

# Flipping the Classroom with Peer Instruction and Learning Catalytics



# Purpose:

Build your prior knowledge for:

- JiTT and Peer Instruction as an innovative way to flip your class
- A cutting-edge technology for facilitating Peer Instruction

After taking this workshop  
you will be able to:

- Use Just-in-Time Teaching to prepare students for a Peer Instruction Class
- Facilitate Peer Instruction during class time
- Select a tool for flipping the classroom with Peer Instruction that work for you

Please go to [lcatalytics.com](https://lcatalytics.com)

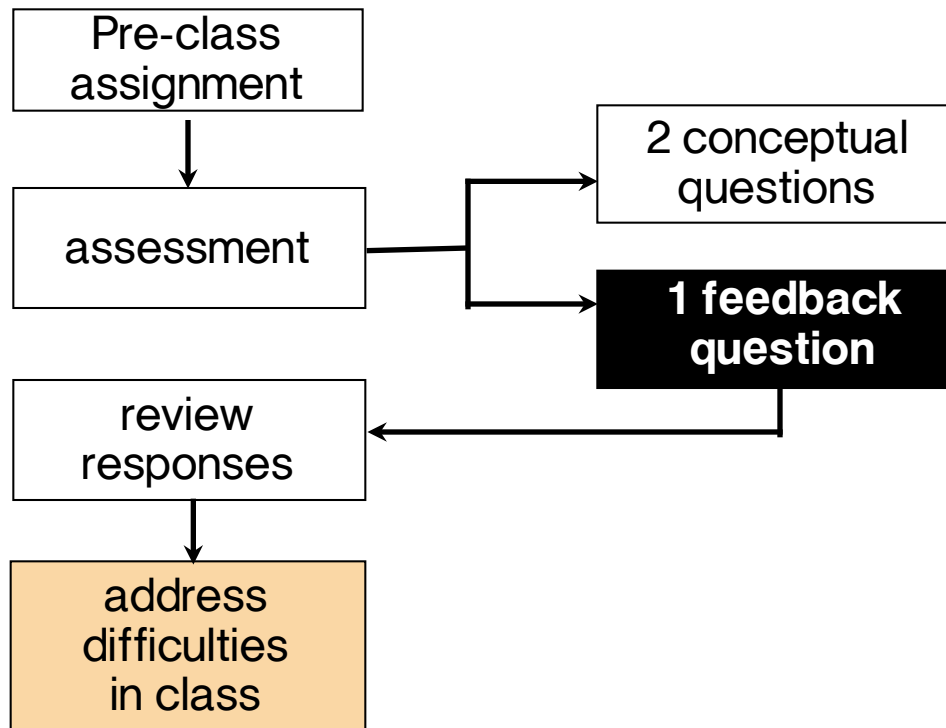
Sign in with your username and password

Click Student View

Join session 608187

Wait for questions

# Just-in-Time Teaching



# **Just-in-Time Teaching**

# **Just-in-Time Teaching**

**What makes a good JiTT question?**

# Pride and Prejudice



Pride & Prejudice (4/10) Movie CLIP - Refusi



movieclips

2011/06/16

Views: 107,705



MOVIECLIPS.COM



What is Collins' profession?

Hypothesize Collins' purpose for marrying.

