NANOWARE Curriculum

MODULE 4: HOW DO WE SEE NANOPARTICLES?

ASSESSMENT

DELIVERABLE: R1/T1.1

NANOWARE

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Pammukale University

Authored by: PAU

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Contents

1. Assessment

1.1 Knowledge Assessment

4.1 The resolution of the light microscope begins to deteriorate if objects are smaller than 300 nm

Answer:. True

4.2 SEM microscope has the highest resolution.

Answer: False the correct answer is TEM

4.3 SEM microscope is used to look at the surface of lice, flies, and snowflakes at high resolution.

Answer: True

4.4 Which one is the biggest?

a) 1 centimeter b) 1 nanometer c) 1 millimeter d) 1 micrometer

4.5 Which one is the smallest?

a) 1 centimeter **b) 1 nanometer** c) 1 millimeter d) 1 micrometer

4.6 Choose the correct abbreviation of the units?

- Meter: m
- Centimeter: cm
- Millimeter: mm
- Nanometer: nm
- Micrometer: µm
- Kilometer: km

4.7 If the width of DNA is 2 nm, what is its width in millimeters (mm) and meters (m)?

[2 x 10^{-6} mm and 2 x 10^{-9} m]

[2x 10^{6} mm and 2x 10^{9} m]

[1x10^{-3} mm and 2x10^{-9} m]

4.8 1 meter equal to 1x 10^{-9} nm .

Answer: True

4.9 A human hair is nearly 120 micrometers wide. This is equal to 120 x 10^{-6} m meters.

Answer: True

4.10 The sample shouldn't be covered with carbon or metal materials in some microscope analysis to be conductive.

Answer: False

1.2 Skills Assessment

This is the part where your knowledge is being put into action!

Please perform the following activity, using the information you have learned from Module 4:

Activity number	4.1
Course name	How Do We See Nanoparticles?
Grade	10-14
Date	25/11/2022
Activity name	Nanoscale Measurement Activity
Seat time	30 minutes
Learning outcomes	Students will understand measurement of objects at nanoscale
Educational technologies, materials, tools, and references	Paper nanoscale measurement ruler is used as educational tool.
Processing of activity	• preparation of a nanoscale ruler,

	• asking students to measure objects using the nanoscale ruler and to record their measurements, • presentations of students' results and discussions