

# Memeli Hücre Kültürü Ve Uygulaması

Hafta 4

Hücre sayımı Hemocytometer

# Hücre sayımı (Hemocytometer)



# Hücre sayımı (Hemocytometer)



# Trypan blue dye

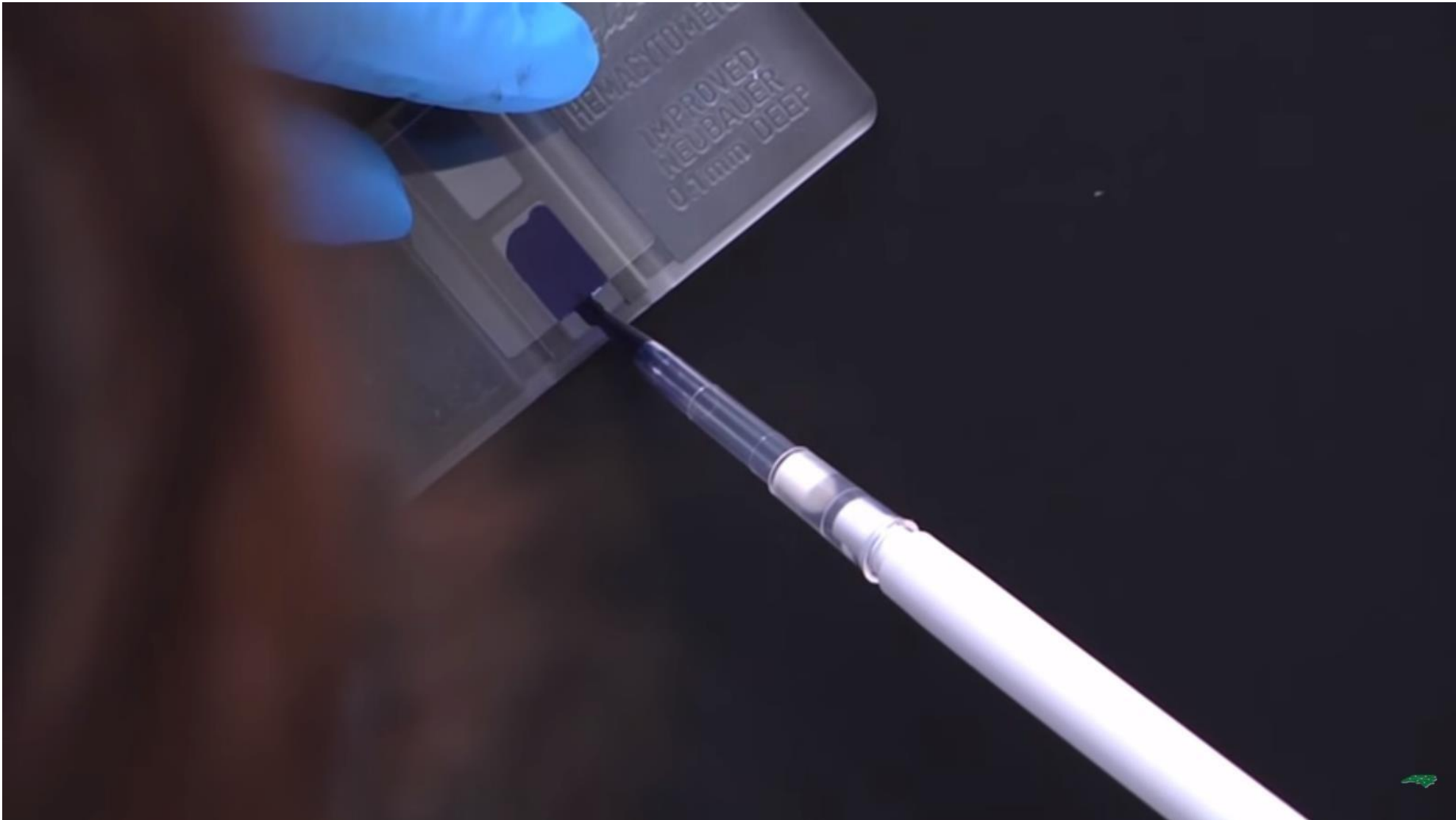
- H¼cre canlılıđı belirlenir
- Tripan mavisi ile h¼creler boyanır
- Tripan mavisi ¼l¼ h¼creleri boyar.
- Bu boya yardımıyla ¼l¼ ve canlı h¼crelerin y¼zdesini hesaplamak m¼mk¼nd¼r.