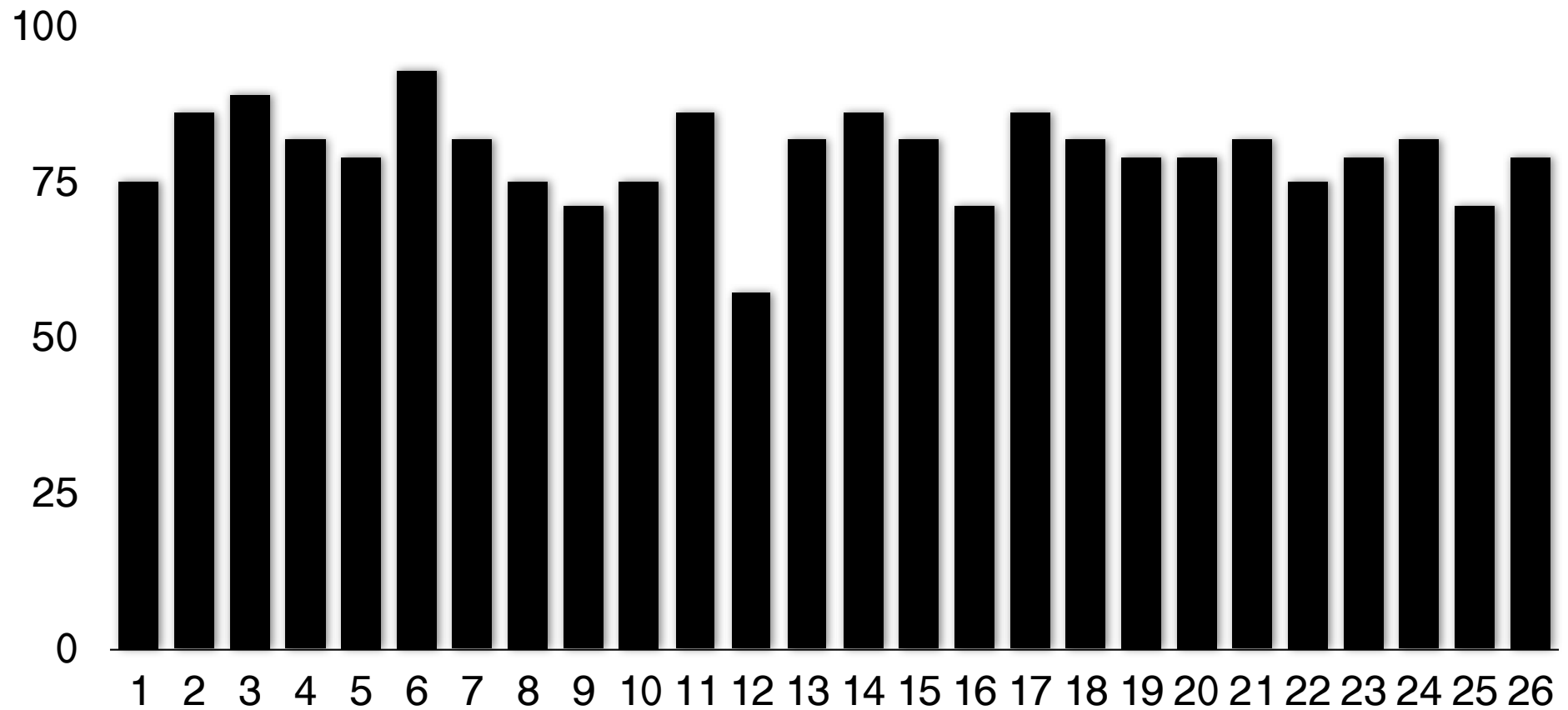
What do you wonder about Collins' proposal and why?

# **Just-in-Time Teaching**

**How do you score JiTT responses?**

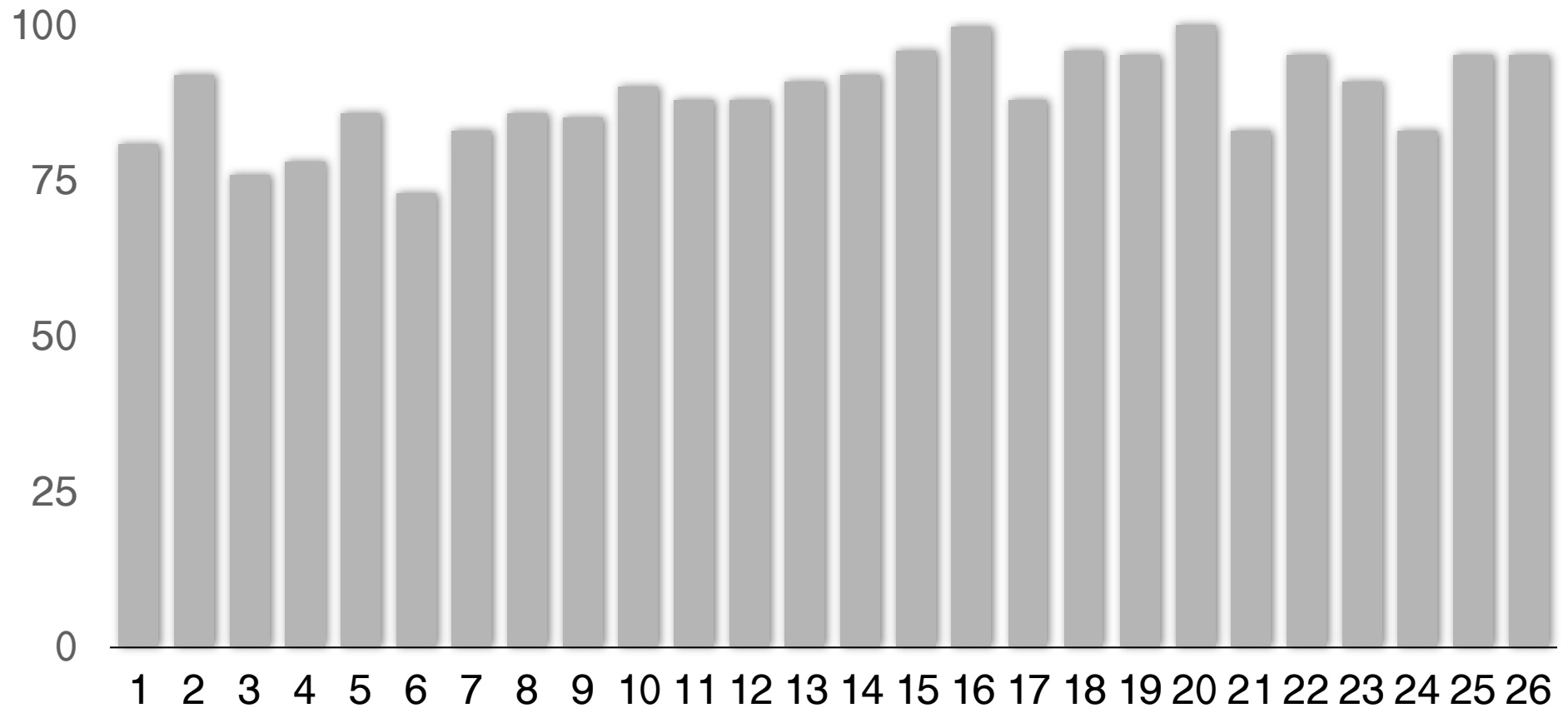
Score for each question	Criteria (Students are asked to respond with an answer <b>and</b> a rationale for that answer)
0	Question is left blank or incomplete
1	Response includes an answer, but does not include any or includes only very minimal reasoning or rationale (regardless of correctness)
2	Response includes an answer AND reasoning or rationale (regardless of correctness)

