New Level 1 Science Pilot 2023 – Draft, only for use by pilot schools

|  |  |  |  |
| --- | --- | --- | --- |
| Big Ideas | | | |
| Science knowledge is contested and refined over time | Science uses different inquiry approaches to develop understanding | Science uses subject-specific literacy to communicate knowledge | Science based information can be used in decision making and action |
| Significant Learning  • engage with the iterative process of science investigation through innovation, problem solving, inquiry,  collaboration, and evaluation  • recognise how different approaches can be used in science investigations  • consider mātauranga Māori and Pacific knowledges alongside science in contexts that relate to Aotearoa  New Zealand and the Pacific  • consider how different perspectives can be used when making decisions on socio-scientific issues  • identify interrelationships between science practices, technological advances, mātauranga Māori, and  the practical advancement of science knowledge  • recognise that scientific ideas are developed through critical and creative thinking, regulated by  evidence  • recognise that science ideas are communicated using a range of methods with discipline-specific  practices  • consider how the values and needs of a society can influence the focus of scientific endeavours  • use science understanding to critique claims or predictions made in communicated information. | | | |
| [Learning Matrix](https://ncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com/s3fs-public/2023-04/SC%20Learning%20Matrix.pdf?VersionId=UHI0D.rhvDxJQXnPng7tFT_H4M.CdHPr)  Big ideas and significant learning | [Learning Tab](https://ncea.education.govt.nz/science/science?view=learning)  What is Science about? | [Conditions of assessment internals](https://ncea.education.govt.nz/science/science?view=assessment) | [Science Glossary](https://ncea.education.govt.nz/science/science?view=subject-glossary&refinementList%5Bcurriculum%5D%5B0%5D=NZC&refinementList%5Bsubject%5D%5B0%5D=Science&refinementList%5Bsubject%5D%5B1%5D=Common&refinementList%5Btype%5D%5B0%5D=Subject%20Specific) |
| [Course Outline 1](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com%2Fs3fs-public%2F2023-04%2FSC%2520Course%2520Outline%25201.docx%3FVersionId%3DQbOI1Mp_DGcRdgXZfFkJVQKE8LRzgwWQ&wdOrigin=BROWSELINK)  Our Place; Land, Air, Water, and Life | [Course Outline 2](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com%2Fs3fs-public%2F2023-04%2FSC%2520Course%2520Outline%25202.docx%3FVersionId%3DN6XpSdIGKg8S69sLY2BEE9Mp_mxjLemL&wdOrigin=BROWSELINK)  Me and My World | [Course Outline 3](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com%2Fs3fs-public%2F2023-04%2FSC%2520Course%2520Outline%25203.docx%3FVersionId%3DjNmbqTdsDaIIjKCFX6c3tSotcjmbgb3N&wdOrigin=BROWSELINK)  Impacts of Climate Change | [Recent Changes](https://ncea.education.govt.nz/recent-changes/342) |
| [Science 1.1](https://ncea.education.govt.nz/science/science/1/1?view=standard)  Demonstrate understanding of a science-informed response to a local issue  [Unpacking](https://ncea.education.govt.nz/science/science/1/1?view=unpacking) | [Science 1.2](https://ncea.education.govt.nz/science/science/1/2?view=standard)  Demonstrate understanding of the use of a range of scientific investigative approaches in a context  [Unpacking](https://ncea.education.govt.nz/science/science/1/2?view=unpacking) | [Science 1.3](https://ncea.education.govt.nz/science/science/1/3?view=standard)  Describe features of science that have contributed to the development of a science idea in a local context  [Unpacking](https://ncea.education.govt.nz/science/science/1/3?view=unpacking) | [Science 1.4](https://ncea.education.govt.nz/science/science/1/4?view=standard)  Demonstrate understanding of science-related claims in communicated information  [Unpacking](https://ncea.education.govt.nz/science/science/1/4?view=unpacking) |
| [Assessment Activity A](https://ncea.education.govt.nz/science/science/1/1/activity-a-0)  Te pūngao puia | [Assessment Activity A](https://ncea.education.govt.nz/science/science/1/2/activity-a)  Te Whare Tapa Whā | [Past resources and Exemplars](https://ncea.education.govt.nz/science/science/1/3?view=supporting-material) | [Past resources and Exemplars](https://ncea.education.govt.nz/science/science/1/4?view=supporting-material) |
