Linking Junior Cycle Science with Level 2 Learning Programmes

An tSraith Shóisearach do Mhúinteoirí JuniorCYCLE for teachers

	Elements of the Priority Learning Unit	Level 2 Learning Outcomes	Some Aspects of Learning Outcomes on the Science Specification where Engagement with the L2 Learning Outcomes could be explored
Communication and Literacy	Speaking appropriately for a variety of purposes	**A1** Listen to obtain information relating to more than one option, e.g. listen to school-related announcements, using a speaking timetable to get a train arrival and departure time	**NoS 6** Students should be able to conduct research relevant to a scientific issue, evaluate different sources of information including secondary data, understanding that a source may lack detail or show bias, e.g. listen to a podcast.
		A2 Ask questions to obtain information, e.g. to check dates/prices (face to face and by telephone), booking a meal over the telephone	**NoS 2** Students should be able to recognise questions that are appropriate for scientific investigations
		A3 Follow a series of spoken instructions under supervision, e.g. go to teacher's room, local shop, or post office, top up a mobile telephone	**NoS 3** Students should be able to... conduct investigations…
		A4 Express personal opinions, facts and feelings appropriately, e.g. expressing an opinion on a television programme, relate news from their weekend	**Note: Learning outcomes that contain action verbs such as evaluate, research and analyse allow students to express opinions based on evidence** **NoS 8** Students should be able to evaluate media-based arguments concerning science and technology. **BW 6** Students should be able to evaluate how human health is affected by: lifestyle choices **EaS 6** Students should be able to research different energy sources; formulate and communicate an informed view of ways that current and future energy needs on Earth can be met **EaS 8** 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 **PW 8** Students should be able to research and discuss the ethical and sustainability issues that arise from our generation and consumption of electricity **BW 10** 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
		A5 Participate in practical, formal and informal communications, e.g. an interview or a parent teacher meeting, an interview with peers on interest-related topics, chatting while out with friends, making announcements on the school intercom	**NoS 7** Students should be able to organise and communicate their research and investigative findings in a variety of ways fit for purpose and audience
	Using non-verbal behaviour to get the message across	**B4** Respond to non-verbal signals and signs encountered in daily life, e.g. road signs, traffic signs, hazardous materials	**NoS 3** Students should be able to design, plan and conduct investigations; explain how reliability, accuracy, precision, fairness, safety, ethics, and selection of suitable equipment have been considered
		B5 Follow the sequence of non-verbal instructions or directions for a frequent activity, e.g. using household equipment with three or more operations, putting a battery in a toy, finding safety exits/following fire drill	**NoS 3** Students should be able to… conduct investigations…
	Reading to obtain basic information	**C3** Interpret different forms of writing and text, including social sight signs and symbols, e.g. common formats of bills, menus, forms, timetables, road and other signs, simple food preparation instructions (boil an egg, make a sandwich, make a cup of tea), short piece of personally relevant writing	**NoS 6** Students should be able to conduct research relevant to a scientific issue, evaluate different sources of information including secondary data, understanding that a source may lack detail or show bias
		C4 Find key information from different forms of writing, e.g. locate information in forms/bills, times and dates of appointments, menus, timetables, newspapers	**NoS 6** Students should be able to conduct research relevant to a scientific issue, evaluate different sources of information including secondary data, understanding that a source may lack detail or show bias
	Using a range of writing formats to express opinions	**D1** Write/type notes and messages needed for simple tasks, e.g. address an envelope	**NoS 7** Students should be able to organise and communicate their research and investigative findings in a variety of ways fit for purpose and audience
		D2 Write/type at least five sentences so that they convey meaning or information, e.g. arrange a meeting with a friend, give directions	**NoS 7** Students should be able to organise and communicate their research and investigative findings in a variety of ways fit for purpose and audience **NoS 3** Students should be able to design, plan and conduct investigations; explain how reliability, accuracy, precision, fairness, safety, ethics, and selection of suitable equipment have been considered **NoS 6** Students should be able to conduct research relevant to a scientific issue, evaluate different sources of information including secondary data, understanding that a source may lack detail or show bias
		D5 Use a range of different forms of writing to suit purpose and audience, e.g. write a cheque, fill a simple form, complete a diary entry	**NoS 7** Students should be able to organise and communicate their research and investigative findings in a variety of ways fit for purpose and audience
	Using expressive arts to communicate	**E1** Participate in a performance or a presentation, e.g. presentation of a short drama piece to members of the class, performance of dance or music to parents	**NoS 7** Students should be able to organise and communicate their research and investigative findings in a variety of ways fit for purpose and audience
		E3 Produce a piece of work for display	**CW 2** Students should be able to develop and use models to describe the atomic nature of matter; 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 **CW 3** 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 **EaS 4** 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…. and eclipses of the sun and moon

			PW 5 Students should be able to design and build simple electronic circuits **PW 7** 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….
