

MIDDLE SCHOOL CIA Dec 17,
2007
Business and PD (questioning)

- Announcements:
Quarterly Assessments:
some data at <http://data>
some data at newhavenscience.org/test
(SCIENCE is the KEY to the future)

NOT ALL DATA IS GOOD :(



Quarter Two Assessments

- Draft available Jan 2... Final a week later.
- 13 MC and 3 essays (instead of 10, 4)??
- Content and Inquiry Skills
- IDEAS and QUESTIONS WELCOME!!



CURRICULUM

- Continue to follow pacing, curriculum found at newhavenscience.org
- New grade level resource page
- Use GLEs as guideline



TEACHING

- PLAN, PLAN, PLAN lessons
- Science skills (labs) and content
- TALK to your administrators about expectations.
- PREPARE students for CMT in SCIENCE



K-6

- FYI
- Plan for fifth grade prep includes supplies, units, practice, PD, etc... NOT ON YOU.
- Sixth Grade will get more units soon
- K-4 some schools 3 kits a year, some 2



SUPPLIES

- ASK your principals!!!
- Non Title I schools will get Frey NeoSci Kits from last May... others should be using them!
- Special Holiday Gift.....\$500 per 7/8 teacher from Frey.. List of items due to RT by Jan 9 MUST relate to curriculum.

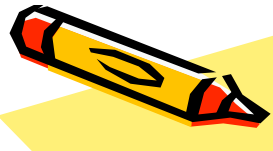


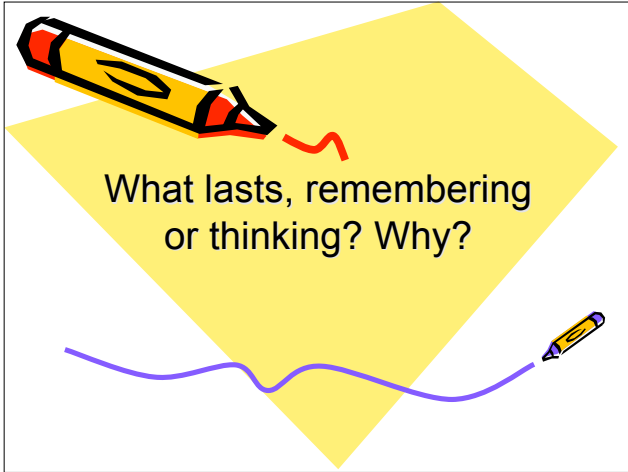
OTHER

- PD coming up Summer 08
- Yale NH TI relating to curriculum
- Quinnipiac Teacher Quality Grant 2 MS teachers
- Science Fair Books out Jan 2, see website for preview



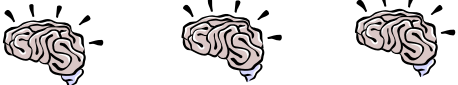
WHY ask Questions?

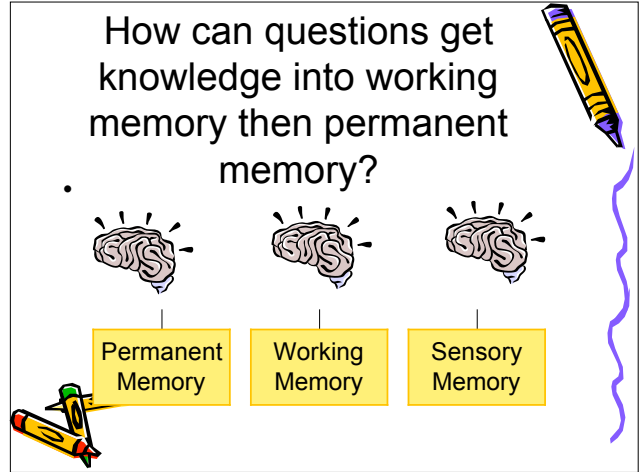




What lasts, remembering or thinking? Why?

How can questions get knowledge into working memory then permanent memory?