# Just-in-Time Teaching



% of students (n=28) completing reading assignment (n=26)

# Just-in-Time Teaching




% of students (n=28) reading assignment  
engagement (n=26)

Write a possible JiTT question for your course and share it with a neighbor.



# Tips for JiTT

- 
- Award points for effort
  - Focus questions on what you want students to think about
  - Use JiTT to organize class
  - Display student comments
  - Formally assess JiTT content
  - Find another JiTT user

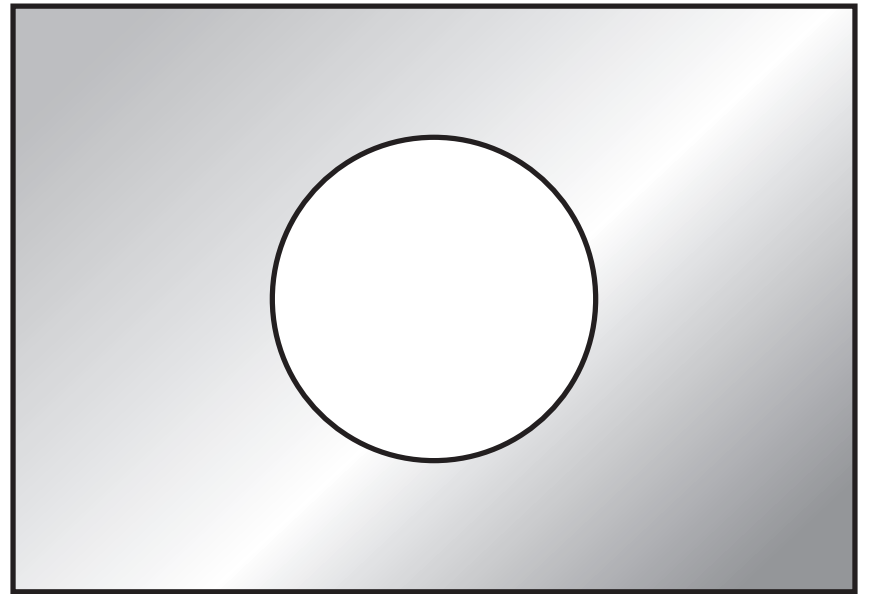
What do I do with class time if I am not lecturing?

# Thermal Expansion



**When metals heat up, they expand.**

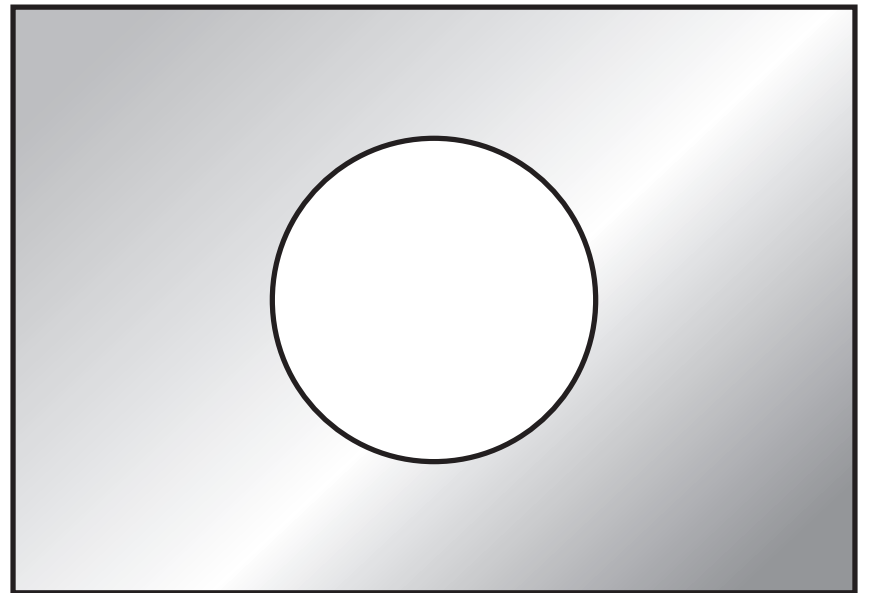
Consider a metal (aluminum) plate with a hole in it.