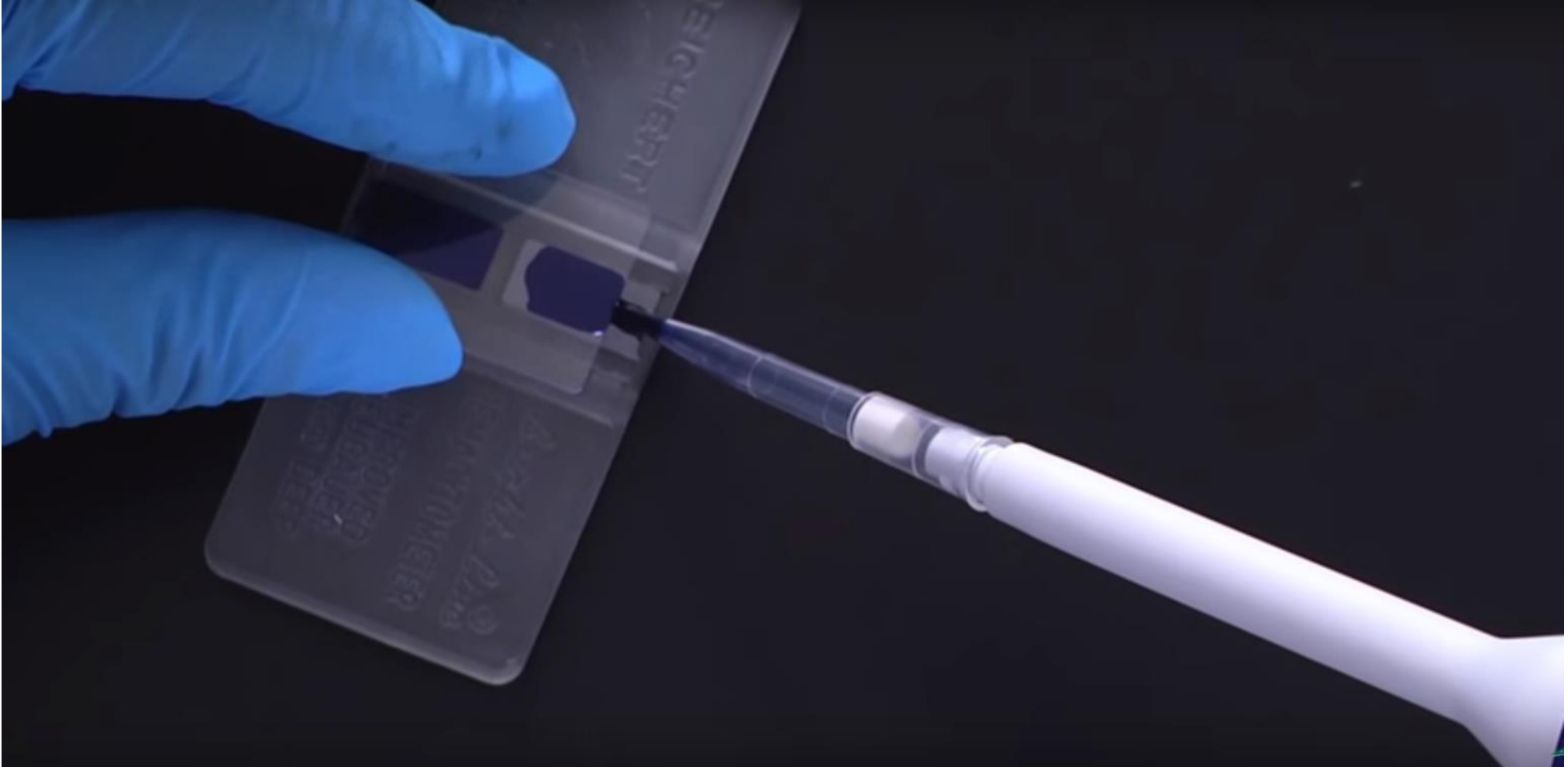
# Hücre sayımı (Hemocytometer)