	Using suitable technologies for a range of purposes	**F3** Use technology to communicate in an activity with others	**NoS 7** 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
		F8 Use a software package, involving opening a package, entering and manipulating text/image, data, save to file, print and exit safely, e.g. clipart, word document, electronic presentation	**NoS 7** Students should be able to organise and communicate their research and investigative findings in a variety of ways fit for purpose and audience
		F9 Access a range of websites on the internet e.g. scoilnet, websites of personal interest to the student	**Note: Learning outcomes that contain the action verbs describe, model or use allow students to potentially use online simulations to show their learning and understanding.** **EaS 1** Students should be able to describe the relationships between various celestial objects including moons, asteroids, comets, planets, stars, solar systems, galaxies and space **EaS 4** 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 **CW 2** Students should be able to develop and use models to describe the atomic nature of matter **CW 3** Students should be able to describe and model the structure of the atom in terms of the nucleus, protons, neutrons and electrons **NoS 6** Students should be able to conduct research relevant to a scientific issue… **NoS 9** 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 **PW 8** Students should be able to research and discuss the ethical and sustainability issues that arise from our consumption of electricity
		F10 Find information for a project on the web	**NoS 6** Students should be able to conduct research relevant to a scientific issue… **NoS 9** 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 **PW 8** Students should be able to research and discuss the ethical and sustainability issues that arise from our consumption of electricity
Numeracy	**Developing an awareness of numbers**	**B3** Add two-digit whole numbers that total less than 100 in the context of an everyday situation	**PW 2** Students should be able to …… measure/calculate length, mass, time, temperature, area, volume, density, speed, acceleration, force, potential difference, current, resistance, electrical power
		B4 Subtract two-digit whole numbers in the context of an everyday situation	**PW 2** Students should be able to…… measure/calculate length, mass, time, temperature, area, volume, density, speed, acceleration, force, potential difference, current, resistance, electrical power
	Developing awareness of temperature	**C1** Use appropriate words to describe temperature, e.g. hot and cold.	**PW 2** Students should be able to identify temperature
		C2 Identify instruments used for indicating and adjusting temperature, e.g. thermometer, marked oven dials	**PW 2** Students should be able to measure temperature
		C3 Relate temperatures to everyday situations, e.g. heating in a classroom	**CW 7** Students should be able to investigate the effect of a number of variables on the rate of chemical reactions
		C5 Compare temperatures for the different times of the year, e.g. hot in summer and cold in winter, keep a simple weather log	**EaS 4** 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
	Developing an awareness of weight and capacity	**D1** Use appropriate vocabulary to describe the units of weight and capacity, e.g. litres, 500ml, kilograms, grams (pictorial or concrete)	**PW 2** Students should be able to identify mass, volume
		D2 Identify the marks for the units of weight and capacity, e.g. using a measuring jug, using a weighing scale	**PW 2** Students should be able to identify and measure mass, volume
		D3 List some examples of weight and capacity from daily life, e.g. knowing own weight, a litre of milk	**PW 2** Students should be able to identify and measure mass, volume
		D4 Use a graduated vessel to work out the capacity of liquids, using a jug to measure a litre of milk	**PW 2** Students should be able to measure volume
		D5 Use a weighing scales to work out the weight of powder and solids, e.g. weighing the ingredients for a cake	**PW 2** Students should be able to measure mass
	Developing an awareness of length and distance	**E1** Use appropriate vocabulary to describe the units in length and distance, e.g. kilometres, metres, centimetres	**PW 2** Students should be able to identify and measure length
		E2 Identify the units of length and distance on a ruler, metre stick and measuring tape	**PW 1** Students should be able to select and use appropriate measuring instruments
