



How does a spectrophotometer work

00:00:01 00:00:56

0:05 / 24:50

Microsoft Word - [وضع النوافذ] spectro.٤

ملف الصفحة الرئيسية إدراج تخطيط الصفحة مراجع مراسلات مراجعة عرض

Lab. 5

A. Lecturer
Ahmed Maki Al - Mualla

Spectrophotometer

Is an instrument designed to detect the amount of radiant light energy absorbed by molecules. Or is the quantitative measurement of how much a chemical substance absorbs light by passing a beam of light through the sample using a spectrophotometer.

Uses of this instrument :

uses in clinical tests that comprises the determination of the followings:

- value of blood sugar.
- creatinine concentration.
- bilirubin concentration.
- uric acid, urea (kidney function).
- concentration of some enzyme.
- concentration of proteins in blood.

Parts of instrument :

Light source.

Lens: used to focus the beam.

prism : a straight beam of light(polychromatic) that passes through a

00:00:56



How does a spectrophotometer work

00:00:01 00:00:56

1:05 / 24:50

Microsoft Word - [وضع النوافذ] spectro.٤

ملف الصفحة الرئيسية إدراج تخطيط الصفحة مراجع مراسلات مراجعة عرض

Lab. 5

A. Lecturer
Ahmed Maki Al - Mualla

Spectrophotometer

Is an instrument designed to detect the amount of radiant light energy absorbed by molecules. Or is the quantitative measurement of how much a chemical substance absorbs light by passing a beam of light through the sample using a spectrophotometer.

Uses of this instrument :

uses in clinical tests that comprises the determination of the followings:

- value of blood sugar.
- creatinine concentration.
- bilirubin concentration.
- uric acid, urea (kidney function).
- concentration of some enzyme.
- concentration of proteins in blood.

Parts of instrument :

Light source.

Lens: used to focus the beam.

prism : a straight beam of light(polychromatic) that passes through a

10 seconds



Lab. 5

A. Lecturer
Ahmed Maki Al - Mualala



00:00:01 00:00:56

2:05 / 24:50

Microsoft Word - [وضع النوافذ] spectro.ع
ملف الصفحة الرئيسية إدراج تخطيط الصفحة مراجع مراسلات مراجعة عرض



Lab. 5

A. Lecturer
Ahmed Maki Al - Mualala



00:00:01 00:00:56

2:15 / 24:50

Microsoft Word - [وضع النوافذ] spectro.ع
ملف الصفحة الرئيسية إدراج تخطيط الصفحة مراجع مراسلات مراجعة عرض



