

Chapter 6 Review

- When is an equilibrium stable? Unstable? Neutrally (un)stable?
- What is a lapse rate?
- How is the lapse rate related to vertical stability?
- Suppose that a rising air parcel is saturated. How does that contribute to increased instability?
- What is the vertical stability of the atmosphere when there are stratus clouds? Cumulus congestus
- Is the air stable or unstable above a very hot desert? Above a very cold surface?

Chapter 6 Review

- What happens to the temperature of an air parcel ("blob") when it rises? When it sinks?
- How easy is it for an air parcel to rise or sink in a stable atmosphere? In an unstable atmosphere?
- What would make the atmosphere more stable vertically? More unstable?

Chapter 6 Review

- What is conditional instability?
- Why does condensation make air more unstable?
- How can you make the atmosphere more unstable? More stable?
- What visible evidence shows that atmospheric stability changes during the day in Florida during summer?
- On a typical summer day, is the Florida atmosphere stable or unstable at dawn? Is it stable or unstable in the afternoon?

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- Do lenticular clouds form in stable or unstable conditions?
- How is a cumulonimbus cloud with a cap cloud ("pileus") a combination of unstable and stable air?

Questions on the height of the base of convective clouds

- What determines the height of the base of a cloud?
- Why do convective clouds in the SE United States usually have much lower cloud bases than convective clouds in the western US?