

Education and resilience



WGBH Innovation IdeaLab
Brighton, MA, 21 November 2013



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@eric_mazur

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kosten

1. die Kosten (*pl.*)
2. kostbar

krank

1. die Krankheit, —, —en

cow

magnificent
glor

1. magnifice
2. master

lendid

das Kind, —(e)s, —er

1. kindisch
2. kindlich

der Kellner, —s, —

1. der Keller, —s, —

kennen

kannte-gekannt *irreg.*

1. kennen-lernen
2. erkennen
3. bekannt
4. der Bekannte (*adj.* as *n.*)

kosten

1. die Kosten (*pl.*)
2. kostbar

krank

die Krankheit, —, —en

kennen

1. kannte-gekannt
 2. kennen-lernen
 3. erkennen
 4. bekannt
- der Bekannte (*adj.*, as *n.*)

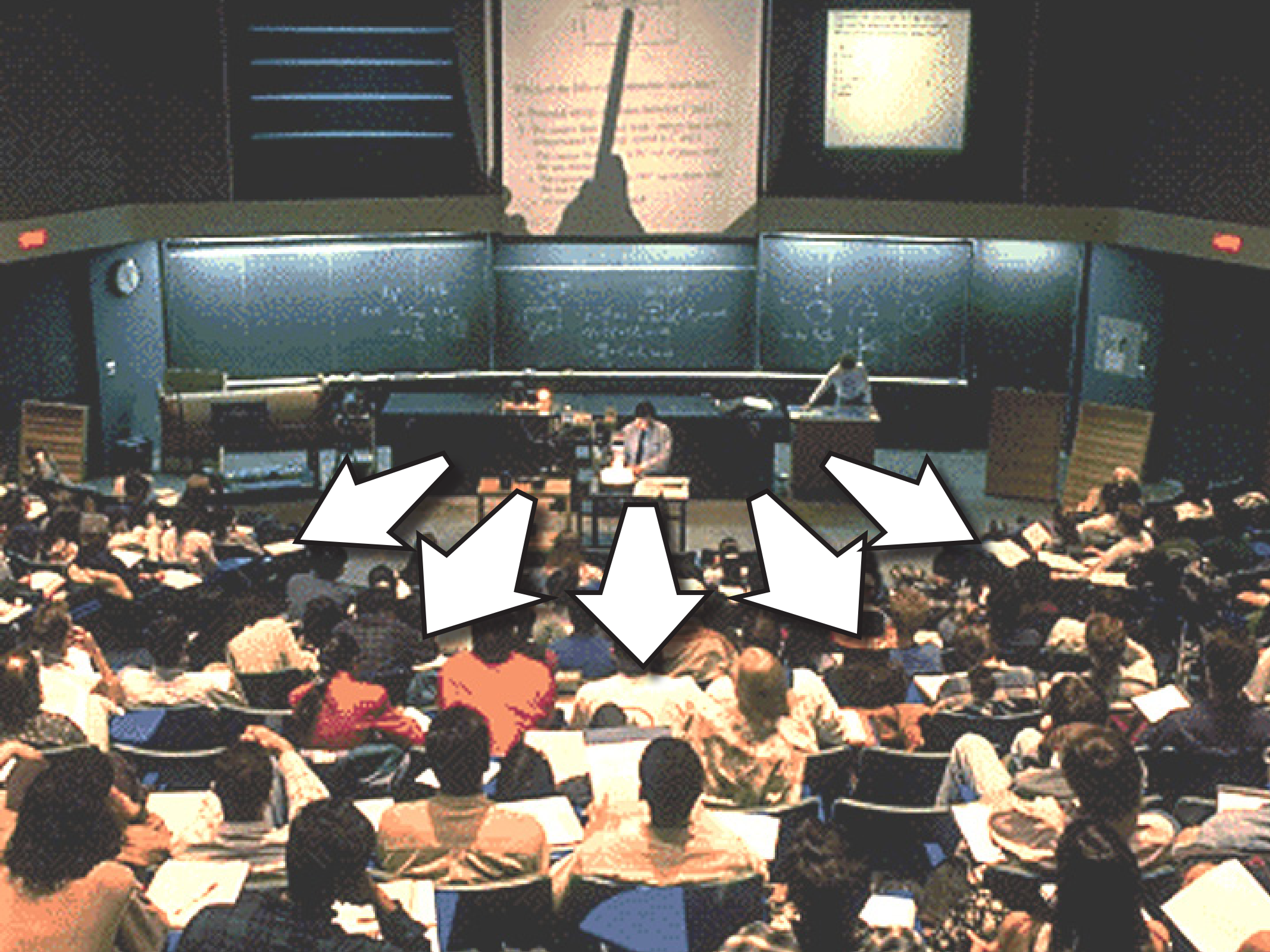


**35% retained
after 1 week**



**we only guarantee
they'll pass the test**





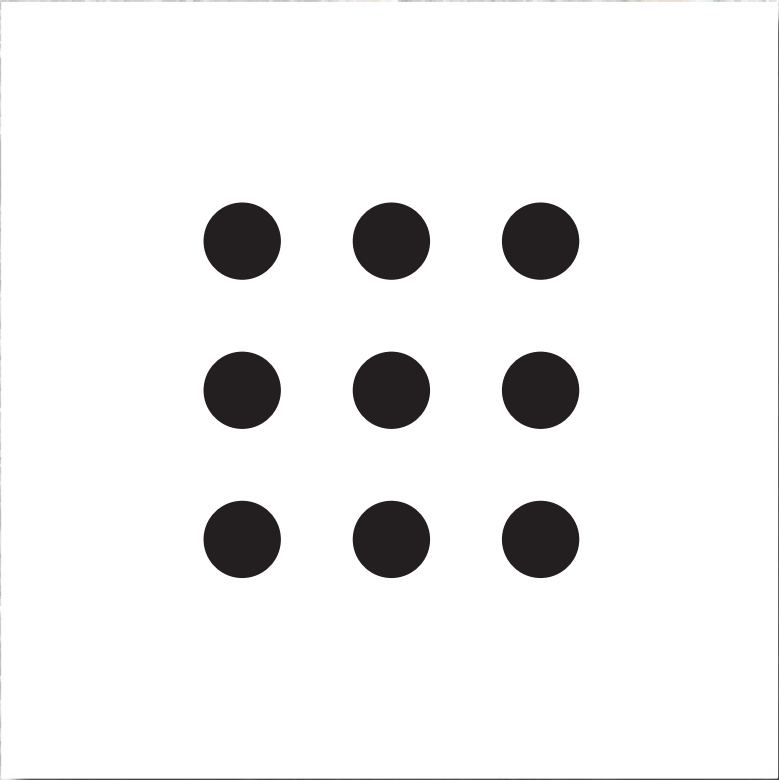
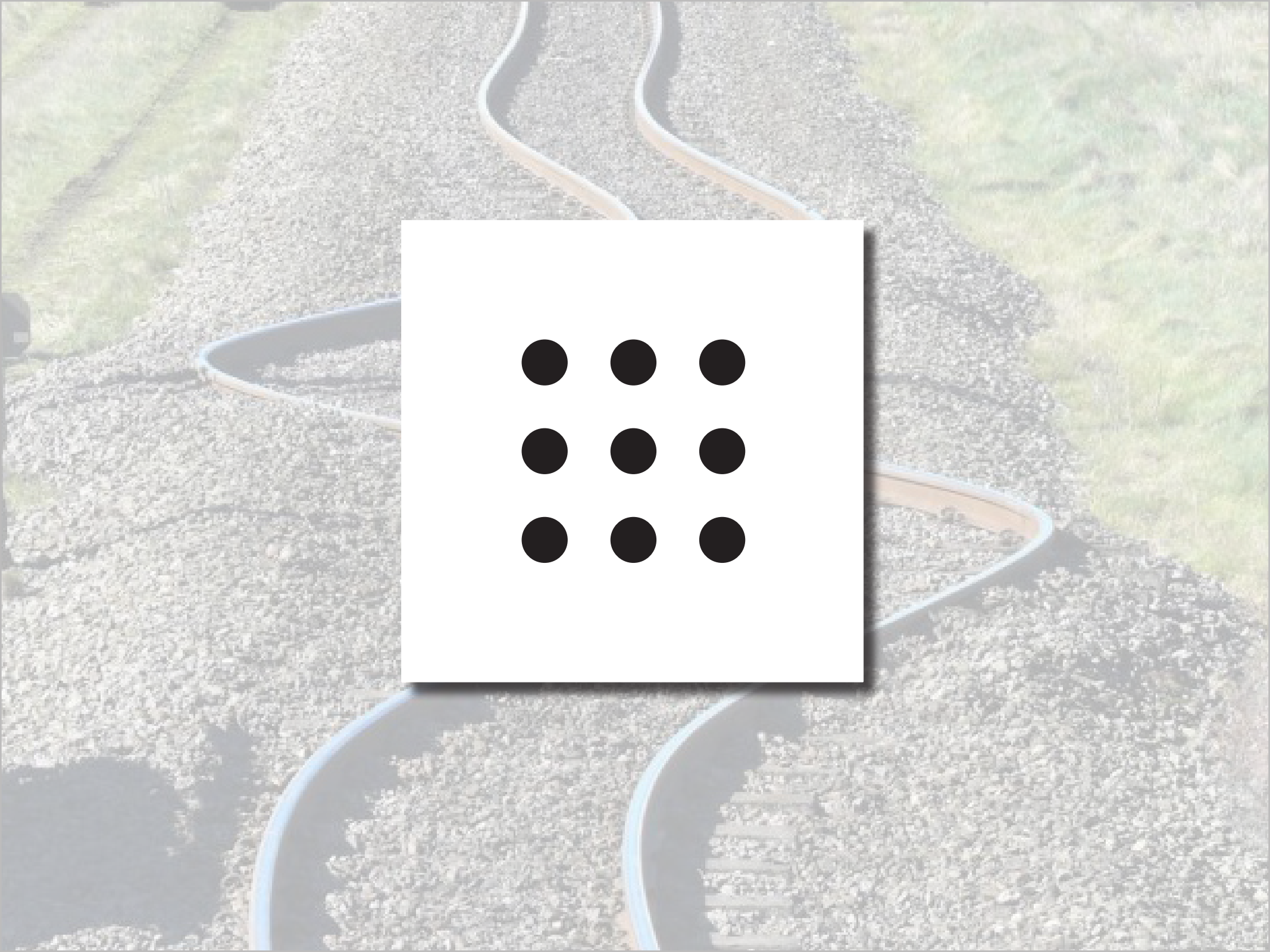


