

Educating: All at once, one-on-one



Forum for the Future of Higher Education
Aspen Institute
Aspen, CO, 16 June 2015



Educating: All at once, one-on-one



@eric_mazur

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What are the following...
1. Personal...
2. The...
3. The...
4. The...
5. The...

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What are the following...
1. Personal...
2. The...
3. The...
4. The...
5. The...

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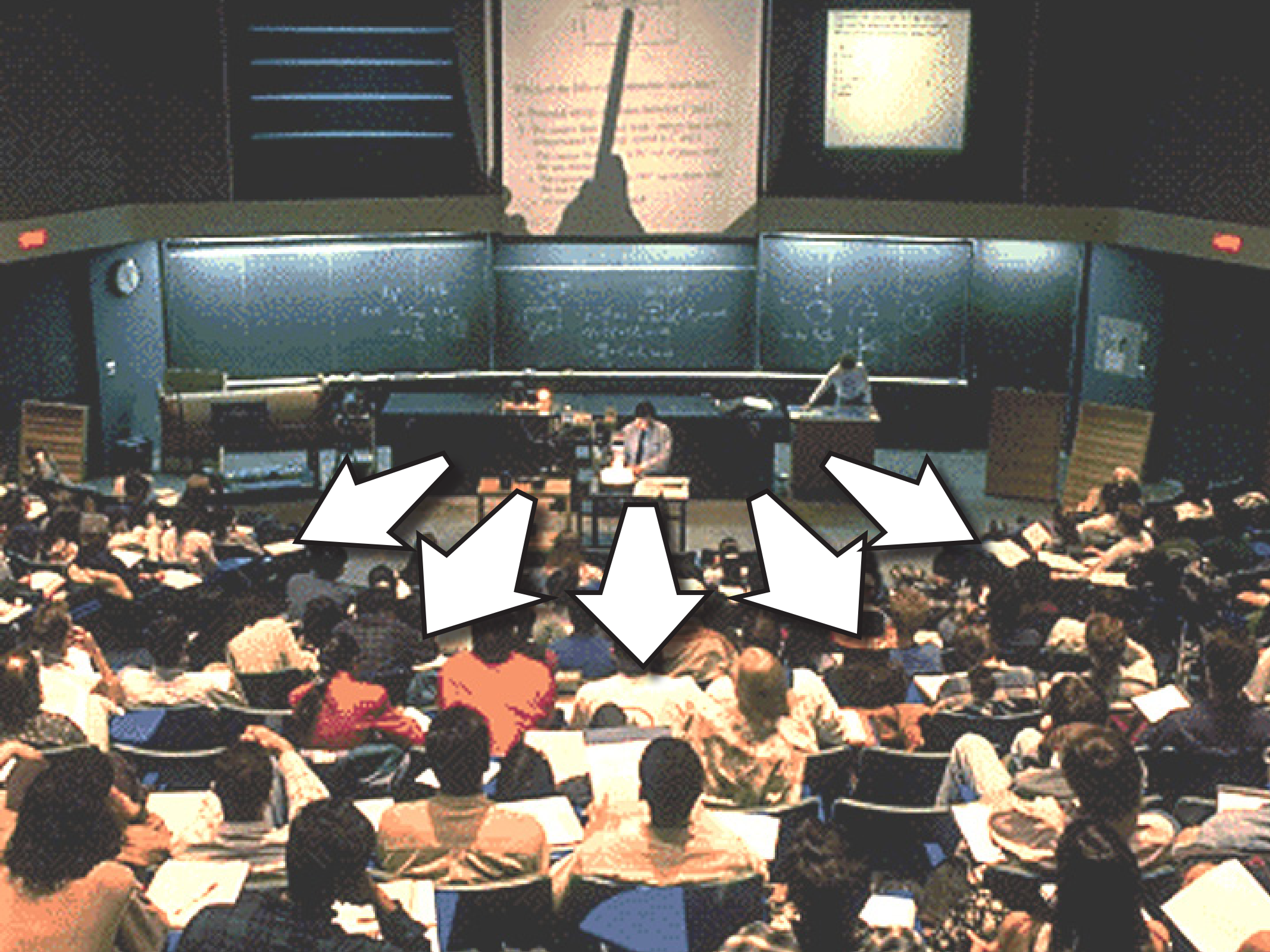
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What are the following...
A...
The...
The...
The...
The...

