

SS 3 SCIENCE – SECOND TERM SCHEME OF WORK

New NERDC Approved Curriculum 2025

Federal Republic of Nigeria – Senior Secondary School Three (Science Stream)

Weeks 1–10 | Core Science Subjects | WAEC / NECO Examination Preparation

About This Scheme of Work

This SS3 Science Second Term Scheme of Work is based on the New NERDC Approved Curriculum 2025. It covers Weeks 1–10 of the second term for the Science stream of Senior Secondary School Three. Week 1 is a resumption and diagnostic week, and Week 7 is a mid-term mock examination week. Given that WAEC/NECO examinations follow shortly after the second term, every lesson and assessment in this term is designed with external examination preparation as a primary focus. The Subject Overview Table at the end summarises all second-term topics for easy reference by teachers, HODs, and school administrators.

Note on the SS3 Science Stream

Under the NERDC 2025 curriculum, Senior Secondary students take 8–9 subjects. The Science stream core subjects are: English Studies, General Mathematics, Biology, Chemistry, and Physics. Further Mathematics is taken by students targeting Engineering, Medicine, and Mathematical Sciences. Citizenship and Heritage Studies and Digital Technology are compulsory for all streams. CRS or IS is taken according to the student's religious affiliation. Schools may add one approved Trade/Entrepreneurship subject.

WEEK 1

WEEK	SUBJECT	TOPIC / CONTENT
NOTE	<i>Resumption and orientation week. Teachers welcome SS3 students back from the first term break, review first term examination results, and begin a structured second-term programme. Students are briefed on WAEC/NECO registration deadlines, examination timetables, and the importance of consistent second-term study. Teachers identify weak areas from first term tests for targeted intervention.</i>	
WEEK 1	English Studies	Orientation; review of first term examination performance; diagnostic review of comprehension, grammar, and essay weaknesses; second term overview
	General Mathematics	Orientation; review of first term examination; diagnostic revision of surds, quadratic equations, and trigonometry; second term plan
	Biology	Orientation; review of first term examination; diagnostic revision of evolution, ecology, and biotechnology; second term overview
	Chemistry	Orientation; review of first term examination; diagnostic revision of organic chemistry (alkanes to polymers); second term plan
	Physics	Orientation; review of first term examination; diagnostic revision of waves, nuclear physics, and electronics; second term plan
	Further Mathematics	Orientation; review of first term examination; diagnostic revision of differentiation, integration, and matrices; second term plan
	Citizenship & Heritage Studies	Orientation; review of first term examination; diagnostic revision of constitution, rights, and governance topics; second term plan

WEEK	SUBJECT	TOPIC / CONTENT
	Digital Technology	Orientation; review of first term examination; diagnostic revision of networks, databases, and web design; second term plan
	CRS / IS	CRS / IS: Orientation; review of first term performance; revision of key first term themes; second term overview and expectations

WEEK 2

WEEK	SUBJECT	TOPIC / CONTENT
WEEK 2	English Studies	Comprehension – practice with expository and narrative passages; skimming and scanning techniques; vocabulary in scientific and social contexts; WAEC-style comprehension questions
	General Mathematics	Statistics – frequency distribution tables; mean of grouped data; mode and median from grouped data; cumulative frequency curves (ogive); percentiles and quartiles
	Biology	Genetics – review: Mendel's laws; monohybrid and dihybrid crosses; probability in genetics; gene interactions: codominance, incomplete dominance, epistasis
	Chemistry	Electrochemistry – electrolytic cells vs. galvanic cells; electrolysis of dilute H_2SO_4 , brine, and copper sulphate solution; Faraday's laws of electrolysis; industrial applications (electroplating, extraction of metals)
	Physics	Electricity – electric field: concept, field lines, and field strength; Coulomb's law; electric potential and potential difference; capacitance; capacitors in series and parallel
	Further Mathematics	Vectors – in two and three dimensions: addition and subtraction; scalar (dot) product; vector (cross) product; applications to geometry and mechanics
	Citizenship & Heritage Studies	Nigeria's independence movement – the role of NCNC, Action Group, and NPC; Herbert Macaulay, Nnamdi Azikiwe, Obafemi Awolowo, Ahmadu Bello; the road to independence
	Digital Technology	Advanced programming – functions and procedures; arrays and lists; file handling; debugging; simple Python programme writing and testing
	CRS / IS	CRS: The early church – Acts of the Apostles: Pentecost, early Christian community; Peter's leadership; the spread of Christianity beyond Jerusalem / IS: The Rightly Guided Caliphs in depth – Abu Bakr's consolidation; Umar's expansion; Uthman and Ali; lessons in leadership and justice