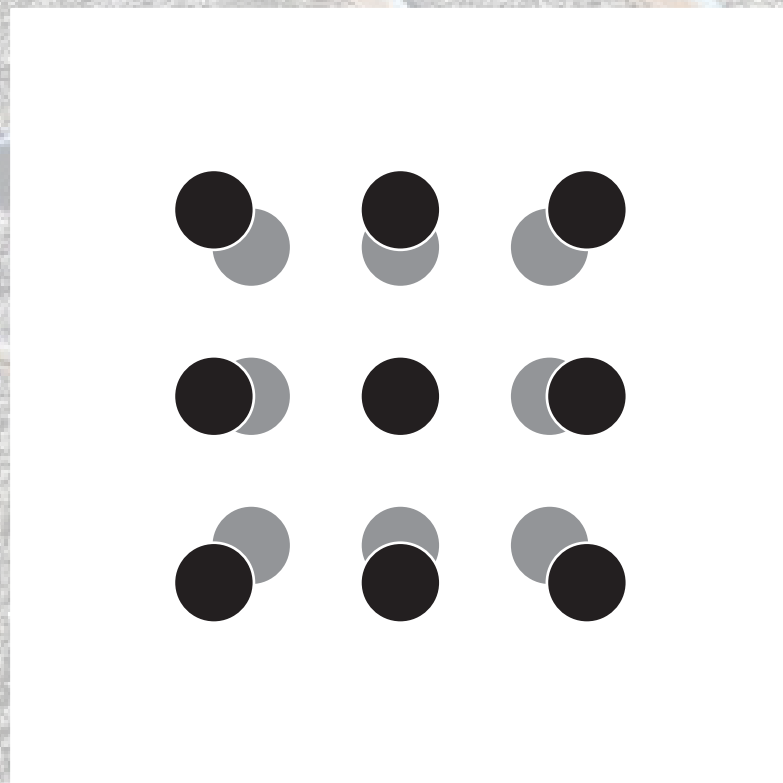
The background of the image is a painting. It features a face with three eyes. The top and bottom eyes are open and looking forward, while the middle eye is closed. The face is rendered in a style that is somewhat abstract and painterly, with visible brushstrokes. The background of the painting consists of vertical stripes in shades of yellow, red, and grey. The text "an illusion. . ." is written in a bold, red, serif font across the center of the image, partially overlapping the face and the stripes.