- 
Permanent Memory Working Memory Sensory Memory

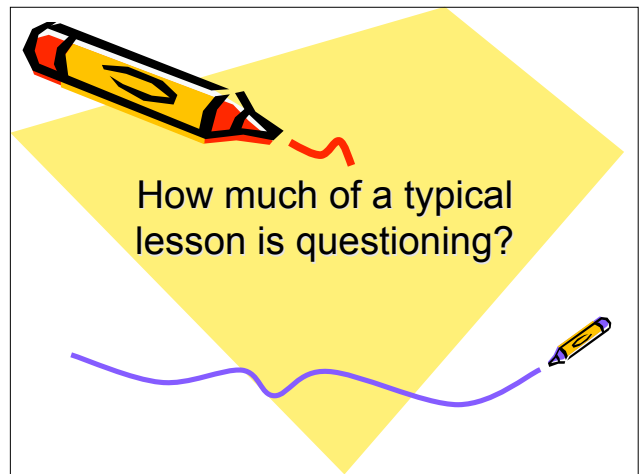


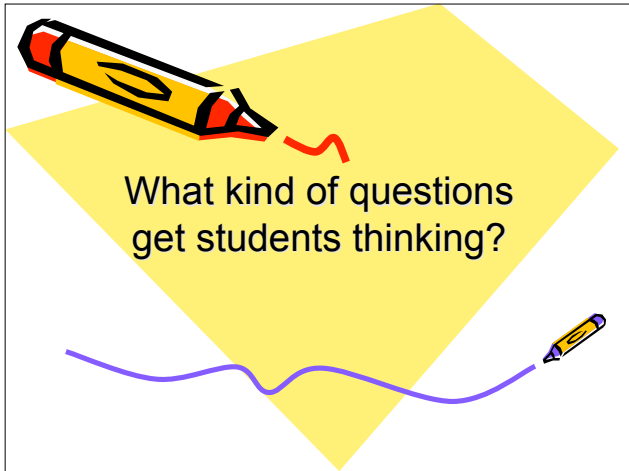
How can questions find out misconceptions?

- What causes the seasons?

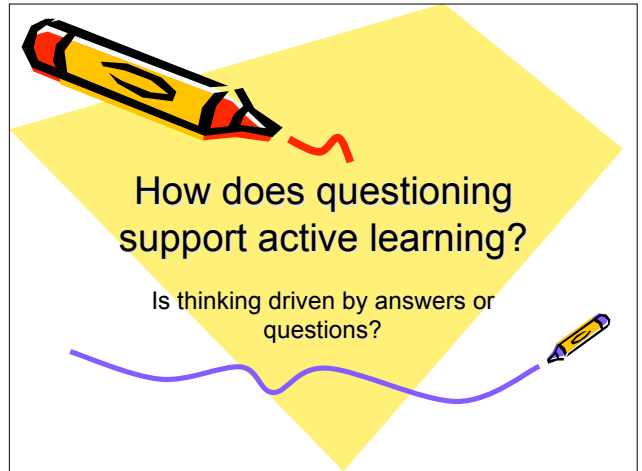


How much of a typical lesson is questioning?





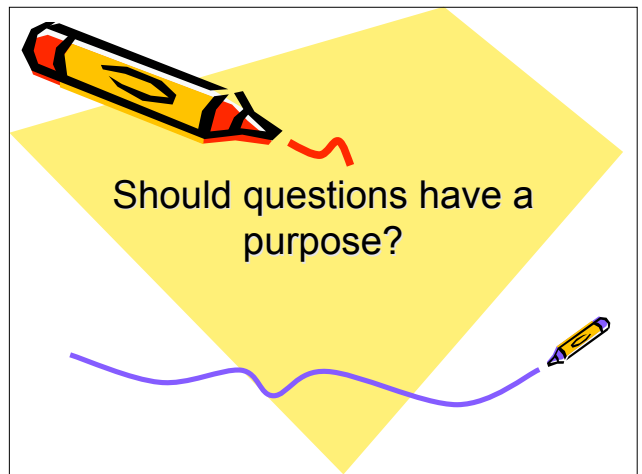

What kind of questions get students thinking?