Consider a metal (aluminum) plate with a hole in it.

If you heat the plate uniformly what happens to diameter of hole?

- A. increases**
- B. stays the same**
- C. decreases**

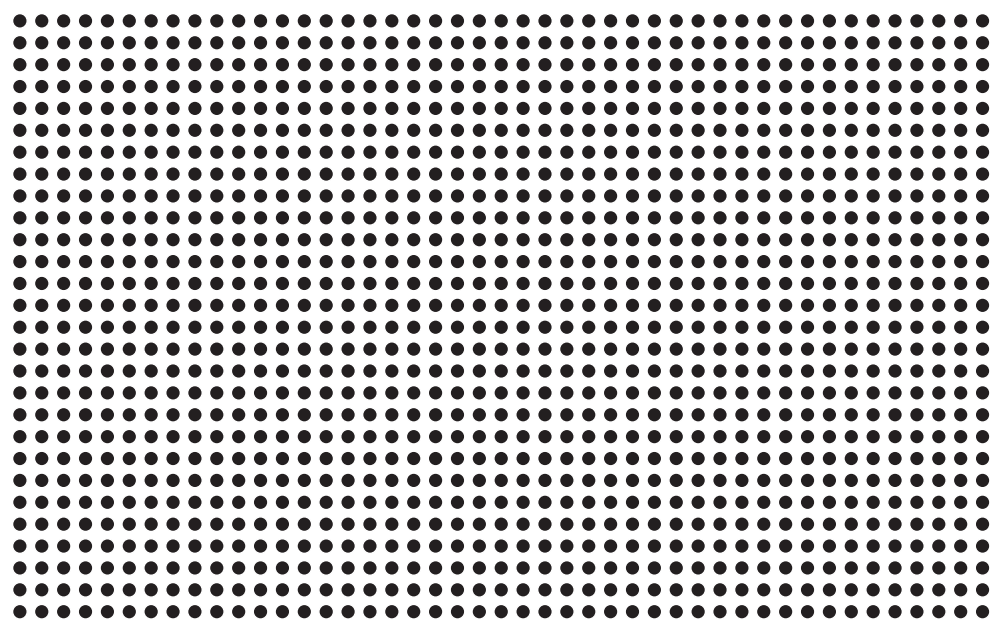


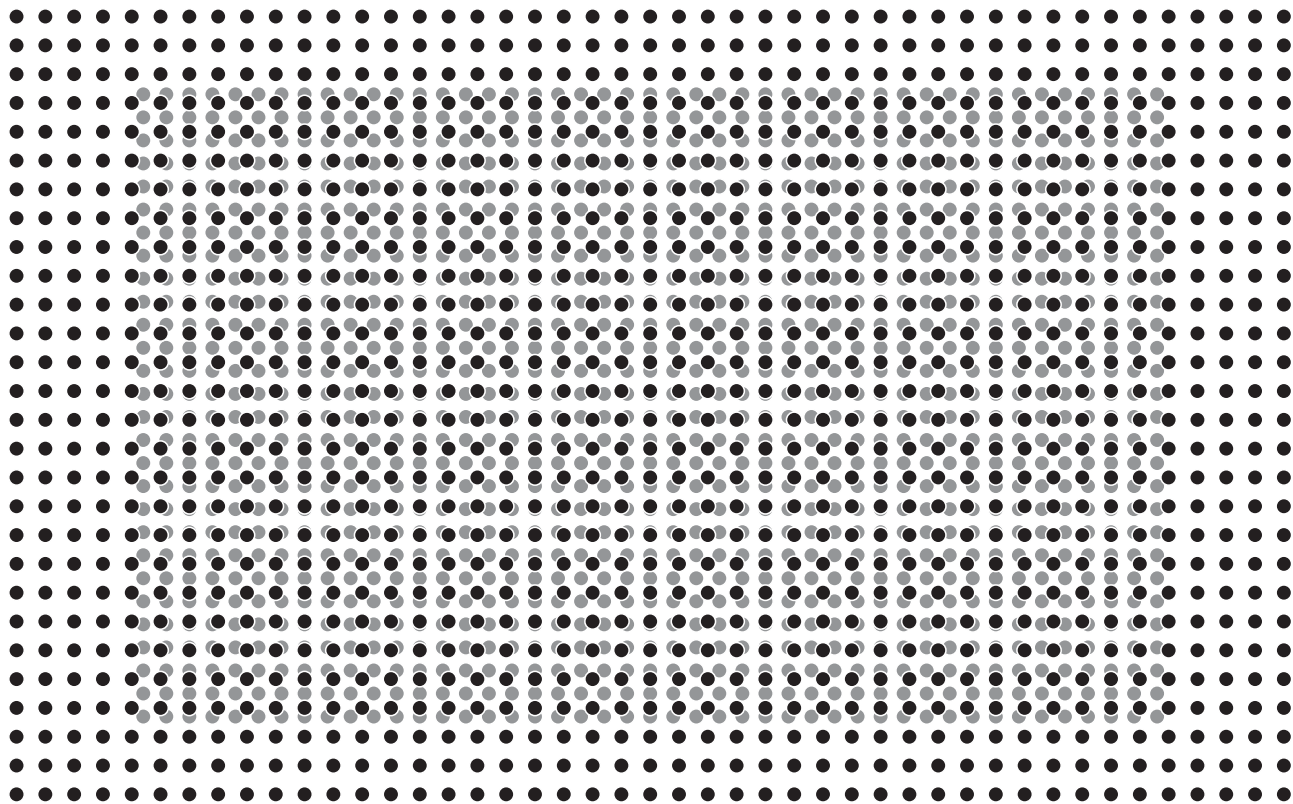


