

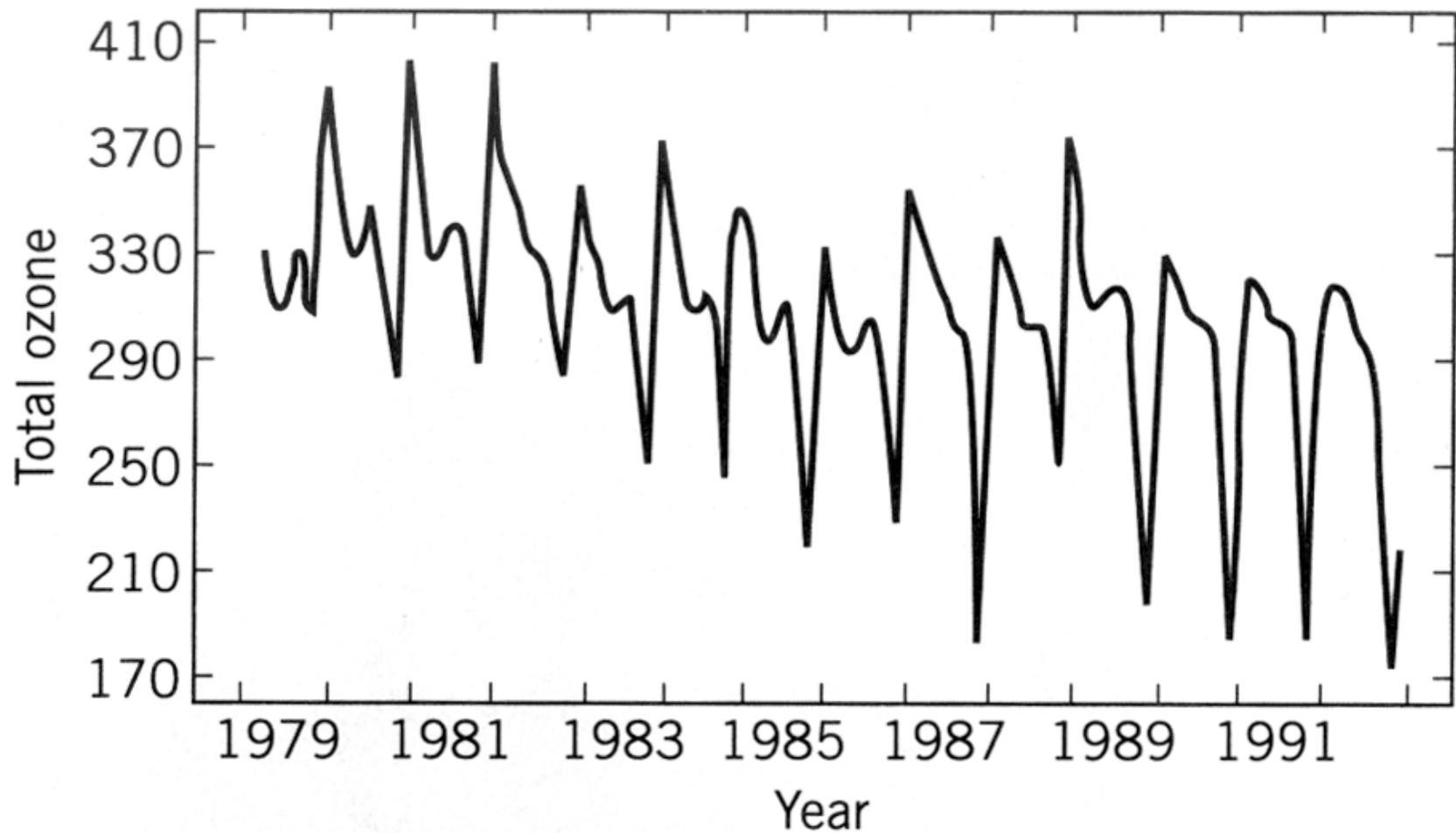
# Engaging Students through Interactive Lectures

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## *Overview*

- example execution of think-pair-share
- how to construct think-pair-share exercises
- benefits and drawbacks
- critical suggestions for success

