PHYSICS MCQ BOOKLET

Grade 9 · Chapter 9 · Nature of Science and Physics

FBISE / National Book Foundation Model Textbook companion

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Independent practice MCQs. Total: 108 questions. Each item has four options, the correct letter, and a short explanation of why it is correct.

A. Important / Main Topics

1. The Latin word scientia, root of “science,” means roughly:

(A) to know
(B) to cook
(C) to magnetise only
(D) to float

Correct Answer: A

Explanation: The Latin word scientia, root of “science,” means roughly to know.

2. Science studies physical nature mainly through:

(A) only memorising names
(B) imagination, experimentation, and deduction
(C) only copying answers
(D) only guessing forever

Correct Answer: B

Explanation: Science studies physical nature mainly through imagination, experimentation, and deduction.

3. Biological sciences mainly study:

(A) non-living rocks only
(B) only GPS satellites
(C) life (e.g. botany, zoology, genetics, medicine)
(D) only bridges

Correct Answer: C

Explanation: Biological sciences mainly study life (e.g. botany, zoology, genetics, medicine).

4. Physical sciences mainly study:

(A) only living cells
(B) only poetry
(C) only cooking
(D) non-living aspects of nature (e.g. physics, chemistry, geology, geography)

Correct Answer: D

Explanation: Physical sciences mainly study non-living aspects of nature (e.g. physics, chemistry, geology, geography).

5. Geology is grouped with the:

(A) physical sciences
(B) only biological sciences
(C) only arts
(D) only sports

Correct Answer: A

Explanation: Geology is grouped with the physical sciences.

6. Physics ranges in scale roughly from:

(A) only classroom desks
(B) atoms to galaxies
(C) only oceans

(D) only phones

Correct Answer: B

Explanation: Physics ranges in scale roughly from atoms to galaxies.

7. GPS stands for:

(A) Global Pressure System
(B) General Physics Syllabus
(C) Global Positioning System
(D) Gravity Pascal Sensor

Correct Answer: C

Explanation: GPS stands for Global Positioning System.

8. Phones, aeroplanes, and ships can use GPS to:

(A) only measure density of osmium
(B) only fluff feathers
(C) only demagnetise steel
(D) follow paths / locate position using satellite signals

Correct Answer: D

Explanation: Phones, aeroplanes, and ships can use GPS to follow paths / locate position using satellite signals.

9. Aeroplanes take off using, in part:

(A) pressure differences above and below the wings
(B) only Hooke's law on rubber
(C) only diamagnetic copper
(D) only Boyle's law on lungs

Correct Answer: A

Explanation: Aeroplanes take off using, in part pressure differences above and below the wings.

10. Birds stay aloft using principles related to:

(A) only Earth's monopoles
(B) pressure differences (and related flight physics)
(C) only absolute zero
(D) only Hooke springs

Correct Answer: B

Explanation: Birds stay aloft using principles related to pressure differences (and related flight physics).

11. Birds fluff feathers in winter mainly to:

(A) increase density forever
(B) create GPS signals
(C) trap more warm air (insulation)
(D) form magnetic monopoles

Correct Answer: C

Explanation: Birds fluff feathers in winter mainly to trap more warm air (insulation).

12. The sky often looks blue because sunlight:

(A) never reaches Earth
(B) is absorbed only by oceans
(C) is blocked by GPS
(D) scatters off atmospheric gas molecules

Correct Answer: D

Explanation: The sky often looks blue because sunlight scatters off atmospheric gas molecules.

13. Lakes and seas moderate nearby climate partly because water has:

(A) high heat capacity
(B) zero heat capacity
(C) only magnetic domains

(D) only nuclear spin

Correct Answer: A

Explanation: Lakes and seas moderate nearby climate partly because water has high heat capacity.

14. Vehicles convert chemical energy in fuel largely into:

(A) only sound forever
(B) kinetic energy of the vehicle (via mechanics / thermodynamics)
(C) only gravitational PE of the Moon
(D) only nuclear fission in tyres

Correct Answer: B

Explanation: Vehicles convert chemical energy in fuel largely into kinetic energy of the vehicle (via mechanics / thermodynamics).

15. Submarines and ships relate strongly to the principle of:

(A) only Ohm's law
(B) only Boyle colour
(C) floatation / buoyancy
(D) only relativity of GPS

Correct Answer: C

Explanation: Submarines and ships relate strongly to the principle of floatation / buoyancy.