Lab. 5

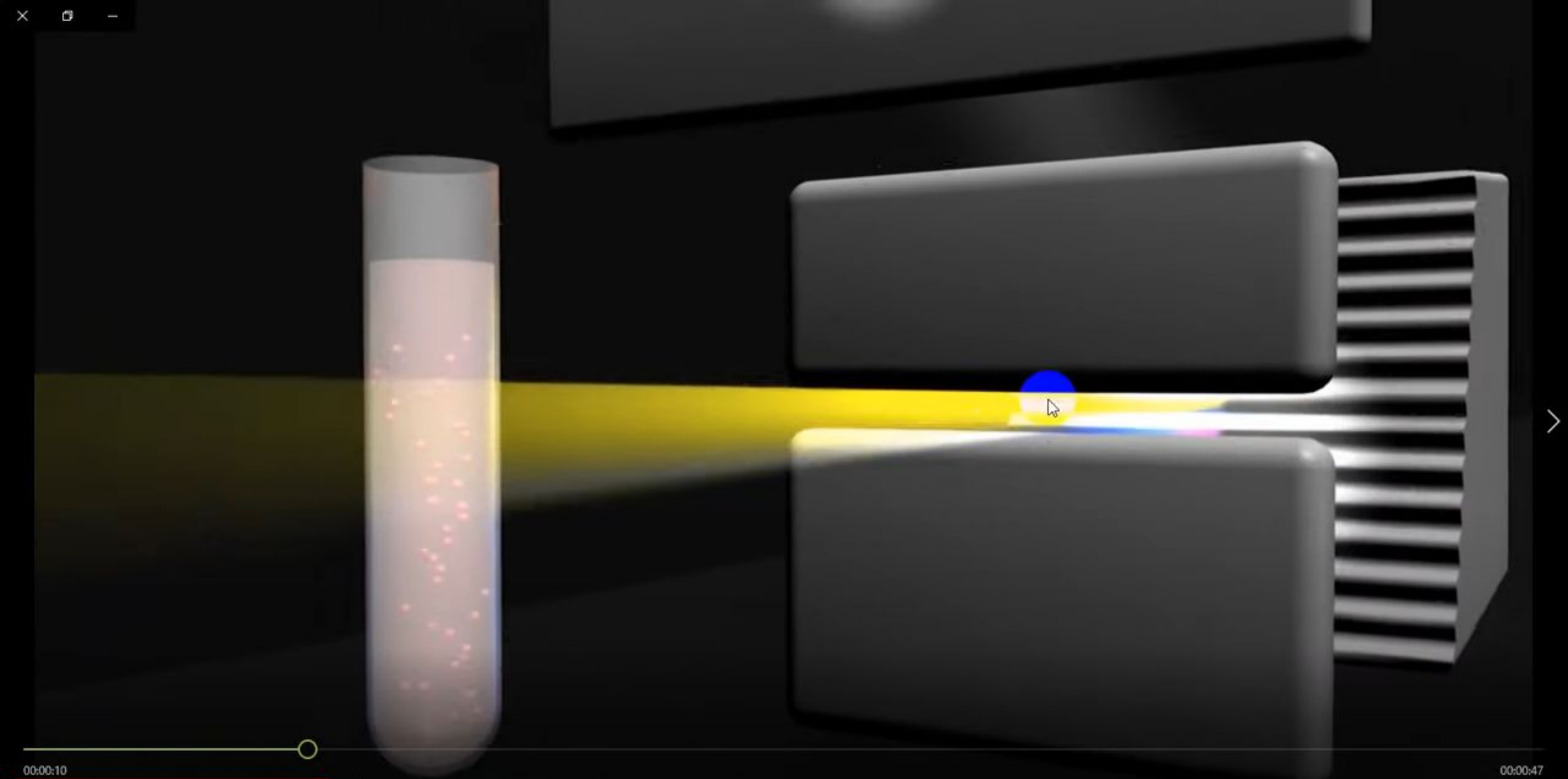
A. Lecturer
Ahmed Maki Al - Mualala



00:00:01 00:00:56

2:15 / 24:50

Microsoft Word - [وضع النوافذ] spectro.ع



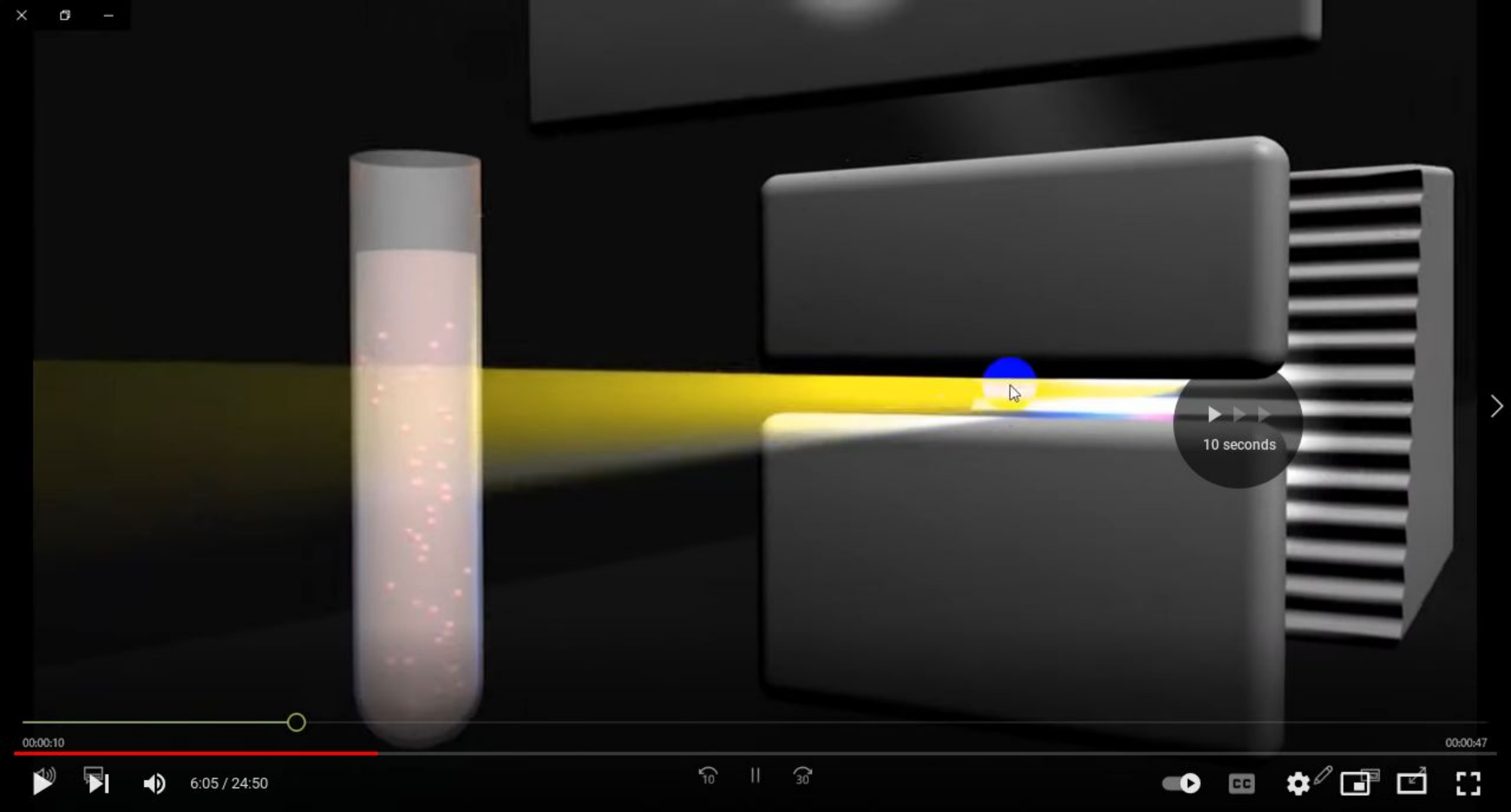
00:00:10

00:00:47

5:05 / 24:50

10 || 30

CC Settings



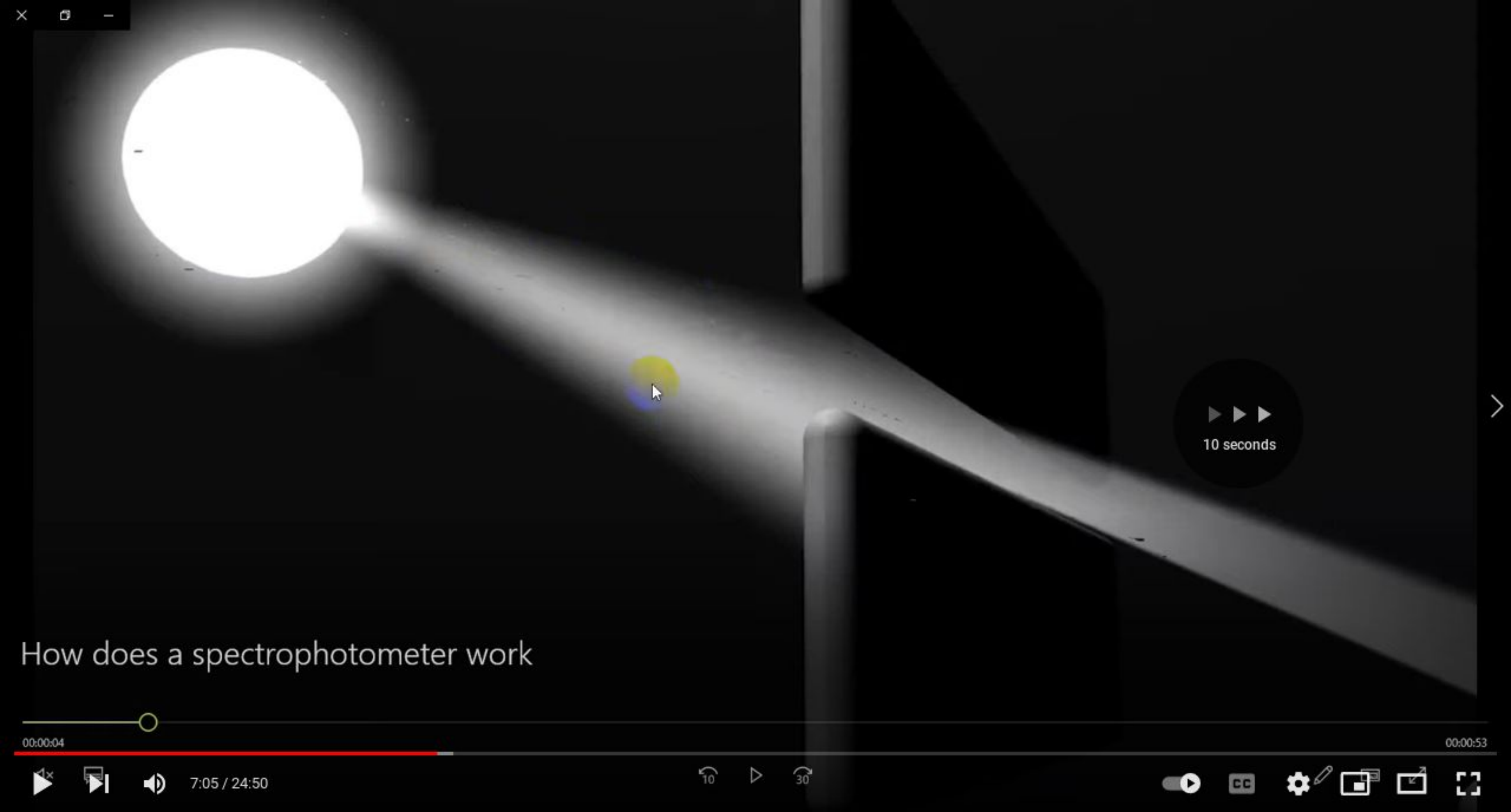
10 seconds

00:00:10 00:00:47

6:05 / 24:50

⏪ ⏩ ⏸ ⏹ ⏮ ⏭ ⏯

🔊 🔇 ⏴ ⏵ ⏶ ⏷ ⏸ ⏹ ⏺ ⏻ ⏼ ⏽ ⏾ ⏿



How does a spectrophotometer work

00:00:04 00:00:53

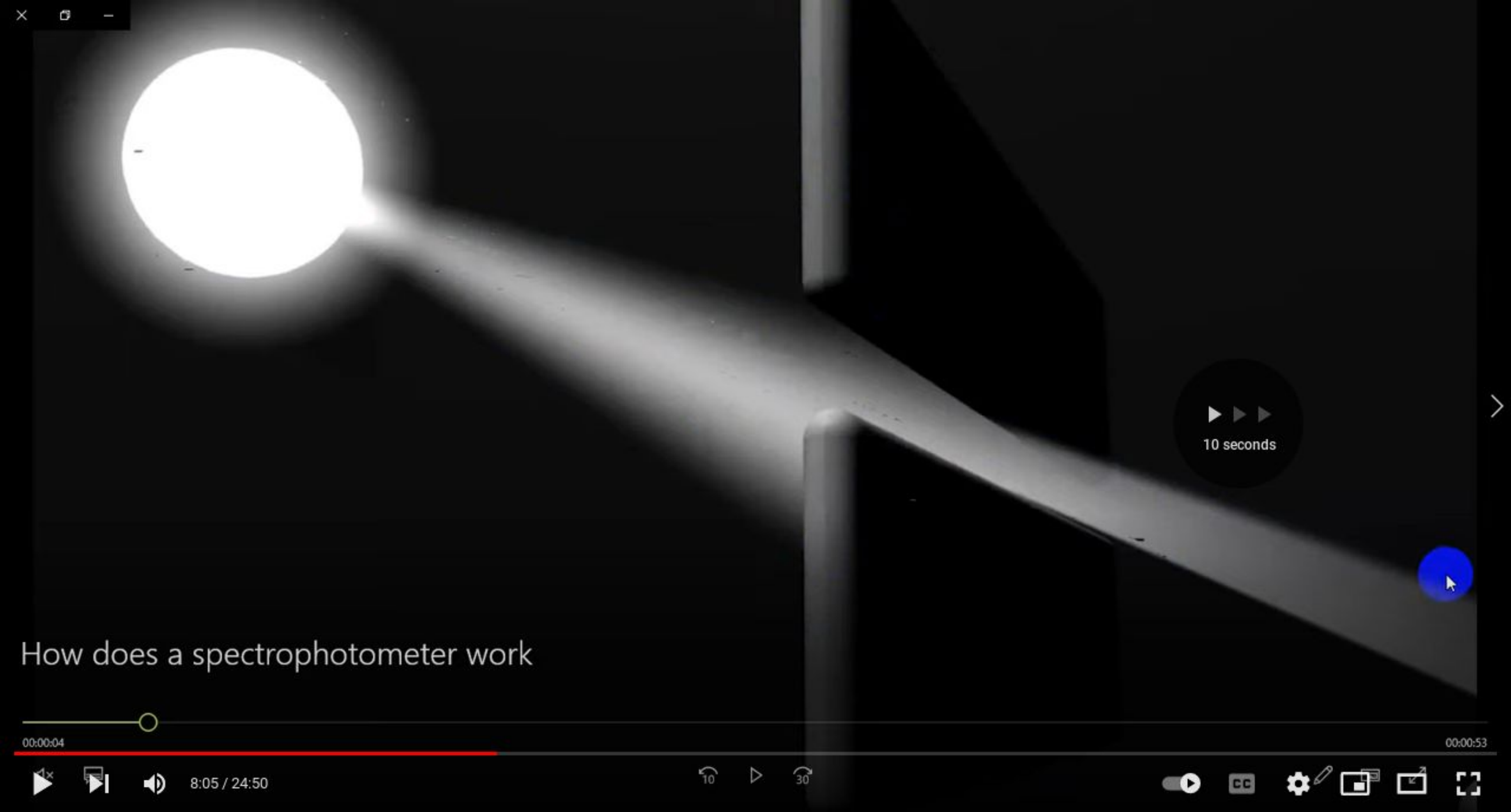
7:05 / 24:50

10 30

CC

Settings

Fullscreen

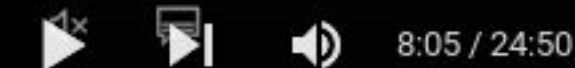


How does a spectrophotometer work



00:00:04

00:00:53

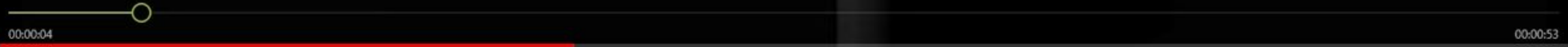