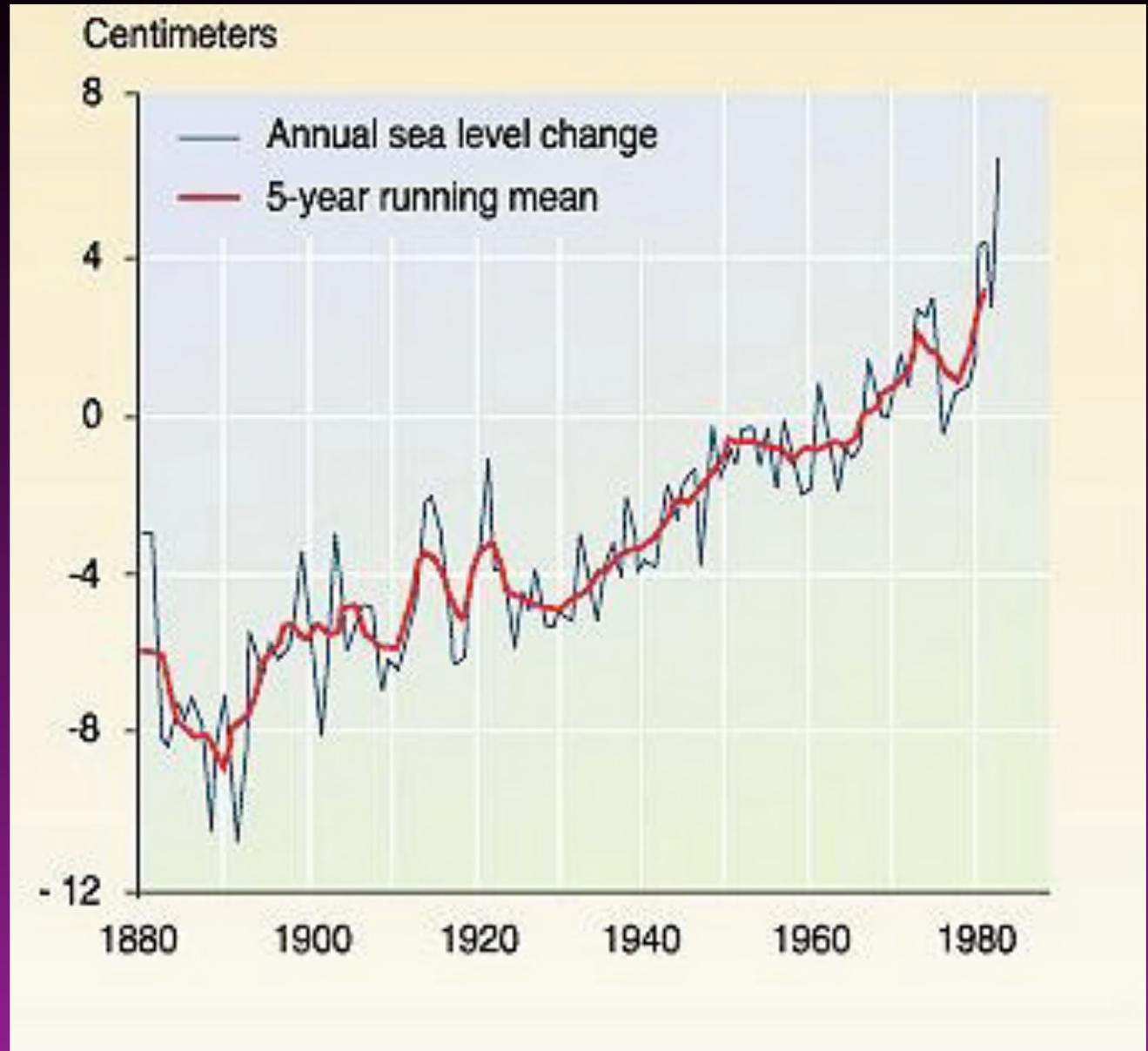
# Satellite measurements of ozone concentration above Antarctica, 1979-1992



# Executing think-pair-share exercises

- Locate appropriate places in lecture for think-pair-share
- Ask each person to consider question(s)
- Form groups to discuss (2-3 students)
- Solicit group responses as a class
- Students evaluate responses
- Clarify incorrect answers or misconceptions