# Hücre sayımı (Hemocytometer)



# Hücre sayımı (Hemocytometer)

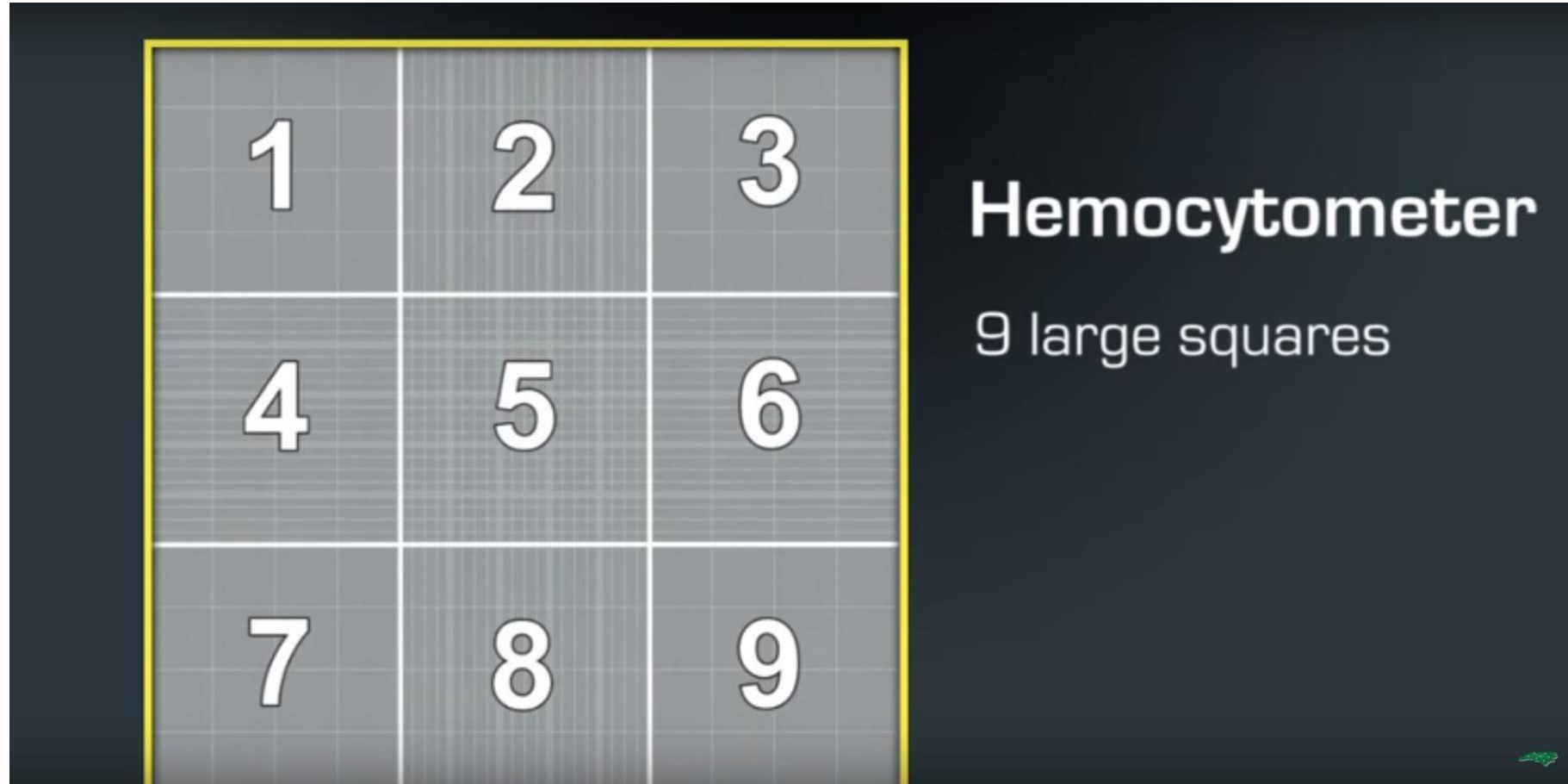


# Hücre sayımı (Hemocytometer)

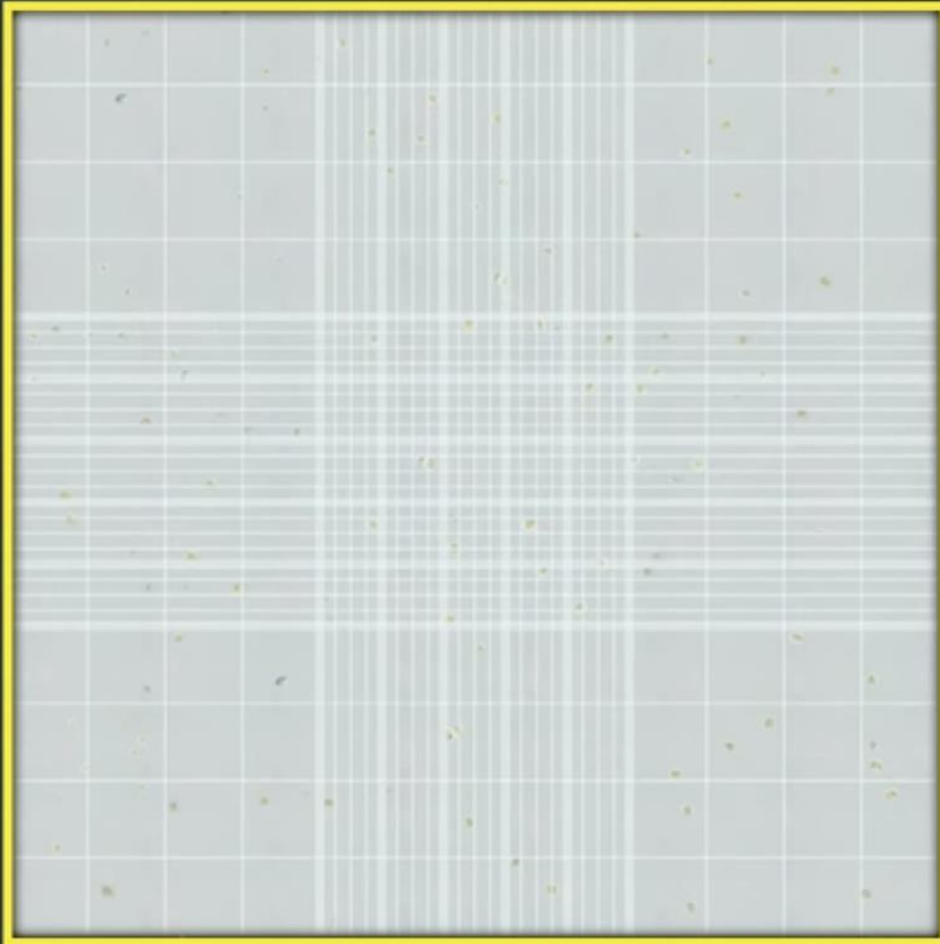




# Hücre sayımı (Hemocytometer)



# Hücre sayımı (Hemocytometer)



## Hemocytometer

9 large squares

$10^{-4}$  mL



# Hücre sayımı (Hemocytometer)



# Hücre sayımı (Hemocytometer)



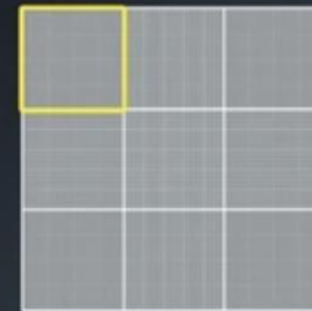
This Square

0

Viable

0

Nonviable



Total Cell Count

0

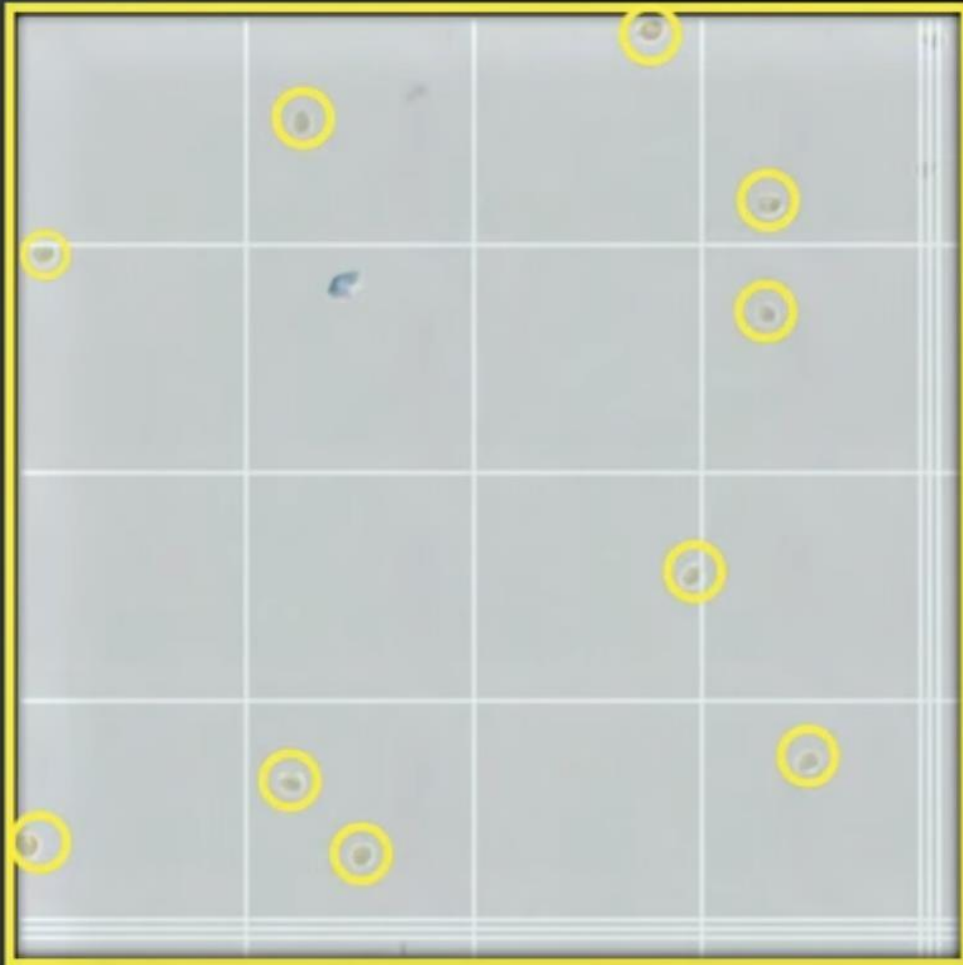
Viable

0

Nonviable



# Hücre sayımı (Hemocytometer)



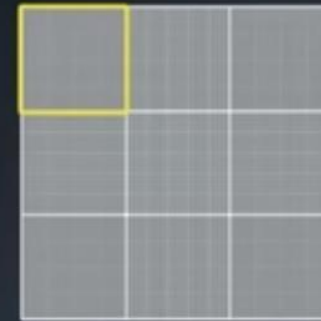
This Square

10

Viable

0

Nonviable



Total Cell Count

10

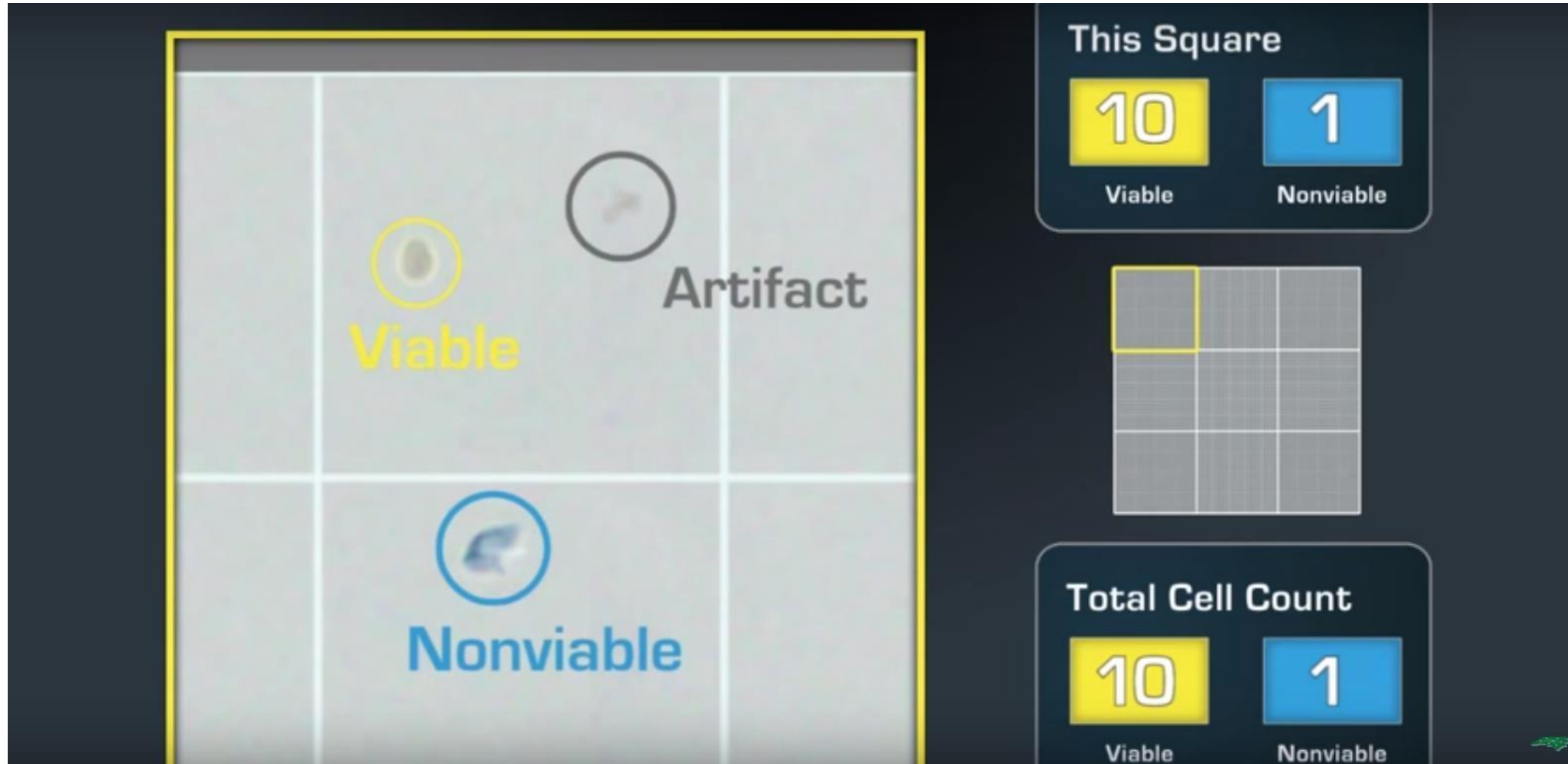
Viable

0

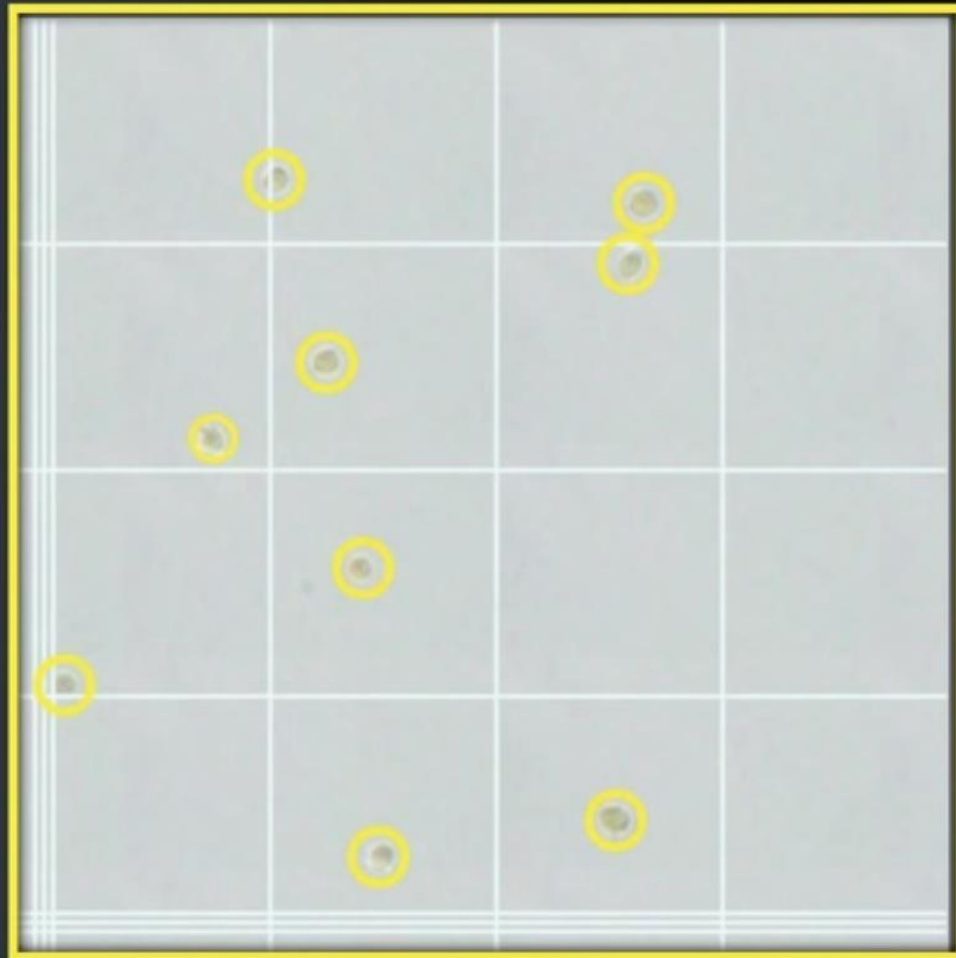
