Station #1 - Weather measurements help us predict and prepare

The National Weather Service uses weather stations with instruments like these to collect temperature and snowfall information from around the country. We use this information to know when it is safe to spend time outdoors and to know how to prepare and dress for outdoor activities.

1. Current temperature = _____ ^{0}F

2. Minimum temperature last 24 hours = _____^{0}F

3. Maximum temperature last 24 hours = _____^{0}F

4. Wind speed= ____ mph

5. Using the current temperature (#1) and wind speed (#4) you can determine how cold it feels to your body. This is called the wind chill.

Wind chill= _____ ^{0}F

6. Snow pack is the depth of snow that is on the ground. It has been accumulating all season.

Snow pack = ____ inches

Back at School

We hope you had a great time on your field trip to Glacier National Park! We also hope that you learned something about how snow affects the plants, animals, and people who live in and around Glacier. Fill in the blanks below to help you think about what you learned today.

1. If I were an animal, plant or insect in Glacier, I would be a

_____ because then in winter, when it

snowed, I _____

_____

I could also _____

_____

The snow would help me by _____

_____

_____

The snow would make it harder for me _____

_____

_____

My winter life would be _____

_____

Station #3 - Snow is our drinking water source

Rangers in Glacier National Park have been conducting snow surveys for over 80 years. The amount of water in the snow pack is important to people since when the snow melts, it flows into the rivers, streams and down into the ground. It's the water we use for our drinking water!

By measuring the amount of water in the snow pack throughout northwest Montana during the winter, resource managers can predict how much water will be available in the summer for crops, livestock, residents, and businesses. Try it!

1. Take turns getting snow core weight measurements along the survey course to find the snow water equivalent (SWE). This is the amount of water that would cover the ground if all the snow melted right now.

Depth of snow= _____inches.

Weight of tube & snow	–	Weight of empty tube	=	SWE
_____	–	2.5	=	_____ inches

2. Why is water from melting snow in a forest or other natural area possibly more valuable than water melting from snow in an urban or suburban area? _____

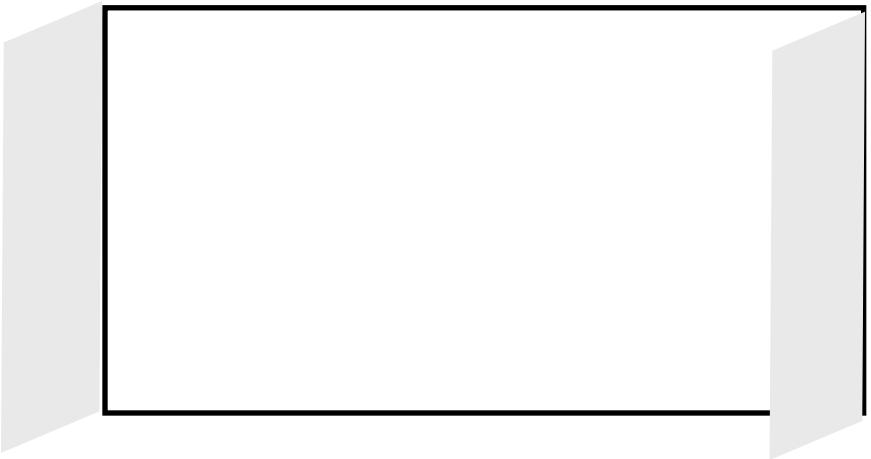
Station #4 - The changing snow pack

Snowflakes on the ground are constantly changing shape because of the temperature, wind, and weight of more snow. The earth naturally gives off heat. This warms the bottom layer of snow and causes the snow crystals next to the ground to grow larger and fit more loosely together.

1. Use your index finger to gently press into the snow in a line from the top of the snow pit all the way to the bottom.

2. Each time you feel the snow change (get harder, become icy, or get softer, draw a line across the box below and label it - hard, soft, icy).

Your Snow Pit Profile:



3. Measure the temperatures at the top and bottom of the pit.

Top = _____^{0}F Bottom = _____^{0}F

Which is warmer?_____ Why? _____

4. How could the changing snow pack affect animals? _____

_____

Snow Stations
Glacier National Park

School:_____

Teacher:_____

Student Names:_____

_____

Date:_____

Station #5 - Snow and insulation

For many small mammals and insects, the presence of snow cover is very important to their overwintering success. This is because snow is a good insulator - it holds in heat. People have used the insulating properties of snow to keep warm by building snow shelters like this quinzhee.

1. Air temperature outside the quinzhee = _____ ^{0}F

2. Air temperature inside when you enter = _____ ^{0}F

3. Stay inside and read the story pages from Who Lives Under the Snow? When you're finished, measure the temperature inside the quinzhee again.

Air temperature inside (after story) = _____ ^{0}F

4. How did all the temperatures compare (outside, inside, after you sat inside for awhile)?

_____

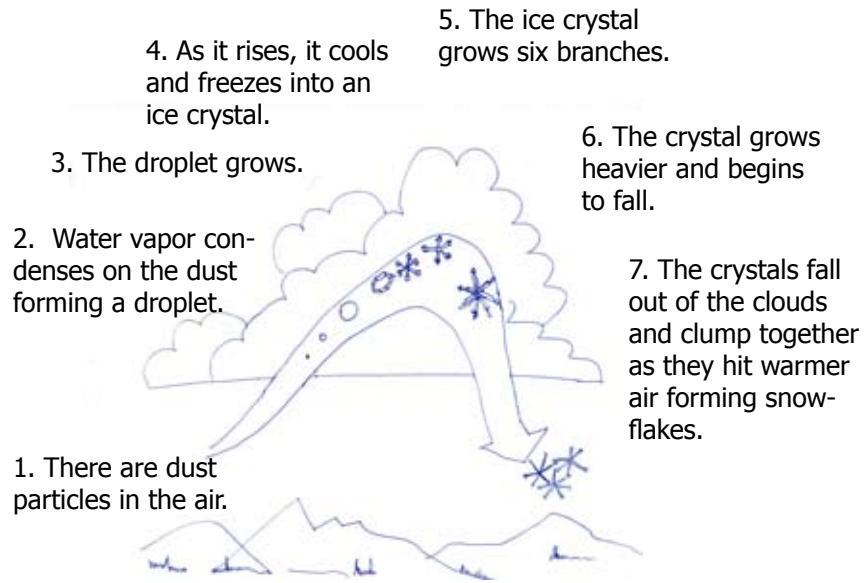
_____

6. What do you think caused the differences?

_____

Did you know?
Scientists have found that with 16-20 inches of snowpack, the temperature at the bottom of the snow (subnivean environment) stays almost a constant temperature, around 32 ^{0}F.

Station #2 - What is snow?



1. Use the magnifying glasses to look closely at one snowflake (placing it on a dark background helps).

2. Compare your snowflake to the pictures on the classification chart. Is it a stellar crystal? Graupel? A plate shape?

3. Draw 3 different snowflakes you observed.

Snowflake #1	Snowflake #2	Snowflake #3

Did you know?
When you breathe, you're adding moisture to the air?