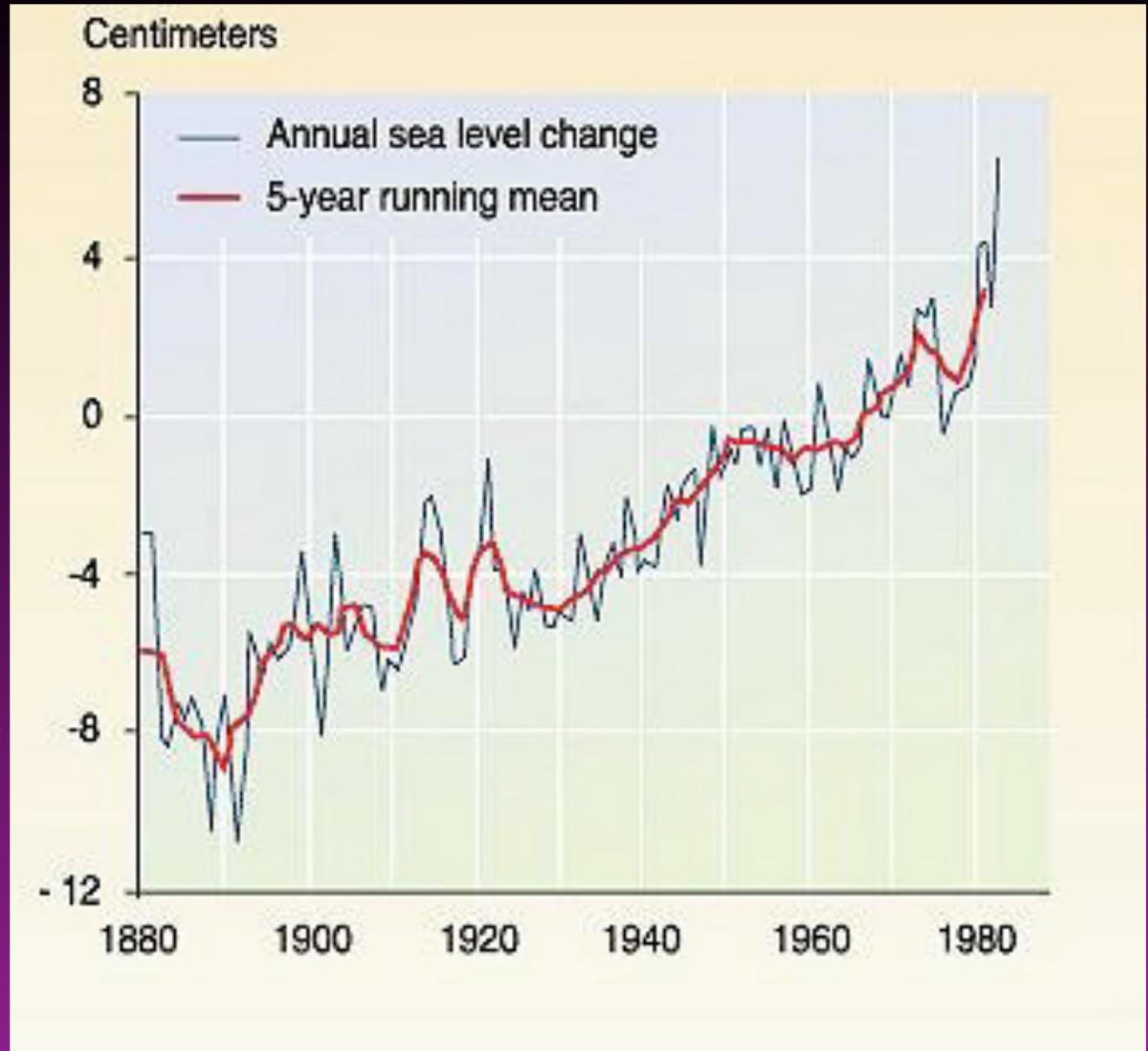
# Global sea level over the last century