| [Assessment Activity B](https://ncea.education.govt.nz/science/science/1/1/activity-b)  Healthy waterways | [Assessment Activity B](https://ncea.education.govt.nz/science/science/1/2/activity-b-0)  Mahinga mātaitai | [External Assessment Specifications](https://ncea.education.govt.nz/science/science/1/3?view=specifications) | [External Assessment Specifications](https://ncea.education.govt.nz/science/science/1/4?view=specifications) |
| [Assessment activity C](https://ncea.education.govt.nz/science/science/1/1/activity-c)  Pushing the boundaries in Sport | [Assessment Activity C](https://ncea.education.govt.nz/science/science/1/2/activity-c)  Sea level on the rise |  |  |

New Level 1 Ag Hort Pilot 2023 – Draft, only for use by pilot schools

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Big Ideas | | | | |
| Agriculture and Horticulture connect people to locations of purposeful production | Primary Producers manage life processes and the growing environment | | | Primary producers make informed decisions about sustainability |
| Significant Learning  • utilise different perspectives that influence primary production  • utilise discipline specific language and graphics used in agricultural and horticultural contexts  • use investigative approaches within agricultural and horticultural contexts  • explore roles and career pathways throughout the primary sector  • investigate the relevance of agricultural and horticultural production to people and location  • understand mātauranga Māori can link people to place of production  • understand that place and purpose of production is influenced by interrelated environmental, social, cultural, and economic reasons  • explore how life processes affect primary production  • explore the interrelationship between primary production and soil properties  • explore how and why primary production management practices are done as they are  • recognise the importance of environmental, social, cultural, and economic sustainability for production systems. | | | | |
| [Learning Matrix](https://ncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com/s3fs-public/2023-03/AH%20Learning%20Matrix.pdf?VersionId=PImf7tHXNtVLhDH06vPBQY3huQ11lXOq)  Big ideas and significant learning | [Learning Tab](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science?view=learning)  What is Ag Hort about? | [Conditions of assessment internals](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science?view=assessment) | [Ag Hort Glossary](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science?view=subject-glossary&refinementList%5Bcurriculum%5D%5B0%5D=NZC&refinementList%5Bsubject%5D%5B0%5D=Agricultural%20and%20Horticultural%20Science&refinementList%5Bsubject%5D%5B1%5D=Common&refinementList%5Btype%5D%5B0%5D=Subject%20Specific) | |
| [Course Outline 1](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com%2Fs3fs-public%2F2023-04%2FAH%2520Course%2520Outline%25201_0.docx%3FVersionId%3DnwxlXglc7VwKUiPuZRKaC1G3SZ8nKgPF&wdOrigin=BROWSELINK)  Purpose, Location, Life Processes and Sustainability | [Course Outline 2](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com%2Fs3fs-public%2F2023-04%2FAH%2520Course%2520Outline%25202.docx%3FVersionId%3DScXS2X.O84OqI9tyNy_yFxpeO2X1jgbt&wdOrigin=BROWSELINK)  Horticultural Production Systems | | [Course Outline 3](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com%2Fs3fs-public%2F2023-04%2FAH%2520Course%2520Outline%25203.docx%3FVersionId%3D_5JNq3wizPl6f4xa1Jg2JJskuy.1RU2g&wdOrigin=BROWSELINK)  Agricultural Production Systems | |
