All About Clouds!							
Geology/Earth Scie			Mr. Traeger				
Name:		Period:		Date:			
Purpose The purpose of this work clouds form.	rksheet is to bed	ome more	familiar with the v	arious types of clouds and how			
Materials ■ Textbook, pages 396-401 ■ Calculator		■ Pencil					
Part 1: Cloud Types 1. Define the following	n word roots for	clouds					
Word Ro	Meaning or Definition						
Stratus and/or strato-				y			
Cumulus and/or cumulo-							
Cirrus and/or cirro-							
Alto-							
Nimbus and/or nimbo-							
2. Fill in the following	chart concerning	r cloud type	29				
Z. Till ill tile following	Chart Concerning		n Clouds				
Cloud Name	Height Range		Description and	d/or Drawing			
Cirrus		(III COLO)					
Cirrostratus							
Cirrocumulus							
		Midd	le Clouds				
Cloud Name	Height Range		Description and	d/or Drawing			
Altostratus	Tioight Range	(IIICtCIO)	Description and	aror brawning			
Altocumulus							
		Low	/ Clouds				
Cloud Name Height Range (meters) Description and/or Drawing							
Stratus		,	•	•			
Nimbostratus							
Stratocumulus							
	Cloude	s with Vo	rtical Develor	ment			
Clouds with Vertical Development Cloud Name Height Range (meters) Description and/or Drawing							
Cumulus		····		· · · - · · · · · · · · · · · · · · · ·			

Cumulonimbus

All About Clouds!							
Ge	eology/Earth Science	/lr. Traeger					
	Part 2: Cloud Formation						
1.	Clouds will form when the	_ and	are the same.				
2.	. What are condensation nuclei? Why are they so important for cloud formation?						
•							
პ.	Explain the cloud-in-a-bottle demo that was done in class. How did we get a cloud to form in the bottle?						
4.	. Fog is defined as a cloud on or near the						
5.	Define the following two types of fog. How are earn Radiation Fog	Advection F	og				
	<u> </u>						
6.	6. What determines the elevation level at which a cloud will form?						
7.	7. What is the definition of adiabatic lapse rate?						
	,						
8.	8. What is the numerical value for the dry adiabatic lapse rate?						
9.	9. Why does moist air cool more slowly than dry air as you go up in elevation?						
10.	Define the following:						
	Stable Air	Unstable A	Air				
11. Which type of cloud is appointed with stable sir? How shout unstable sir?							
11.	11. Which type of cloud is associated with stable air? How about unstable air? Stable Air Cloud? Unstable Air Cloud?						

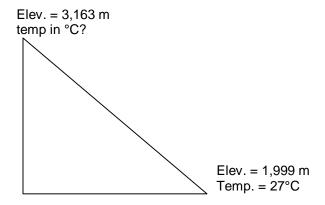
All About Clouds!

Mr. Traeger

Part 3: Predicting the Altitude Where Clouds Will Form

For the following problems, assume that rate of cooling is 1°C for every 100 meters of altitude. We will simplify this by ignoring the fact that dew point decreases with height.

1. Mr. Traeger took the Aerial Tramway up to the top of Sandia Peak in Albuquerque, New Mexico. The base of the tram is at 1,999 meters above sea level and the top of the mountain is at 3,163 meters above sea level. What was the temperature at the top of the mountain if the temperature at the bottom was 27°C?

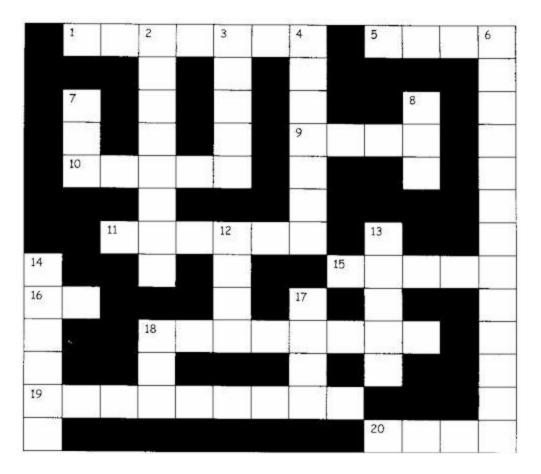


2. If the dew point temperature in the previous problem is 16°C, then at what elevation did Mr. Traeger enter the clouds while going up Sandia Peak?

3. A second cloud layer forms at 4,000 meters. What will the temperature be at this altitude?

4. How would knowing the condensation level help meteorologists to forecast weather?

Part 4: Weather Crossword Puzzle



ACROSS

- 1. Convective cloud, resembling a couliflower (7)
- 5. Meaning of the Latin word, curvulus (4)
- Prefix used to identify middle level clouds
 (4)
- 10. Exists on earth as solid, liquid and gas (5)
- 11. Name used to describe high level cloud (6)
- Boundary between two air masses, clouds usually form here (5)
- 16. Clouds form when air is forced __ (2)
- 18. Cooling water vapour will cause it to
 _____(8)
- 19. Heating liquid water will cause it to _____ (9)
- Cirrus clouds are so _____ (4): the sun can shine through them.

DOWN

- Nimbostratus is a type of _____(5) cloud with rain falling from it
- 4. Name a low, layer cloud (7)
- 6. Rain, hail or snow (13)
- Water on the ground, usually early in the morning (3)
- 8. A cloud that reaches to the ground (3)
- When water droplets in a cloud get too large, they fall as ______(4)
- Forms on the ground if temperatures get below freezing (5)
- 14. In clouds, water droplets form on these (6)
- Add this to turn ice to liquid water and liquid water to water vapour (4)
- 18. A cloud that sits on the top of a mountain (3)