

Junior Cycle SCIENCE

Examcraft Formative question bank

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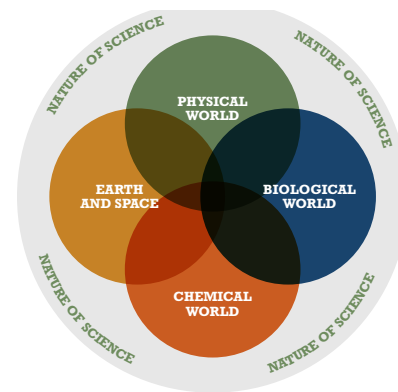
About the author

Jonathan Reynolds is a post primary teacher of Science and SEC Written Examiner for Junior Cycle Science Common Level. He has published Leaving Certificate revision book in Agricultural Science and Chemistry. He has a master in Education - Level 9 in school leadership and management.

Junior Cycle Science

The Examcraft Formative bank of questions was designed by our expert content creators and is divided according to the specification for Junior Cycle Science. It focuses on the development of students' knowledge of and about science through the unifying strand, **Nature of Science**, and the four contextual strands: **Physical World**, **Chemical World**, **Biological World**, and **Earth and Space**.

For more information about Examcraft Formative, access: www.examcraft.formative.com



CBA 1

Science in Society Investigation (SSI) Extended Experimental Investigation (EEI)

20 questions

CBA 2

Science in Society Investigation (SSI) Extended Experimental Investigation (EEI)

12 questions

NS 1 - How scientists work

Students should be able to appreciate how scientists work and how scientific ideas are modified over time.

10 questions

NS 2 - The scientific investigation

Students should be able to recognise questions that are appropriate for scientific investigation, pose testable hypotheses, and evaluate and compare strategies for investigating hypotheses.

10 questions

NS 3 - Designing, planning, and conducting investigations

Students should be able to design, plan and conduct investigations, and explain how reliability, accuracy, precision, fairness, safety, ethics, and selection of suitable equipment have been considered.

11 questions

NS 4 - Producing and selecting data

Students should be able to produce and select data (qualitatively/quantitatively), critically analyse data to identify patterns and relationships, identify anomalous observations, and draw and justify conclusions.

12 questions

NS 5 - Reviewing and reflecting on the skills and thinking

Students should be able to produce and select data (qualitatively/quantitatively), critically analyse data to identify patterns and relationships, identify anomalous observations, and draw and justify conclusions.

13 questions

NS 6 - Conducting research

Students should be able to conduct research relevant to a scientific issue, and evaluate different sources of information, including secondary data, understanding that a source may lack detail or show bias.

12 questions

NS 7 - Organising and communicating a research

Students should be able to organise and communicate their research and investigative findings in a variety of ways fit for purpose and audience, using relevant scientific terminology and representations.

10 questions

NS 8 - Evaluating media-based arguments

Students should be able to evaluate media-based arguments concerning science and technology.

12 questions

NS 9 - The scientists' contribution

Students should be able to research and present information on the contribution that scientists make to scientific discovery and invention, and its impact on society.

12 questions

NS 10 - The role of science in society

Students should be able to appreciate the role of science in society and its personal, social and global importance, and how society influences scientific research.

15 questions

Nature of Science - Total Questions

149 questions

ES 1 - Celestial objects

Students should be able to describe the relationships between various celestial objects, including moons, asteroids, comets, planets, stars, solar systems, galaxies and space.

15 questions

ES 2 - The origin of the universe

Students should be able to explore a scientific model to illustrate the origin of the universe.

04 questions

ES 3 - Comparing the Earth with other planets and moons

Students should be able to interpret data to compare the Earth with other planets and moons in the solar system, with respect to properties including mass, gravity, size, and composition.

15 questions

ES 4 - The interaction between Earth and space

Students should be able to develop and use a model of the Earth-Sun-Moon system to describe predictable phenomena observable on Earth, including seasons, lunar phases, and eclipses of the Sun and Moon.

10 questions

ES 5 - The cycling of matter

Students should be able to describe the cycling of matter, including that of carbon and water, associating it with biological and atmospheric phenomena.

15 questions

ES 6 - Energy sources

Students should be able to research different energy sources, and formulate and communicate an informed view of ways that current and future energy needs on Earth can be met.

12 questions

ES 7 - Human impact on Earth

Students should be able to illustrate how earth processes and human factors influence the Earth's climate, and evaluate effects of climate change and initiatives that attempt to address those effects.

12 questions

ES 8 - Space exploration

Students should be able to examine some of the current hazards and benefits of space exploration and discuss the future role and implications of space exploration in society.

