Achievement Objective Curriculum Level 8 Select and apply rehearsal processes, performance skills, and production technologies to enhance the communication and expression of dance works.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Dance

Strand: Communicating and Interpreting

The Arts

Achievement Objective Curriculum Level 8 Critically analyse, interpret, and evaluate the artistic features and the communication of ideas in a range of dance works.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Dance

Achievement Objective Curriculum Level 8 Analyse, rehearse, and perform works in a range of dramatic forms, assuming a variety of artistic or technical responsibilities.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Drama

Strand: Communicating and Interpreting

The Arts

Achievement Objective Curriculum Level 8 Reflect on and critically evaluate a wide range of works and performances.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Drama

Achievement Objective Curriculum Level 8 Plan, rehearse, present, record, evaluate, and refine performances of music, individually and collaboratively, demonstrating interpretive understandings.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8

Component: Music – Sound Arts

Strand: Communicating and Interpreting

The Arts

Achievement Objective Curriculum Level 8 Critically analyse and evaluate the expressive qualities of music and production processes in order to refine interpretations of music.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8

Component: Music - Sound Arts

Achievement Objective Curriculum Level 8 Research and analyse selected approaches and theories related to visual arts practice.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Visual Arts

Strand: Communicating and Interpreting

The Arts

Achievement Objective Curriculum Level 8

Learning Area Cards

DTHM for kaiako

Critically reflect on, respond to, and evaluate art works.

Learning area: The Arts Curriculum level: 8 Component: Visual Arts

Achievement Objective Curriculum Level 8 Develop a concept and produce original dance works, using appropriate production technologies to communicate choreographic intentions.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Dance Strand: Developing Ideas

The Arts

Achievement Objective Curriculum Level 8

Learning Area Cards

DTHM for kaiako

Record and critically reflect on the development and resolution of dance ideas.

Learning area: The Arts Curriculum level: 8 Component: Dance Strand: Developing Ideas

Achievement Objective Curriculum Level 8 Research, critically evaluate, and refine ideas to create original drama work.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Drama Strand: Developing Ideas

The Arts

Achievement Objective Curriculum Level 8 Create, structure, refine, and represent compositions and musical arrangements, using secure technical and musical skills and technologies to express imaginative thinking and personal understandings.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8

Component: Music – Sound Arts Strand: Developing Ideas

Achievement Objective Curriculum Level 8 Reflect on and evaluate composition processes and presentation conventions.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8

Component: Music – Sound Arts Strand: Developing Ideas

The Arts

Achievement Objective Curriculum Level 8 Generate, analyse, clarify, and regenerate options in response to selected questions or a proposal in a chosen field.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Visual Arts Strand: Developing Ideas

Achievement Objective Curriculum Level 8 Use a systematic approach, selectively informed by recent and established practice, to develop ideas in a body of work.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Visual Arts Strand: Developing Ideas

Extend and refine skills, practices, and use of technologies in a range

of dance genres and styles.

The Arts

Achievement Objective Curriculum Level 8

> Learning area: The Arts Curriculum level: 8 Component: Dance

Strand: Developing Practical Knowledge

Learning Area Cards

DTHM for kaiako

Achievement Objective Curriculum Level 8 Research, analyse, and integrate elements, techniques, conventions, and technologies in dramatic forms for specific purposes.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Drama

Strand: Developing Practical Knowledge

The Arts

Achievement Objective Curriculum Level 8 Analyse, apply, and evaluate significant expressive features and stylistic conventions and technologies in a range of music, using aural perception and practical and theoretical skills.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8

Component: Music – Sound Arts Strand: Developing Practical Knowledge

Achievement Objective Curriculum Level 8 Apply understanding from broad and deep research into the characteristics and constraints of materials, techniques, technologies, and established conventions in a selected field.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Visual Arts

Strand: Developing Practical Knowledge

The Arts

Achievement Objective Curriculum Level 8 field, using appropriate processes and procedures.