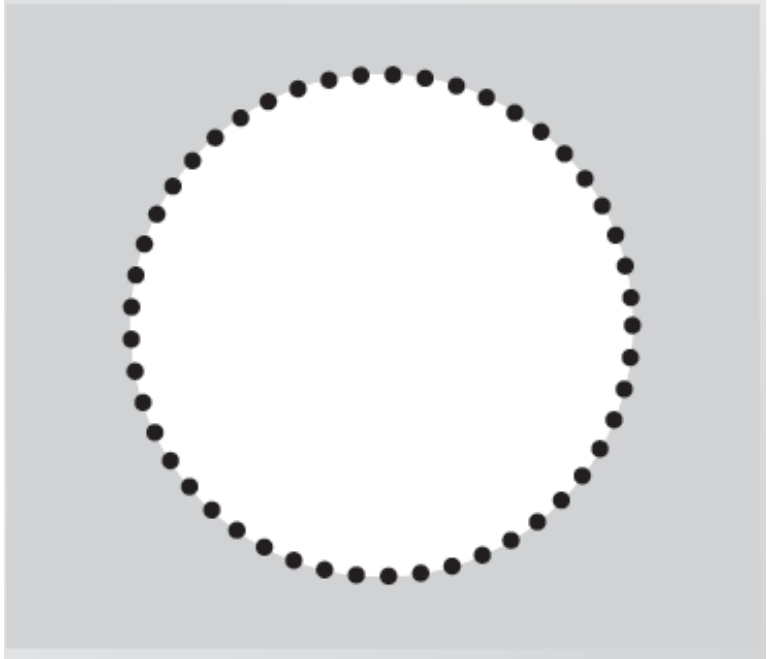
# What just happened?

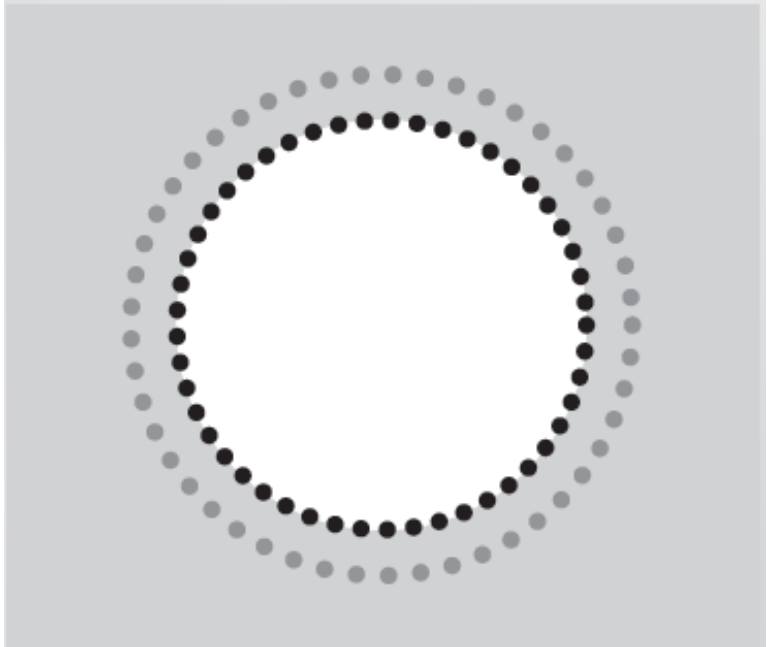
1. made a commitment, gained awareness of knowledge state
2. externalized your answer
3. moved from the answer to reasoning
4. became emotionally invested in the learning process