WEEK 3

WEEK	SUBJECT	TOPIC / CONTENT
WEEK 3	English Studies	Writing – descriptive and narrative essays: techniques for vivid description; narrative structure; point of view; figurative language; timed practice essay
	General Mathematics	Statistics – standard deviation: calculation for ungrouped and grouped data; variance; probability – classical, relative frequency, and subjective approaches; addition and multiplication rules

WEEK	SUBJECT	TOPIC / CONTENT
	Biology	Genetics continued – sex-linked inheritance: haemophilia, colour blindness; pedigree charts; mutation: types and causes; chromosome disorders (Down syndrome); genetic counselling
	Chemistry	Chemical kinetics – rate of reaction: definition; factors affecting reaction rate (concentration, temperature, surface area, catalyst); rate law and rate constant; activation energy; Arrhenius equation
	Physics	Current electricity – current, potential difference, and resistance; Ohm's law; resistivity and conductance; resistors in series and parallel; electromotive force (EMF) and internal resistance; Kirchhoff's laws
	Further Mathematics	Mechanics – kinematics: displacement, velocity, acceleration vectors; projectile motion equations; relative velocity; Newton's laws of motion in vector form
	Citizenship & Heritage Studies	Nigeria's independence and the First Republic (1960–1966) – key figures; the parliamentary system; political parties; reasons for the fall of the First Republic
	Digital Technology	Artificial Intelligence – definition; types of AI (narrow, general, superintelligent); machine learning basics; natural language processing; AI tools in everyday life; ethical considerations
	CRS / IS	CRS: Persecution of early Christians in depth – Saul/Paul's conversion (Acts 9); implications for evangelism; lessons on transformation / IS: Persecution and migration (Hijra) – the first and second Hijra to Abyssinia; the Madinah period; lessons on resilience

WEEK 4

WEEK	SUBJECT	TOPIC / CONTENT
WEEK 4	English Studies	Writing – report writing: structure and format; objective style; writing reports on experiments, events, and surveys; timed practice report
	General Mathematics	Probability – mutually exclusive and independent events; conditional probability; tree diagrams; permutation and combination; binomial probability distribution
	Biology	Ecology in depth – population dynamics: factors affecting population size; competition; predator-prey relationships; symbiosis (mutualism, commensalism, parasitism); human impact on ecosystems
	Chemistry	Chemical equilibrium – reversible reactions; Le Chatelier's principle; equilibrium constant K_c ; factors affecting equilibrium (temperature, pressure, concentration, catalyst); industrial applications (Haber and Contact processes)
	Physics	Electromagnetism – magnetic field around current-carrying conductors; force on a current-carrying conductor in a magnetic field; Fleming's left-hand rule; electromagnetic induction; Faraday's and Lenz's laws
	Further Mathematics	Mechanics – dynamics: momentum and impulse; Newton's laws in dynamics; collisions (elastic and inelastic); conservation of momentum; work, energy, and power in mechanics

WEEK	SUBJECT	TOPIC / CONTENT
	Citizenship & Heritage Studies	Military rule in Nigeria – first military coup (1966); Gowon, Murtala, Obasanjo regimes; creation of states; return to civilian rule (1979); the Second Republic
	Digital Technology	Data science and analytics – meaning of data science; data collection methods; data cleaning; basic data visualisation (charts and graphs); interpreting data for decision-making
	CRS / IS	CRS: Paul's letters – key themes in Romans, Corinthians, and Galatians; applying Pauline teachings to moral living; salvation by faith / IS: The Prophet's character (Akhlaq) – his dealings with companions, enemies, and non-Muslims; practical lessons for daily life