Nonviable



# Hücre sayımı (Hemocytometer)



# Hücre sayımı (Hemocytometer)



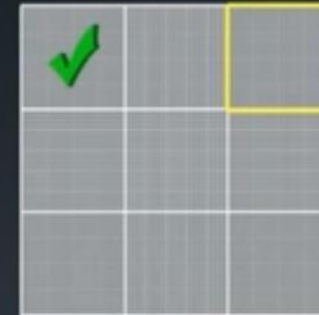
This Square

9

Viable

0

Nonviable



Total Cell Count

19

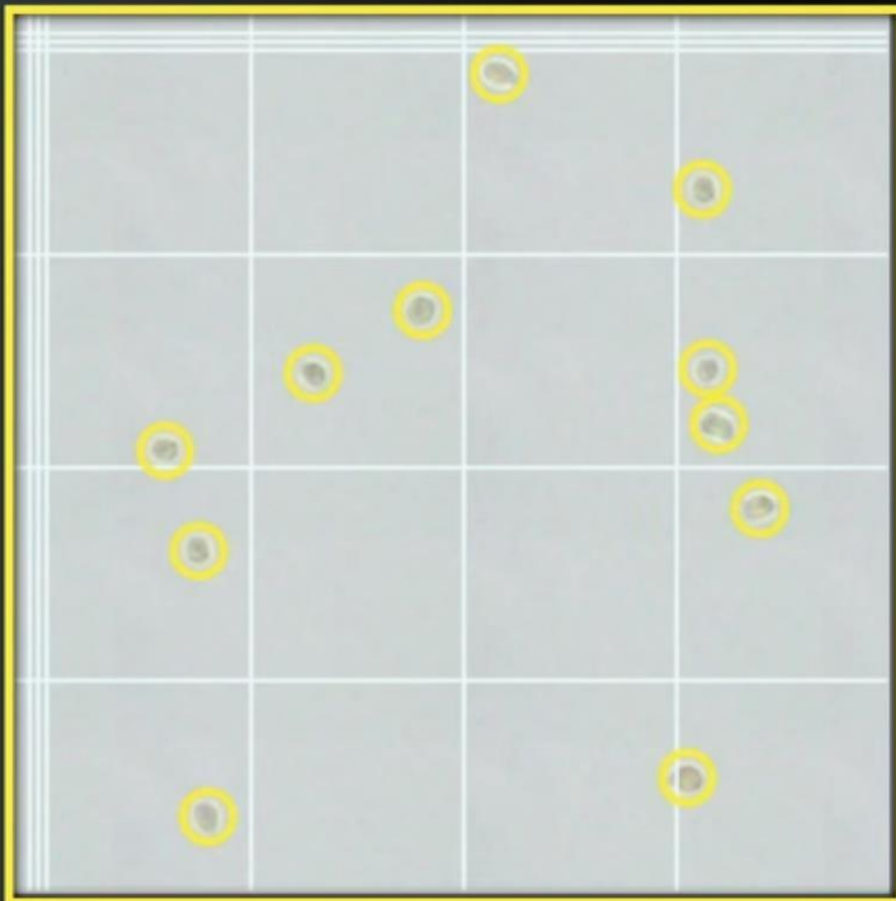
Viable

1

Nonviable



# Hücre sayımı (Hemocytometer)



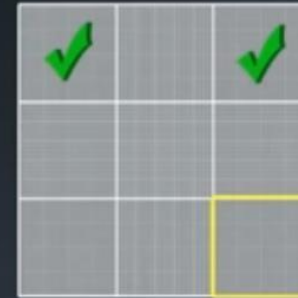
This Square

11

Viable

0

Nonviable



Total Cell Count

30

Viable

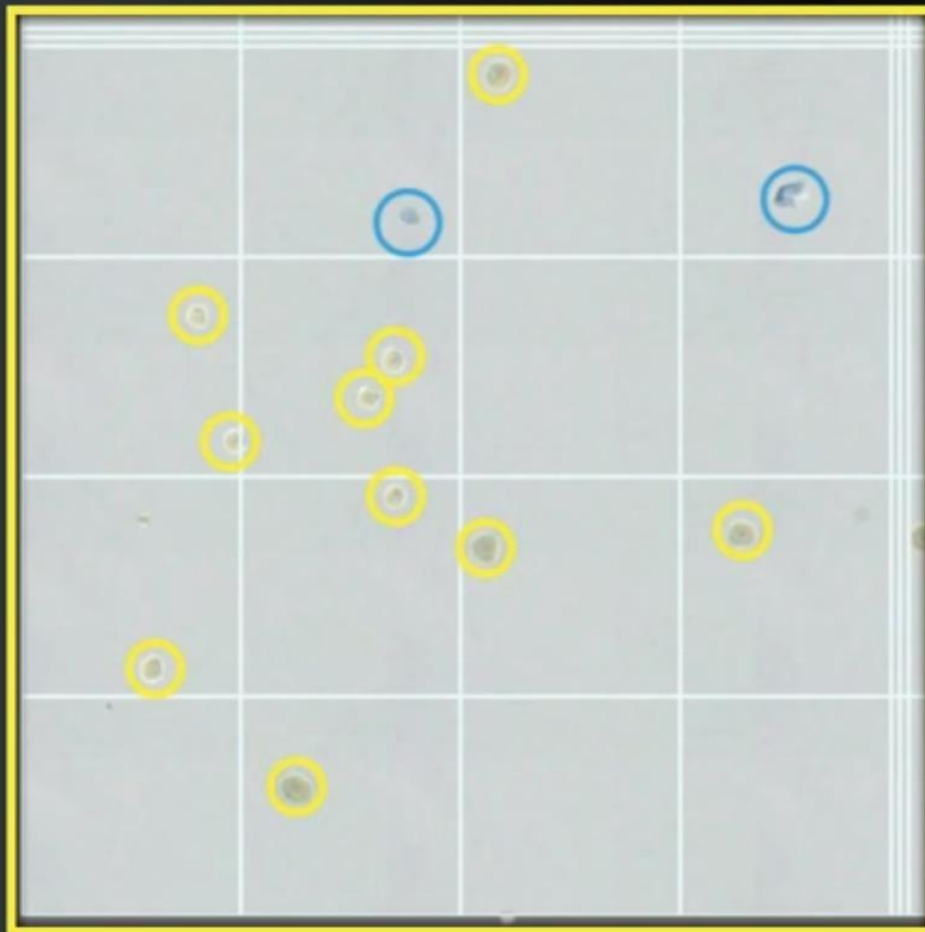
1

Nonviable





# Hücre sayımı (Hemocytometer)



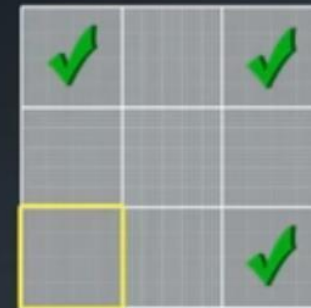
This Square

10

Viable

2

Nonviable



Total Cell Count

40

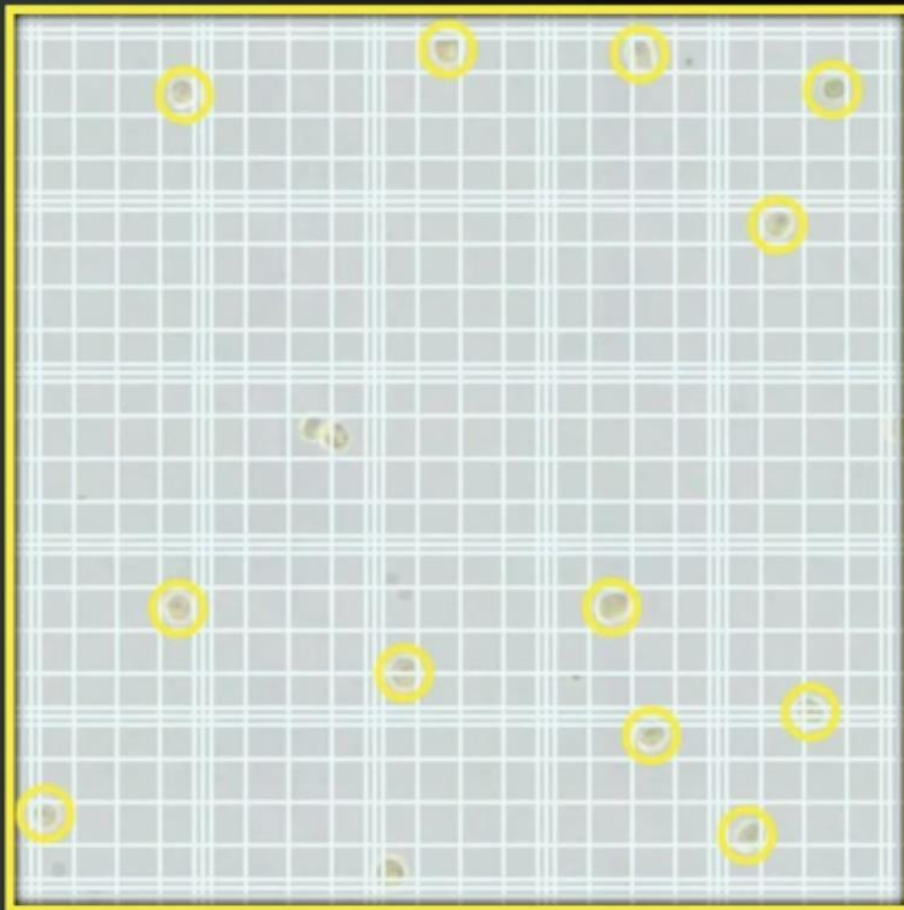
Viable

3

Nonviable



# Hücre sayımı (Hemocytometer)



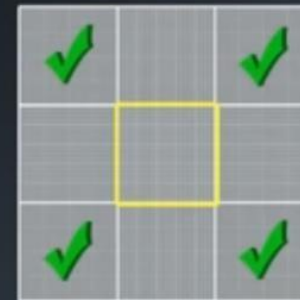
This Square

12

Viable

0

Nonviable