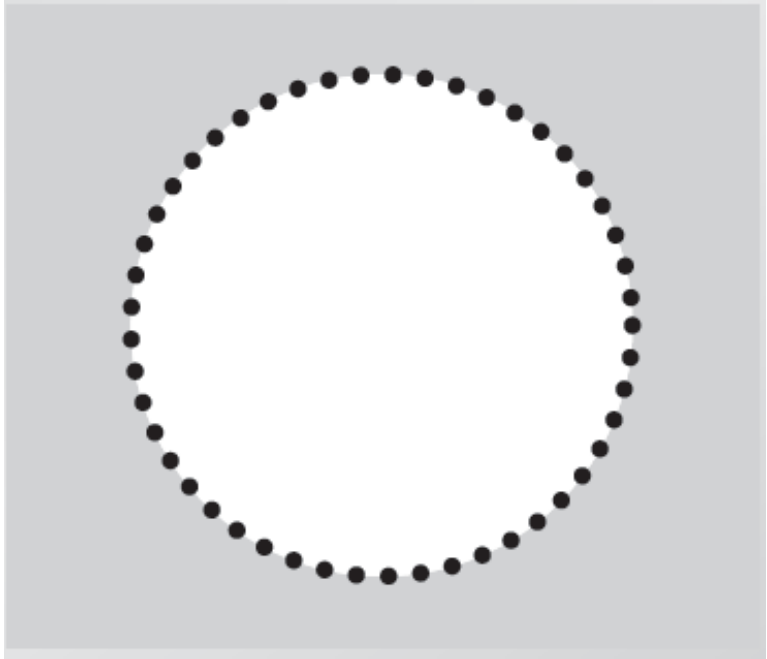












If you heat metals up what happens?

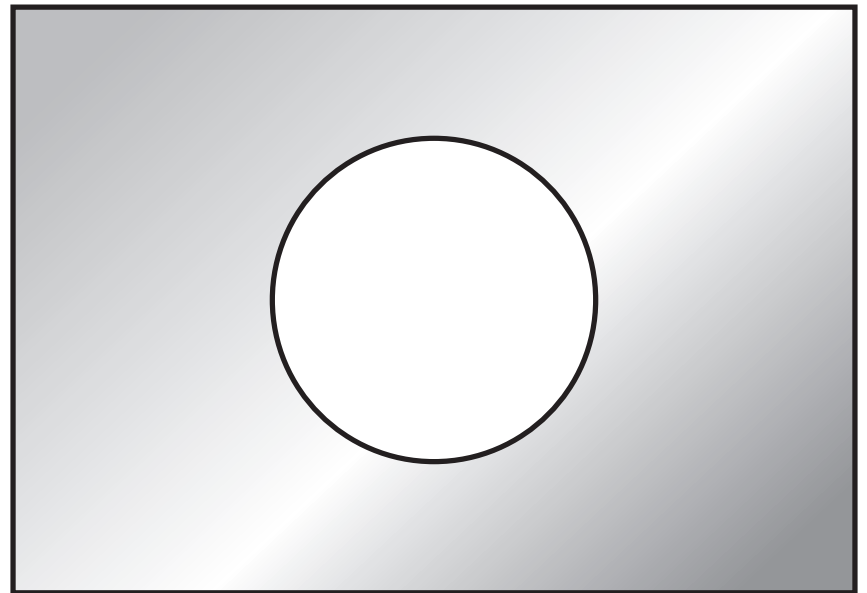
- A. they expand**
- B. they stay the same**
- C. they get smaller**
- D. who cares?**

If you heat it uniformly what happens to diameter of hole?