an illusion. . .

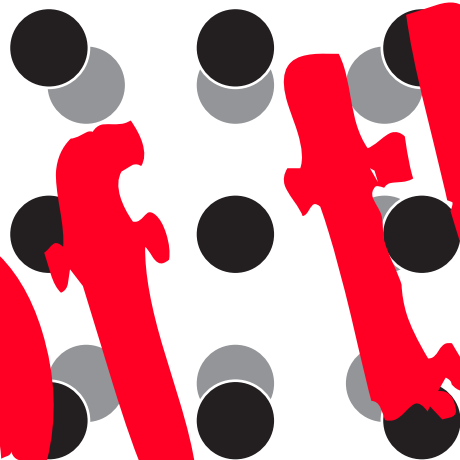
A photograph of a railway track with a wavy, undulating path, illustrating the concept of thermal expansion. The track is composed of gravel and wooden sleepers, and the rails are curved in a series of S-shapes. The text "thermal expansion" is overlaid on the image.

thermal expansion

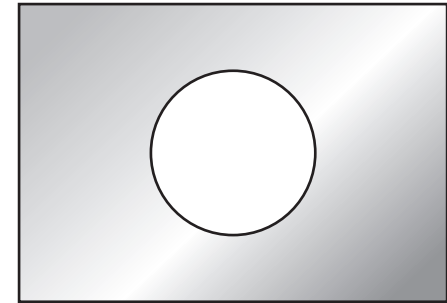




all of them

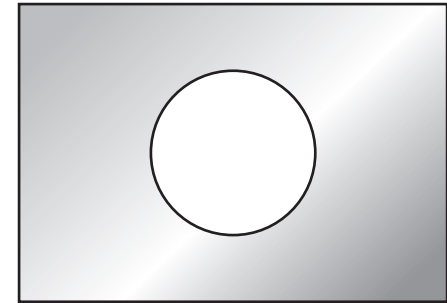


**Consider a rectangular metal plate
with a circular hole in it.**



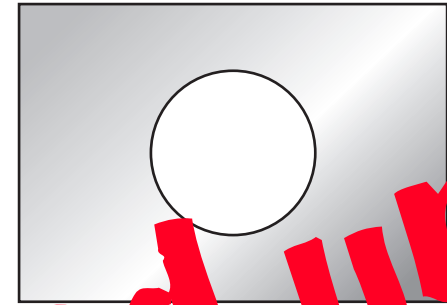
Consider a rectangular metal plate with a circular hole in it.

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.

