounts and enter into the chart/spreadsheets as applicable
- Answer the questions in the REVIEW/CONCLUSIONS section
- Convert measurements and water equivalents to the SI system.

RESULTS AND CONCLUSIONS

Students will answer questions on the student worksheet.