**A. increases**

**B. stays the same**

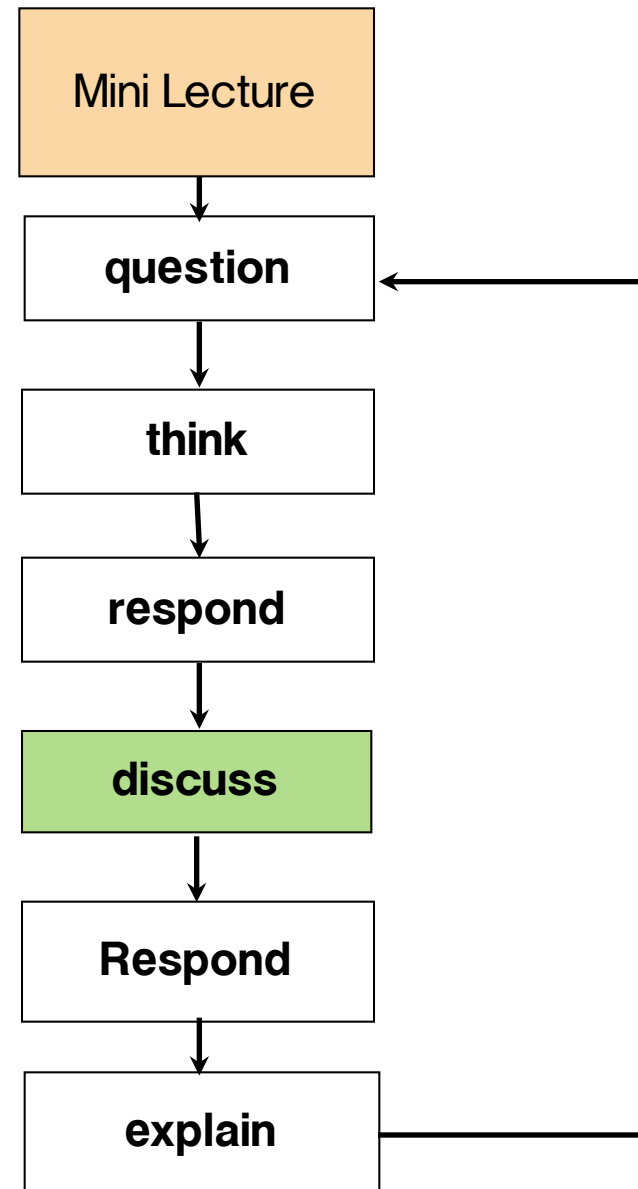
**C. decreases**



# Peer Instruction

address  
difficulties  
in class

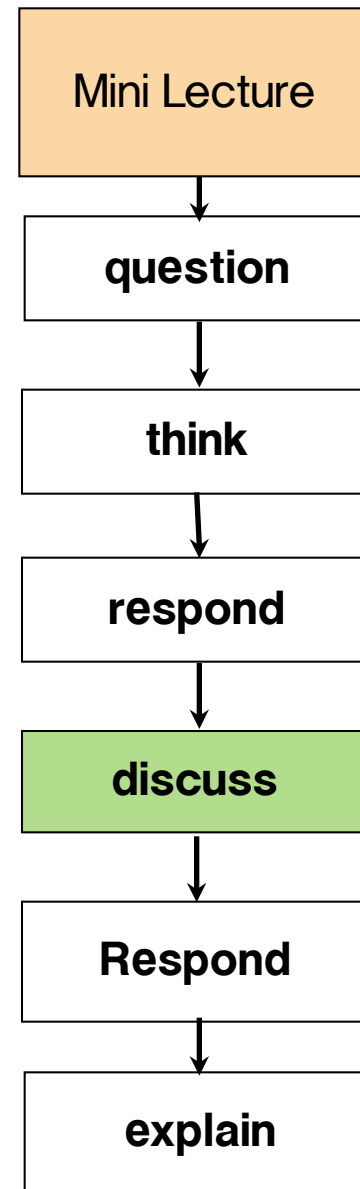
Elicit  
Confront  
Resolve  
Misconceptions





# Peer Instruction

address  
difficulties  
in class



Goldilocks Range of  
Desirable Difficulty  
30-70% correct

# **Moral Ambiguity**



# Gert's Moral Rules

1. Do not kill.
2. Do not cause pain.
3. Do not disable.
4. Do not deprive of freedom.
5. Do not deprive of pleasure.
6. Do not deceive.
7. Keep your promises.
8. Do not cheat.
9. Obey the law.
10. Do your duty.

Heinz's wife was near death, and her only hope was a drug that had been discovered by a pharmacist who was selling it for an exorbitant price. The drug cost \$20,000 to make, and the pharmacist was selling it for \$200,000. Heinz could only raise \$50,000 and insurance wouldn't make up the difference. He offered what he had to the pharmacist, and when his offer was rejected, Heinz said he would pay the rest later. Still the pharmacist refused. In desperation, Heinz broke into the store and stole the drug.

Should Heinz have broken into the store to steal the drug for his wife?

**A. Yes**

**B. No**

What if Heinz's child was sick, not his wife?

Should Heinz have broken into the store to steal the drug for his child?