16. Cellular phones transfer information using, among other things:

(A) only wooden strings
(B) only mercury columns
(C) only soft-iron filings
(D) electronic components and electromagnetic waves

Correct Answer: D

Explanation: Cellular phones transfer information using, among other things electronic components and electromagnetic waves.

17. Physics is described as the branch that covers matter, energy, space, time and their:

(A) mutual connections and interactions
(B) only political links
(C) only brand names
(D) only colours

Correct Answer: A

Explanation: Physics is described as the branch that covers matter, energy, space, time and their mutual connections and interactions.

18. A main objective of physics is to understand the physical world by developing:

(A) untouchable myths
(B) theories based on observations and experiments
(C) only untestable slogans
(D) only shopping lists

Correct Answer: B

Explanation: A main objective of physics is to understand the physical world by developing theories based on observations and experiments.

19. A physicist is a scientist who specializes in:

(A) only cooking recipes
(B) only painting
(C) physics (theoretical and/or experimental research on nature's laws)
(D) only farming

Correct Answer: C

Explanation: A physicist is a scientist who specializes in physics (theoretical and/or experimental research on nature's laws).

20. Newton's laws of motion are excellent for ordinary speeds but fail when speeds approach:

(A) walking pace only
(B) the speed of sound always as absolute limit
(C) zero forever
(D) the speed of light

Correct Answer: D

Explanation: Newton's laws of motion are excellent for ordinary speeds but fail when speeds approach the speed of light.

21. Einstein's theory of relativity is especially important when speeds approach:

(A) the speed of light
(B) 1 mm/s
(C) the speed of a snail only
(D) zero

Correct Answer: A

Explanation: Einstein's theory of relativity is especially important when speeds approach the speed of light.

22. At everyday slow speeds, relativity's results:

(A) always contradict Newton completely
(B) match Newton's results (within that domain)
(C) ban all measurement
(D) require monopoles

Correct Answer: B

Explanation: At everyday slow speeds, relativity's results match Newton's results (within that domain).

23. Science is described as collaborative and needing:

(A) isolated silence forever
(B) only one person forever
(C) interdisciplinary researchers sharing and critiquing ideas
(D) no experiments

Correct Answer: C

Explanation: Science is described as collaborative and needing interdisciplinary researchers sharing and critiquing ideas.

24. Physics is called fundamental among sciences partly because other fields use:

(A) only Latin poetry
(B) only brand logos
(C) only untestable claims
(D) physical principles (matter, energy, forces, waves, etc.)

Correct Answer: D

Explanation: Physics is called fundamental among sciences partly because other fields use physical principles (matter, energy, forces, waves, etc.).

25. Biology uses physics ideas such as fluid movement to understand:

(A) blood flow in the heart, arteries, and veins
(B) only star formation
(C) only GPS orbits alone
(D) only bridge cables

Correct Answer: A

Explanation: Biology uses physics ideas such as fluid movement to understand blood flow in the heart, arteries, and veins.

26. Chemistry relies on physics of:

(A) only bird feathers
(B) subatomic particles (among other physical ideas) for reactions

(C) only road design
(D) only climate maps alone

Correct Answer: B

Explanation: Chemistry relies on physics of subatomic particles (among other physical ideas) for reactions.

27. Geology uses physics of seismic waves to help find:

(A) only phone apps
(B) only speaker cones
(C) earthquake magnitude and location
(D) only soft-iron locks

Correct Answer: C

Explanation: Geology uses physics of seismic waves to help find earthquake magnitude and location.

28. Astronomy and cosmology often use laws such as:

(A) only Hooke's law on rubber bands
(B) only Boyle's law for lungs alone
(C) only Ohm for bridges
(D) relativity (among other physics) to describe the universe

Correct Answer: D

Explanation: Astronomy and cosmology often use laws such as relativity (among other physics) to describe the universe.

29. Biophysics studies physical aspects of:

(A) living systems (e.g. blood flow, respiration, medical radiation)
(B) only distant galaxies
(C) only road asphalt
(D) only kitchen magnets

Correct Answer: A

Explanation: Biophysics studies physical aspects of living systems (e.g. blood flow, respiration, medical radiation).