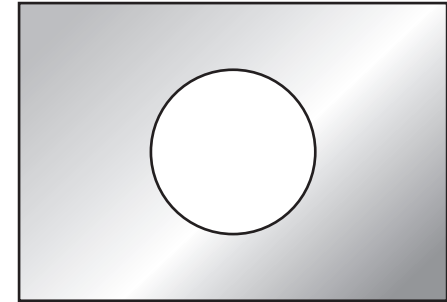


When the plate is uniformly heated, the diameter of the hole

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**

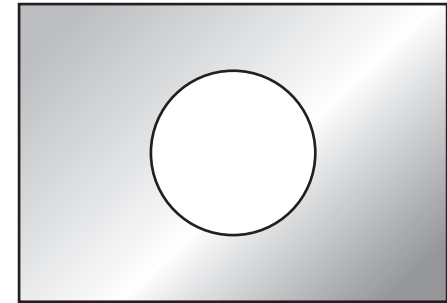
Before I tell you the answer, let's analyze what happened.

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**

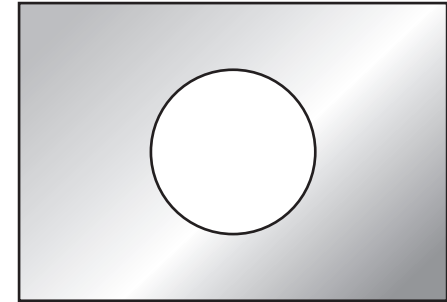
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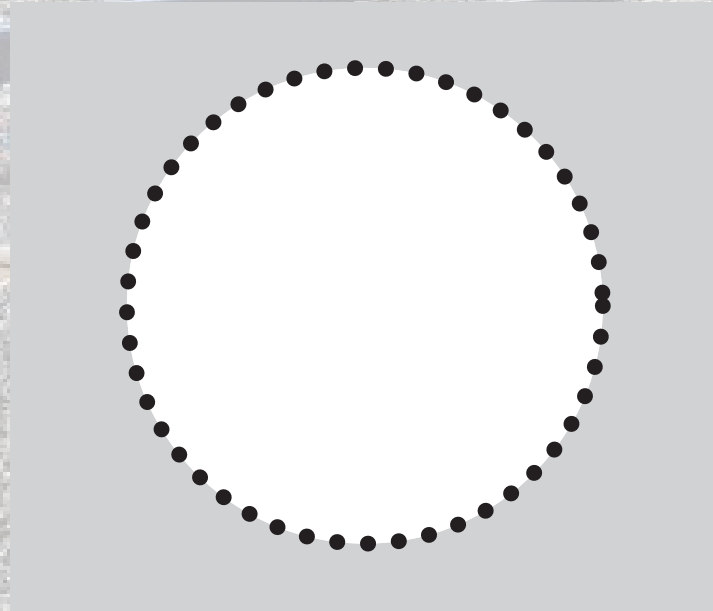
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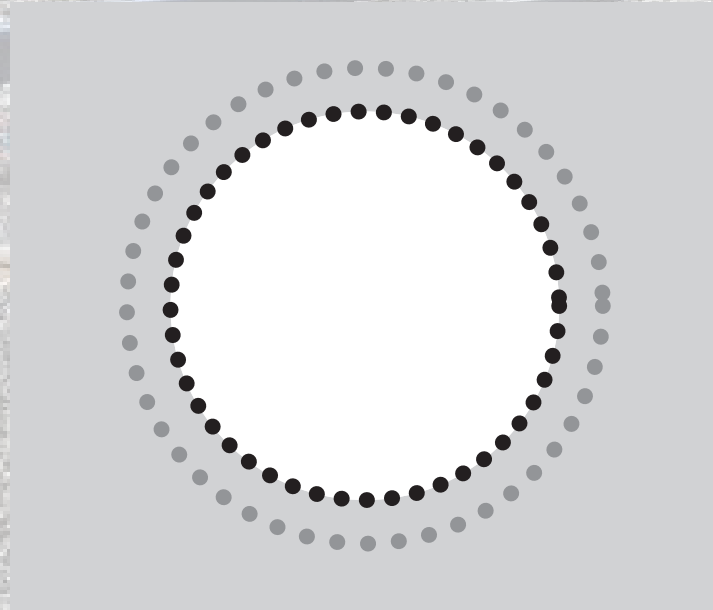
When the plate is uniformly heated, the diameter of the hole