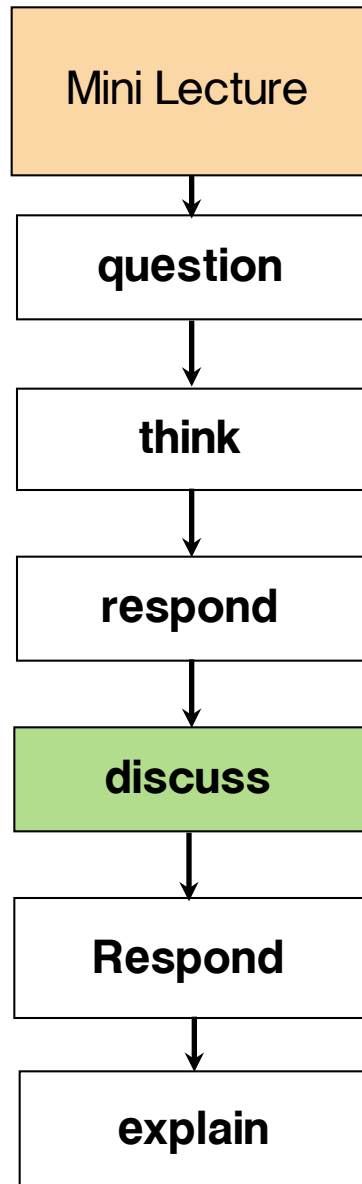
**A. Yes**

**B. No**

# **Tips for Peer Instruction**

**-Try with 1 concept**

**-Don't skip any of the 7 basic steps**



7 basic  
steps



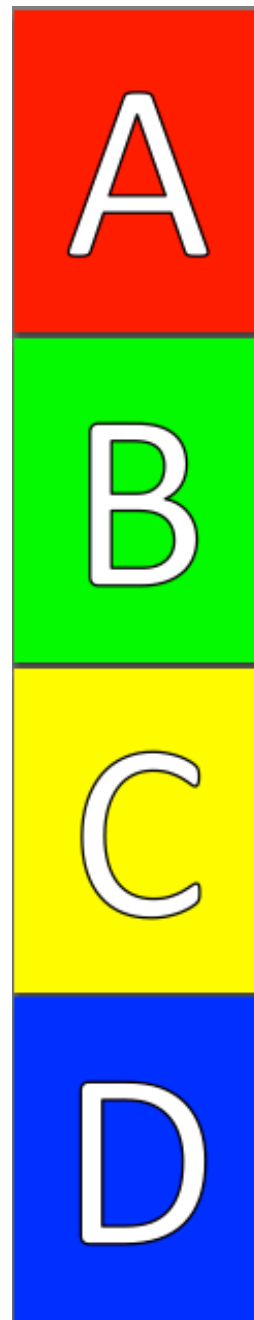
What are alternatives to dickers?







[bit.ly/TgzlcQ](https://bit.ly/TgzlcQ)



[bit.ly/VnXtNS](https://bit.ly/VnXtNS)

learning catalytics

https://learningcatalytics.com/courses/11/lectures/203

Google

Brian Lukoff | Harvard University | [Log out](#)

learning | catalytics

CoursesParticipateReviewClassroomsAccountAbout

current session: 766079 | 69 students

Stop session

Review results

Seat map

Show floating session ID

Edit

PDF

Delete

Jump to ▾

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

▶

enters horizontally into the combination of two perpendicular

Stop delivery

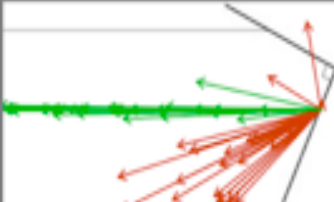
Deliver again

Assign groups

Show all results

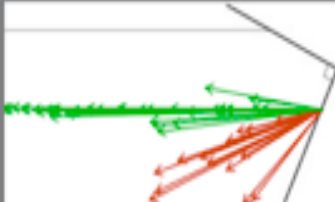
Round 1

57 responses, 58% correct



Round 2

51 responses, 73% correct



✓ 8 get it now


✗ 0 still don't get it

feedback & support

Carrier 1:50 PM

Leave session 766079 Logout

Light enters horizontally into the combination of two perpendicular mirrors as shown below. Indicate the direction of the incident light after it reflects off of both mirrors.



Submit response

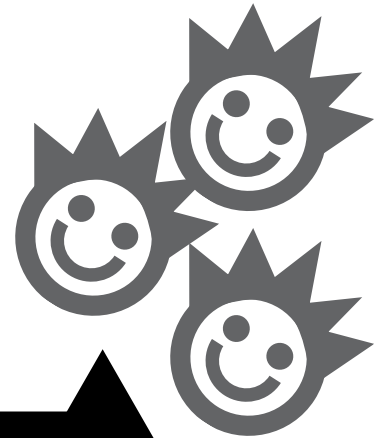
Switch to text response

Current seat: A2 Change seats

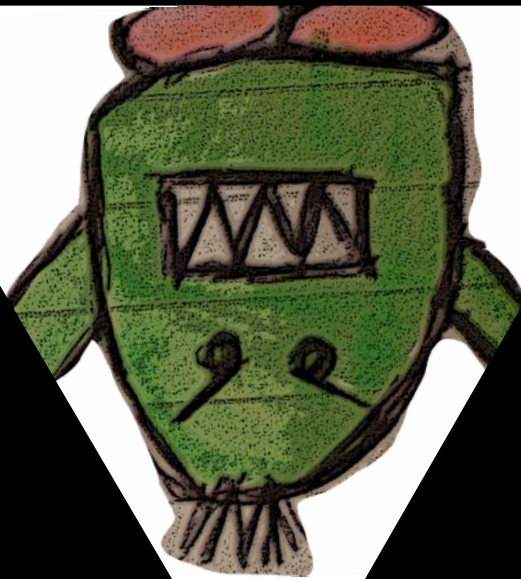


What do you want me to do, Julie?





# FLIP with Peer Instruction







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## PEOPLE

Eric Mazur

James Fraser

Ives Araujo

Cassandra Alvarado

Brian Lukoff

Jen Ebbeler

Carol Dweck

Dan Meyer

Nancy Duarte

Chip and Dan Heath

# Acknowledgements

## BOOKS

Flip Your Classroom

Slide!Dlogy

Made to Stick

Why Students Don't Like School



[www.julieschell.com](http://www.julieschell.com)

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