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The image features a painting of a face, possibly a woman, with large, expressive eyes. The face is rendered in a style that suggests depth and texture, with visible brushstrokes. The eyes are looking through a series of horizontal, light-colored slats, which create a sense of being viewed through a window or a screen. The background of the painting is a mix of light and dark tones, with some areas appearing more saturated than others. Overlaid on the center of the painting is the text "an illusion..." in a bold, red, serif font. The text is slightly transparent, allowing the underlying painting to be seen through it. The overall composition is centered and balanced, with the text acting as a focal point.

an illusion. . .





1. transfer of information



1. transfer of information

2. assimilation of that information




1. transfer of information (in class)

2. assimilation of that information



1. transfer of information (in class)

2. assimilation of that information (out of class)



**Should focus
on THIS!**

1. transfer of information (in class)

2. assimilation of that information (out of class)



1. transfer of information (in class)

2. assimilation of that information (out of class)



1. transfer of information (out of class)

2. assimilation of that information (in class)

Peer

1. transfer of information (out of class)

2. assimilation of that information (in class)

INSTRUCTION

question

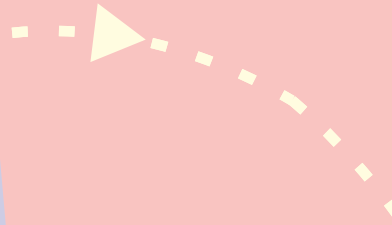
INSTRUCTION

question



think

r



INSTRUCTION

question



think



poll

r

INSTRUCTION

INSTRUCTION

question



think



poll



discuss

INSTRUCTION

question



think



poll



discuss



repoll

repoll

question



think



poll



discuss

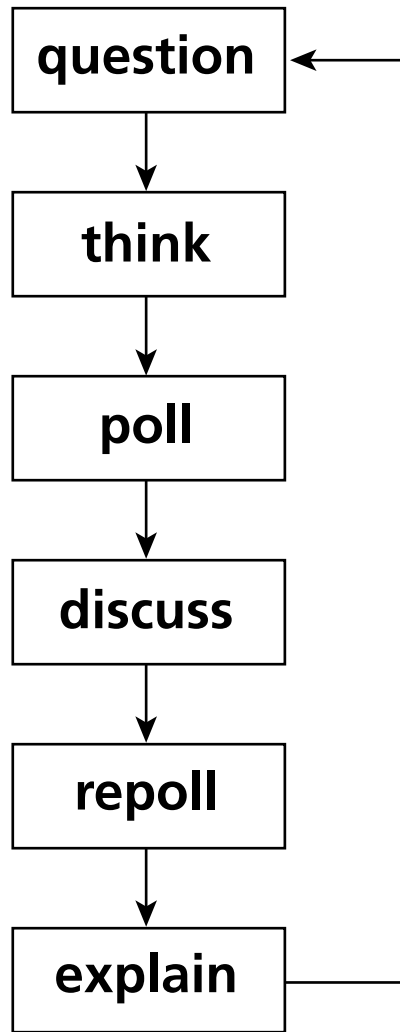


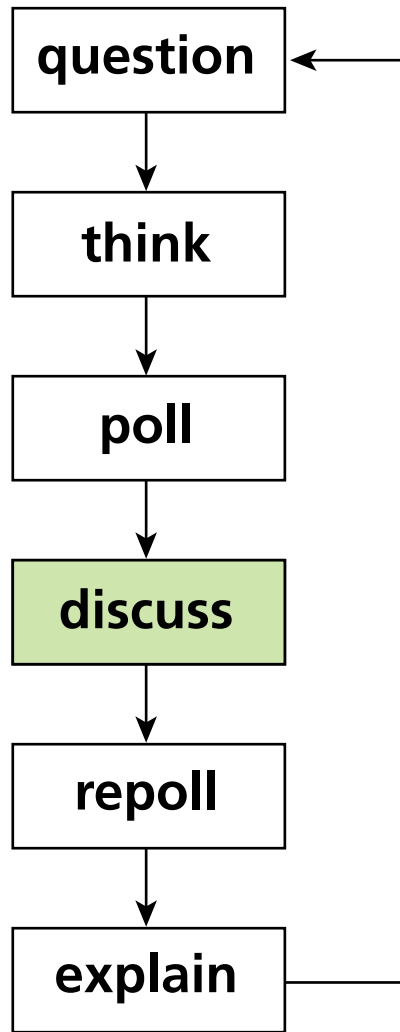
repoll



explain

INSTRUCTION

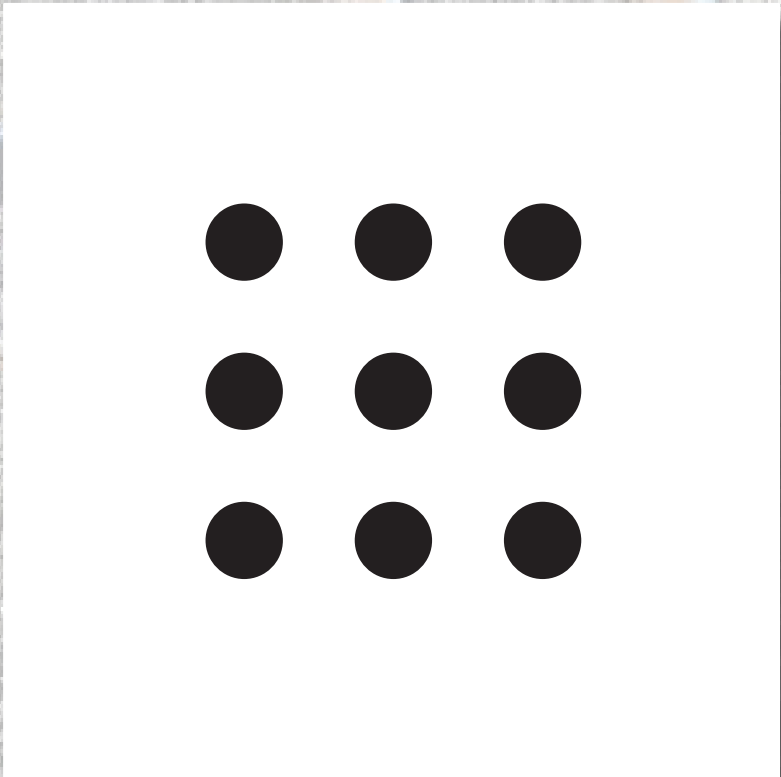
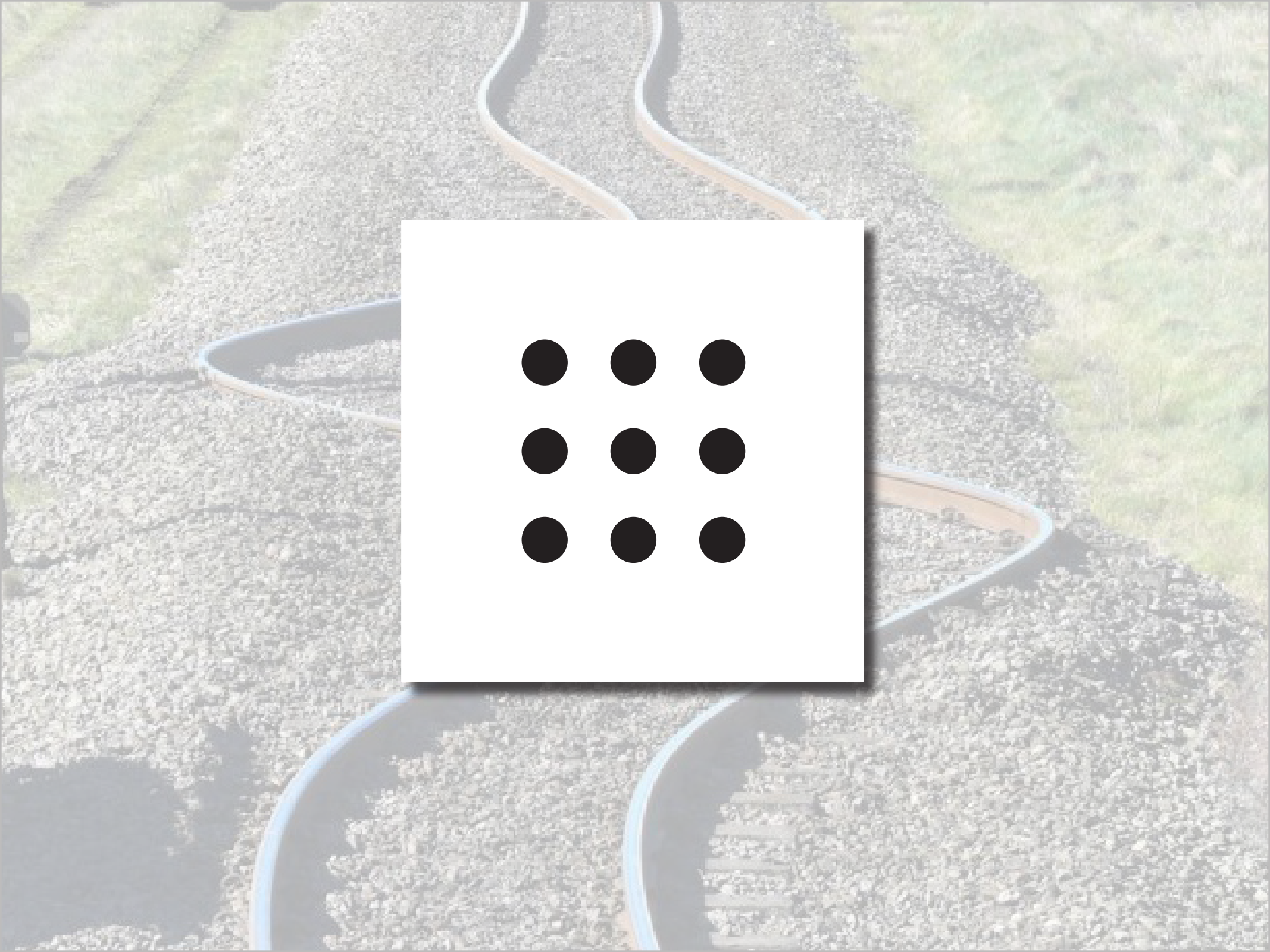


