

**ATMO 1300 Section 001**  
**In-class Worksheet #7**  
**Aug. 1<sup>st</sup>, 2017**  
**Chapter 11**

1) What are the three ingredients for a thunderstorm? (Could make a case for four)

**Lift (or lifting mechanism)**

**Wind Shear**

**Instability**

**(Moisture)**

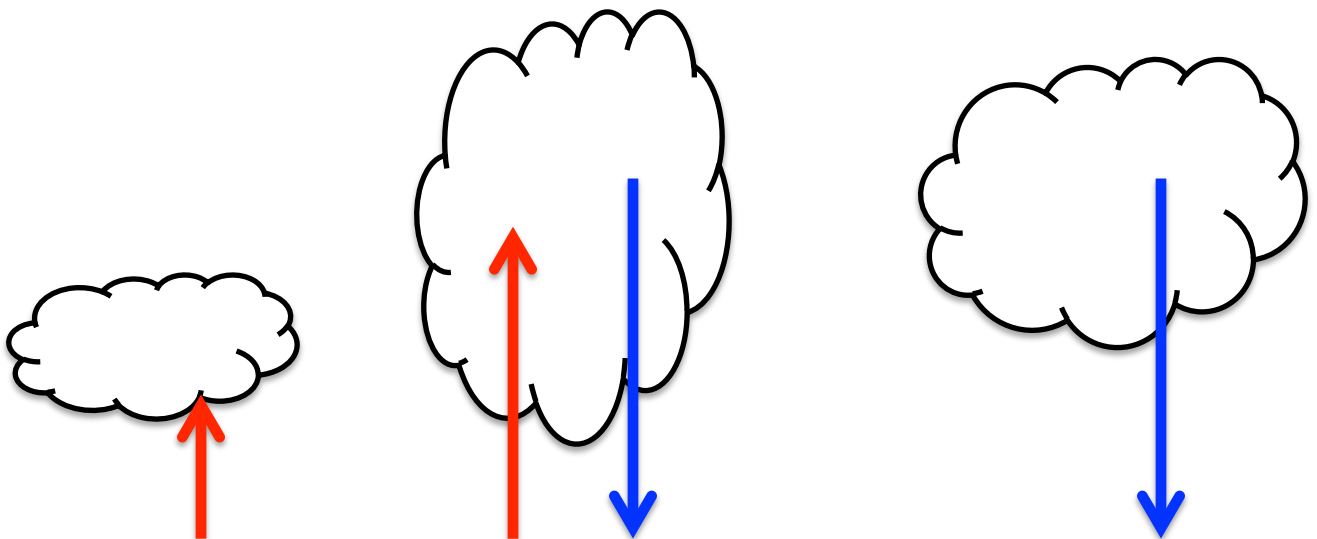
Which of the three ingredients does a supercell require that other thunderstorms may not have?

**Wind shear**

2) Why is it important to keep the updraft and downdraft separate for long-lived thunderstorms?

**The updraft contains the warm, moist air that 'feeds' the storm. If the cold downdraft mixes with the updraft, the updraft won't be as warm and won't 'feed' the storm. The storm dies!**

3) Sketch the three stages of an ordinary thunderstorm.



**Updraft**  
**Cumulus Stage**

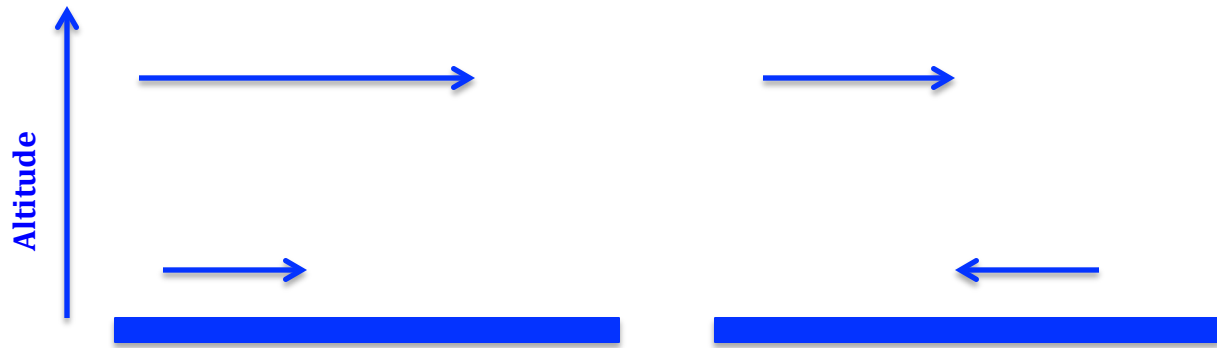
**Updraft   Downdraft**  
**Mature Stage**

**Downdraft**  
**Dissipative Stage**

4) What is wind shear?

**Change in wind speed or wind direction with height**

Sketch an example of wind shear.



5) The sketch below shows the radar reflectivity of a supercell thunderstorm. Where would you expect to find a tornado?