		E3 Use a ruler to draw and measure different lengths of lines	**PW 1** Students should be able to select and use appropriate measuring instruments **PW 2** Students should be able to identify and measure length
		E4 Estimate the length of common objects, e.g. the length of a book	**PW 2** Students should be able to identify and measure length
		E5 Measure the length of common places, e.g. bathroom, kitchen, classroom using measuring tape	**PW 2** Students should be able to identify and measure length
	Using a calculator	**F1** Find digits 0-9 and the decimal point and necessary operation buttons (+,-, ÷,=) on a calculator	**PW 2** Students should be able to calculate length, mass, volume, temperature
		F2 Use a calculator to solve simple problems, e.g. add two items	**PW 2** Students should be able to calculate length, mass, volume temperature
		F3 Use a calculator to correct work which has been completed without the	**PW 2** Students should be able to calculate length, mass, volume, temperature

		use of a calculator	
	Developing spatial awareness	**G1** Use appropriate vocabulary to describe direction, e.g. clockwise, anti-clockwise, horizontal, vertical	**PW 2** Students should be able to identify force
		G2 Use a simple map to find a given location	**BW 5** Students should be able to conduct a habitat study
		G3 Draw a simple map to give directions	**BW 5** Students should be able to conduct a habitat study
		G4 Calculate the distance between two places on a map	**PW 2** Students should be able to measure/calculate length
	Using data for a range of purposes	**H1** Identify uses of data in everyday life, e.g. class survey on the most popular movie for teenagers	**NoS 4** Students should be able to produce and select data(qualitatively/quantitively
		H2 Identify basic approaches to data collection, e.g. record sheets, tally system	**NoS 4** Students should be able to produce and select data (qualitatively/quantitively)
		H3 Collect a range of data using one of the following: a survey, record sheet, tally system or audio-visual records	**NoS 4** Students should be able to produce and select data (qualitatively/quantitively)
		H4 Interpret basic data of two criteria, e.g. more/less of one class than another, bigger/smaller	**NoS 4** Students should be able to critically analyse data to identify patterns and relationships
		H5 Construct basic representations to communicate data with two criteria, e.g. drawing a pictogram/bar chart	**NoS 4** Students should be able to produce and select data (qualitatively/quantitively), critically analyse data to identify patterns and relationships, identify anomalous observations, draw and justify conclusions
		H6 Talk about/discuss information from basic data e.g. a pictogram, bar chart or trend graph	**NoS 4** Students should be able to produce and select data (qualitatively/quantitively), critically analyse data to identify patterns and relationships, identify anomalous observations, draw and justify conclusions
	Developing an awareness of time	**J1** Tell the time from an analogue clock for the hour, half hour and quarter hour	**PW 2** Students should be able to identify time
		J2 Tell the time from a digital clock for the hour, half hour and quarter hour	**PW 2** Students should be able to identify time
		J3 Identify key times during the day, on the hour, half hour and quarter hour, e.g. lunch breaks, use of visual schedule	**PW 2** Students should be able to identify time
		J4 Solve problems to work out the passage of time, e.g. use the start and finish time to calculate duration of journey or programme, calculate the duration of a specific programme	**PW 2** Students should be able to measure/calculate time
		J6 Match months or activities with their seasons, e.g. matching pictures of the seasons to the relevant months	**EaS 4** 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
Living in a Community	**Developing good relationships**	**A2** Identify situations where people speak differently depending on the audience, e.g. peers, teachers, parents, other adults	**NoS 7** Students should be able to organise and communicate their research and investigative findings in a variety of ways fit for purpose and audience
		A6 Participate co-operatively in a group situation	**NoS 3** Students should be able to design, plan and conduct investigations
	Resolving conflict	**B3** Demonstrate an ability to negotiate with peers, e.g. in the sharing of equipment	**NoS 3** Students should be able to design, plan and conduct investigations
	Using local facilities	**C2** Identify familiar places and organisations in the local community	**BW 5** Students should be able to conduct a habitat study