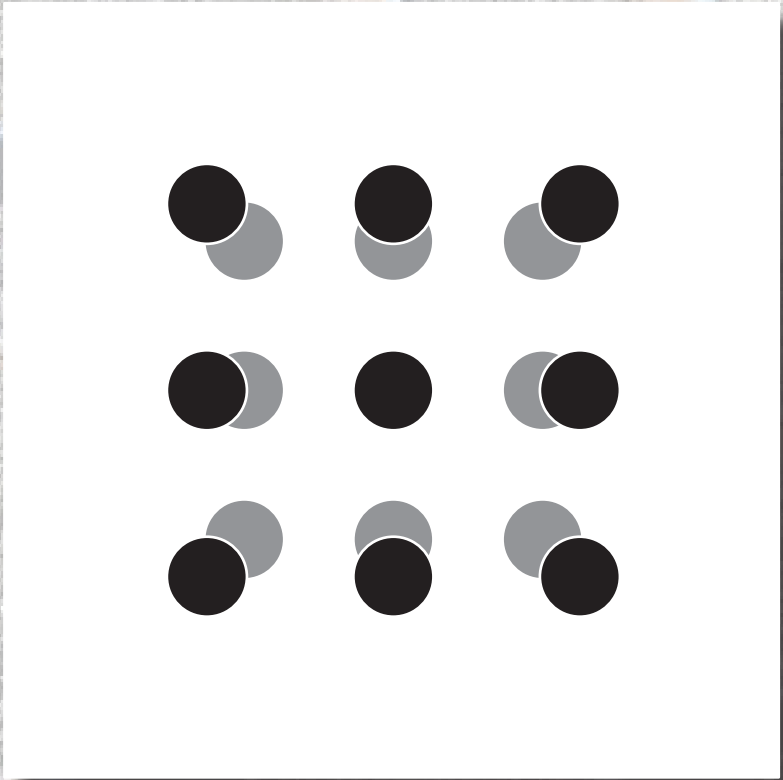




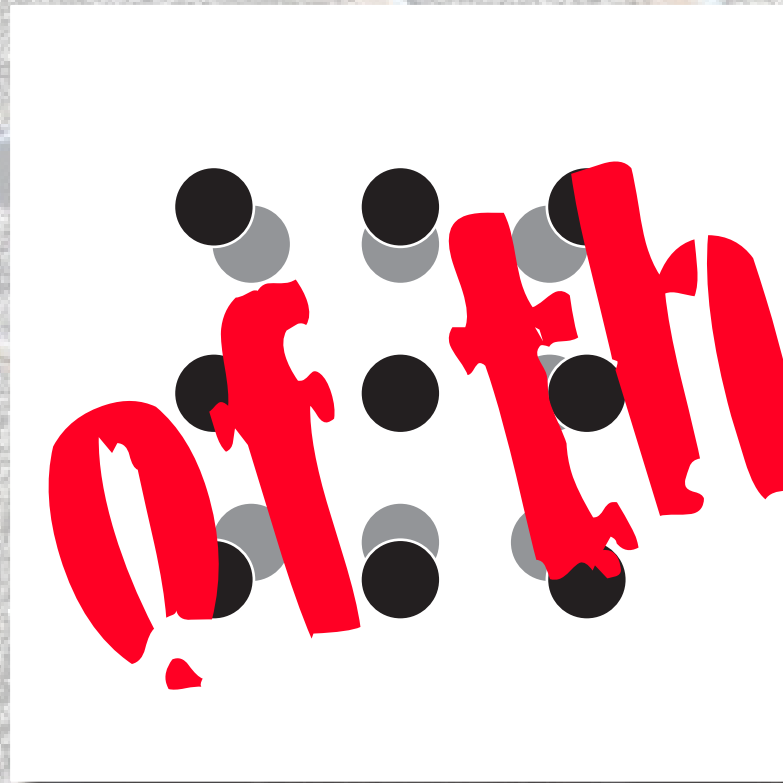
A photograph of a railway track with a wavy, undulating path, illustrating thermal expansion. The track is composed of gravel and wooden sleepers, and the rails are curved in a series of gentle waves. The text "thermal expansion" is overlaid on the image.

thermal expansion

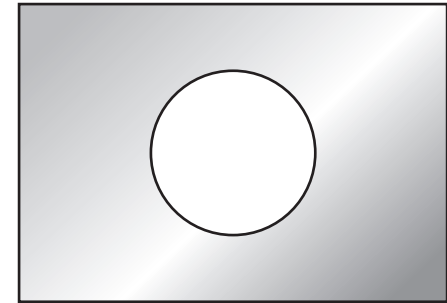




all of them!

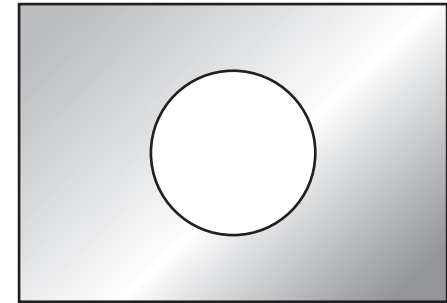


**Consider a rectangular metal plate
with a circular hole in it.**