WEEK 5

WEEK	SUBJECT	TOPIC / CONTENT
WEEK 5	English Studies	Literature – in-depth analysis of the SS3 set texts (prose, drama, and poetry); themes, plot, characterisation, style, and setting; WAEC-style literary questions
	General Mathematics	WAEC/NECO revision – Paper 1 (objective) practice: number and numeration, algebra, geometry, statistics, and trigonometry; exam technique and time management
	Biology	WAEC/NECO revision – comprehensive revision of all SS1–SS3 Biology topics: cell biology, plant biology, human biology, genetics, evolution, and ecology; WAEC past questions practice
	Chemistry	Acid-base chemistry – Brønsted-Lowry and Lewis definitions; pH scale; buffer solutions; acid-base titrations; indicators; WAEC/NECO past questions on acid-base topics
	Physics	Alternating current (AC) – AC generator; peak and r.m.s. values; frequency; AC circuits with resistance, inductance, and capacitance; transformer: principle, types, and efficiency
	Further Mathematics	Probability distributions – discrete and continuous distributions; binomial distribution; Poisson distribution; normal distribution; standard normal curve; z-scores
	Citizenship & Heritage Studies	Nigeria's return to democracy (1999) – the Fourth Republic; Obasanjo, Yar'Adua, Jonathan, Buhari administrations; democratic consolidation; challenges of governance
	Digital Technology	Cybersecurity in depth – ethical hacking; penetration testing concepts; digital forensics basics; privacy laws; protecting personal and organisational data; WAEC Digital Technology past questions
	CRS / IS	CRS: Christian values in contemporary society – the church's response to corruption, injustice, and poverty; Christians and politics; WAEC/NECO CRS past question practice / IS: Islam and contemporary issues – Muslims and democratic governance; combating corruption; Islamic social justice principles; NECO/WAEC IS past question practice

WEEK 6

WEEK	SUBJECT	TOPIC / CONTENT
WEEK 6	English Studies	WAEC/NECO English revision – Paper 1 (Lexis and Structure): objective grammar practice; Paper 2 (essay and summary) timed practice; Paper 3 (Oral English) drills: minimal pairs, rhymes, and word stress patterns
	General Mathematics	WAEC/NECO revision – Paper 2 (theory): algebraic processes, coordinate geometry, differentiation, integration; worked solutions to past questions under exam conditions
	Biology	Revision – plant biology: photosynthesis, transpiration, reproduction; human physiology: excretion, circulation, nervous system; WAEC/NECO Biology paper structure and marking scheme
	Chemistry	Redox reactions and electrochemistry revision – oxidation and reduction; oxidation numbers; balancing redox equations; revision of electrochemistry; WAEC/NECO Chemistry past question analysis
	Physics	Revision – mechanics: motion, Newton's laws, energy and work; thermal physics: heat capacity, gas laws; optics: lenses and mirrors; WAEC/NECO Physics paper structure
	Further Mathematics	Further Mathematics revision – complex numbers: definition; modulus and argument; Argand diagram; operations on complex numbers; De Moivre's theorem (introduction)
	Citizenship & Heritage Studies	Nigeria in international organisations – AU, UN, ECOWAS, Commonwealth; Nigeria's peacekeeping contributions; ECOWAS and regional stability; WAEC/NECO Civic/Government past questions
	Digital Technology	Emerging technology applications – blockchain in finance and supply chain; IoT in smart homes and agriculture; AI in healthcare and education; Nigeria's digital economy; revision of all second term Digital Technology topics
	CRS / IS	CRS: Revision of all second term CRS topics; literature of the New Testament; past question analysis for WAEC CRS / IS: Revision of all second term IS topics; Hadith and Quranic themes in past questions; NECO/WAEC IS past question analysis

WEEK 7

WEEK	SUBJECT	TOPIC / CONTENT
NOTE	Mid-term mock examinations week. All mid-term assessments this term are conducted under full examination conditions to simulate the WAEC/NECO experience. Teachers mark scripts using the WAEC marking rubric where applicable and conduct detailed post-mock reviews to address individual and class-wide weaknesses.	
WEEK 7	English Studies	Mid-term mock examination – English: Paper 1 (Lexis and Structure, 50 objective questions) and Paper 2 (essay, comprehension, and summary) under timed exam conditions
	General Mathematics	Mid-term mock examination – Mathematics: Paper 1 (40 objective questions) and Paper 2 (theory) covering all topics from SS1–SS3 first and second terms
	Biology	Mid-term mock examination – Biology: Paper 1 (50 objective questions) and Paper 2 (structured and essay questions) covering all SS3 Biology topics