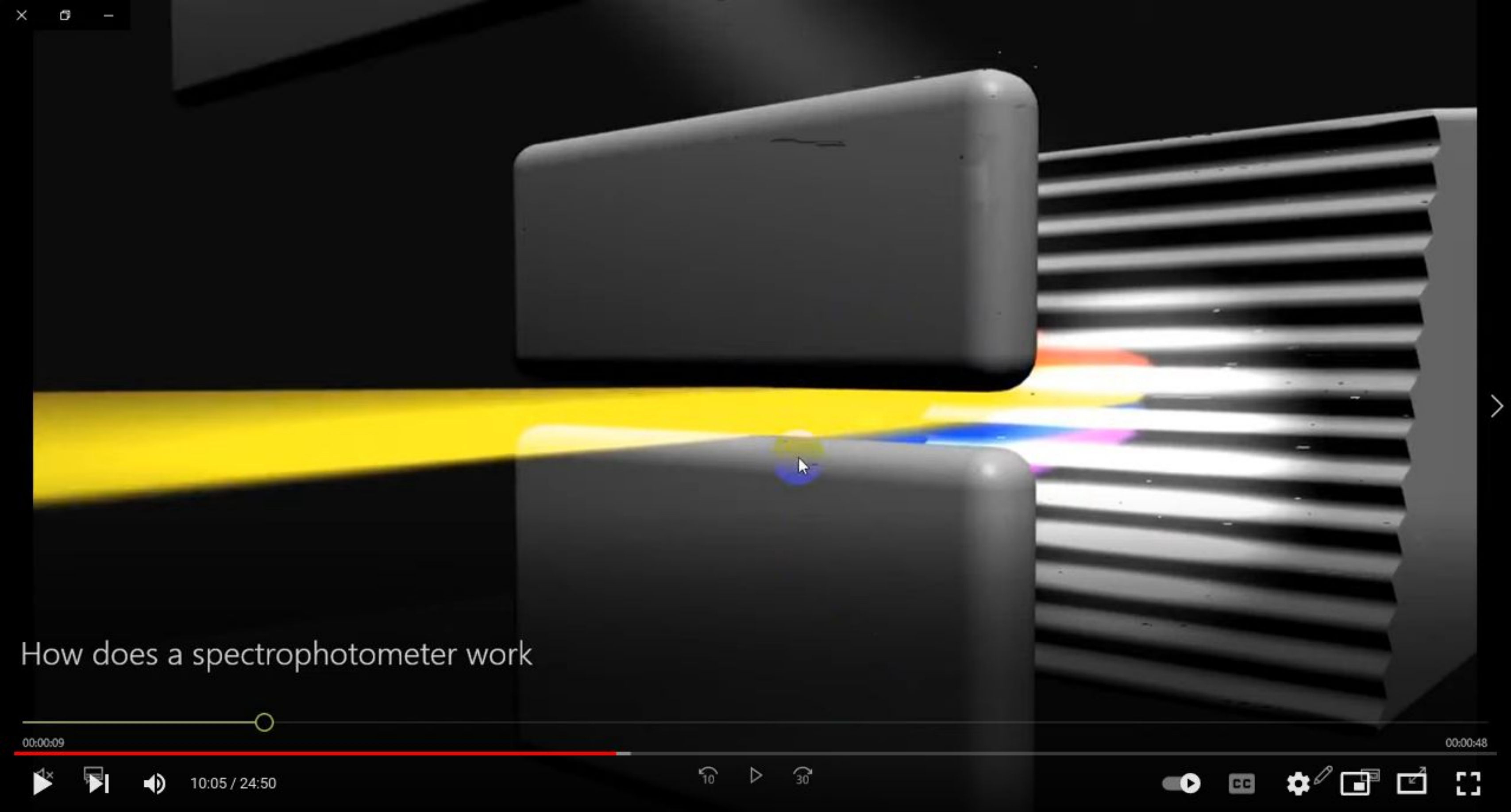
8:05 / 24:50





How does a spectrophotometer work

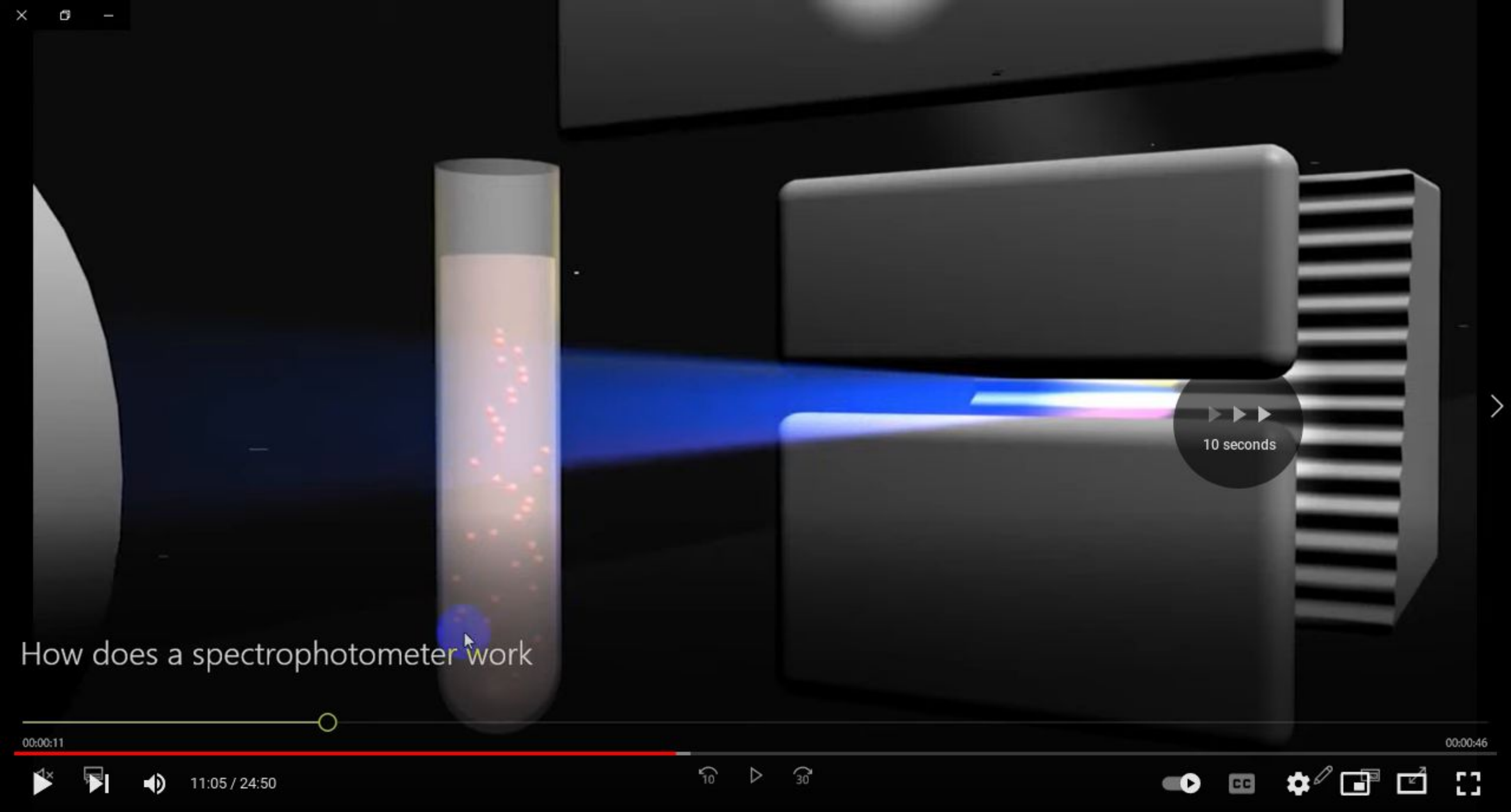




How does a spectrophotometer work

00:00:09 ○ 00:00:48

▶ ⏪ 🔊 10:05 / 24:50 ⏩ ⏮ 10 ⏭ ⏮ 30 ⏭ ⏸ ⏴ CC ⚙️ 📄 📺 🗑️



10 seconds

How does a spectrophotometer work

00:00:11 00:00:46

11:05 / 24:50

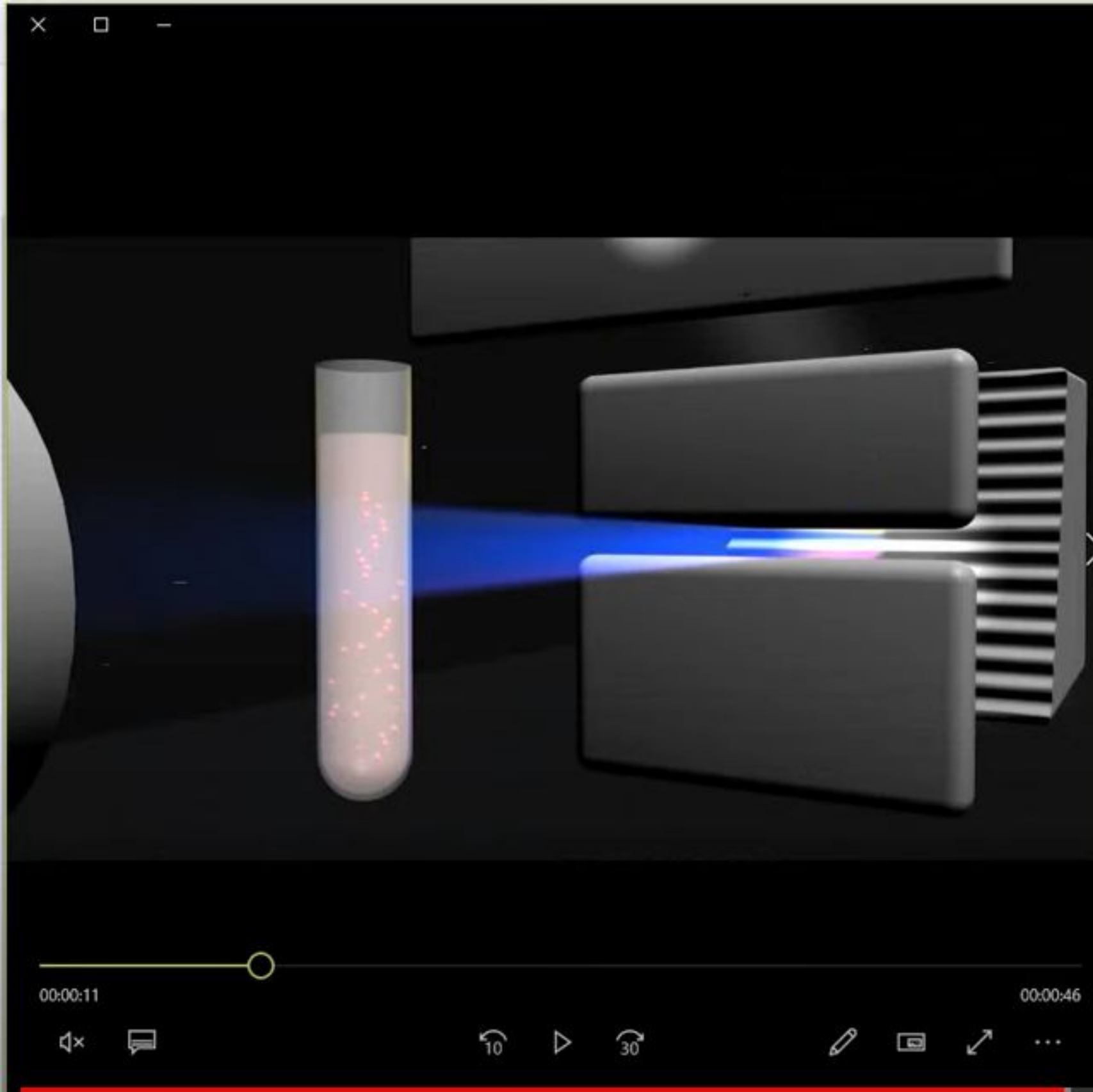
4x

10 30

CC

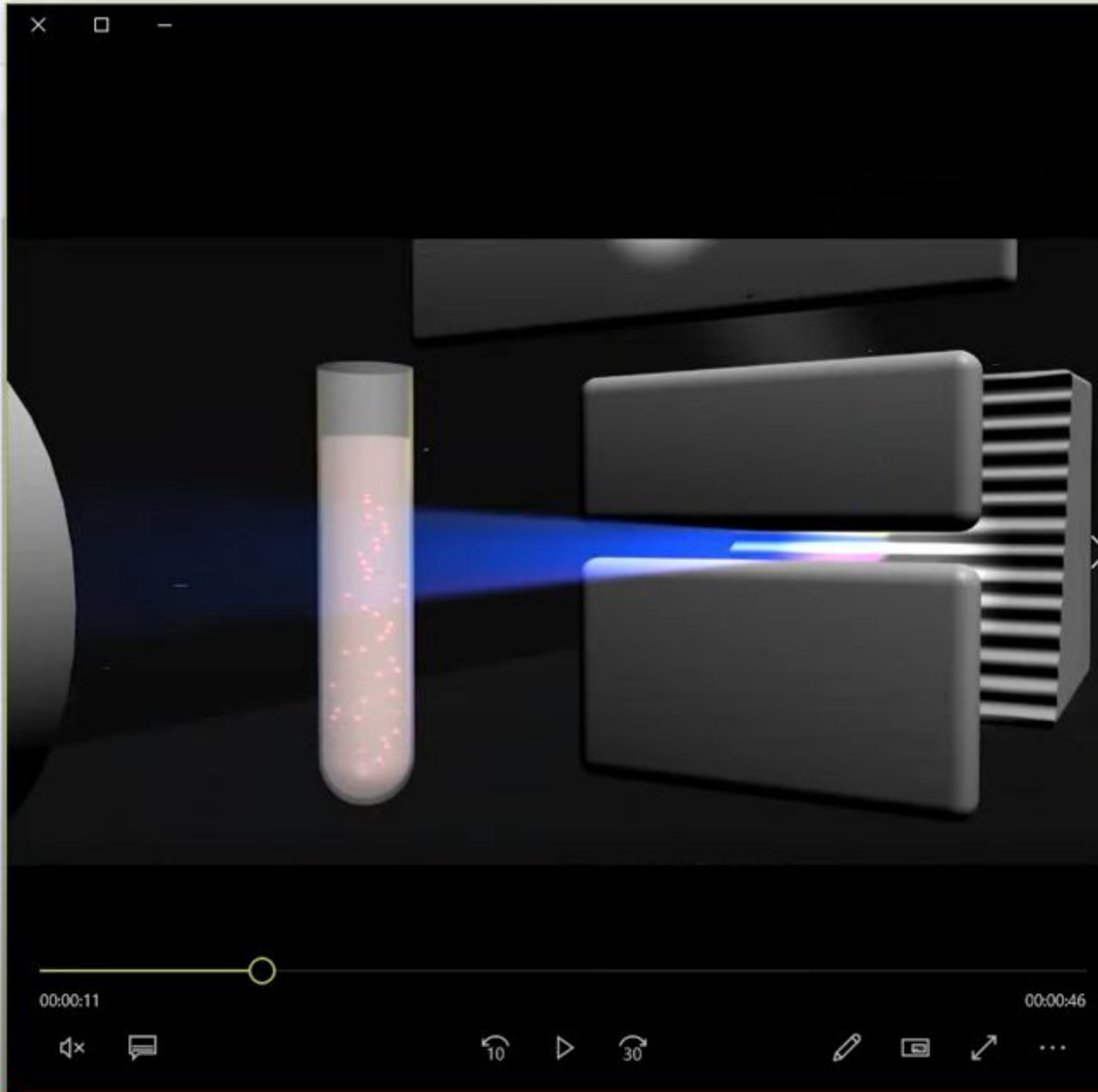
Settings

Fullscreen

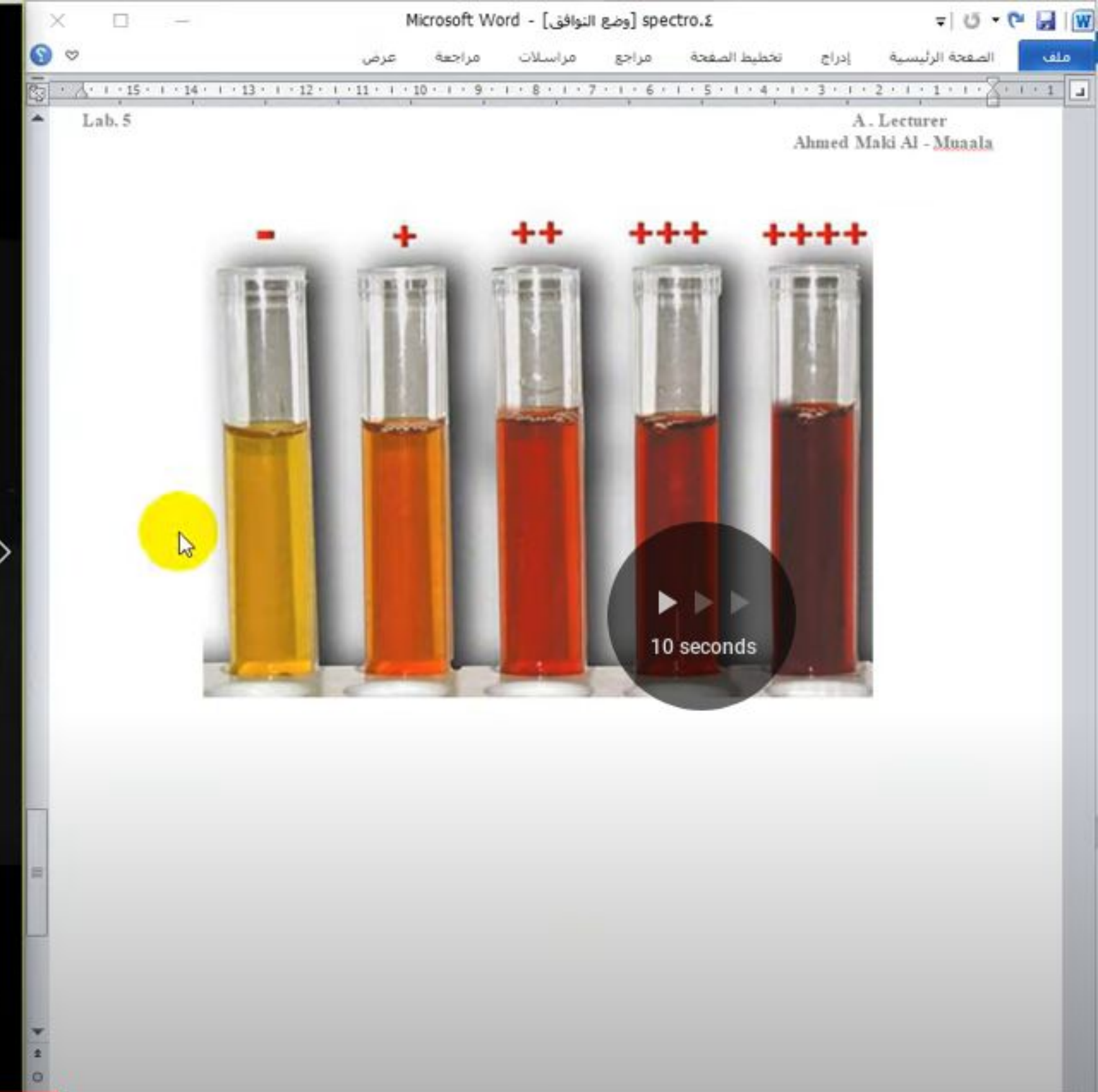


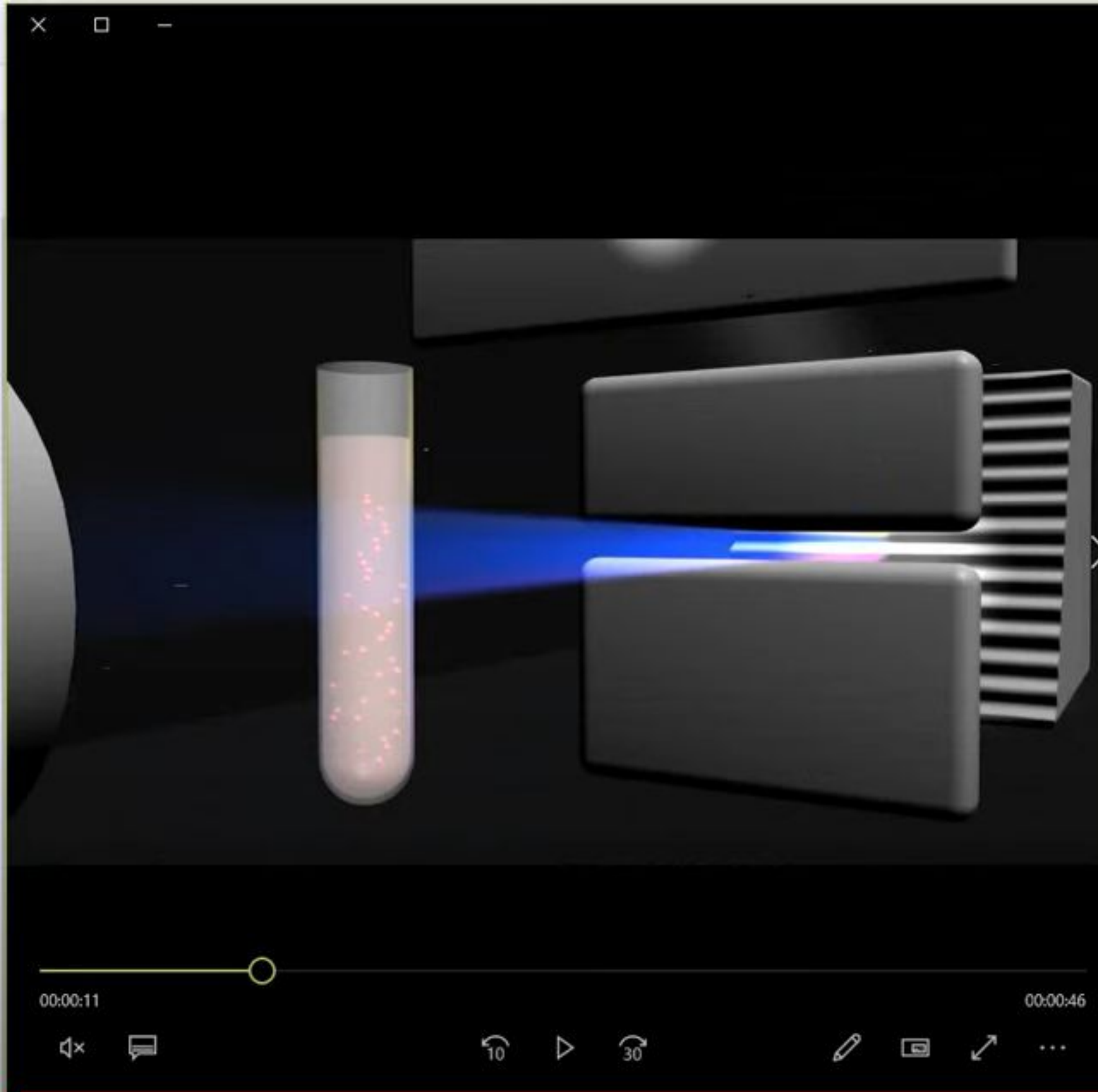
00:00:11 00:00:46



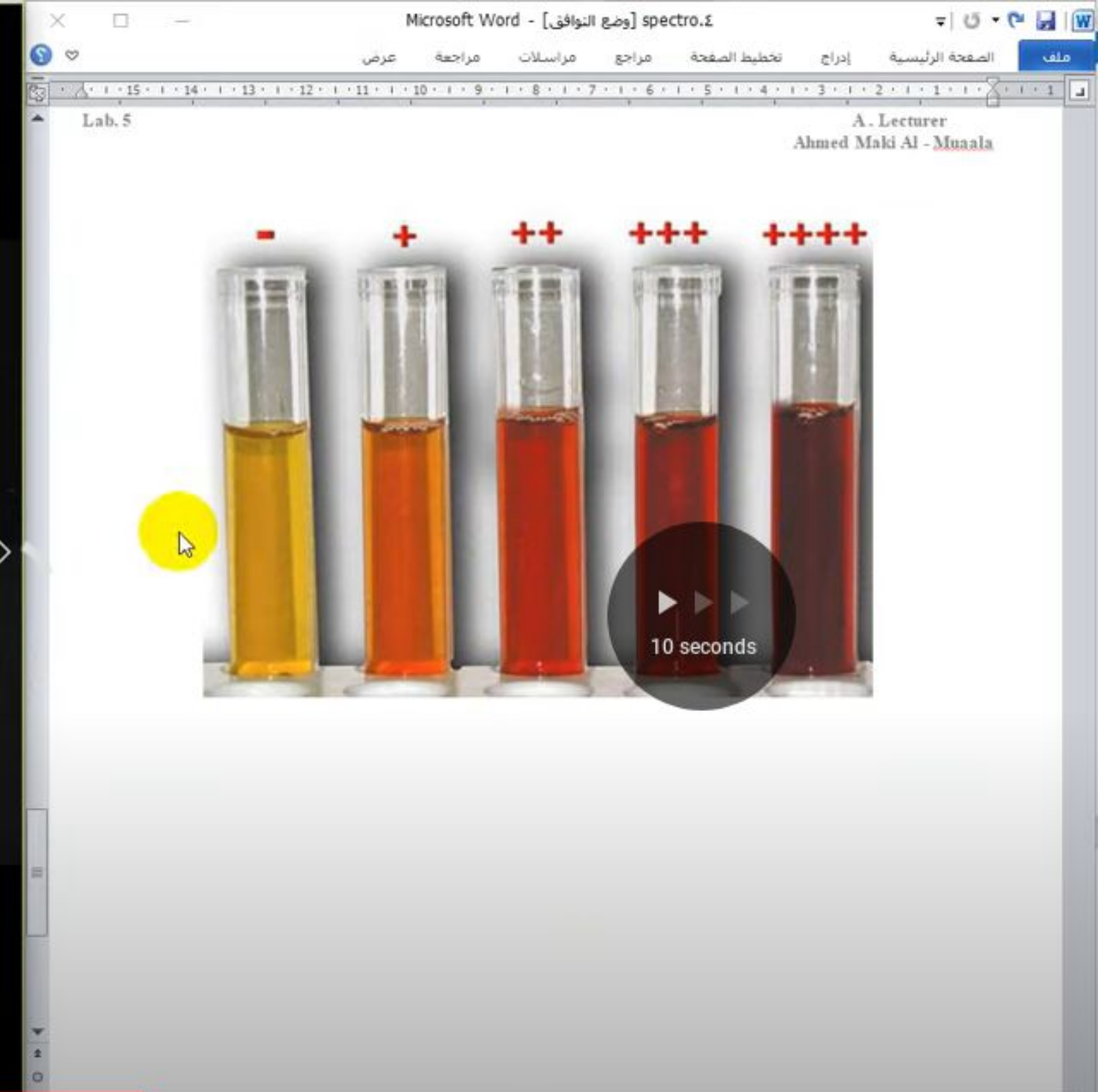


00:00:11 00:00:46





00:00:11 00:00:46



Lab. 5