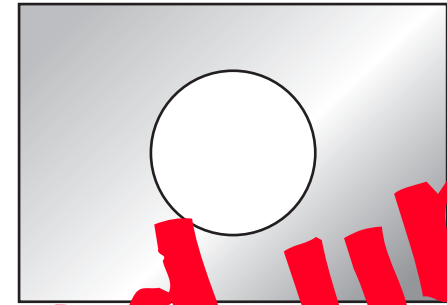
Consider a rectangular metal plate with a circular hole in it.

When the plate is uniformly heated, the diameter of the hole



- 1. increases.**
- 2. stays the same.**
- 3. decreases.**

Consider a rectangular metal plate with a circular hole in it.



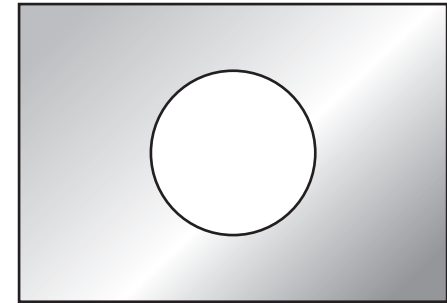
When the plate is uniformly heated, the diameter of the hole

1. increases.
2. stays the same.
3. decreases.

you got all fired up!

Consider a rectangular metal plate with a circular hole in it.