WEEK	SUBJECT	TOPIC / CONTENT
	Chemistry	Mid-term mock examination – Chemistry: Paper 1 (50 objective questions) and Paper 2 (theory) covering all SS3 Chemistry topics; Paper 3 (practical) simulation
	Physics	Mid-term mock examination – Physics: Paper 1 (50 objective questions) and Paper 2 (theory and calculation) covering all SS3 Physics topics
	Further Mathematics	Mid-term mock examination – Further Mathematics: comprehensive Paper 1 and Paper 2 covering first and second term topics
	Citizenship & Heritage Studies	Mid-term mock examination – Citizenship and Heritage Studies: Paper 1 (objective) and Paper 2 (theory) under exam conditions
	Digital Technology	Mid-term mock examination – Digital Technology: Paper 1 (objective) and Paper 2 (theory and applied questions) under exam conditions
	CRS / IS	Mid-term mock examination – CRS / IS: Paper 1 (objective) and Paper 2 (theory) under full examination conditions; post-mock review and counselling

WEEK 8

WEEK	SUBJECT	TOPIC / CONTENT
WEEK 8	English Studies	Post-mock review – English: detailed correction of mock errors; targeted revision of grammar, comprehension, and essay weak spots; oral English advanced practice
	General Mathematics	Post-mock review – Mathematics: detailed correction of mock errors; targeted revision of algebra, mensuration, and calculus weak areas; new topic: linear programming (introduction)
	Biology	Post-mock review – Biology; new topic: human reproduction in depth – the menstrual cycle; fertilisation, implantation, and pregnancy; parturition; hormonal control of reproduction
	Chemistry	Post-mock review – Chemistry; new topic: radioactivity in chemistry – nuclear reactions; fission and fusion; radioactive decay series; applications (carbon dating, nuclear power); radiation safety
	Physics	Post-mock review – Physics; revision of electromagnetism and AC circuits; new application: electric motors and generators; transformer efficiency calculations; power transmission and energy loss
	Further Mathematics	Post-mock review – Further Mathematics; new topic: statistics in depth – regression lines; correlation coefficients (Pearson's); scatter diagrams; hypothesis testing (introduction)
	Citizenship & Heritage Studies	Post-mock review; new topic: contemporary political issues in Nigeria – ethnicity and politics; resource control; restructuring debates; the roles of youth in democracy
	Digital Technology	Post-mock review; new topic: digital entrepreneurship – starting a digital business; e-commerce setup; digital marketing basics; monetising digital skills in Nigeria
	CRS / IS	CRS: Post-mock review; new topic: Christian social responsibility – poverty, injustice, environmental stewardship; the church as a transformative force / IS: Post-mock review; new topic: Zakat and social

WEEK	SUBJECT	TOPIC / CONTENT
		welfare – its role in reducing inequality; Islamic charity institutions; Waqf

WEEK 9

WEEK	SUBJECT	TOPIC / CONTENT
WEEK 9	English Studies	Final pre-examination revision – comprehensive review of all English language topics: grammar, essay types, comprehension, summary, oral English, and literature; exam strategy tips
	General Mathematics	Final pre-examination revision – comprehensive review of all General Mathematics topics: number and numeration, algebra, geometry, statistics, and calculus; exam-time management strategies
	Biology	Final pre-examination revision – comprehensive review of all SS1–SS3 Biology topics: cells, genetics, ecology, evolution, and human physiology; WAEC/NECO marking scheme analysis
	Chemistry	Final pre-examination revision – comprehensive review of all SS3 Chemistry topics: organic chemistry, electrochemistry, kinetics, equilibrium, acid-base, redox, and radioactivity; past question marathon
	Physics	Final pre-examination revision – comprehensive review of all Physics topics: mechanics, thermal physics, waves, optics, electricity, electromagnetism, modern physics; WAEC Paper 3 (practical) preparation
	Further Mathematics	Final pre-examination revision – comprehensive review of all Further Mathematics topics: algebra, calculus, vectors, mechanics, probability, and statistics; past question analysis
	Citizenship & Heritage Studies	Final pre-examination revision – comprehensive review of all Citizenship and Heritage Studies topics: constitution, rights, government structures, Nigerian history, and governance; past question marathon
	Digital Technology	Final pre-examination revision – comprehensive review of all Digital Technology topics: hardware, software, networks, databases, programming, cybersecurity, and emerging technologies; past question practice
	CRS / IS	Final pre-examination revision – comprehensive review of all CRS / IS topics; scripture recitation; thematic essay questions; past question analysis; spiritual preparation and encouragement