Total Cell Count

52

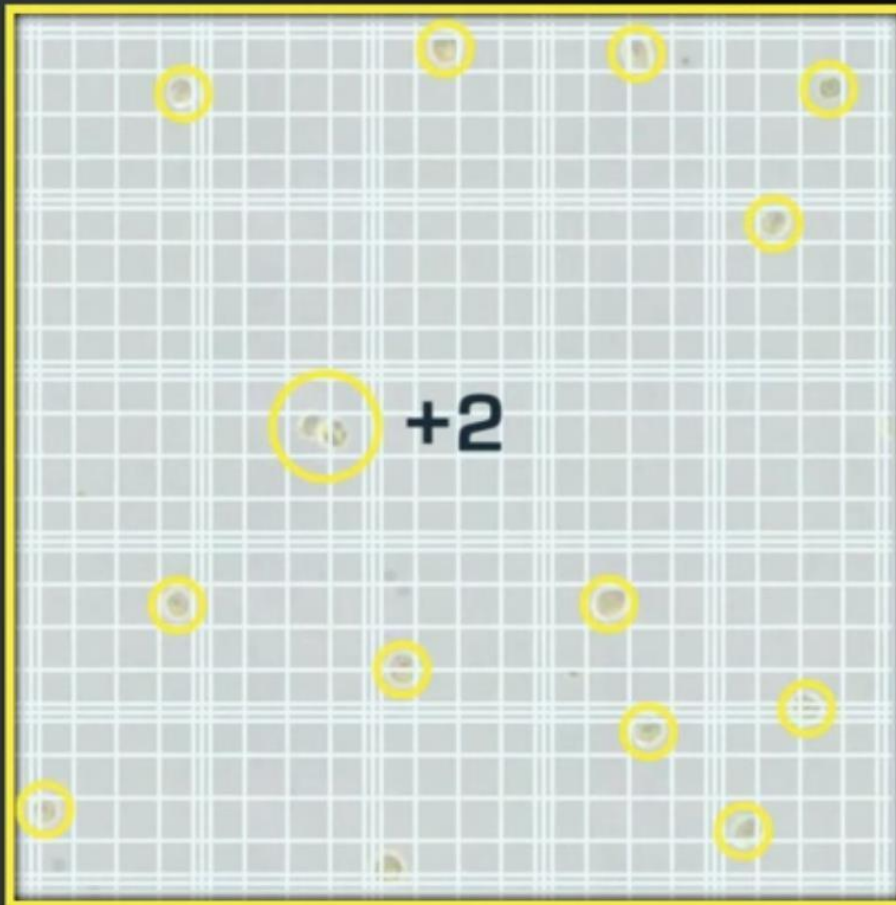
Viable

3

Nonviable



# Hücre sayımı (Hemocytometer)



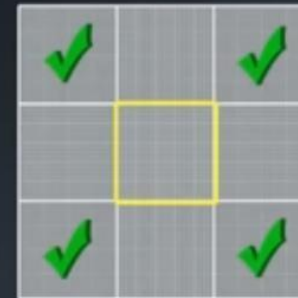
This Square

14

Viable

0

Nonviable



Total Cell Count

54

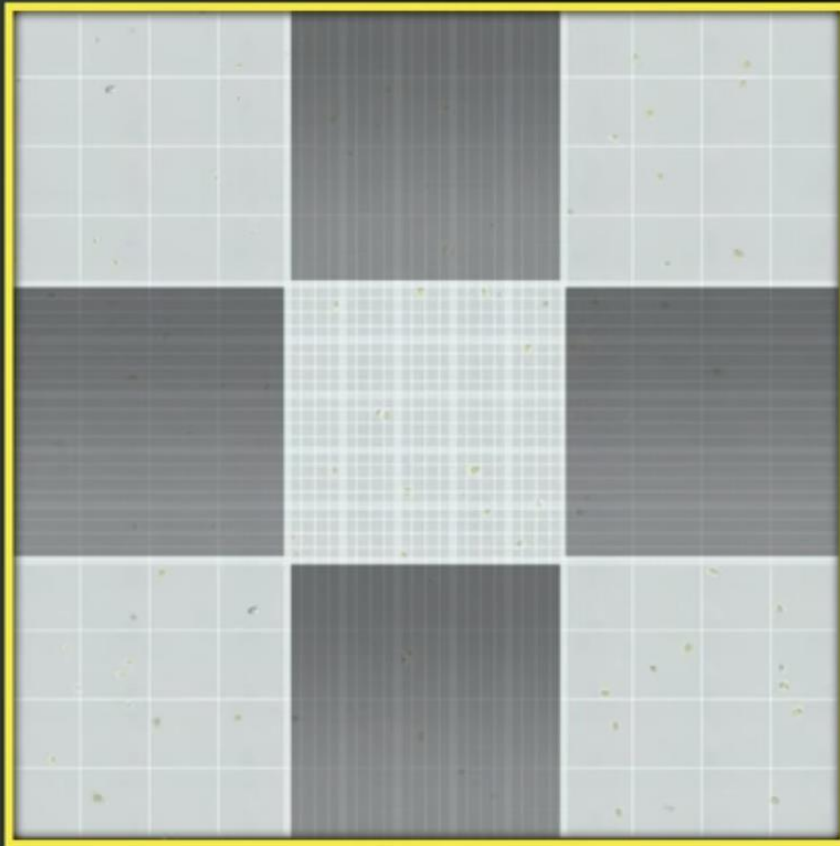
Viable

3

Nonviable



# Hücre sayımı (Hemocytometer)



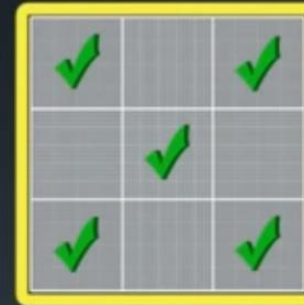
This Square



Viable



Nonviable



Total Cell Count

54

Viable

3

Nonviable



# Hücre sayımı (Hemocytometer)

## Counting Cells Using a Hemocytometer

Total Viable Cells: 54

Total Nonviable Cells: 3

1. Percentage of Viable Cells :
2. Average # of cells per square:
3. Dilution factor :
4. Concentration (viable cells/mL):

1. % of Viable Cells:

$\frac{\text{\# of viable cells}}{\text{\# of total cells}} \times 100$