How does questioning support active learning?
Is thinking driven by answers or questions?

Which question is better?

- What did you learn from the reading?
- What are the five most important facts from the reading and why?



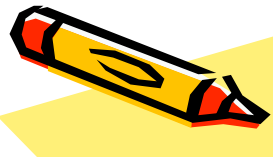
Should questions have a purpose?

What types of questions do we use in teaching?

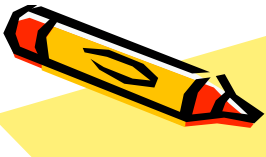
- What are advance organizers?
- What are cues?
- What are input/focusing questions?
- What are discussion questions?
- What are summary questions?



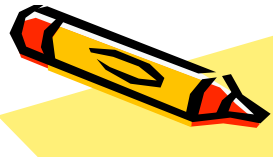
How do advance organizers work?



How do cues affect student learning?



Should questions focus on what is important or what is unusual?



Why doesn't just giving the vocabulary and definition work?

- Are students just linguistic learners?
- Do students understand new words as descriptions or definitions?
- How do students make their own meaning of new ideas and concepts?



What are good comprehension questions?

- What is the author really saying?
- Why is this important?



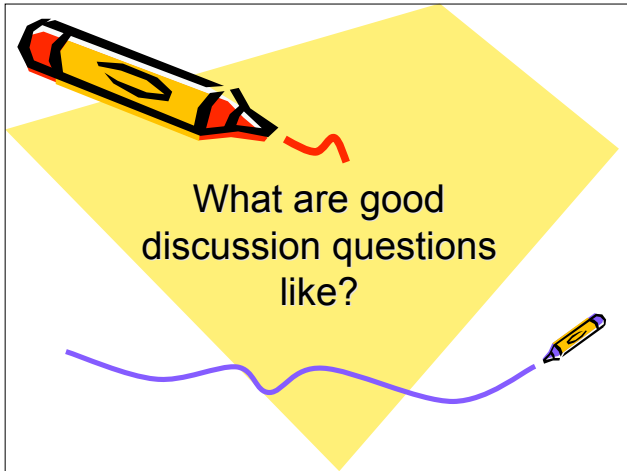
What are good connecting questions?

- How are this and that similar?
- How could this be used to do that?
- How does this tie in with that?
- How is this a model of that?

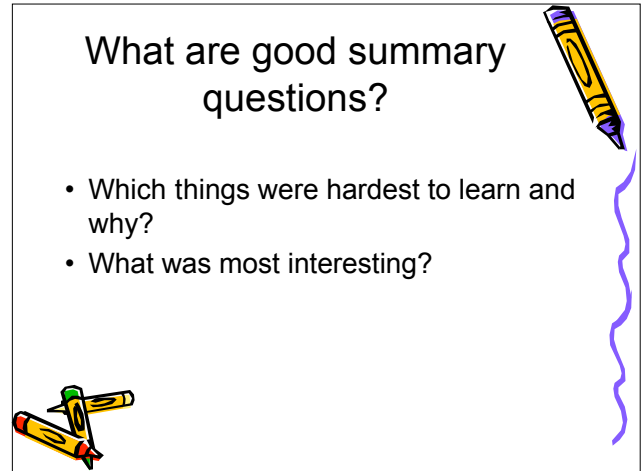


How does interpretive talk support learning better than descriptive talk?