Extend and refine skills in a selected

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Visual Arts

Strand: Developing Practical Knowledge

Achievement Objective Curriculum Level 8 Investigate, analyse, and discuss the features, history, issues, and development of dance in New Zealand, including the contribution of selected individuals and groups.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Dance

Strand: Understanding the Arts in Context

The Arts

Achievement Objective Curriculum Level 8 Research, analyse, and critically evaluate how drama, including New Zealand drama, interprets, records, or challenges social and cultural discourse.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Drama

Strand: Understanding the Arts in Context

Achievement Objective Curriculum Level 8 Research, analyse, and evaluate the production and presentation of music works from historical, social, and cultural contexts.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8

Component: Music – Sound Arts

Strand: Understanding the Arts in Context

The Arts

Achievement Objective Curriculum Level 8 Apply their understandings of the expressive qualities of music from a range of contexts to analyse its impact on their own music practices.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8

Component: Music - Sound Arts

Strand: Understanding the Arts in Context

Achievement Objective Curriculum Level 8 Use research and analysis to investigate contexts, meanings, intentions, and technological influences related to the making and valuing of art works.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Visual Arts

Strand: Understanding the Arts in Context

The Arts

Achievement Objective Curriculum Level 8 Research and analyse contexts relevant to their intentions and to the expression of meanings in their own work.

Learning Area Cards

DTHM for kaiako

Learning area: The Arts Curriculum level: 8 Component: Visual Arts

Strand: Understanding the Arts in Context

Achievement Objective Curriculum Level 8

Learning Area Cards **DTHM for kaiako**

English

Achievement Objective Curriculum Level 8

Learning Area Cards

DTHM for kaiako

Show a discriminating and insightful understanding of ideas within, across, and beyond texts.

indicators:

makes meaning by perceptively understanding sophisticated ideas;

makes connections by analysing, evaluating, and synthesising ideas within and between texts from a range of contexts;

understands that there may be multiple readings available within a text; makes and supports inferences from texts independently.

Learning area: English Curriculum level: 8

Component: Listening, Reading, and Viewing

Strand: Ideas

Show a discriminating and insightful understanding of how language features are used for effect within and across texts.

indicators:

identifies a range of sophisticated oral, written, and visual language features and understands their effects; uses an increasing vocabulary to make meaning; understands, analyses, and evaluates how text conventions work together to create meaning and effect; understands that authors have different voices and styles and appreciates these differences.

Learning area: English Curriculum level: 8

Component: Listening, Reading, and Viewing

Strand: Language features

Achievement Objective Curriculum Level 8

Learning Area Cards **DTHM for kaiako**

English

Achievement Objective Curriculum Level 8

Learning Area Cards **DTHM for kaiako**

Integrate sources of information, processes, and strategies purposefully, confidently, and precisely to identify, form, and express increasingly sophisticated ideas

indicators:

selects and reads texts for enjoyment and personal fulfilment;

recognises, understands, and appreciates the connections between oral, written, and visual language; integrates sources of information and prior knowledge purposefully, confidently, and precisely to make sense of increasingly varied and complex texts; selects and uses appropriate processing and comprehension strategies with confidence and discrimination;

thinks critically about texts with understanding and confidence;

monitors, self evaluates, and describes progress, articulating learning with confidence.

Learning area: English Curriculum level: 8

Component: Listening, Reading, and Viewing

Strand: Processes and strategies

Show a discriminating understanding of how texts are shaped for different purposes and audiences.

indicators:

recognises, understands and appreciates how texts are constructed for a range of intentions and situations:

identifies particular points of view within texts and understands that texts can position a reader;

evaluates the reliability and usefulness of texts.

Learning area: English Curriculum level: 8

Component: Listening, Reading, and Viewing

Strand: Purposes and audiences

Achievement Objective Curriculum Level 8

Learning Area Cards

DTHM for kaiako

English

Achievement Objective Curriculum Level 8

Learning Area Cards **DTHM for kaiako**

Show a discriminating understanding of a range of structures.

indicator:

identifies and understands the characteristics and conventions of a range of text forms and appreciates how they contribute to and affect text meaning.

Learning area: English Curriculum level: 8

Component: Listening, Reading, and Viewing

Strand: Structure

Select, develop, and communicate sustained and insightful ideas on a range of topics.develops, communicates, and sustains sophisticated ideas, information, and understandings;

creates coherent, planned whole texts by adding details to ideas or making links to other ideas and details:

ideas show perception, depth of thought, and awareness of a range of dimensions or viewpoints.