30. Astronomy studies objects and phenomena:

(A) only inside a cell nucleus
(B) beyond Earth's atmosphere (Sun, Moon, planets, stars, etc.)
(C) only in a test tube of salt
(D) only in a speaker coil

Correct Answer: B

Explanation: Astronomy studies objects and phenomena beyond Earth's atmosphere (Sun, Moon, planets, stars, etc.).

31. Astrophysics applies physics laws and theories to:

(A) only classroom chairs
(B) only rubber bands
(C) astronomical observations (stars, planets, galaxies)
(D) only door locks

Correct Answer: C

Explanation: Astrophysics applies physics laws and theories to astronomical observations (stars, planets, galaxies).

32. Cosmology focuses on the origin, structure, history, and future of:

(A) one school lab only
(B) one electromagnet only
(C) one thermometer only
(D) the entire universe

Correct Answer: D

Explanation: Cosmology focuses on the origin, structure, history, and future of the entire universe.

33. Thermal physics collectively includes ideas from statistical mechanics, thermodynamics, and:

(A) kinetic theory of gases
(B) only optics of mirrors
(C) only acoustics of drums
(D) only geophysics of soil

Correct Answer: A

Explanation: Thermal physics collectively includes ideas from statistical mechanics, thermodynamics, and kinetic theory of gases.

34. Optics is the branch dealing mainly with:

(A) only nuclear fission
(B) light and instruments that use or detect light
(C) only Earth's core dynamo
(D) only climate models alone

Correct Answer: B

Explanation: Optics is the branch dealing mainly with light and instruments that use or detect light.

35. Nuclear physics studies the structure and behaviour of:

(A) only planetary orbits
(B) only speaker spiders
(C) atomic nuclei
(D) only GPS antennas

Correct Answer: C

Explanation: Nuclear physics studies the structure and behaviour of atomic nuclei.

36. Particle (high-energy) physics studies:

(A) only macroscopic cricket balls
(B) only wooden bridges
(C) only kitchen density cubes
(D) fundamental particles and forces that make matter and radiation

Correct Answer: D

Explanation: Particle (high-energy) physics studies fundamental particles and forces that make matter and radiation.

37. Electromagnetism studies forces between:

(A) electrically charged particles (and related fields)
(B) only neutral wood chips
(C) only geographic poles alone
(D) only rubber erasers

Correct Answer: A

Explanation: Electromagnetism studies forces between electrically charged particles (and related fields).

38. Acoustics deals with the production, transmission, and effects of:

(A) only light
(B) sound
(C) only gravity
(D) only GPS

Correct Answer: B

Explanation: Acoustics deals with the production, transmission, and effects of sound.

39. Computational physics uses numerical methods and computing to:

(A) avoid all maths forever
(B) ban experiments
(C) solve complex physics problems
(D) replace SI units with inches only

Correct Answer: C

Explanation: Computational physics uses numerical methods and computing to solve complex physics problems.

40. Figure 9.3 places computational physics at the overlap of physics, mathematics, and:

(A) only cooking
(B) only poetry
(C) only agriculture
(D) computer science

Correct Answer: D

Explanation: Figure 9.3 places computational physics at the overlap of physics, mathematics, and computer science.

41. Geophysics studies Earth's structure and physical processes:

(A) especially in and near Earth
(B) only on the Moon forever
(C) only in a phone speaker
(D) only in a test tube

Correct Answer: A

Explanation: Geophysics studies Earth's structure and physical processes especially in and near Earth.

42. Climate physics focuses on:

(A) only nuclear spins
(B) Earth's climate
(C) only speaker magnets
(D) only Boyle's syringe alone

Correct Answer: B

Explanation: Climate physics focuses on Earth's climate.

43. Classical mechanics studies motion of macroscopic objects under:

(A) only quantum tunnelling always
(B) only light-speed travel only
(C) forces (everyday-scale motion)
(D) only nuclear decay only

Correct Answer: C

Explanation: Classical mechanics studies motion of macroscopic objects under forces (everyday-scale motion).

44. Quantum mechanics describes motion/behaviour of:

(A) only buses at 20 m/s
(B) only ships by floatation alone
(C) only bridges by cost
(D) microscopic particles

Correct Answer: D

Explanation: Quantum mechanics describes motion/behaviour of microscopic particles.

45. Relativistic mechanics applies when relative speeds approach:

(A) c (speed of light) or when KE is comparable to mc^2 scale ideas
(B) 0 m/s only
(C) only walking speed
(D) only sound speed as a hard cosmic limit

Correct Answer: A

Explanation: Relativistic mechanics applies when relative speeds approach c (speed of light) or when KE is comparable to mc^2 scale ideas.