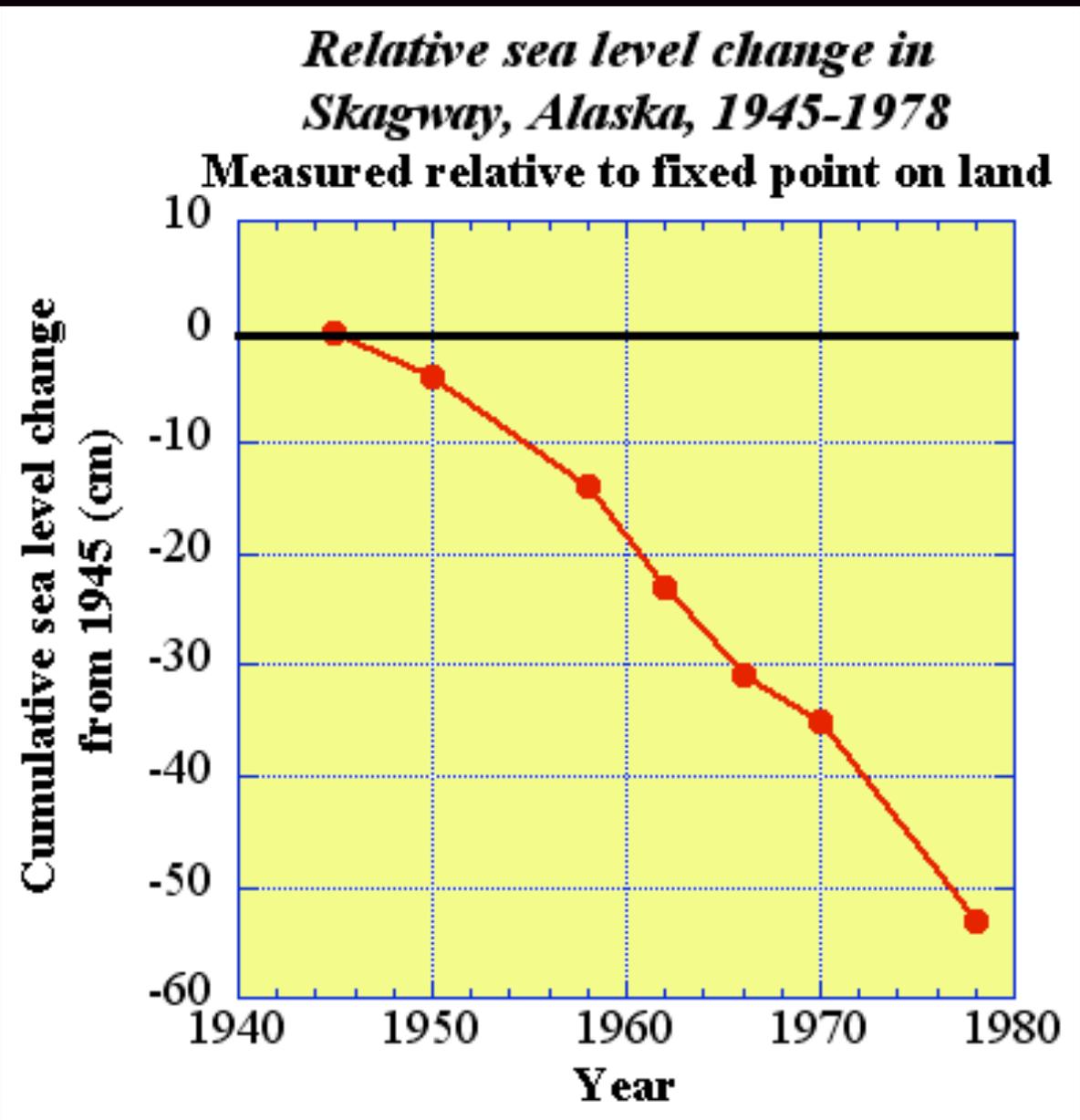
# Global sea level over the last century

A) What is the direction of sea level change?

B) What is the rate of sea level change?