Learning area: English Curriculum level: 8

Component: Speaking, Writing, Presenting

Strand: Ideas

Achievement Objective Curriculum Level 8

Learning Area Cards **DTHM for kaiako**

English

Achievement Objective Curriculum Level 8

Learning Area Cards **DTHM for kaiako**

Select, integrate, and sustain the use of a range of language features appropriately for a variety of effects.

indicators:

uses a wide range of oral, written, and visual language features coherently, fluently, and with control to create meaning and command attention;

uses an increasing vocabulary to communicate precise meaning;

uses a wide range of text conventions, including grammatical and spelling conventions, appropriately, effectively, and with accuracy.

Learning area: English Curriculum level: 8

Component: Speaking, Writing, Presenting

Strand: Language features

Integrate sources of information, processes, and strategies purposefully, confidently, and precisely to identify, form, and express increasingly sophisticated ideas.

indicators:

uses an increasing understanding of the connections between oral, written, and visual language when creating texts;

creates a range of increasingly coherent, varied, and complex texts by integrating sources of information and processing strategies;

seeks feedback and makes changes to texts to improve clarity, meaning, and effect;

is reflective about the production of own texts: monitors and self evaluates progress, articulating learning with confidence.

Learning area: English Curriculum level: 8

Component: Speaking, Writing, Presenting

Strand: Processes and strategies

Achievement Objective Curriculum Level 8

Learning Area Cards

DTHM for kaiako

English

Achievement Objective Curriculum Level 8

Learning Area Cards **DTHM for kaiako**

Show a discriminating understanding of how to shape texts for different purposes and audiences.

indicators:

constructs a range of texts that demonstrate an understanding and appreciation of purpose and audience through deliberate choice of content, language, and text form;

conveys and sustains personal voice, where appropriate.

Learning area: English Curriculum level: 8

Component: Speaking, Writing, Presenting

Strand: Purposes and audiences

Organise texts, using a range of appropriate, coherent, and effective structures.

indicator:

organises and develops ideas and information for a particular purpose or effect, using the characteristics and conventions of a range of text forms with control.

Learning area: English Curriculum level: 8

Component: Speaking, Writing, Presenting

Strand: Structure

Achievement Objective Curriculum Level 8 Establish and justify priorities for equitable distribution of available health and recreational resources and advocate change where necessary.

Learning Area Cards

DTHM for kaiako

Learning area: Health and Physical Education Curriculum level: 8

Component: Healthy Communities and

Environments

Strand: Community resources

Health and Physical Education

Achievement Objective Curriculum Level 8

Learning Area Cards **DTHM for kaiako**

Critically analyse the interrelationships between people, industry, technology, and legislation on aspects of environmental health.

Learning area: Health and Physical Education Curriculum level: 8

Component: Healthy Communities and

Environments

Strand: People and the environment

Achievement Objective Curriculum Level 8 Demonstrate the use of health promotion strategies by implementing a plan of action to enhance the well-being of the school, community, or environment.

Learning Area Cards **DTHM for kaiako**

Learning area: Health and Physical Education Curriculum level: 8

Component: Healthy Communities and

Environments

Strand: Rights, responsibilities, and laws

Health and Physical Education

Achievement Objective Curriculum Level 8 Critically analyse societal attitudes and practices and legislation influencing contemporary health and sporting issues, in relation to the need to promote mentally healthy and physically safe communities.

Learning Area Cards **DTHM for kaiako**

Learning area: Health and Physical Education Curriculum level: 8

Component: Healthy Communities and

Environments

Strand: Societal attitudes and values

Achievement Objective Curriculum Level 8 Devise and apply strategies to ensure that social and cultural needs are met in personal and group physical activities.