WEEK 10

WEEK	SUBJECT	TOPIC / CONTENT
WEEK 10	English Studies	Second term test and final revision; student-led study groups; identified weak areas addressed; mock oral English; final encouragement and exam readiness check
	General Mathematics	Second term test and final revision; mental mathematics drills; speed and accuracy training; last-minute formula review; examination readiness

WEEK	SUBJECT	TOPIC / CONTENT
	Biology	Second term test; Biology practical revision – identifying specimens; ecological fieldwork revision; genetic ratio calculations; final Biology revision and examination readiness
	Chemistry	Second term test; Chemistry practical revision – qualitative analysis; titration calculations; organic chemistry mechanisms; final Chemistry revision and examination readiness
	Physics	Second term test; Physics practical revision – experiments on optics, electricity, and mechanics; graph plotting; significant figures; final Physics revision and examination readiness
	Further Mathematics	Second term test; Further Mathematics revision and examination readiness; proof problems; complex number applications; final preparation
	Citizenship & Heritage Studies	Second term test; comprehensive revision of all second term civic topics; examination readiness and confidence building
	Digital Technology	Second term test; comprehensive revision of all Digital Technology second term topics; digital project presentation; examination readiness
	CRS / IS	Second term test; comprehensive revision of all CRS / IS second term topics; scripture recitation; final encouragement and examination readiness for WAEC/NECO

SUBJECT OVERVIEW – Second Term Topics (Science Stream)

SUBJECT	Second TERM FOCUS AREAS
English Studies	Comprehension: expository and narrative passages; Writing: descriptive essay, narrative essay, report writing; Literature: set texts analysis; WAEC Paper 1 (Lexis & Structure) and Paper 2 revision; Oral English advanced practice
General Mathematics	Statistics: grouped data, standard deviation, probability; Probability: tree diagrams, permutation, combination, binomial distribution; WAEC Paper 1 and Paper 2 revision; Linear programming (introduction); Exam technique
Biology	Genetics: sex-linked inheritance, mutation, chromosome disorders; Ecology: population dynamics, symbiosis, human impact; Human reproduction in depth; Comprehensive SS1–SS3 revision; WAEC past questions
Chemistry	Electrochemistry: electrolysis, Faraday's laws; Chemical kinetics: rate of reaction, activation energy; Chemical equilibrium: Le Chatelier's principle, K _c ; Acid-base chemistry; Redox reactions; Radioactivity in chemistry; WAEC past questions
Physics	Electricity: Coulomb's law, capacitance, Ohm's law, Kirchhoff's laws; Electromagnetism: electromagnetic induction, Faraday's and Lenz's laws; AC circuits; Transformers; Post-mock revision; WAEC Paper 3 (practical) preparation
Further Mathematics	Vectors (2D and 3D); Mechanics: projectile motion, momentum, Newton's laws; Probability distributions: binomial, Poisson, normal; Complex numbers; Regression and correlation; Pre-examination comprehensive revision
Citizenship & Heritage Studies	Nigerian independence movement; First Republic and military rule; Return to democracy (1999); Nigeria in international organisations; Contemporary political issues; WAEC/NECO past question revision
Digital Technology	Advanced programming (Python); Artificial intelligence and machine learning; Data science and analytics; Cybersecurity in depth; Digital entrepreneurship; Emerging technologies; WAEC past questions
CRS / IS	CRS: Early church, Paul's conversion, Pauline letters, Christian social responsibility, Zakat / IS: Khulafa al-Rashidun in depth, Prophet's character, Islam and governance, Zakat and social welfare; WAEC/NECO comprehensive revision

IMPORTANT NOTES

Week 11: Revision Week – intensive revision of all second term topics; past question marathon sessions recommended across all subjects.

Weeks 12–13: Second Term Examinations / Internal Mock Examinations – written, oral, and practical assessments. WAEC/NECO external examinations typically commence in the weeks following the second term close.

WAEC/NECO Note: SS3 students should consistently practise past WAEC/NECO questions throughout the term. Teachers are encouraged to incorporate WAEC-style questions into weekly assessments. Practicals (Biology, Chemistry, Physics) should be given equal emphasis alongside theory.

Abbreviations: CRS = Christian Religious Studies | IS = Islamic Studies | SHM = Simple Harmonic Motion | DBMS = Database Management System | WAEC = West African Examinations Council | NECO = National Examinations Council | AI = Artificial Intelligence

Source: New NERDC Approved Curriculum 2025 | Federal Republic of Nigeria | For SS3 Science students, Second Term, 2025/2026 session.