		C4 Participate in a school-based community project and record their participation, e.g. a litter campaign	**NoS 7** Students should be able to organise and communicate their research and investigative findings in a variety of ways fit for purpose and audience **NoS 10** 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
	Seeking help and advice	**D3** Compile a short list of people or groups who can provide support, including personal contacts and groups/organisations	**NoS 6** Students should be able to conduct research relevant to a scientific issue, evaluate different sources of information including secondary data
		D5 Visit a local community organisation and ask for advice	**NoS 6** Students should be able to conduct research relevant to a scientific issue
	Making consumer choices	**E4** Identify labels on packages, clothes etc	**BW 6** Students should be able to evaluate how human health is affected by: nutrition
		E5 Recognise the most important signs and symbols on labels	**NoS 3** Students should be able to design, plan and conduct investigations; explain how ……. safety has been considered **BW 6** Students should be able to evaluate how human health is affected by: nutrition
Preparing for Work	**Being able to set goals for learning**	**A4** Express opinions on how performance could be improved, e.g. next time I will give myself more time to reach the target	**NoS 5** Students should be able to review and reflect on the skills and thinking used in carrying out investigations
	Preparing for a work-related task	**C5** Carry out specific tasks in a range of roles in the school, e.g. bringing attendance registers to the office, arrange classroom materials appropriately	**NoS 3** Students should be able to design, plan and conduct investigations
		C6 Keep a record of tasks completed in a journal, e.g. start and finish times for a task, describe what the steps are in the task	**NoS 7** Students should be able to organise and communicate their research and investigative findings in a variety of ways fit for purpose and audience
	Developing an awareness of health and safety using equipment	**D1** Give examples of safe practices in three distinct workplaces, e.g. wearing protective eyewear in metalwork class	**NoS 3** Students should be able to design, plan and conduct investigation; explain how safety…has been considered
		D2 Use all tools and equipment correctly and safely in a range of practical classes, e.g. replace the lid on any liquids	**NoS 3** Students should be able to design, plan and conduct investigations; explain how reliability, accuracy, precision, fairness, safety, ethics, and selection of suitable equipment have been considered
		D3 Describe and use electrical equipment safely in a range of practical classes, e.g. use a mixer in home economics	**NoS 3** Students should be able to design, plan and conduct investigation; explain how safety, and selection of suitable equipment have been considered
		D4 Store all tools, materials and equipment safely	**NoS 3** Students should be able to design, plan and conduct investigation; explain how safety…has been considered
		D5 List the different procedures for self-protection at work, e.g. wearing protective clothing or hair net	**NoS 3** Students should be able to design, plan and conduct investigations; explain how safety…has been considered

	Taking part in a work-related activity	**E1** Gather background information to help plan and participate in the activity	**NoS 3** Students should be able to design, plan and conduct investigations
		E2 Sequence a number of steps to be taken to successfully complete the activity	**NoS 3** Students should be able to design, plan and conduct investigations
		E3 Assume a role in the activity and identify tasks linked with the role	**NoS 3** Students should be able to design, plan and conduct investigations
		E4 Use key words associated with the activity correctly	**NoS 3** Students should be able to design, plan and conduct investigations
		E5 Identify safety procedures and/or permissions required for the activity	**NoS 3** Students should be able to design, plan and conduct investigations; explain how safety…has been considered
		E7 Participate in the activity	**NoS 3** Students should be able to design, plan and conduct investigations
		E8 Review the activity to evaluate its success	**NoS 5** Students should be able to review and reflect on the skills and thinking used in carrying out investigations
		E9 Assess effectiveness of own role in the activity	**NoS 5** Students should be able to review and reflect on the skills and thinking used in carrying out investigations
	Examples of other work-related activities: Horticulture	**F1** Identify some common trees and shrubs	**BW 5** Students should be able to conduct a habitat study; research and investigate the adaptation, competition and interdependence of organisms within specific habitats and communities