| [Ag Hort 1.1](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/1?view=standard)  Demonstrate understanding of a life process and how it is managed in a primary production system  [Unpacking](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/1?view=unpacking) | [Ag Hort 1.2](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/2?view=standard)  Demonstrate understanding of factors that influence the purpose and location of primary production  [Unpacking](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/2?view=unpacking) | [Ag Hort 1.3](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/3?view=unpacking)  Demonstrate understanding of how soil properties are managed in a primary production system  [Unpacking](https://ncea.education.govt.nz/science/science/1/3?view=unpacking) | [Ag Hort 1.4](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/4?view=standard)  Demonstrate understanding of sustainability considerations that influence primary production management practices  [Unpacking](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/4?view=unpacking) | |
| [Assessment Activity A](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/1/activity-a-0)  Bees | [Assessment Activity A](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/2/activity-a-0)  How strong are your mussels? | 1.3[External Assessment Specifications](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/3?view=specifications) | No level 2 matrix yet but may be useful to look at Agribusiness in Social Science which could be used in a cross curricular Agri course  [What is Agribusiness About?](https://ncea.education.govt.nz/social-sciences/agribusiness?view=learning) | |
| [Assessment Activity B](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/1/activity-b)  Of meat importance | [Assessment Activity B](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/2/activity-b-0)  Growing Taro | 1.4 [External Assessment Specifications](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/4?view=specifications) |
| [Assessment activity C](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/1/activity-c)  An apple a day | [Assessment Activity C](https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/2/activity-c-0)  We’ve got beef |  |

New Level 1 Physics and ESS Pilot 2023 – Draft, only for use by pilot schools

|  |  |  |  |
| --- | --- | --- | --- |
| Big Ideas | | | |
| Earth and space systems are dynamic and interact with each other | Inquiry approaches can be applied to explain concepts of the physical world | Interacting processes within and between Earth’s systems influence the surface, climate, and life on Earth | Physical phenomena can be explained through physics principles and communicated using physics conventions |
| Significant Learning  • understand that Physics, Earth, and Space Science knowledge is continuously developed through collaboration and review  • investigate observable interactions between the Sun and the Earth-Moon system  • understand that the hydrosphere, biosphere, atmosphere, and geosphere interact in the Earth system  • explore how Earth processes interact and influence the surface, climate, and life on Earth  • explore natural and human induced changes on Earth systems and consider the implications of their effects  • interpret representations, critique evidence, and communicate knowledge within Physics, Earth and Space Science contexts  • apply inquiry approaches to develop understanding of Physics, Earth and Space Science concepts, including how mātauranga Māori can inform inquiry practice  • understand that a range of physics concepts can be used to explain an interaction  • explore the nature of energy and force in the physical world  • apply relevant modelling techniques to demonstrate understanding of physical phenomena within Physics, Earth and Space Science contexts. | | | |
| [Learning Matrix](https://ncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com/s3fs-public/2023-04/PES%20Learning%20Matrix_1.pdf?VersionId=pc7PLqxVQ93gMDQl7A1iSC8U30tA.7eS)  Big ideas and significant learning | [Learning Tab](https://ncea.education.govt.nz/science/physics-earth-and-space-science?view=learning)  What is Science about? | [Conditions of assessment internals](https://ncea.education.govt.nz/science/physics-earth-and-space-science?view=assessment) | [Physics ESS Glossary](https://ncea.education.govt.nz/glossary?refinementList%5Bsubject%5D%5B0%5D=Physics%20Earth%20and%20Space%20Science) |