A. Lecturer
Ahmed Maki Al - Muaala

Spectrophotometer

Is an instrument designed to detect the amount of radiant light energy absorbed by molecules. Or is the quantitative measurement of how much a chemical substance absorbs light by passing a beam of light through the sample using a spectrophotometer.

Uses of this instrument :

uses in clinical tests that comprises the determination of the followings:

- value of blood sugar.
- creatinine concentration.
- bilirubin concentration.
- uric acid, urea (kidney function).
- concentration of some enzyme.
- concentration of proteins in blood.

Parts of instrument :

Light source.

Lens. used to focus the beam.

Lab. 5

A. Lecturer
Ahmed Maki Al - Muaala

Spectrophotometer

Is an instrument designed to detect the amount of radiant light energy absorbed by molecules. Or is the quantitative measurement of how much a chemical substance absorbs light by passing a beam of light through the sample using a spectrophotometer.

Uses of this instrument :

uses in clinical tests that comprises the determination of the followings:

- value of blood sugar.
- creatinine concentration.
- bilirubin concentration.
- uric acid, urea (kidney function).
- concentration of some enzyme.
- concentration of proteins in blood.

Parts of instrument :

Light source.

Lens. used to focus the beam.



Lab. 5

A. Lecturer
Ahmed Maki Al - Muaala

Spectrophotometer

Is an instrument designed to detect the amount of radiant light energy absorbed by molecules. Or is the quantitative measurement of how much a chemical substance absorbs light by passing a beam of light through the sample using a spectrophotometer.

Uses of this instrument :

uses in clinical tests that comprises the determination of the followings:

- value of blood sugar.
- creatinine concentration.
- bilirubin concentration.
- uric acid, urea (kidney function).
- concentration of some enzyme.
- concentration of proteins in blood.

Parts of instrument :

Light source.

Lens. used to focus the beam.