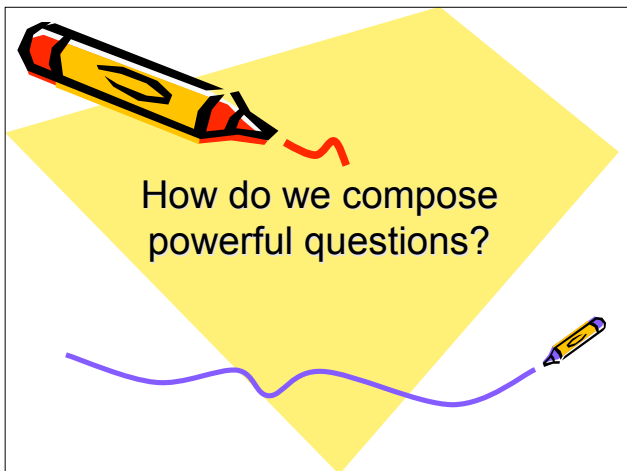


What are good discussion questions like?

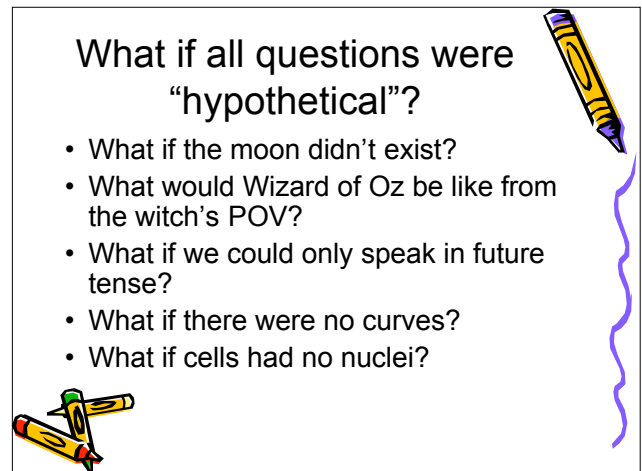


What are good summary questions?

- Which things were hardest to learn and why?
- What was most interesting?



How do we compose powerful questions?



What if all questions were “hypothetical”?

- What if the moon didn't exist?
- What would Wizard of Oz be like from the witch's POV?
- What if we could only speak in future tense?
- What if there were no curves?
- What if cells had no nuclei?

What does a class with all questions look like?

- Why do things move?
- Why is friction important?
- How do we measure friction?

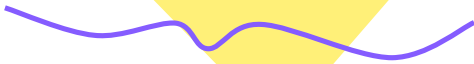
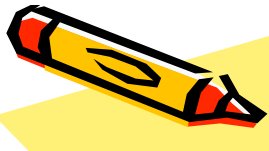


Could we really use Socratic questioning?

- What is history? -> What do historians write about? -> What is the past? -> Is it possible to include all of the past in a history book? -> How many of the events during a given time period are left out in a history of that time period? -> Is more left out than is included? -> How does a historian know what to emphasize or focus on? -> Do historians make value judgments in deciding what to include and what to leave out? -> Is it possible to simply list facts in a history book or does all history writing involve interpretations as well as facts? -> Is it possible to decide what to include and exclude and how to interpret facts without adopting a historical point of view? -> How can we begin to judge a historical interpretation? -> How can we begin to judge a historical point of view?



What does the research show us about bad questioning?



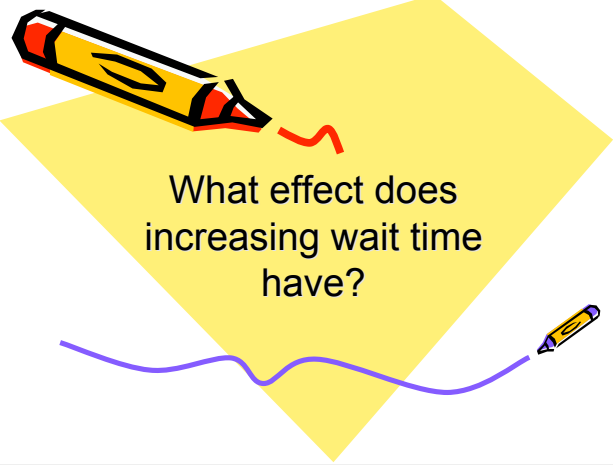
What is wrong with these questions?

