

# Cloudy With A Chance Of.....

## Summary

This lesson helps students understand the various types of weather and learn safety tips for each type of severe weather. The students will identify factors associated with each weather type and will predict the weather.

## Time Frame

5 class periods of 45 minutes each

## Group Size

Small Groups

## Life Skills

Thinking & Reasoning, Communication

## Materials

Videos: ITV-Science Look Up Series, Tape 4; Video: Utah's Weather Wonders-KTVX; Story: Cloudy With A Chance of Meatballs; Index cards-one for each group; Weather Observation charts-one for each group; Viewing Guide for Weather Safety Tip Video-one per student; Posterboard-two for each group; Markers-set for each group; Weather Station Packets-supplies include quart jar, straw, balloon, tape, dowels, wire hanger, 4 paper cups, thumb tacks, straight walled olive jar, ruler, thermometers;

## Background for Teachers

Students will need to have a basic knowledge of the water cycle and about the seasonal patterns in the weather.

The teacher will need to create a weather observation chart to be used in class.

## Intended Learning Outcomes

Students will use science process skills to make observations, identify variables and relationships between them, to plan field studies and to collect and record data and then to analyze the data that they have collected. They will use reference sources to obtain information and then be able to make predictions based on their knowledge and observations. They will understand basic science facts. Students will prepare an oral report describing the findings of their investigations and will report their results honestly.

## Instructional Procedures

Begin the lesson by reading the book CLOUDY WITH A CHANCE OF MEATBALLS to the students. Afterwards, have the children list the types of weather that were mentioned in the book. (Pea soup fog, tomato tornado, clouds of hamburgers, drizzle of syrup, etc.) DAY 1: Step 1: Pre-viewing activity: Write the word precipitation on the board. Ask the students to define it. Have them list as many forms of precipitation as they can. DAY 1; Step 2: View the ITV Science Series Video LOOK UP-Tape 4. View the beginning of selection 21- SNOW AND OTHER PRECIPITATION. Play the first segment that explains precipitation and shows the students how rain, sleet, snow and hail occur. Stop the tape after the animated graphic showing this process. This is approximately four and a half minutes into the tape. DAY 1; Step 3: Postviewing Activity

Have the students draw their own graphic showing how one of the forms of precipitation develops.

DAY 2: Step 1: Bring a weather radio to class. Play the broadcast for three minutes. Ask the students to listen for 'weather words' that are mentioned in the forecast.

DAY 2: Step 2: Instruct students to list as many weather words and phrases as they can on a large index card. Encourage them to use the same weather terms as the weather radio. Provide materials for them to look up and clarify terms if they need more explanation.

DAY 2: Step 3: At the close of the class period, challenge the children to watch a television weathercast that evening and listen for additional weather words and phrases that they can add to their index cards.

DAY 3: Step 1: Begin by having each group share their lists of weather words from yesterday's class period. Have them add information that they might have gleaned from the nightly newscast.

DAY 3: Step 2: Write the word 'meteorologist' on the board. Have the students define the term. Give a job description of a meteorologist. Get the students to critically think of all the activities and occupations that are affected by the weather. Discuss why it is important to be able to predict and forecast the weather.

DAY 3- Step 3: View the ITV Video Tape- Look Up Science Tape 4- Selection 23- WEATHER WATCH-PREDICTING THE WEATHER. The first portion of this video gives an excellent overview of various weather instruments, weather vocabulary and basic weather patterns that aid in predicting weather. The video also shows how children can make their own weather stations and shows how to make a rain gauge, barometer, etc.

DAY 3: Step 4: While watching the video, instruct students to look for the weather instruments and what they measure. Following the segment, divide the students into their cooperative groups and instruct each group to choose a particular instrument. Each group will make an instrument and use it to record weather data. Have packets already made so that they can begin building their instruments immediately.