46. In the size–speed map, classical mechanics fits objects:

(A) near 10^{-9} m and near c
(B) much larger than ~10^{-9} m and much slower than c
(C) only nuclei at light speed
(D) only photons in atoms

Correct Answer: B

Explanation: In the size–speed map, classical mechanics fits objects much larger than ~10□⁹ m and much slower than c.

47. Quantum mechanics (non-relativistic box) fits sizes near/less than about:

(A) 1 km always
(B) only the Sun's diameter
(C) 10□⁹ m, with speeds far less than c
(D) only 3 × 10⁸ m always

Correct Answer: C

Explanation: Quantum mechanics (non-relativistic box) fits sizes near/less than about 10□⁹ m, with speeds far less than c.

48. Relativistic mechanics (large-size box) fits speeds:

(A) far less than c always
(B) only 1 cm/s
(C) only zero
(D) comparable to 3 × 10⁸ m/s for large objects

Correct Answer: D

Explanation: Relativistic mechanics (large-size box) fits speeds comparable to 3 × 10⁸ m/s for large objects.

49. The corner for tiny size and near-light speeds is labelled:

(A) quantum field theory
(B) classical mechanics only
(C) only acoustics
(D) only climate physics

Correct Answer: A

Explanation: The corner for tiny size and near-light speeds is labelled quantum field theory.

50. A hypothesis is best described as a:

(A) final unchangeable law forever
(B) tentative assumption/explanation to be tested by further investigation
(C) proven engineering blueprint only
(D) unit of density

Correct Answer: B

Explanation: A hypothesis is best described as a tentative assumption/explanation to be tested by further investigation.

51. A scientific theory is a:

(A) casual everyday hunch with no tests
(B) single unverified guess always
(C) well-supported explanation of nature verified by rigorous testing
(D) brand of smartphone

Correct Answer: C

Explanation: A scientific theory is a well-supported explanation of nature verified by rigorous testing.

52. Examples of scientific theories named include kinetic molecular theory and:

(A) only a shopping list
(B) only a door lock patent
(C) only a rubber stamp
(D) general relativity

Correct Answer: D

Explanation: Examples of scientific theories named include kinetic molecular theory and general relativity.

53. A law summarizes an observed regularity/pattern and often gives:

(A) relationships between variables

(B) only a poem
(C) only a brand logo
(D) only an untestable myth

Correct Answer: A

Explanation: A law summarizes an observed regularity/pattern and often gives relationships between variables.

54. Examples of laws include Newton's laws of motion, Boyle's law, and:

(A) only a phone wallpaper
(B) laws of thermodynamics (and Newton's gravitation, etc.)
(C) only a speaker spider label
(D) only a GPS icon

Correct Answer: B

Explanation: Examples of laws include Newton's laws of motion, Boyle's law, and laws of thermodynamics (and Newton's gravitation, etc.).

55. Falsifiability means a scientific claim should make assertions that can, in principle, be:

(A) never checked
(B) hidden forever
(C) disproven by evidence
(D) copied from ads only

Correct Answer: C

Explanation: Falsifiability means a scientific claim should make assertions that can, in principle, be disproven by evidence.

56. Laws and theories can be revised when:

(A) teachers change classrooms
(B) phones update OS only
(C) feathers fluff
(D) new evidence appears (e.g. relativity refining Newtonian ideas)

Correct Answer: D

Explanation: Laws and theories can be revised when new evidence appears (e.g. relativity refining Newtonian ideas).

57. Compared with laws, theories are often more:

(A) expansive explanations of how/why
(B) narrower lists of one equation only always
(C) untested slogans
(D) engineering cost sheets

Correct Answer: A

Explanation: Compared with laws, theories are often more expansive explanations of how/why.

58. Laws often describe a:

(A) only complete philosophy of everything
(B) narrower set of conditions / patterns between variables
(C) only collaborative meeting agenda
(D) only smartphone UI

Correct Answer: B

Explanation: Laws often describe a narrower set of conditions / patterns between variables.

59. Science is the pursuit of knowledge/understanding through:

(A) random advertising
(B) only building bridges for pay
(C) systematic study (hypotheses, data, experiments)
(D) only designing logos

Correct Answer: C

Explanation: Science is the pursuit of knowledge/understanding through systematic study (hypotheses, data, experiments).