		F4 Name the conditions that help plants grow and flourish	**BW 7** Students should be able to describe respiration and photosynthesis as both chemical and biological processes; investigate factors that affect respiration and photosynthesis
		F6 Describe some functions of a plant leaf	**BW 7** Students should be able to describe respiration and photosynthesis as both chemical and biological processes
Personal Care	**Developing good daily personal care**	**A1** Identify essential daily personal care practices, e.g. brushing my teeth	**BW 6** Students should be able to evaluate how human health is affected by: lifestyle choices
		A3 Identify some benefits of good personal care, e.g. brushing my teeth will make them last longer	**BW 6** Students should be able to evaluate how human health is affected by: lifestyle choices
		A4 Explain the benefits of a range of daily personal care products, e.g. dental care products, anti-perspirants, hair care, foot care	**BW 6** Students should be able to evaluate how human health is affected by: lifestyle choices
		A5 Maintain an agreed personal care plan, e.g. every day I will brush my teeth twice (morning and evening)	**BW 6** Students should be able to evaluate how human health is affected by: lifestyle choices
	Developing healthy eating habits	**B1** Sort familiar food according to food groups, e.g. fruit/vegetable, meat/fish, dairy	**BW 6** Students should be able to evaluate how human health is affected by: nutrition
		B2 Describe typical foods and drinks associated with a well-balanced diet, e.g. eating fruit and vegetables	**BW 6** Students should be able to evaluate how human health is affected by: nutrition
		B3 Describe common consequences of good diet, e.g. healthy heart, strong bones, clear skin, dental health	**BW 6** Students should be able to evaluate how human health is affected by: nutrition
	Developing a healthy lifestyle	**C1** Identify three personal benefits of regular exercise, e.g. healthy weight, feeling good and having fun	**BW 6** Students should be able to evaluate how human health is affected by: lifestyle choices
		C2 Outline a personal weekly exercise plan, e.g. walking to school daily, playing a sport, keeping a weekly exercise log of activities	**BW 6** Students should be able to evaluate how human health is affected by: lifestyle choices
		C6 Give two examples of lifestyles choices which affect our health, e.g. eating too much fat will make you gain weight	**BW 6** Students should be able to evaluate how human health is affected by: nutrition, lifestyle choices
	Being able to manage stress	**D3** Identify some ways to relax, e.g. go for a walk, watch a movie	**BW 6** Students should be able to evaluate how human health is affected by: lifestyle choices
		D4 Demonstrate a relaxation technique, e.g. taking a deep breath	**BW 6** Students should be able to evaluate how human health is affected by: lifestyle choices
	Knowing how to stay safe	**E1** Identify key safety risks in the workplace/home/community, e.g. trailing leads, plugs, TV and electrical equipment	**NoS 3** Students should be able to design, plan and conduct investigations; explain how safety…has been considered
		E3 Name daily practices that promote personal safety, e.g. using pedestrian crossings, disconnecting electrical equipment at night, pouring hot liquids in after cold, wearing protective clothes/gloves, seeking advice	**NoS 3** Students should be able to design, plan and conduct investigations; explain how safety…has been considered
		E4 Describe appropriate response when a risk is identified, e.g. find a safe exit, contact person/organisation, respond to a fire drill, talk about/list the steps you should follow if you see a fire	**NoS 3** Students should be able to design, plan and conduct investigations; explain how safety…has been considered
	Becoming aware of one's sexuality	**F1** Identify the standard names of the sexual organs, e.g. using the body board or other appropriate visual aids	**BW 9** Students should be able to explain human sexual reproduction
		F2 describe the functions of the sexual parts of the body	**BW 9** Students should be able to explain human sexual reproduction
		F3 Recognise the physical and emotional changes which occur in girls and boys during adolescence	**BW 9** Students should be able to explain human sexual reproduction

***Links are described as 'possible' as teachers/subject departments are best placed to make the relevant direct links to the L2LP Learning Outcomes which they deem appropriate to their students.**