

# PHYSICAL EDUCATION & HEALTH IN THE 21<sup>ST</sup> CENTURY

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## An Integrated Approach

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## SUMMARY

Education in the 21<sup>st</sup> Century is experiencing a fundamental shift in how we view teaching and learning. Pedagogy is moving away from the traditional “silo styled” paradigm of teaching subject content in isolation towards a more constructivist view of learning, which values teaching and learning in a holistic way and reflects the real world in an effort to inspire lifelong learning.

Embracing this shift, many New Zealand schools have been developing an integrated (interdisciplinary) approach to their curriculum with an emphasis on context based learning, key competencies and differentiation. These curricula focus on comprehensive life problems or broad based areas of study whereby all school subjects are related and taught in such a manner that they are almost inseparable.

Physical Education and Health has been often relegated to the status of “specialist” subject or been placed in the “too hard” basket in these models, resulting in the learning operating outside of integrated approach in schools. As Physical Educators it is paramount that we continually challenge our thinking and explore how we can collaborate with other learning areas and disciplines to make meaningful connections and create appropriate problems for our learners to interact with.

In this session we will explore “why we integrate”, the different types of integration, the challenges of integrating Physical Education and Health into the wider curriculum followed by an opportunity to begin developing an integrated unit.

# PHYSICAL EDUCATION & HEALTH IN THE 21<sup>ST</sup> CENTURY

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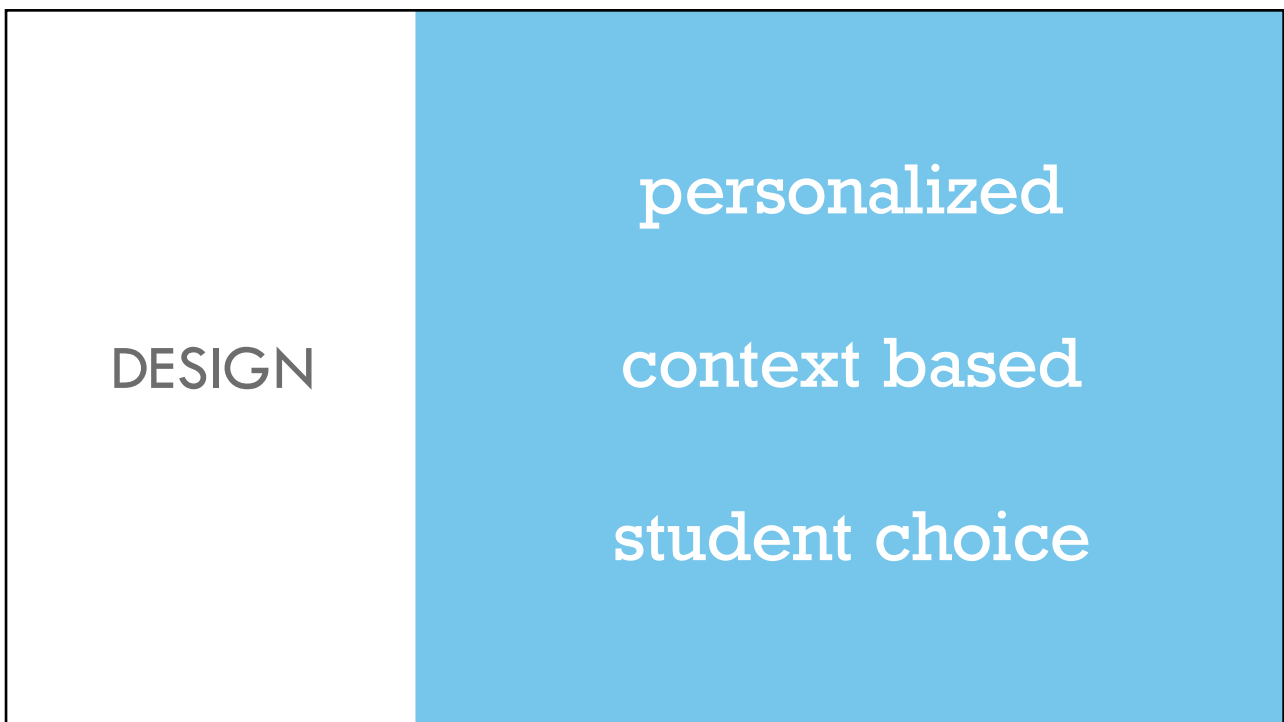
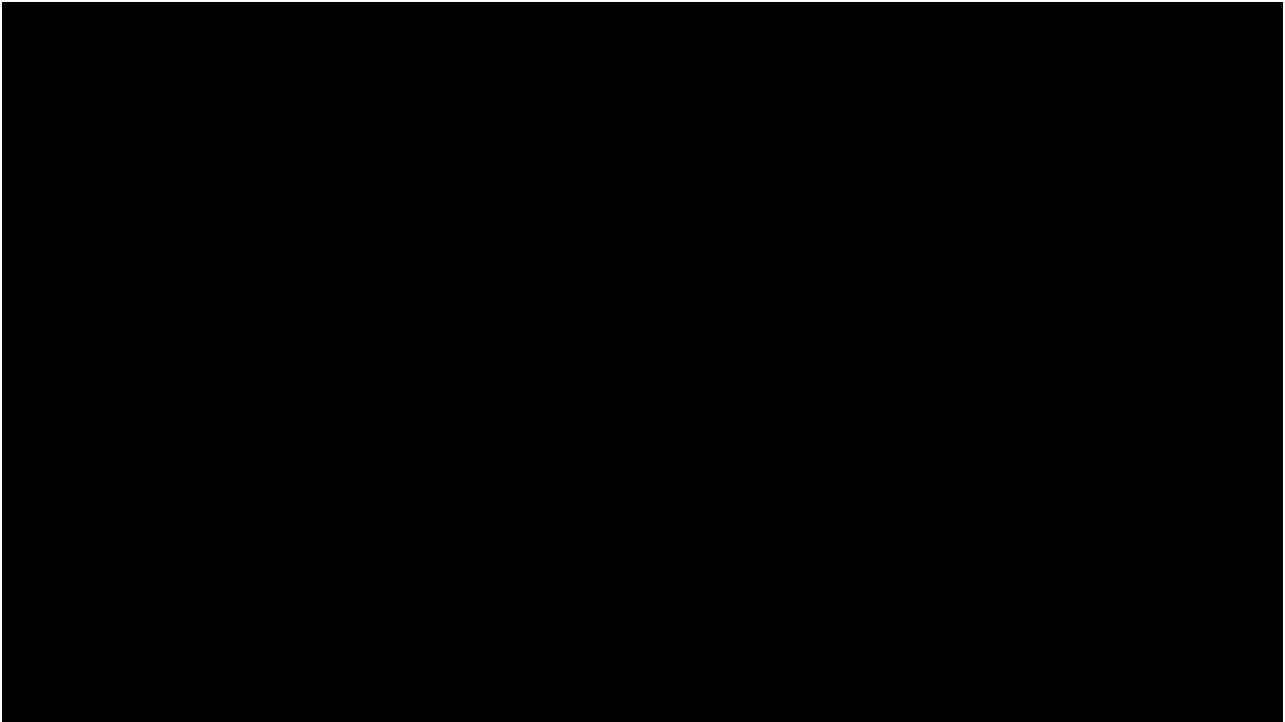
An Integrated Approach