Learning Area Cards

DTHM for kaiako

Learning area: Health and Physical Education Curriculum level: 8

Component: Movement Concepts and Motor Skills Strand: Challenges and social and cultural factors

Health and Physical Education

Achievement Objective Curriculum Level 8 Devise, apply, and evaluate strategies to improve physical activity performance for themselves and others

Learning Area Cards

DTHM for kaiako

Learning area: Health and Physical Education Curriculum level: 8

Component: Movement Concepts and Motor Skills

Strand: Movement skills

Achievement Objective Curriculum Level 8 Devise, apply, and appraise strategies through which they and other people can participate responsibly in challenging physical situations.

Learning Area Cards

DTHM for kaiako

Learning area: Health and Physical Education Curriculum level: 8

Component: Movement Concepts and Motor Skills Strand: Positive attitudes

Health and Physical Education

Achievement Objective Curriculum Level 8 Critically analyse and experience the application of scientific and technological knowledge and resources to physical activity in a range of environments.

Learning Area Cards **DTHM for kaiako**

Learning area: Health and Physical Education Curriculum level: 8

Component: Movement Concepts and Motor Skills

Strand: Science and technology

Achievement Objective Curriculum Level 8 Critically evaluate a range of qualitative and quantitative data to devise strategies to meet their current and future needs for wellbeing.

Learning Area Cards **DTHM for kaiako**

Learning area: Health and Physical Education Curriculum level: 8

Component: Personal Health and Physical

Development

Strand: Personal growth and development

Health and Physical Education

Achievement Objective Curriculum Level 8 Critically analyse the impacts that conceptions of personal, cultural, and national identity have on people's well-being.

Learning Area Cards

DTHM for kaiako

Learning area: Health and Physical Education

Curriculum level: 8

Component: Personal Health and Physical

Development

Strand: Personal identity

Achievement Objective Curriculum Level 8 Critically examine commercial products and programmes that promote physical activity and relate this to personal participation in programmes intended to meet their current well-being needs.

Learning Area Cards **DTHM for kaiako**

Learning area: Health and Physical Education

Curriculum level: 8

Component: Personal Health and Physical

Development

Strand: Regular physical activity

Health and Physical Education

Achievement Objective Curriculum Level 8 Critically analyse dilemmas and contemporary ethical issues that influence their own health and safety and that of other people.

Learning Area Cards **DTHM for kaiako**

Learning area: Health and Physical Education

Curriculum level: 8

Component: Personal Health and Physical

Development

Strand: Safety management

Achievement Objective Curriculum Level 8 Critically analyse attitudes, values, and behaviours that contribute to conflict and identify and describe ways of creating more harmonious relationships.

Learning Area Cards **DTHM for kaiako**

Learning area: Health and Physical Education Curriculum level: 8

Component: Relationships with Other People Strand: Identity, sensitivity, and respect

Health and Physical Education

Achievement Objective Curriculum Level 8 Analyse and evaluate attitudes and interpersonal skills that enable people to participate fully and effectively as community members in various situations.

Learning Area Cards **DTHM for kaiako**

Learning area: Health and Physical Education Curriculum level: 8

Component: Relationships with Other People

Strand: Interpersonal skills

Achievement Objective Curriculum Level 8 Critically analyse the dynamics of effective relationships in a range of social contexts.

Learning Area Cards **DTHM for kaiako**

Learning area: Health and Physical Education

Curriculum level: 8

Component: Relationships with Other People

Strand: Relationships

Learning Languages

Achievement Objective Curriculum Level 8 Explore the views of others, developing and sharing personal perspectives.

Learning Area Cards

DTHM for kaiako

Learning area: Learning Languages

Curriculum level: 8

Component: Communication

Strand: Managing self and relating to others

Learning Languages

Achievement Objective Curriculum Level 8

Learning Area Cards DTHM for kaiako

Engage in sustained interaction and produce extended text.

Learning area: Learning Languages Curriculum level: 8 Component: Communication Strand: Participating and contributing in

communities

Learning Languages

Achievement Objective **Curriculum Level 8**

Learning Area Cards DTHM for kaiako

Communicate information, ideas, and opinions through increasingly complex and varied texts.

Learning area: Learning Languages

Curriculum level: 8

Component: Communication

Strand: Selecting and using language, symbols, and

texts to communicate

Learning Languages

Achievement Objective Curriculum Level 8 different purposes and for different audiences.