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

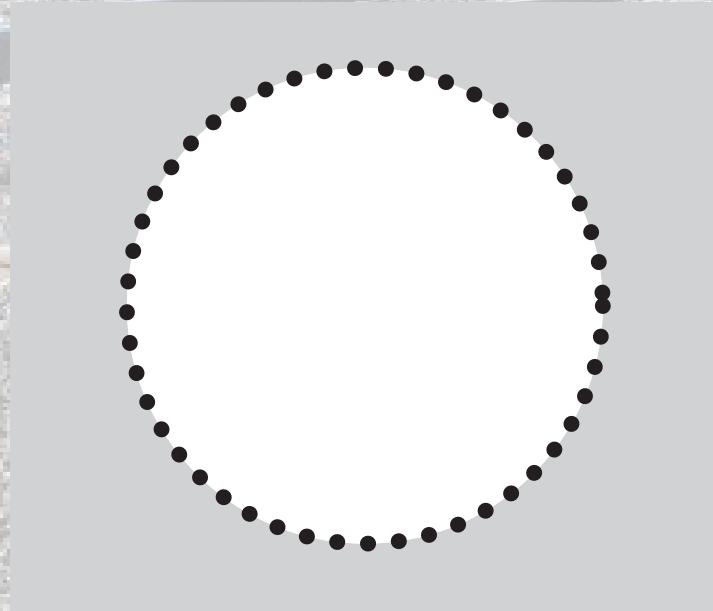
consider atoms at rim of hole



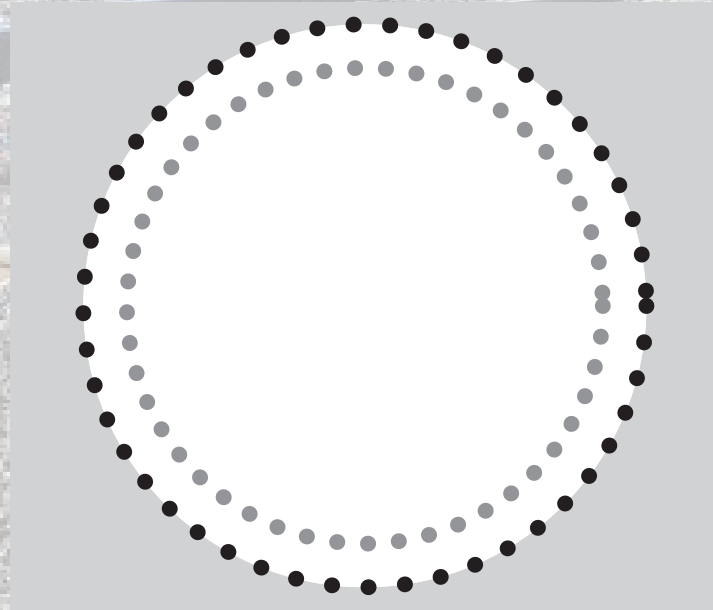
consider atoms at rim of hole



consider atoms at rim of hole



consider atoms at rim of hole



consider atoms at rim of hole

you won't forget this

The background of the slide features a conceptual image of a door with three horizontal panels. Each panel contains a large, realistic human eye, giving the impression of the door 'watching' or 'seeing'. The door is set within a frame of vertical wooden planks, with reddish-brown trim on the sides. The overall image has a slightly faded, artistic quality.

Want to build resilience?

The background of the slide features a faded, artistic illustration of a person's face, specifically focusing on the eyes, which are looking through horizontal bars, similar to prison bars. The image is rendered in a soft, painterly style with muted colors. The overall background is composed of vertical stripes in shades of yellow and red.

Want to build resilience?

Rethink education!

mazur.harvard.edu

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