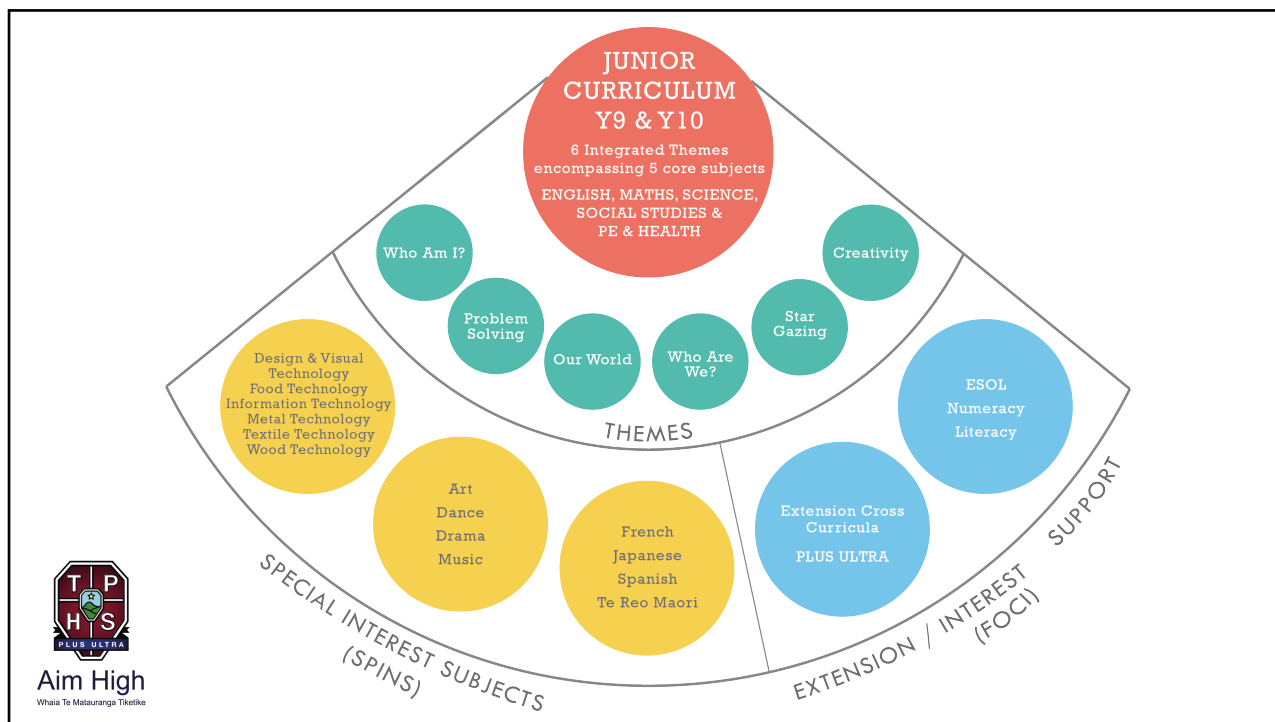
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*“The illiterate of the future are not those who can’t read or write but those who cannot **learn, unlearn, and relearn.**”*