Learning Area Cards

DTHM for kaiako

Learning area: Learning Languages Curriculum level: 8

Component: Cultural Knowledge

Strand: N/A

Learning Languages

Achievement Objective Curriculum Level 8 Analyse how the use of the target language expresses cultural meanings.

Analyse ways in which the target culture(s) is (are) organised for

Learning Area Cards

DTHM for kaiako

Learning area: Learning Languages Curriculum level: 8 Component: Cultural Knowledge

Strand: N/A

Learning Languages

Achievement Objective Curriculum Level 8

Learning Area Cards

DTHM for kaiako

Analyse ways in which the target language is organised in different texts and for different purposes.

Learning area: Learning Languages Curriculum level: 8

Component: Language Knowledge

Strand: N/A

Learning Languages

Achievement Objective Curriculum Level 8

Learning Area Cards

DTHM for kaiako

Explore how linguistic meaning is conveyed across languages.

Learning area: Learning Languages Curriculum level: 8 Component: Language Knowledge

Strand: N/A

Identify discontinuities and limits of functions.

Mathematics and Statistics

Achievement Objective Curriculum Level 8

Learning area: Mathematics and Statistics

Curriculum level: 8
Component: Mathematics

Strand: Calculus

Learning Area Cards **DTHM for kaiako**

Mathematics and Statistics

Achievement Objective Curriculum Level 8 Choose and apply a variety of differentiation, integration, and anti-differentiation techniques to functions and relations, using both analytical and numerical methods.

Learning Area Cards **DTHM for kaiako**

Learning area: Mathematics and Statistics

Curriculum level: 8 Component: Mathematics

Strand: Calculus

Form differential equations and interpret the solutions.

Mathematics and Statistics

Achievement Objective Curriculum Level 8

Learning area: Mathematics and Statistics
Curriculum level: 8

Curriculum level: 8
Component: Mathematics

Strand: Calculus

Learning Area Cards **DTHM for kaiako**

Mathematics and Statistics

Achievement Objective Curriculum Level 8 Manipulate trigonometric expressions.

Learning Area Cards **DTHM for kaiako**

Learning area: Mathematics and Statistics

Curriculum level: 8

Component: Mathematics

Strand: Equations and expressions

Mathematics and Statistics

Achievement Objective Curriculum Level 8 Form and use trigonometric, polynomial, and other non-linear equations.

Learning Area Cards **DTHM for kaiako**

Learning area: Mathematics and Statistics

Curriculum level: 8 Component: Mathematics

Strand: Equations and expressions

Mathematics and Statistics

Achievement Objective Curriculum Level 8 Form and use systems of simultaneous equations, including three linear equations and three variables, and interpret the solutions in context.

Learning Area Cards **DTHM for kaiako**

Learning area: Mathematics and Statistics

Curriculum level: 8

Component: Mathematics

Strand: Equations and expressions

Manipulate complex numbers and present them graphically.

Mathematics and Statistics

Achievement Objective Curriculum Level 8

Learning area: Mathematics and Statistics

Curriculum level: 8 Component: Mathematics

Strand: Equations and expressions

Learning Area Cards **DTHM for kaiako**

Mathematics and Statistics

Achievement Objective Curriculum Level 8 Apply the geometry of conic sections.

Learning Area Cards **DTHM for kaiako**

Learning area: Mathematics and Statistics

Curriculum level: 8

Component: Mathematics Strand: Patterns and relationships

Mathematics and Statistics

Achievement Objective Curriculum Level 8 Display and interpret the graphs of functions with the graphs of their inverse and/or reciprocal functions.

Learning Area Cards

DTHM for kaiako

Learning area: Mathematics and Statistics

Curriculum level: 8 Component: Mathematics

Strand: Patterns and relationships

Mathematics and Statistics

Achievement Objective Curriculum Level 8 Use permutations and combinations.

Learning Area Cards **DTHM for kaiako**

Learning area: Mathematics and Statistics

Curriculum level: 8 Component: Mathematics

Strand: Patterns and relationships

Use curve fitting, log modelling, and linear programming techniques.