| [Course Outline 1](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com%2Fs3fs-public%2F2023-04%2FPES%2520Course%2520Outline%25201_0.docx%3FVersionId%3DxHzh4yhXxEWWV7aa9_J2_Emg2.duIVQn&wdOrigin=BROWSELINK)  Our Changing Land | [Course Outline 2](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com%2Fs3fs-public%2F2023-04%2FPES%2520Course%2520Outline%25202_0.docx%3FVersionId%3Dr3dTrhyyiP9.Adu9anjwCBaZdNflVeiY&wdOrigin=BROWSELINK)  It’s all about Energy |  | [Recent Changes](https://ncea.education.govt.nz/recent-changes/537) |
| [Phys ESS 1.1](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/1?view=standard)  Demonstrate understanding of human-induced change within the Earth system  [Unpacking](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/1?view=unpacking) | [Phys ESS 1.2](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/2?view=standard)  Demonstrate understanding of a physical phenomenon through investigation  [Unpacking](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/2?view=unpacking) | [Phys ESS 1.3](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/3?view=standard)  Describe understanding of the effect on the Earth of interactions between the Sun and the Earth-Moon system  [Unpacking](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/3?view=unpacking) | [Phys ESS 1.4](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/4?view=specifications)  Demonstrate understanding of energy in a physical system  [Unpacking](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/4?view=unpacking) |
| [Assessment Activity A](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/1/activity-a)  Deforestation | [Assessment Activity A](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/2/activity-a-0)  Waka hourua |  |  |
| [Assessment Activity B](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/1/activity-b)  Fossil fuels | [Assessment Activity B](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/2/activity-b-0)  Balloon propulsion | [External Assessment Specifications](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/3?view=specifications) | [External Assessment Specifications](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/4?view=specifications) |
| [Assessment activity C](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/1/activity-c)  Mining and quarrying | [Assessment Activity C](https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/2/activity-c-0)  Falling from space |  |  |

New Level 1 Chemistry Biology Pilot 2023 – Draft, only for use by pilot schools

|  |  |  |  |
| --- | --- | --- | --- |
| Big Ideas | | | |
| Chemistry and Biology use a variety of inquiry approaches to gain understandings | Matter and energy flow through biological systems | Properties of matter are determined by interactions of particles | All living things are interconnected |
| Significant Learning  • recognise differences, as well as similarities, in biological and chemical inquiry practices  • engage with different perspectives to inform Chemistry and Biology inquiry approaches  • consider patterns in the ways that chemical reactions rearrange atoms and redistribute energy  • explore the implications of the conservation of mass  • explore how the impact of chemicals and their derivatives can change depending on the state,  quantity, and location of the chemical species  • make connections between biological and chemical interactions when nutrients cycle and  energy flows  • explore impacts of disruptions on interrelationships within an ecosystem  • consider how genetic variation arises and its effect on resilience in biological systems  • explore ways that breakthroughs in chemical and biological knowledge have furthered  understandings in related disciplines  • explore how new materials can be developed to meet the needs of a sustainable future. | | | |
| [Learning Matrix](https://ncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com/s3fs-public/2023-04/CB%20Learning%20Matrix.pdf?VersionId=NmGCtg1rqADyg9hKEAb527V1FcfXJ.nB)  Big ideas and significant learning | [Learning Tab](https://ncea.education.govt.nz/science/chemistry-and-biology?view=learning)  What is Science about? | [Conditions of assessment internals](https://ncea.education.govt.nz/science/chemistry-and-biology?view=assessment) | [Chemistry Biology Glossary](https://ncea.education.govt.nz/science/chemistry-and-biology?view=subject-glossary&refinementList%5Bcurriculum%5D%5B0%5D=NZC&refinementList%5Bsubject%5D%5B0%5D=Chemistry+and+Biology&refinementList%5Bsubject%5D%5B1%5D=Common&refinementList%5Btype%5D%5B0%5D=Subject+Specific) |