# Hücre sayımı (Hemocytometer)

1. Percentage of viable cells :

2. Average # of cells per square:

3. Dilution factor :

4. Concentration (viable cells/mL):

1. % of Viable Cells:

$$\frac{\text{\# of viable cells}}{\text{total \# of cells}} \times 100 = \frac{54}{57} \times 100 = 94.7\%$$

2. Average # of cells/square:

$$\frac{\text{viable cells}}{\text{squares}} =$$

# Hücre sayımı (Hemocytometer)

1. % of Viable Cells:

$$\frac{\text{\# of viable cells}}{\text{total \# of cells}} \times 100 = \frac{54}{57} = 0.947 \times 100 = 94.7\%$$

2. Average # of cells/square:

$$\frac{54 \text{ viable cells}}{5 \text{ squares}} = 10.8$$

Mean Deviation

# Hücre sayımı (Hemocytometer)

## Hemocytometer (continued)

### 3. Dilution Factor:

$$\frac{\text{Final Volume}}{\text{Volume of cells}} = \frac{200 \mu\text{L}}{100 \mu\text{L}} = 2$$

### 4. Concentration (viable cells/mL)

$$\text{average \# of cells/square} \times \text{Dilution factor} \times 10^4$$



# Hücre sayımı (Hemocytometer)

## 3. DILUTION FACTOR:

$$\frac{\text{Final Volume}}{\text{Volume of cells}} = \frac{200 \mu\text{L}}{100 \mu\text{L}} = 2$$

## 4. Concentration (viable cells/mL)

$$\text{average \# of cells/square} \times \text{Dilution factor} \times 10^4$$

$$10.8 \times 2 \times 10^4 = 216,000 \text{ cells/mL}$$

$$\text{Scientific notation: } 2.16 \times 10^5 \text{ cells/mL}$$

# Hücre sayımı (Hemocytometer)

## Counting Cells Using a Hemocytometer

Total Viable Cells: 54

Total Nonviable Cells: 3

1. Percentage of Viable Cells: 94.7%

2. Average # of cells per square: 10.8

3. Dilution factor: 2

4. Concentration (viable cells/mL):  $2.16 \times 10^5$  cells/mL

1. % of Viable Cells:

$$\frac{\# \text{ of viable cells}}{\text{total \# of cells}} \times 100 = \frac{54}{57} \times 100 = 94.7\%$$

2. Average # of cells/square:

$$\frac{54 \text{ viable cells}}{5 \text{ squares}} = 10.8$$

## Hemocytometer (continued)

3. Dilution Factor:

$$\frac{\text{Final Volume}}{\text{Volume of cells}} = \frac{200 \mu\text{L}}{100 \mu\text{L}} = 2$$

4. Concentration (viable cells/mL)

average # of cells/square  $\times$  Dilution factor  $\times 10^4$

$$10.8 \times 2 \times 10^4 = 216,000 \text{ cells/mL}$$

Scientific notation:  $2.16 \times 10^5$  cells/mL

**Kaynak: <https://www.youtube.com/watch?v=pP0xERLUhyc>**