Mathematics and Statistics

Achievement Objective Curriculum Level 8

Learning area: Mathematics and Statistics

Curriculum level: 8 Component: Mathematics

Strand: Patterns and relationships

Learning Area Cards **DTHM for kaiako**

Mathematics and Statistics

Achievement Objective Curriculum Level 8 Develop network diagrams to find optimal solutions, including critical paths.

Learning Area Cards **DTHM for kaiako**

Learning area: Mathematics and Statistics

Curriculum level: 8 Component: Mathematics

Strand: Patterns and relationships

Mathematics and Statistics

Achievement Objective Curriculum Level 8

Learning Area Cards **DTHM for kaiako**

Investigate situations that involve elements of chance:

calculating probabilities of independent, combined, and conditional events; calculating and interpreting expected values and standard deviations of discrete random variables;

applying distributions such as the Poisson, binomial, and normal.

Learning area: Mathematics and Statistics

Curriculum level: 8 Component: Statistics Strand: Probability

Mathematics and Statistics

Achievement Objective Curriculum Level 8

> Learning area: Mathematics and Statistics Curriculum level: 8

Strand: Statistical investigation

Component: Statistics

Learning Area Cards **DTHM for kaiako**

Carry out investigations of phenomena, using the statistical enquiry cycle:

finding, using, and assessing appropriate models (including linear regression for bivariate data and additive models for timeseries data), seeking explanations and making predictions;

using informed contextual knowledge, exploratory data analysis, and statistical inference;

communicating findings and evaluating all stages of the cycle.

Mathematics and Statistics

Achievement Objective
Curriculum Level 8

Learning Area Cards **DTHM for kaiako**

Make inferences from surveys and experiments:

determining estimates and confidence intervals for means, proportions, and differences, recognising the relevance of the central limit theorem; using methods such as resampling or randomisation to assess the strength of evidence.

Learning area: Mathematics and Statistics

Curriculum level: 8 Component: Statistics

Strand: Statistical investigation

Mathematics and Statistics

Achievement Objective Curriculum Level 8 Evaluate a wide range of statistically based reports, including surveys and polls, experiments and observational studies: critiquing causal-relationship claims; interpreting margins of error.

Learning Area Cards **DTHM for kaiako**

Learning area: Mathematics and Statistics

Curriculum level: 8 Component: Statistics Strand: Statistical literacy

Achievement Objective Curriculum Level 8 Understand the relationship between organisms and their environment.

Learning Area Cards

DTHM for kaiako

Learning area: Science Curriculum level: 8 Component: Living World

Strand: Life processes, ecology, and evolution

Science

Achievement Objective Curriculum Level 8 Explore the evolutionary processes that have resulted in the diversity of life on Earth and appreciate the place and impact of humans within these processes.

Learning Area Cards **DTHM for kaiako**

Learning area: Science Curriculum level: 8 Component: Living World

Strand: Life processes, ecology, and evolution

Achievement Objective Curriculum Level 8 Understand how humans manipulate the transfer of genetic information from one generation to the next and make informed judgments about the social, ethical, and biological implications relating to this manipulation.

Learning Area Cards

DTHM for kaiako

Learning area: Science Curriculum level: 8 Component: Living World

Strand: Life processes, ecology, and evolution

Science

Achievement Objective Curriculum Level 8 Apply knowledge of chemistry to explain aspects of the natural world and how chemistry is used in society to meet needs, resolve issues, and develop new technologies.

Learning Area Cards **DTHM for kaiako**

Learning area: Science Curriculum level: 8 Component: Material World Strand: Chemistry and society

Achievement Objective Curriculum Level 8 Investigate and measure the chemical and physical properties of a range of groups of substances, for example, acids and bases, oxidants and reductants, and selected organic and inorganic compounds.

Learning Area Cards **DTHM for kaiako**

Learning area: Science Curriculum level: 8

Component: Material World

Strand: Properties and changes of matter

Science

Achievement Objective Curriculum Level 8 Relate properties of matter to structure and bonding.

Learning Area Cards **DTHM for kaiako**

Learning area: Science Curriculum level: 8 Component: Material World

Strand: The structure of matter

Achievement Objective Curriculum Level 8 Develop an understanding of and use the fundamental concepts of chemistry (for example, equilibrium and thermochemical principles) to interpret observations.