When the plate is uniformly heated, the diameter of the hole



- 1. increases.**
- 2. stays the same.**
- 3. decreases.**

Before I tell you the answer, let's analyze what happened.

Before I tell you the answer, let's analyze what happened.

You...

Before I tell you the answer, let's analyze what happened.

You...

1. made a commitment

Before I tell you the answer, let's analyze what happened.

You...

- 1. made a commitment**
- 2. externalized your answer**

Before I tell you the answer, let's analyze what happened.

You...

- 1. made a commitment**
- 2. externalized your answer**
- 3. moved from the answer/fact to reasoning**

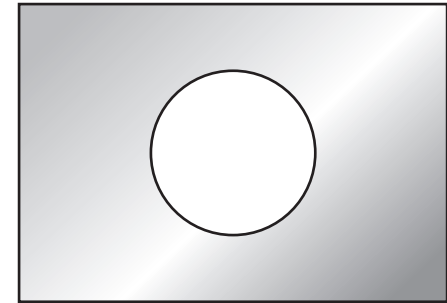
Before I tell you the answer, let's analyze what happened.

You...

- 1. made a commitment**
- 2. externalized your answer**
- 3. moved from the answer/fact to reasoning**
- 4. became emotionally invested in the learning process**

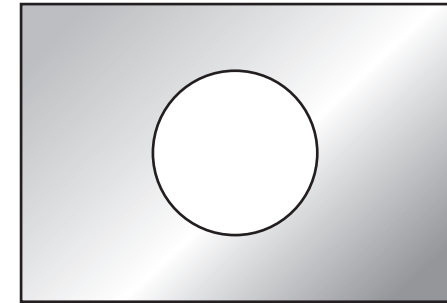
Consider a rectangular metal plate with a circular hole in it.

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- 1. increases.**
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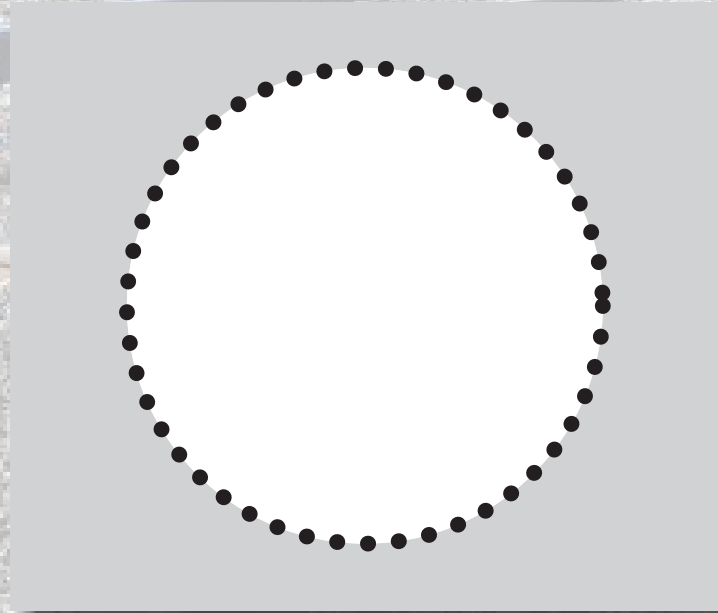
Consider a rectangular metal plate with a circular hole in it.



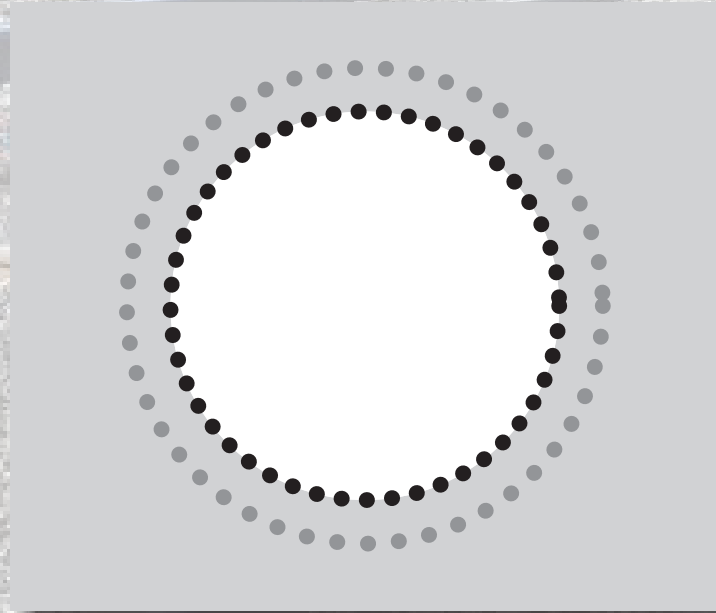
When the plate is uniformly heated, the diameter of the hole

- 1. increases. ✓**
2. stays the same.
3. decreases.

