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0911 46 98 78 /0905 17 17 17/0911 22 96 20
Email: admin@safariacademy.et

2025/26 Academic Year Physics Worksheet One for Grade 11

Student's Name _____ Section _____ Date _____

I. Choose the correct answer from the given alternatives.

- Which one of the following best explains why physics is considered as the backbone of technological advancement for the benefit of human society?
 - It provides entertainment through video games.
 - It provides fundamental knowledge of science and engineering.
 - It only explains abstract mathematical concepts
 - It is concerned only with celestial objects.
- Modern medical imaging techniques such as MRI and CT Scan depend on physics because:
 - They rely solely on chemistry.
 - They are based on random trial and error.
 - They only require biological analysis.
 - They apply the principles of electromagnetic and nuclear physics
- Which one of the following illustrates the role of physics in transport?
 - Aerodynamics applied in aircraft design
 - Quantum mechanics of electrons in atoms
 - The study of abstract geometry
 - Biological cell division
- Why is physics crucial for addressing climate change?
 - It explains only natural disasters.
 - It provides strategies for renewable energy technologies.
 - It studies only stars and galaxies.
 - It eliminates the need for social sciences.
- Which physics discoveries laid the foundation for electronics such as computers and smartphones?
 - Magnetism and electricity
 - Evolutionary biology
 - Geological stratification
 - Plant Photosynthesis
- Which of the following is the contribution of physics to health care?
 - Lasers for surgery
 - Plate tectonics

B. Photosynthesis in plants

D. Linguistic analysis

7. The Ethiopian Physics Society (EPS) was established mainly to:

- A. Replace international physics societies
- B. Enhance physics research and education in Ethiopia
- C. Focus exclusively on astronomy
- D. Conduct business trading activities

8. The African Association of Physics Students (AAPS) focus primarily to:

- A. Train only African military physicists
- B. Promote international collaboration among physics students
- C. Replace government institutions
- D. Restrict physics only to African context

9. Which of the following is an example of a posteriori (experiential) knowledge?

- A. Knowing that $2 + 3 = 5$
- B. Understanding Euclidian geometry
- C. Logical proof of the Pythagorean theorem
- D. Observing that water boils faster at higher altitude

10. Which of the following is an example of a priori knowledge?

- A. Testing if iron rusts in humid air
- B. Observing the Sunrise every morning
- C. Understanding that all bachelors are unmarried
- D. Remembering last year's rainfall

11. Which method of acquiring knowledge depends on personal internal awareness?

- A. Sensory perception
- B. Introspection
- C. Testimony
- D. Hypothesis formulation

12. Which of the following is NOT a step of the scientific method?

- A. Observation
- B. Hypothesis
- C. Memory recall
- D. Experiment

13. Why does water boils at a lower temperature at high altitude?

- A. Increased atmospheric pressure
- B. Decreased atmospheric pressure
- C. Increased gravitational acceleration
- D. Water molecules becomes heavier

14. Which one of the following is an example of testimony as a source of knowledge?

- A. Reading a scientific journal article
- B. Looking at the stars directly
- C. Measuring a pendulum's period
- D. Doing a self-reflection exercise

15. Physics contributes to economic growth mainly by:
- A. Increasing superstition
 - B. Developing technological infrastructure
 - C. Limiting innovations to elites
 - D. Reducing human capital development
16. Which one of the following best illustrates how physics enhances quality of life?
- A. MRI and CT Scans used in hospitals
 - B. Poetry and long fiction writing
 - C. Historical research and carbon dating
 - D. Painting art works and making blue prints
17. Which one of the following inventions is directly based on semiconductors?
- A. Transistors and Microchips
 - B. Steam engines and steam turbines
 - C. Wooden pulleys and Maglev Trains
 - D. Gasoline engines and electric cars
18. Which illustrates the integration of physics and environmental science?
- A. Classifying species that have little damage to nature
 - B. Studying medieval literature historical heritages
 - C. Developing new language that conserves the environment
 - D. Designing solar panels and wind mills
19. The main reason why national Physics societies like EPS are so important is:
- A. To isolate researchers from the world
 - B. To promote education, collaboration, and research
 - C. To focus on political and ethological debates
 - D. To foster international communications on terrorism
20. Which of the following best reveals the link between physics and IT?
- A. Development of fiber optics for internet
 - B. Growth of ancient language to upload in computers
 - C. Studying of fossil fuels to replace electric energy
 - D. Research on human anatomy and ultrasound
21. Which of the following best summarizes the mission of physics?
- A. To develop profitable technologies for the industries
 - B. To advance science, engineering, and innovation for societies benefits
 - C. To replace biology and chemistry with a more fundamental science

- D. To provide only theoretical knowledge with no practical use
22. Which skill is NOT typically emphasized as a benefit of a physics degree?
- A. Numeracy B. Problem Solving C. Culinary expertise D. Data analysis
23. A physicist working in radiology most likely contributes to:
- A. Designing spacecraft propulsion systems
- B. Developing medical imaging technologies
- C. Modeling Earth's climate variability
- D. Predicting daily weather changes
24. Astronomy careers in physics typically involves
- A. Food chemistry research and industry
- B. Energy efficient electric car design
- C. Manufacturing of consumer electronics
- D. Operation of telescopes and space data collection
25. Which industry is least likely to directly employ physics graduates?
- A. Aerospace B. Automotive C. Music Performance D. Defense
26. The Noble Prize in Physics 2019 was awarded for
- A. Detection of Gravitational waves by Albert Einstein
- B. Discovery of the Higgs Boson in CERN
- C. Discovery of Exoplanets outside our Solar System
- D. Development of MRI and CT scan
27. Which statement about black holes is true?
- A. Light can escape but matter cannot.
- B. Nothing, not even light can escape
- C. They are directly visible with optical telescopes
- D. They do not exist, but they are only theoretical models
28. Which Noble Laureates were recognized for Black hole research in 2020?
- A. Roger Penrose, Reinhard Genzel, and Andrea Ghez
- B. Albert Einstein, Neils Bohr and Max Planck
- C. James Clerk Maxwell, Michael Faraday and Galileo

D. Marie Curie, Pierre Curie, Henry Becquerel

29. The Higgs Boson was experimentally confirmed at CERN in:
A. 1926 B. 1964 C. 2012 D. 2019
30. Gravitational Waves were first detected in:
A. 1916 B. 1965 C. 2012 D. 2016
31. Which technology uses quantum physics to enhance secured communication?
A. Quantum Cryptography B. MRI C. GPS D. Solar Panels
32. Which one of the following is not a current physics research frontier?
A. Nanotechnology B. Biotechnology C. Astrology D. Climate Science
33. The James Webb Space Telescope (JWST) primarily detects:
A. Gamma rays B. Infrared radiation. C. X – rays D. Radio waves
34. A career in renewable energy for physicists would most likely involve:
A. Developing efficient wind and solar systems
B. Refining classical mechanics theories
C. Studying black holes
D. Constructing musical instruments
35. Which best describes the impact of climate variability studies in physics?
A. Helps design nuclear submarines
B. Improves long – term weather predictions and climate modeling
C. Measures Telescope resolutions on a graph paper
D. Calculates the shape of planetary orbits
36. A research physicist specializing in particle accelerators is most likely working on:
A. Medical imaging C. Tidal Wave Predictions
B. Solar energy panels D. Higgs Boson and Subatomic particles

II. Read the following question and answer accordingly.

37. What are the benefits of physics in the energy sector?
38. What is priori knowledge?
39. What are the four major sources of posteriori knowledge?
40. What are current discoveries in physics discipline?