Learning Area Cards **DTHM for kaiako**

Learning area: Science Curriculum level: 8

Component: Material World Strand: The structure of matter

Science

Achievement Objective Curriculum Level 8 Use accepted science knowledge, vocabulary, symbols, and conventions when evaluating accounts of the natural world and consider the wider implications of the methods of communication and/ or representation employed.

Learning Area Cards **DTHM for kaiako**

Learning area: Science
Curriculum level: 8
Component: Nature of Science
Strand: Communicating in science

Achievement Objective Curriculum Level 8 Develop and carry out investigations that extend their science knowledge, including developing their understanding of the relationship between investigations and scientific theories and models.

Learning Area Cards

DTHM for kaiako

Learning area: Science Curriculum level: 8

Component: Nature of Science Strand: Investigating in science

Science

Achievement Objective Curriculum Level 8 Use relevant information to develop a coherent understanding of socioscientific issues that concern them, to identify possible responses at both personal and societal levels.

Learning Area Cards **DTHM for kaiako**

Learning area: Science Curriculum level: 8

Component: Nature of Science Strand: Participating and contributing

Achievement Objective Curriculum Level 8 Understand that scientists have an obligation to connect their new ideas to current and historical scientific knowledge and to present their findings for peer review and debate.

Learning Area Cards

DTHM for kaiako

Learning area: Science Curriculum level: 8

Component: Nature of Science Strand: Understanding about science

Science

Achievement Objective Curriculum Level 8 Investigate physical phenomena (in the areas of mechanics, electricity, electromagnetism, light and waves, and atomic and nuclear physics) and produce qualitative and quantitative explanations for a variety of complex situations.

Learning Area Cards

DTHM for kaiako

Learning area: Science Curriculum level: 8

Component: Physical World

Strand: Physical inquiry and physics concepts

Achievement Objective Curriculum Level 8 Analyse and evaluate data to deduce complex trends and relationships in physical phenomena.

Learning Area Cards

DTHM for kaiako

Learning area: Science Curriculum level: 8

Component: Physical World

Strand: Physical inquiry and physics concepts

Science

Achievement Objective Curriculum Level 8 Use physics ideas to explain a technological, biological, or astronomical application of physics and discuss related issues.

Learning Area Cards **DTHM for kaiako**

Learning area: Science Curriculum level: 8 Component: Physical World Strand: Using physics

Achievement Objective Curriculum Level 8 Explore recent astronomical events or discoveries, showing understanding of the concepts of distance and time.

Learning Area Cards

DTHM for kaiako

Learning area: Science Curriculum level: 8

Component: Planet Earth and Beyond Strand: Astronomical systems

Science

Achievement Objective Curriculum Level 8 Develop an in-depth understanding of the interrelationship between human activities and the geosphere, hydrosphere, atmosphere, and biosphere over time.

Learning Area Cards **DTHM for kaiako**

Learning area: Science Curriculum level: 8

Component: Planet Earth and Beyond Strand: Earth systems and interacting systems

Achievement Objective Curriculum Level 8 Understand that well-functioning markets are efficient but that governments may need to intervene where markets fail to deliver efficient or equitable outcomes.

Learning Area Cards **DTHM for kaiako**

Learning area: Social Sciences

Curriculum level: 8 Component: Economics

Strand: N/A

Social Sciences

Achievement Objective
Curriculum Level 8

Understand how the nature and size of the New Zealand economy is influenced by interacting internal and external factors.

Learning Area Cards **DTHM for kaiako**

Learning area: Social Sciences Curriculum level: 8 Component: Economics Strand: N/A

Achievement Objective Curriculum Level 8 Understand how people's diverse values and perceptions influence the environmental, social, and economic decisions and responses that they make.

Learning Area Cards **DTHM for kaiako**

Learning area: Social Sciences

Curriculum level: 8 Component: Geography

Strand: N/A

Social Sciences

Achievement Objective Curriculum Level 8 Understand how interacting processes shape natural and cultural environments, occur at different rates and on different scales, and create spatial variations.