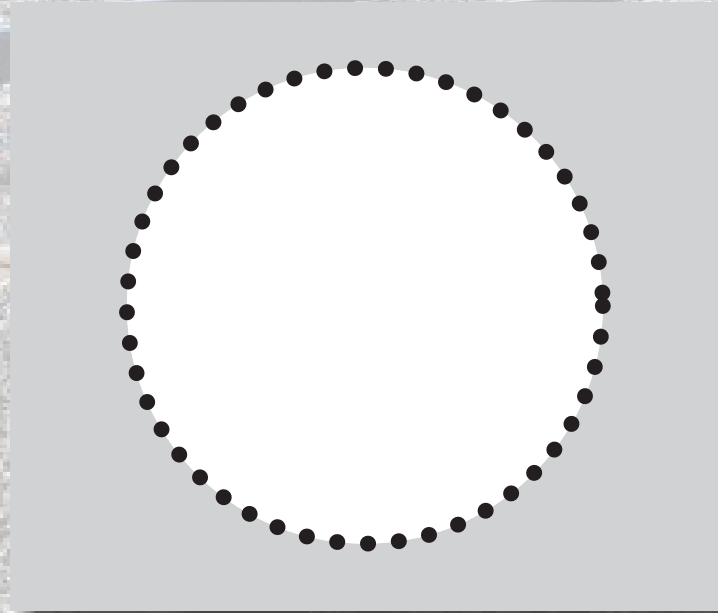
consider atoms at rim of hole



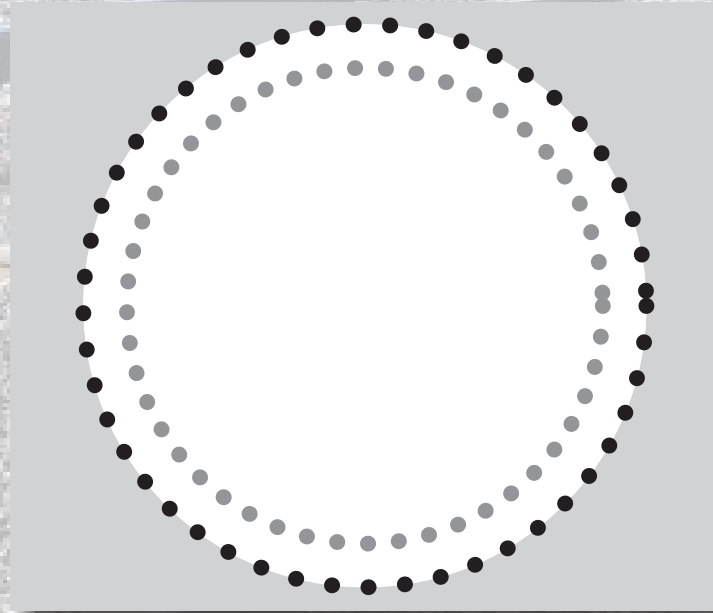
consider atoms at rim of hole



consider atoms at rim of hole



consider atoms at rim of hole



consider atoms at rim of hole

you won't forget this



Peer

back to pi

INSTRUCTION

Peer

eer

INSTRUCTION

Higher learning & gains

INSTRUCTION

Higher learning gains

Better retention

INSTRUCTION



Education is not just about:

- **transferring information**
- **getting students to do what we do**

The background of the slide features a close-up of a person's face, specifically their eyes and nose, looking through the horizontal slats of window blinds. The lighting is soft, and the colors are muted, with the blinds appearing in shades of yellow and red. The person's eyes are a light blue-grey color, and their skin is a pale, natural tone. The overall mood is contemplative and focused.

Education is not just about:

- **transferring information**
- **getting students to do what we do**

active participation a must!

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