Barometer: quart jar, balloon, straw, posterboard, tape

Rain Gauge: Straight walled jar, such as an olive jar, permanent marker, tape and a ruler

Anemometer: Wire hanger, dowels, thumb tacks, paper cups, tape

Thermometer packs: thermometers, charts

DAY 3: Step 5: Allow the students to construct and set up their instruments outside. Show the students how to record data on a weather chart and assign them to take readings from their instruments at specified times each day. ( It is recommended to let them record their data at least three times each day.) Continue taking daily readings for at least a week. Advise students that they will be using the data they collect from their weather instruments to create and broadcast a weather forecast of their own.

DAY 4: Step 1: Allow students some time to record their weather instrument data for the day.

Then re-read the segment of *Cloudy With A Chance of Meatballs* where the weather turns severe.

List the problems that happened, such as flooding, tornados, etc. Ask them what they could do to be safe in these types of severe weather.

DAY 4: Step 2: Show the video UTAH'S WEATHER WONDERS-A SURVIVAL GUIDE THAT COULD SAVE YOUR LIFE. This 30 minute video is produced by KTVX Weather. It is available in most schools or from KTVX studio. Give the students a viewing guide (available with video) that they will fill in periodically during the video. The video is broken up into several segments on each type of severe Utah weather. After each segment, pause the video and allow the students to record the safety tips that are listed on the screen. Discuss issues that are especially pertinent to your area.

DAY 4: Step 3: Following the video, allow the students to research severe weather by reading books or accessing the Internet. The following books are helpful: STORMS by Seymour Simon; HURRICANES and TORNADOS, books by Hello Reader-Scholastic; UTAH'S WEATHER AND CLIMATE by Dan Pope and Clayton Brough. Also check out the Internet sites listed.

DAY 5: Step 1: Play a previously recorded local television weather broadcast for the students. Point out the various component of a forecast: reports of the daily highs and lows, satellite maps showing the cloud coverage and movement, forecasts for various areas, predictions for the next five days, etc.

DAY 5: Step 2: Have the students listen for the weather vocabulary they have learned.

DAY 5: Step 3: Have the students again break up into small groups. Explain that, using the

data they have collected with their weather instruments, they are to create their own weather television forecast. Each person in the group should have a role; reporter/broadcaster, researcher, map creator, graphics artist, etc. Make sure that they use the weather words and phrases that they have been recording on their index cards. Give them some time to write their forecasts and create their charts and maps. DAY 5: Step 4: Have each group broadcast their forecast to the class. Encourage the students to speak clearly, loudly, and with eye contact. If you have a camcorder, you may want to let them tape their forecasts and then watch themselves on TV.

### Extensions

**LANGUAGE ARTS:** Extend this unit with a writing activity based on their reading of the story *Cloudy with a Chance of Meatballs*. Discuss the characteristics of a tall tale. Talk about exaggerations in writing and when they are appropriate. Have the students create their own tall tale or have them complete exaggerations related to the weather. For example, 'It rained so hard that.....', or 'It was so hot that.....'.

**MATH EXTENSION:** After recording their daily observations for about a week or so, have the students plot their results and then make a chart or graph. Have them use the same data to make two different types of graphs or charts and then decide which one is better for displaying that particular type of information and why. Have the students determine if the charts/graphs help them more easily understand and interpret their data.

**TECHNOLOGY/RESEARCH:** This additional Internet site:

[Earth and Moon Viewer](#) Observe weather satellites

### Assessment Plan

The teacher will assess student participation by observing group activities. Students will receive credit for cooperating, discussing, and participating equally. Assess group projects by giving credit for the appropriate use of weather terminology (including weather symbols and data in charts and graphs, for well constructed weather instruments, and for thorough, accurate collection of weather data. Full credit should be given for active participation in the group weather broadcast and for a weather broadcast that is based on accurate weather data collection and interpretation.

### Bibliography

Utah Weather Data Site (, ) WeatherNet (, ) Williams, Jack Weather Book, The (USA Today, 1992) pp. 100-101, 103 Barrett, Judith *Cloudy With a Chance of Meatballs* (, 1982) Simon, Seymour *Storms* (Morrow, ) Pope, Dan *Utah's Weather and Climate* (Publishers Press, Salt Lake City, 1996)

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