60. Technology is mainly the:

(A) pure curiosity with no tools ever
(B) only Latin grammar
(C) only cosmology lectures
(D) application of scientific knowledge for practical purposes (tools, machines, systems)

Correct Answer: D

Explanation: Technology is mainly the application of scientific knowledge for practical purposes (tools, machines, systems).

61. Engineering is the practical use of scientific and mathematical principles to:

(A) solve real-world problems (e.g. bridges, roads)
(B) avoid real problems
(C) ban measurement
(D) replace physics with myths

Correct Answer: A

Explanation: Engineering is the practical use of scientific and mathematical principles to solve real-world problems (e.g. bridges, roads).

62. A smartphone is an example of combining physics, materials science, and:

(A) only astrology
(B) engineering
(C) only Latin roots alone
(D) only bird fluff

Correct Answer: B

Explanation: A smartphone is an example of combining physics, materials science, and engineering.

63. Civil engineering examples in the text include:

(A) only nuclear spins
(B) only GPS satellites alone
(C) bridges and roads
(D) only quantum field theory

Correct Answer: C

Explanation: Civil engineering examples in the text include bridges and roads.

64. Summary: physics describes matter, energy, and their:

(A) only political parties
(B) only brand colours
(C) only feather colours
(D) mutual relationship

Correct Answer: D

Explanation: Summary: physics describes matter, energy, and their mutual relationship.

65. Summary: a hypothesis is made before research and should be:

(A) verifiable by further investigation
(B) never tested
(C) always a final law
(D) always engineering code

Correct Answer: A

Explanation: Summary: a hypothesis is made before research and should be verifiable by further investigation.

66. Summary: a theory explains how nature behaves:

(A) with no conditions ever
(B) under specific conditions (as a tested explanation)

(C) only as a wild rumour
(D) only as a phone app store rule

Correct Answer: B

Explanation: Summary: a theory explains how nature behaves under specific conditions (as a tested explanation).

67. Summary: a law states a pattern in nature and relates:

(A) only emotions
(B) only logos
(C) variables
(D) only feather fluff

Correct Answer: C

Explanation: Summary: a law states a pattern in nature and relates variables.

68. Summary: technology includes tools and methods that help people:

(A) avoid all tasks
(B) ban science
(C) ignore evidence
(D) accomplish tasks

Correct Answer: D

Explanation: Summary: technology includes tools and methods that help people accomplish tasks.

69. Summary: engineering is the process of studying and developing:

(A) technology
(B) only myths
(C) only Latin vocabulary
(D) only bird songs

Correct Answer: A

Explanation: Summary: engineering is the process of studying and developing technology.

70. Studying motion and energy to form laws of motion is mainly:

(A) only engineering cost cutting
(B) science (seeking understanding)
(C) only painting
(D) only advertising

Correct Answer: B

Explanation: Studying motion and energy to form laws of motion is mainly science (seeking understanding).

71. Building tools/machines from that knowledge is mainly:

(A) pure unapplied curiosity only
(B) only cosmology of the Big Bang alone
(C) technology
(D) only a hypothesis name

Correct Answer: C

Explanation: Building tools/machines from that knowledge is mainly technology.

72. Designing a safe bridge within budget is mainly:

(A) only stating Boyle's law
(B) only naming scientia
(C) only fluff feathers
(D) engineering under constraints

Correct Answer: D

Explanation: Designing a safe bridge within budget is mainly engineering under constraints.

73. Calling a scientific theory "just a theory" is misleading because in science a theory is:

(A) a heavily tested explanatory framework
(B) always false

(C) only a random guess
(D) only a law's weaker twin that never explains

Correct Answer: A

Explanation: Calling a scientific theory "just a theory" is misleading because in science a theory is a heavily tested explanatory framework.

74. Unit 1 ideas (units, instruments, errors) matter for the nature of science because claims must be:

(A) untestable
(B) honestly measurable and checkable
(C) secret forever
(D) copied from ads

Correct Answer: B

Explanation: Unit 1 ideas (units, instruments, errors) matter for the nature of science because claims must be honestly measurable and checkable.

75. An unfalsifiable claim that cannot be tested is:

(A) a strong scientific law
(B) always engineering
(C) not a scientific hypothesis in the usual sense
(D) always GPS

Correct Answer: C

Explanation: An unfalsifiable claim that cannot be tested is not a scientific hypothesis in the usual sense.