Learning Area Cards

DTHM for kaiako

Learning area: Social Sciences Curriculum level: 8 Component: Geography Strand: N/A

Achievement Objective Curriculum Level 8 Understand that the causes, consequences, and explanations of historical events that are of significance to New Zealanders are complex, and how and why they are contested.

Learning Area Cards

DTHM for kaiako

Learning area: Social Sciences

Curriculum level: 8 Component: History

Strand: N/A

Social Sciences

Achievement Objective Curriculum Level 8 Understand how trends over time reflect social, economic, and political forces.

Learning Area Cards

DTHM for kaiako

Learning area: Social Sciences Curriculum level: 8 Component: History

Strand: N/A

Achievement Objective Curriculum Level 8 Understand how ideologies shape society and that individuals and groups respond differently to these beliefs.

Learning Area Cards **DTHM for kaiako**

Learning area: Social Sciences

Curriculum level: 8 Component: Social Studies

Strand: N/A

Social Sciences

Achievement Objective Curriculum Level 8 Understand how policy changes are influenced by and impact on the rights, roles, and responsibilities of individuals and communities.

Learning Area Cards **DTHM for kaiako**

Learning area: Social Sciences Curriculum level: 8 Component: Social Studies Strand: N/A

Achievement Objective Curriculum Level 8 Understand the role of technological modelling as a key part of technological development, justifying its importance on moral, ethical, sustainable, cultural, political, economic, and historical grounds.

Learning Area Cards **DTHM for kaiako**

Learning area: Technology Curriculum level: 8

Component: Technological Knowledge Strand: Technological modelling

Technology

Achievement Objective Curriculum Level 8 Understand the concepts and processes employed in materials development and evaluation and the implications of these for design, development, maintenance, and disposal of technological products.

Learning Area Cards

DTHM for kaiako

Learning area: Technology Curriculum level: 8

Component: Technological Knowledge Strand: Technological products

Achievement Objective Curriculum Level 8 Understand operational parameters and their role in the design, development, and maintenance of technological systems.

Learning Area Cards

DTHM for kaiako

Learning area: Technology Curriculum level: 8

Component: Technological Knowledge

Strand: Technological systems

Technology

Achievement Objective Curriculum Level 8 Understand how technological outcomes can be interpreted and justified as fit for purpose in their historical, cultural, social, and geographical locations.

Learning Area Cards

DTHM for kaiako

Learning area: Technology Curriculum level: 8

Component: Nature of Technology

Strand: Characteristics of technological outcomes

Achievement Objective Curriculum Level 8 Understand the implications of technology as intervention by design and how interventions have consequences, known and unknown, intended and unintended.

Learning Area Cards

DTHM for kaiako

Learning area: Technology Curriculum level: 8

Component: Nature of Technology Strand: Characteristics of technology

Technology

Achievement Objective Curriculum Level 8 Justify the nature of an intended outcome in relation to the context and the issue to be resolved. Justify specifications in terms of key stakeholder feedback and wider community considerations.

Learning Area Cards

DTHM for kaiako

Learning area: Technology Curriculum level: 8

Component: Technological Practice

Strand: Brief development

Achievement Objective Curriculum Level 8 Critically analyse their own and others' outcomes and fitness-for-purpose determinations in order to inform the development of ideas for feasible outcomes. Undertake a critical evaluation that is informed by ongoing experimentation and functional modelling, stakeholder feedback, trialling in the physical and social environments, and an understanding of the issue as it relates to the wider context. Use the information gained to select, justify, and develop an outcome. Evaluate this outcome's fitness for purpose against the brief. Justify the evaluation, using feedback from stakeholders and demonstrating a critical understanding of the issue that takes account of all contextual dimensions.

Learning Area Cards **DTHM for kaiako**

Learning area: Technology Curriculum level: 8

Component: Technological Practice

Strand: Outcome development and evaluation

Technology

Achievement Objective Curriculum Level 8 Critically analyse their own and others' past and current planning and management practices in order to develop and employ project management practices that will ensure the efficient development of an outcome to completion.

Learning Area Cards

DTHM for kaiako

Learning area: Technology Curriculum level: 8

Component: Technological Practice Strand: Planning for practice