12 questions

Earth & Space - Total Questions**95 questions****CW 1 - Mass**

Students should be able to investigate whether mass is unchanged when chemical and physical changes take place.

12 questions

CW 2 - The atomic nature of matter

Students should be able to develop and use models to describe the atomic nature of matter, and demonstrate how they provide a simple way to account for the conservation of mass, changes of state, physical change, chemical change, mixtures, and their separation.

30 questions

CW 3 - The structure of an atom

Students should be able to describe and model the structure of the atom in terms of the nucleus, protons, neutrons and electrons, comparing mass and charge of protons neutrons and electrons.

15 questions

CW 4 - Classifying substances

Students should be able to classify substances as elements, compounds, mixtures, metals, non-metals, solids, liquids, gases and solutions.

15 questions

CW 5 - Finding the ratio of two elements

Students should be able to use the Periodic Table to predict the ratio of atoms in compounds of two elements.

10 questions

CW 6 - Investigating the properties of different materials

Students should be able to investigate the properties of different materials, including solubilities, conductivity, melting points and boiling points.

15 questions

CW 7 - Chemical reactions

Students should be able to investigate the effect of a number of variables on the rate of chemical reactions, including the production of common gases and biochemical reactions.

10 questions

CW 8 - Acids and bases

Students should be able to investigate reactions between acids and bases, and use indicators and the pH scale.

15 questions

CW 9 - Chemical reactions in terms of energy

Students should be able to consider chemical reactions in terms of energy, using the terms exothermic, endothermic and activation energy, and use simple energy profile diagrams to illustrate energy changes.

12 questions

WC 10 - Human contribution to sustainability

Students should be able to evaluate how humans contribute to sustainability through the extraction, use, disposal, and recycling of materials.

10 questions

Chemical World - Total Questions**144 questions****PW 1 - Measuring instruments**

Students should be able to select and use appropriate measuring instruments.

30 questions

PW 2 - Measuring the physical world

Students should be able to identify and measure/calculate length, mass, time, temperature, area, volume, density, speed, acceleration, force, potential difference, current, resistance, electrical power.

30 questions

PW 3 - Patterns and relationships between physical observables

Students should be able to: investigate patterns and relationships between physical observables.

10 questions

PW 4 - The technological application of physics

Students should be able to research and discuss a technological application of physics in terms of scientific, societal and environmental impact.

10 questions

PW 5 - Electronic circuits

Students should be able to design and build simple electronic circuits.

24 questions

PW 6 - Energy conservation

Students should be able to explain energy conservation and analyse processes in terms of energy changes and dissipation.

30 questions

PW 7 - Transforming energy

Students should be able to design, build, and test a device that transforms energy from one form to another in order to perform a function, and describe the energy changes and ways of improving efficiency.

15 questions

PW 8 - Electricity consumption

Students should be able to research and discuss the ethical and sustainability issues that arise from our generation and consumption of electricity.

15 questions

Physical World - Total Questions**164 questions**

BW 1 - Cell Structure

Students should be able to investigate the structures of animal and plant cells and relate them to their functions.

18 questions

BW 2 - Reproduction

Students should be able to describe asexual and sexual reproduction; explore patterns in the inheritance and variation of genetically controlled characteristics.

12 questions

BW 3 - Evolution

Students should be able to outline evolution by natural selection and how it explains the diversity of living things.

10 questions

BW 4

Students should be able to describe the structure, function, and interactions of the human digestive, circulatory and respiratory systems.

BW 4A - The Digestive System

19 questions

BW 4B - The Circulatory System

23 questions

BW 4C - The Respiratory System

10 questions

BW 5 - Ecological Relationships

Students should be able to conduct a habitat study; research and investigate the adaptation, competition and interdependence of organisms within specific habitats and communities.

12 questions

BW 6 - Human Health

Students should be able to evaluate how human health is affected by: inherited factors and environmental factors including nutrition; lifestyle choices; examine the role of micro-organisms in human health.

19 questions

BW 7 - Biochemical Processes

Students should be able to describe respiration and photosynthesis as both chemical and biological processes; investigate factors that affect respiration and photosynthesis.

20 questions

BW 8 - Ecosystems

Students should be able to explain how matter and energy flow through ecosystems.

8 questions

BW 9 - The Reproductive System

Students should be able to explain human sexual reproduction; discuss medical ethical and societal issues.

42 questions

BW 10 - Ecological Biodiversity

Students should be able to evaluate how humans can successfully conserve ecological biodiversity and contribute to global food production; appreciate the benefits that people obtain from ecosystems.

18 questions

Biological World - Total Questions

224 questions