76. Newton's laws remaining useful for cars while relativity handles near-c speeds shows that models have a:

(A) infinite perfect domain always
(B) ban on maths
(C) ban on experiments
(D) limited domain of validity

Correct Answer: D

Explanation: Newton's laws remaining useful for cars while relativity handles near-c speeds shows that models have a limited domain of validity.

77. Interdisciplinary research means physicists often work with:

(A) experts from other fields, sharing and critiquing ideas
(B) nobody else ever
(C) only one closed book forever
(D) only advertising firms

Correct Answer: A

Explanation: Interdisciplinary research means physicists often work with experts from other fields, sharing and critiquing ideas.

78. Physical sciences are a subset of the broader:

(A) only biological sciences
(B) natural sciences
(C) only engineering codes
(D) only phone apps

Correct Answer: B

Explanation: Physical sciences are a subset of the broader natural sciences.

79. Physics itself is presented as a subset of the:

(A) only life sciences
(B) only arts faculty forever
(C) physical sciences (and thus natural sciences)
(D) only climate politics

Correct Answer: C

Explanation: Physics itself is presented as a subset of the physical sciences (and thus natural sciences).

80. The unit opener's aeroplane question links navigation ideas such as:

(A) only Hooke's law
(B) only soft-iron shielding
(C) only Boyle syringes
(D) finding the way (later tied to GPS / physics applications)

Correct Answer: D

Explanation: The unit opener's aeroplane question links navigation ideas such as finding the way (later tied to GPS / physics applications).

B. Less Important / Secondary Topics

81. Botany and zoology are listed under:

(A) biological sciences
(B) physical sciences only
(C) only engineering
(D) only acoustics

Correct Answer: A

Explanation: Botany and zoology are listed under biological sciences.

82. Medicine is grouped with:

(A) only geophysics
(B) biological sciences in the chapter's split
(C) only particle physics
(D) only civil engineering

Correct Answer: B

Explanation: Medicine is grouped with biological sciences in the chapter's split.

83. Chemistry appears under:

(A) only biological sciences
(B) only acoustics
(C) physical sciences
(D) only cooking

Correct Answer: C

Explanation: Chemistry appears under physical sciences.

84. Geography is listed among:

(A) only life sciences
(B) only quantum field theory
(C) only speaker design
(D) physical sciences examples

Correct Answer: D

Explanation: Geography is listed among physical sciences examples.

85. Figure 9.1 links Google Maps work with:

(A) GPS
(B) only mercury barometers
(C) only Alnico
(D) only soft-iron boxes

Correct Answer: A

Explanation: Figure 9.1 links Google Maps work with GPS.

86. Isaac Newton's years are given in the text as about:

(A) 1900–2000
(B) 1642–1727

(C) 1879–1955
(D) 2000–2020

Correct Answer: B

Explanation: Isaac Newton's years are given in the text as about 1642–1727.

87. Albert Einstein's years are given as about:

(A) 1642–1727
(B) 1000–1050
(C) 1879–1955
(D) 300 BCE

Correct Answer: C

Explanation: Albert Einstein's years are given as about 1879–1955.

88. Rocket design today still uses ideas from:

(A) only bird fluff
(B) only unfalsifiable myths
(C) only smartphone UI
(D) Newton's laws of motion (in their domain)

Correct Answer: D

Explanation: Rocket design today still uses ideas from Newton's laws of motion (in their domain).

89. Classroom activity asks students to identify devices involving:

(A) physics and discuss phenomena
(B) only Latin roots
(C) only cooking recipes
(D) only brand ads

Correct Answer: A

Explanation: Classroom activity asks students to identify devices involving physics and discuss phenomena.

90. Respiration and medical radiation are example topics in:

(A) only cosmology
(B) biophysics
(C) only civil engineering
(D) only GPS marketing

Correct Answer: B

Explanation: Respiration and medical radiation are example topics in biophysics.

91. Formation of stars, planets, and galaxies is highlighted under:

(A) only acoustics
(B) only door locks
(C) astrophysics
(D) only Hooke springs

Correct Answer: C

Explanation: Formation of stars, planets, and galaxies is highlighted under astrophysics.

92. High-energy physics is another name used for:

(A) only climate physics
(B) only road engineering
(C) only feather insulation
(D) particle physics

Correct Answer: D

Explanation: High-energy physics is another name used for particle physics.