- Verification questions – did I tell you the homework had to be today?
- Closed questions – have a 'yes', 'no' answer
- Rhetorical questions – the answer is in the question eg who led Sherman's march through Georgia?
- Defensive questions – why are you misbehaving again?
- Agreement questions – this is the best solution isn't it?

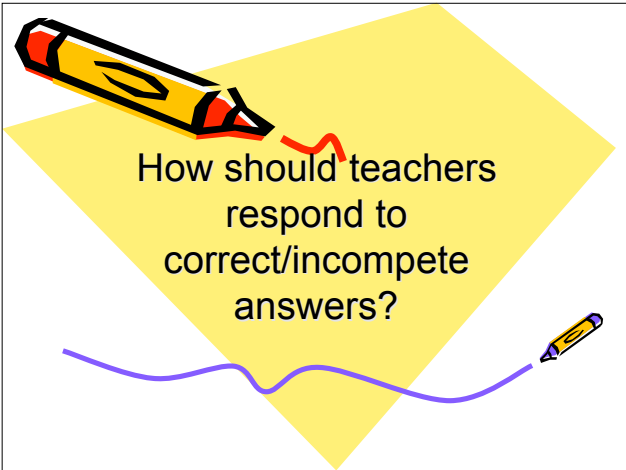


What's the best way to ask questions?

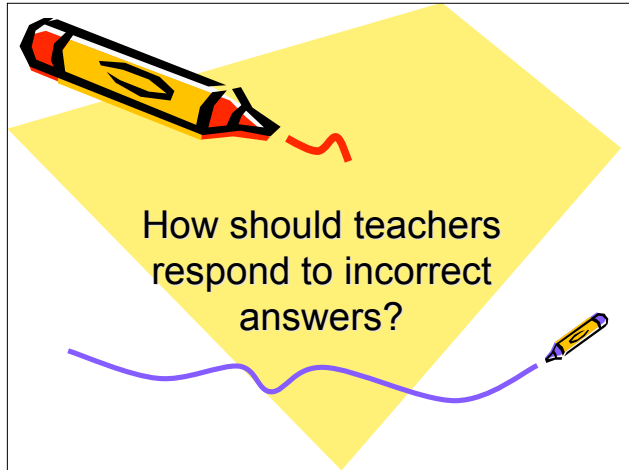
- How should you ask?
- Whom should you ask?
- How should you listen?
- How should you respond?



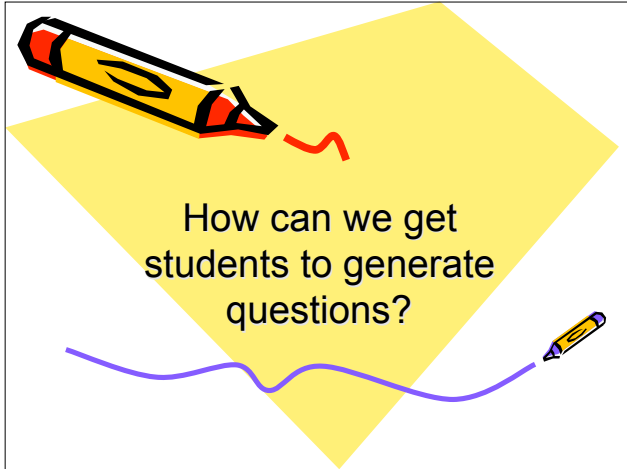
What effect does increasing wait time have?