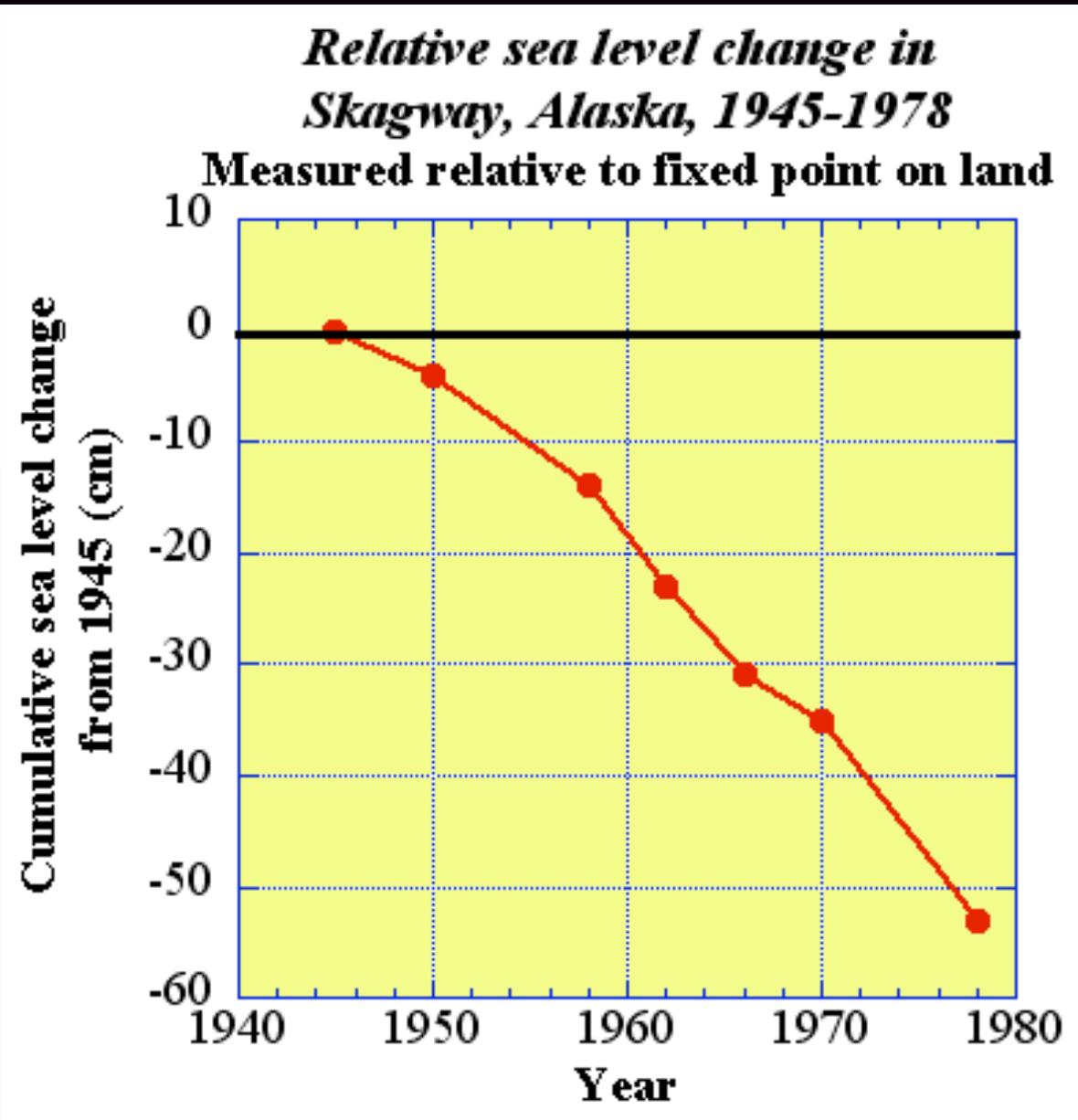
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## Benefits of think-pair-share

- Simple, effective way to engage students
- Provides time for everyone to develop answers, and more students can be right
- Students talk science
- Stimulates additional questions
- Doesn't take much additional prep time (in fact, might save you some...)

## Drawbacks of think-pair-share

- Requires more class time than straight lecture (?)
- Professor must give up a bit of control (?)
- Exercise may fall flat

# Suggestions for think-pair-share success

- Make it part of the routine
- Avoid trivial or overly complicated exercises
- Plan questions and select materials carefully
- Eavesdrop to evaluate progress
- Collect answers from time to time