10 seconds



Figure (2) : Spectrophotometer device

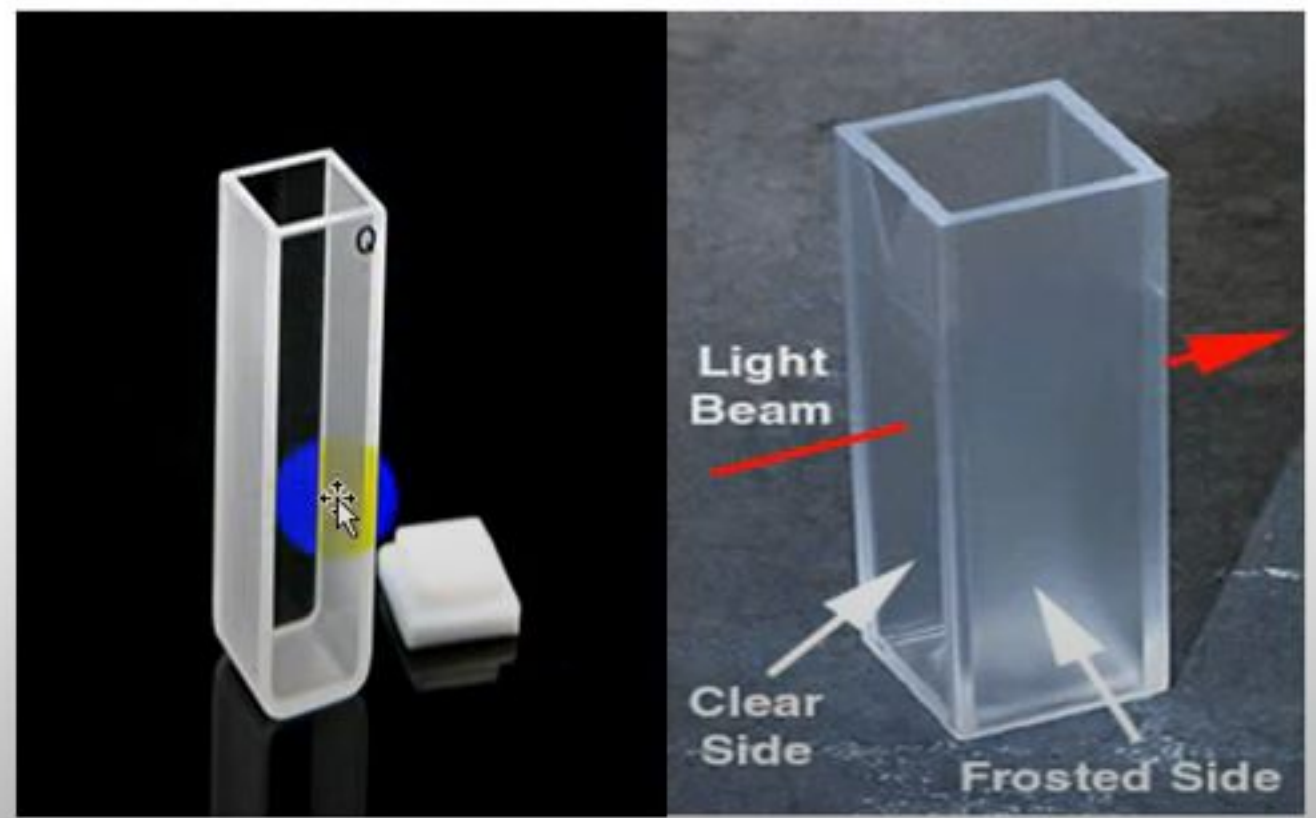


Figure (3) : Cuvette



Figure (2) : Spectrophotometer device

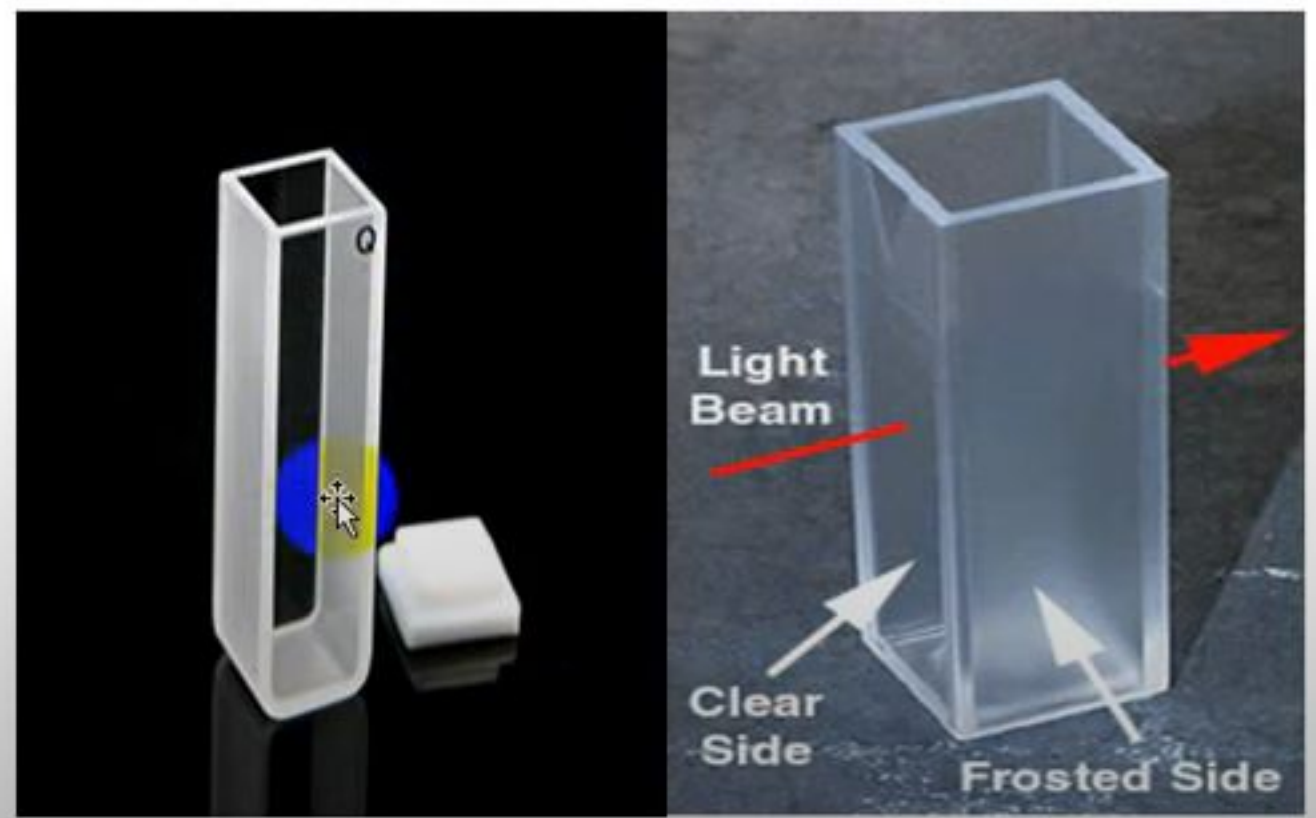
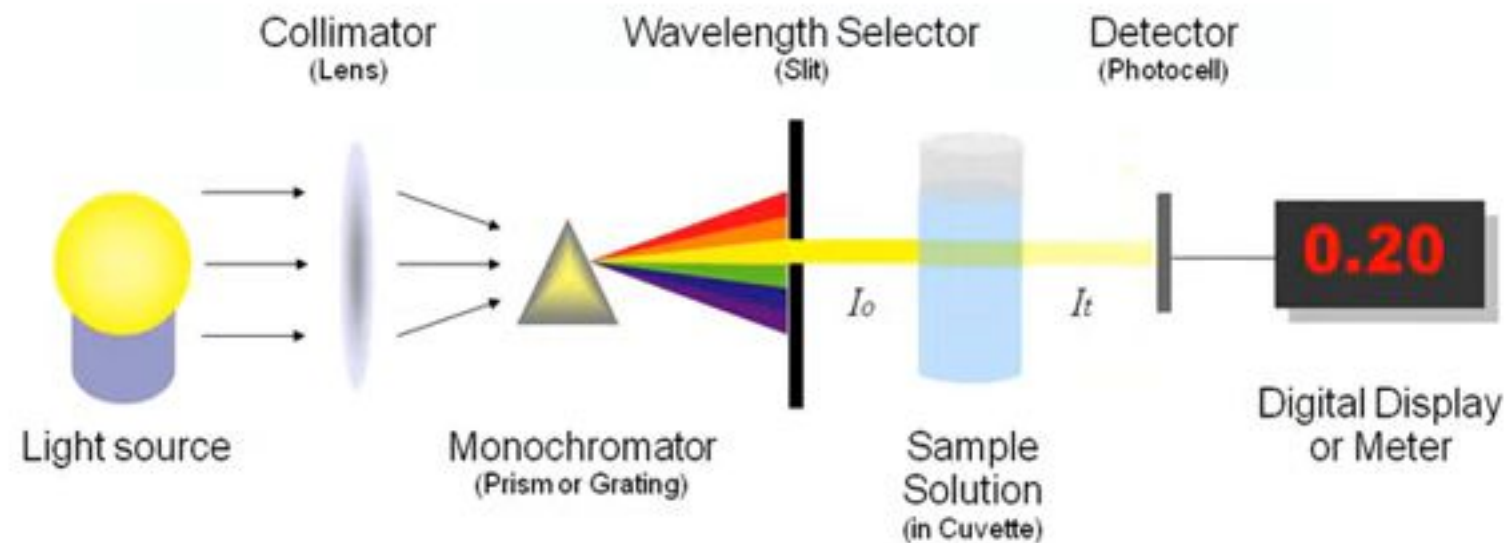


Figure (3) : Cuvette



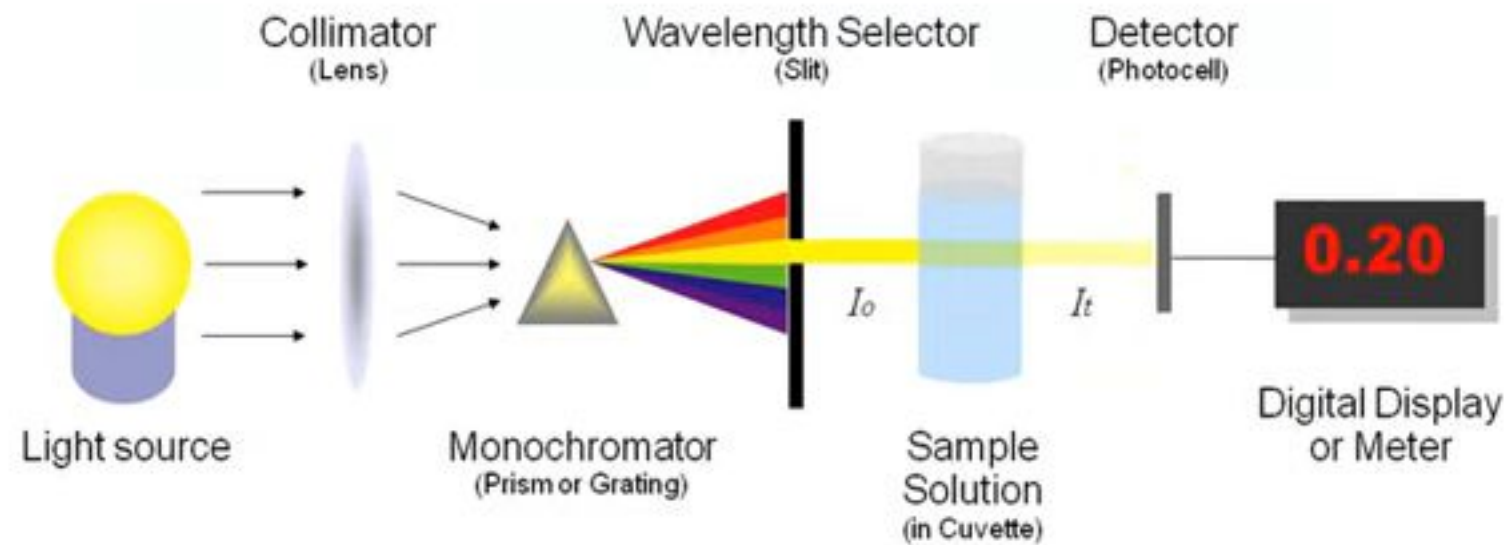
Lab. 5

A. Lecturer
Ahmed Maki Al - Muaala**Figure (1)**

Operation of the instrument:

- 1-turn the instrument on, allow the instrument warm up for at least 20 minutes.
- 2-adjust the wave length from wave length control knob.
- 3-when the sample compartment empty and the lid closed, adjust the zero adjust knob until the instrument reads 0% transmittance on the transmittance scale.

Lab. 5

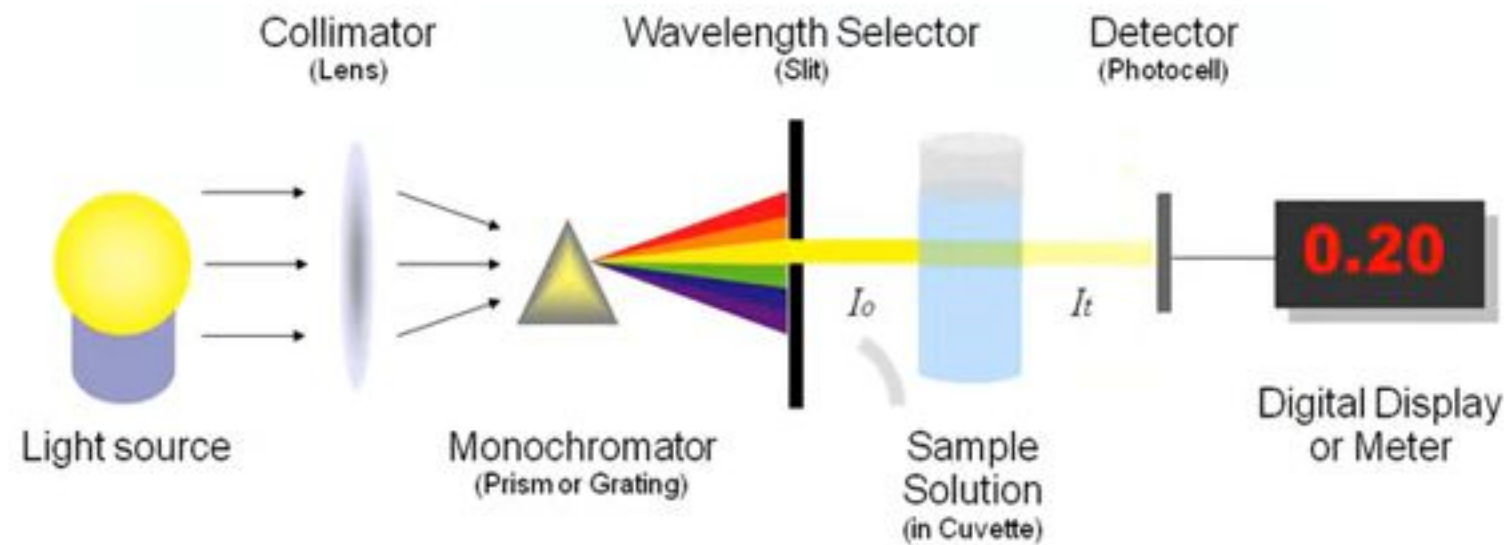
A. Lecturer
Ahmed Maki Al - Muaala**Figure (1)**

Operation of the instrument:

- 1-turn the instrument on, allow the instrument warm up for at least 20 minutes.
- 2-adjust the wave length from wave length control knob.
- 3-when the sample compartment empty and the lid closed, adjust the zero adjust knob until the instrument reads 0% transmittance on the transmittance scale.

10 seconds

Lab. 5

A. Lecturer
Ahmed Maki Al - Muaala**Figure (1)**

Operation of the instrument:

- 1-turn the instrument on, allow the instrument warm up for at least 20 minutes.
- 2-adjust the wave length from wave length control knob.
- 3-when the sample compartment empty and the lid closed, adjust the zero adjust knob until the instrument reads 0% transmittance on the transmittance scale.

10 seconds



Figure (2) : Spectrophotometer device

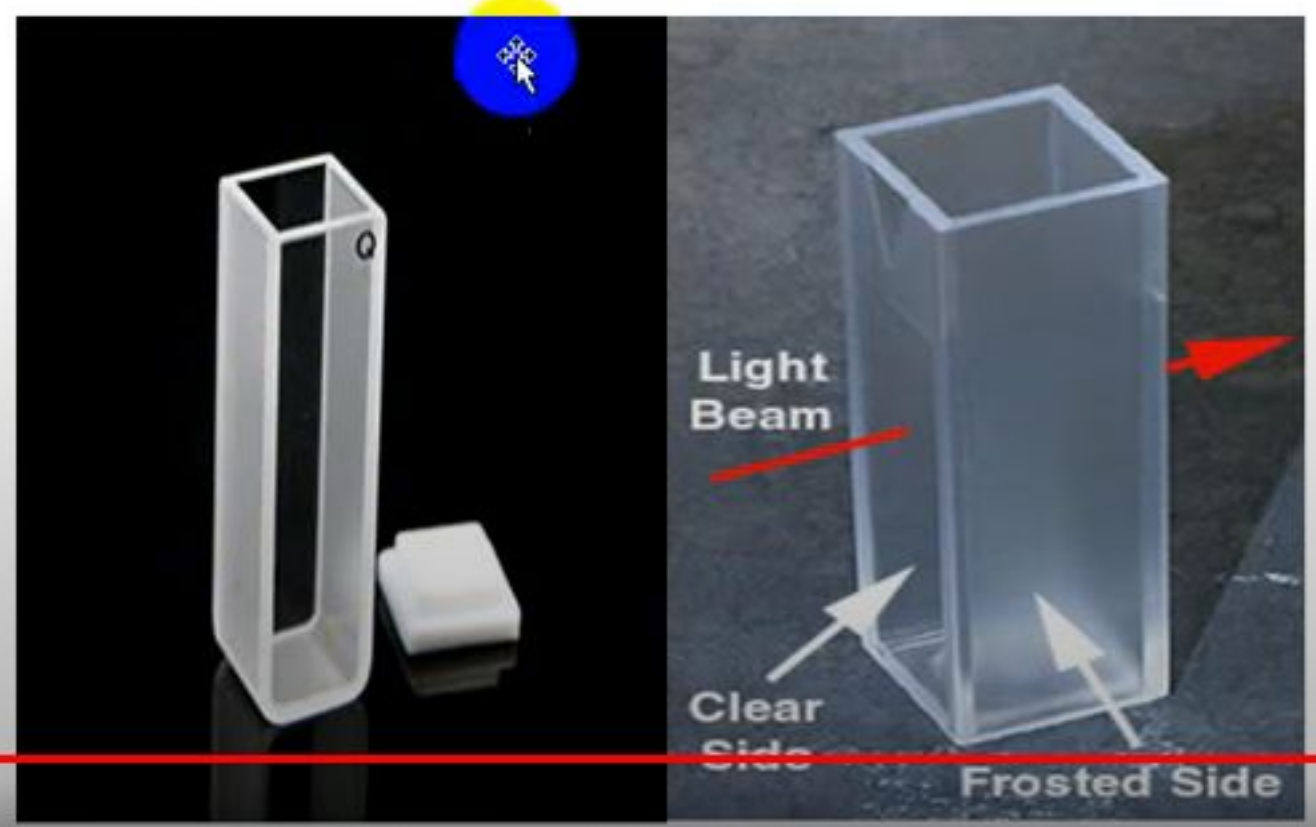




Figure (2) : Spectrophotometer device