93. A bicycle and Saturn icons in the diagram illustrate the domain of:

(A) classical mechanics
(B) quantum field theory only

(C) only nuclear physics alone
(D) only acoustics

Correct Answer: A

Explanation: A bicycle and Saturn icons in the diagram illustrate the domain of classical mechanics.

94. A flashlight/light-beam icon is used for the:

(A) only quantum-only slow box
(B) relativistic mechanics (large, near-c) region
(C) only climate physics
(D) only acoustics

Correct Answer: B

Explanation: A flashlight/light-beam icon is used for the relativistic mechanics (large, near-c) region.

95. An atom icon marks the:

(A) only classical large-slow box
(B) only civil engineering
(C) quantum mechanics (small, slow) region
(D) only GPS

Correct Answer: C

Explanation: An atom icon marks the quantum mechanics (small, slow) region.

96. The speed scale marker 3×10^8 m/s is the:

(A) speed of sound in air only
(B) only walking speed
(C) only Earth's spin rate
(D) speed of light (c)

Correct Answer: D

Explanation: The speed scale marker 3×10^8 m/s is the speed of light (c).

97. Pasteur is mentioned as disproving earlier ideas about:

(A) disease in animals (updating prior theories)
(B) GPS orbits
(C) only speaker spiders
(D) only bridge paint

Correct Answer: A

Explanation: Pasteur is mentioned as disproving earlier ideas about disease in animals (updating prior theories).

98. Einstein's relativity is cited as partially revising accepted truths of:

(A) only cooking
(B) Newtonian physics
(C) only feather fluff
(D) only Latin grammar

Correct Answer: B

Explanation: Einstein's relativity is cited as partially revising accepted truths of Newtonian physics.

99. Studying gravity/motion principles is science; building machines from them is:

(A) only cosmology
(B) only a hypothesis name
(C) technology
(D) only a law's opposite

Correct Answer: C

Explanation: Studying gravity/motion principles is science; building machines from them is technology.

100. Advances in science often lead to:

(A) fewer tools forever
(B) ban on engineering

(C) ban on measurement
(D) technological innovations

Correct Answer: D

Explanation: Advances in science often lead to technological innovations.

101. Engineering then uses scientific knowledge to create:

(A) new technologies / designed solutions
(B) only untested slogans
(C) only Latin drills
(D) only bird songs

Correct Answer: A

Explanation: Engineering then uses scientific knowledge to create new technologies / designed solutions.

102. Domain theory of magnetism (from Unit 8) is best classed as a:

(A) single narrow force law only
(B) theory (explanatory framework)
(C) unit of tesla
(D) GPS protocol

Correct Answer: B

Explanation: Domain theory of magnetism (from Unit 8) is best classed as a theory (explanatory framework).

103. Conservation of energy (used across earlier units) is best classed as a:

(A) casual hunch
(B) only a phone app
(C) law-level pattern / relation
(D) only engineering cement mix

Correct Answer: C

Explanation: Conservation of energy (used across earlier units) is best classed as a law-level pattern / relation.

104. F = ma in its everyday domain is best called a:

(A) religion
(B) untested advertisement
(C) only a smartphone case
(D) law (concise pattern/equation)

Correct Answer: D

Explanation: F = ma in its everyday domain is best called a law (concise pattern/equation).

105. Kinetic molecular theory explaining gas pressure is best called a:

(A) theory (explanation of behaviour)
(B) narrow single-variable law only
(C) unit of pascal
(D) civil code

Correct Answer: A

Explanation: Kinetic molecular theory explaining gas pressure is best called a theory (explanation of behaviour).

106. Honest peer critique of ideas supports science as:

(A) a private diary only
(B) a collaborative field
(C) only a closed shop
(D) only marketing

Correct Answer: B

Explanation: Honest peer critique of ideas supports science as a collaborative field.

107. Instruments that use or detect light belong to the discussion of:

(A) only nuclear physics
(B) only climate politics

(C) optics
(D) only acoustics of drums

Correct Answer: C

Explanation: Instruments that use or detect light belong to the discussion of optics.

108. Earthquakes are linked in the text to physics used in:

(A) only speaker design
(B) only feather fluff
(C) only phone UI themes
(D) geology (seismic waves / energy transfer)

Correct Answer: D

Explanation: Earthquakes are linked in the text to physics used in geology (seismic waves / energy transfer).