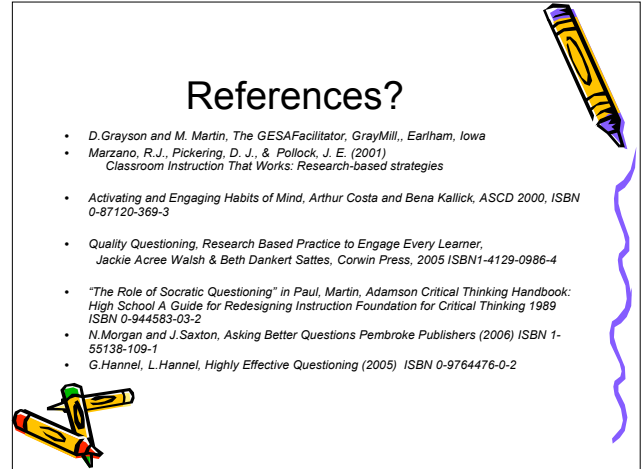
How should teachers respond to correct/incomplete answers?



How should teachers respond to incorrect answers?

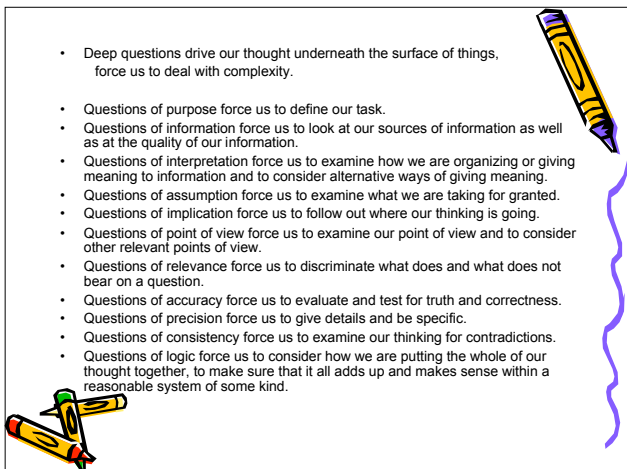


How can we get students to generate questions?

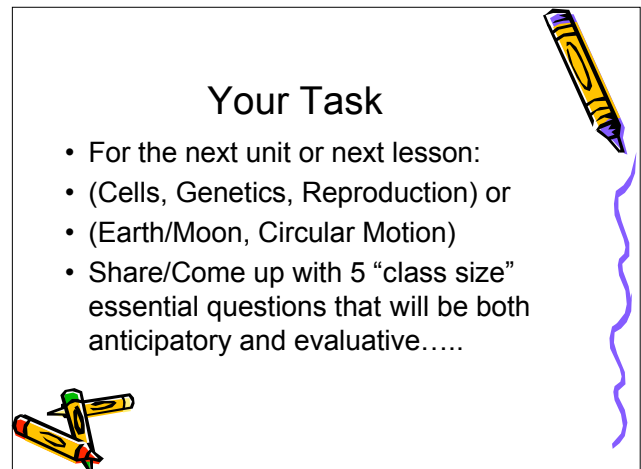


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- "The Role of Socratic Questioning" in Paul, Martin, *Adams Critical Thinking Handbook: High School A Guide for Redesigning Instruction Foundation for Critical Thinking 1989* ISBN 0-944583-03-2
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- Deep questions drive our thought underneath the surface of things, force us to deal with complexity.
- Questions of purpose force us to define our task.
- Questions of information force us to look at our sources of information as well as at the quality of our information.
- Questions of interpretation force us to examine how we are organizing or giving meaning to information and to consider alternative ways of giving meaning.
- Questions of assumption force us to examine what we are taking for granted.
- Questions of implication force us to follow out where our thinking is going.
- Questions of point of view force us to examine our point of view and to consider other relevant points of view.
- Questions of relevance force us to discriminate what does and what does not bear on a question.
- Questions of accuracy force us to evaluate and test for truth and correctness.
- Questions of precision force us to give details and be specific.
- Questions of consistency force us to examine our thinking for contradictions.
- Questions of logic force us to consider how we are putting the whole of our thought together, to make sure that it all adds up and makes sense within a reasonable system of some kind.



Your Task

- For the next unit or next lesson:
- (Cells, Genetics, Reproduction) or
- (Earth/Moon, Circular Motion)
- Share/Come up with 5 "class size" essential questions that will be both anticipatory and evaluative.....