| [Course Outline 1](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com%2Fs3fs-public%2F2023-04%2FCB%2520Course%2520Outline%25201.docx%3FVersionId%3DB3l722eK3470m5AHEpVD7LU6Til3UBbv&wdOrigin=BROWSELINK) | [Course Outline 2](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com%2Fs3fs-public%2F2023-04%2FCB%2520Course%2520Outline%25202.docx%3FVersionId%3Dzo_mmDUPb5_P.Nu16SYS74ifJerGsEAE&wdOrigin=BROWSELINK) | [Course Outline 3](ttps://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com%2Fs3fs-public%2F2023-04%2FCB%2520Course%2520Outline%25203.docx%3FVersionId%3DobE50uVvgvooUqnMUyecpCBIMcgrVxUn&wdOrigin=BROWSELINK) | [Course outline 4](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com%2Fs3fs-public%2F2023-04%2FCB%2520Course%2520Outline%25204.docx%3FVersionId%3Dm0szH9EE8G0VawA9koWR3xl2xFvMeLaO&wdOrigin=BROWSELINK) |
| [Chem Bio 1.1](https://ncea.education.govt.nz/science/chemistry-and-biology/1/1?view=standard)  Demonstrate understanding of the relationship between a microorganism and the environment  [Unpacking](https://ncea.education.govt.nz/science/chemistry-and-biology/1/1?view=unpacking) | [Chem Bio 1.2](https://ncea.education.govt.nz/science/chemistry-and-biology/1/2?view=standard)  Demonstrate understanding of a chemical reaction in a specific context  [Unpacking](https://ncea.education.govt.nz/science/chemistry-and-biology/1/2?view=unpacking) | [Chem Bio 1.3](https://ncea.education.govt.nz/science/chemistry-and-biology/1/3?view=standard)  Describe understanding of genetic variation in relation to an identified characteristic  [Unpacking](https://ncea.education.govt.nz/science/chemistry-and-biology/1/3?view=unpacking) | [Chem Bio 1.4](https://ncea.education.govt.nz/science/chemistry-and-biology/1/4?view=standard)  Demonstrate understanding of how the properties of chemicals inform their use in a specific context  [Unpacking](https://ncea.education.govt.nz/science/chemistry-and-biology/1/4?view=unpacking) |
| [Assessment Activity A](https://ncea.education.govt.nz/science/chemistry-and-biology/1/1/activity-a)  Kai | [Assessment Activity A](https://ncea.education.govt.nz/science/chemistry-and-biology/1/2/activity-a)  Burning Fossil Fuels |  |  |
| [Assessment Activity B](https://ncea.education.govt.nz/science/chemistry-and-biology/1/1/activity-b)  Kauri Dieback | [Assessment Activity B](https://ncea.education.govt.nz/science/chemistry-and-biology/1/2/activity-b)  Neutralisation Reactions | [External Assessment Specifications](https://ncea.education.govt.nz/science/chemistry-and-biology/1/3?view=specifications) | [External Assessment Specifications](https://ncea.education.govt.nz/science/chemistry-and-biology/1/4?view=specifications) |
| [Assessment activity C](https://ncea.education.govt.nz/science/chemistry-and-biology/1/1/activity-c)  Health and Disease | [Assessment Activity C](https://ncea.education.govt.nz/science/chemistry-and-biology/1/2/activity-c)  Precipitation Reactions |  |  |

|  |  |
| --- | --- |
| Standard | Assessment Method |
| Science 1.3 Describe features of science that have contributed to the development of a science idea in a local context | Online exam |
| Science 1.4 Demonstrate understanding of science-related claims in communicated information | Report |
| Ag Hort 1.3 Demonstrate understanding of how soil properties are managed in a primary production system | Online exam |
| Ag Hort 1.4 Demonstrate understanding of sustainability considerations that influence primary production management practices | Report |
| Chem Bio 1.3 Describe understanding of genetic variation in relation to an identified characteristic | Report |
| Chem Bio 1.4  Demonstrate understanding of how the properties of chemicals inform their use in a specific context | Online exam |
| Phys ESS 1.3  Describe understanding of the effect on the Earth of interactions between the Sun and the Earth-Moon system | Report |
| Phys ESS 1.4 Demonstrate understanding of energy in a physical system | Paper based Exam |