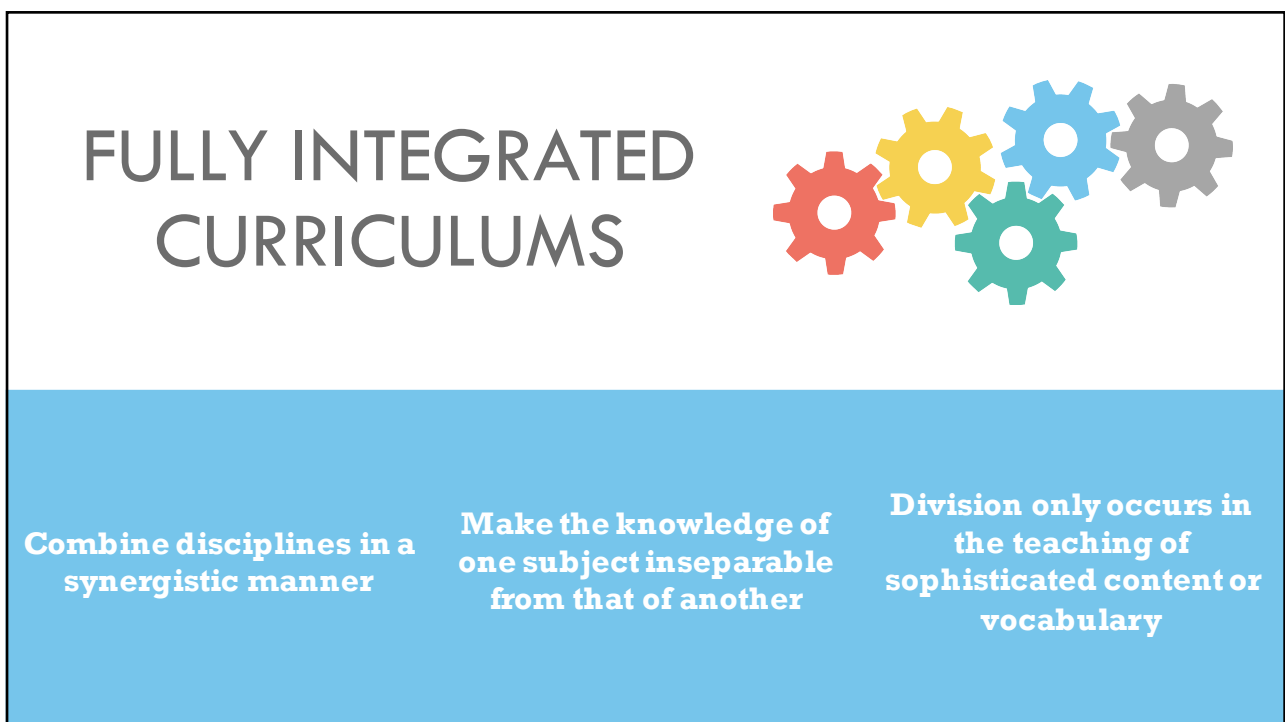
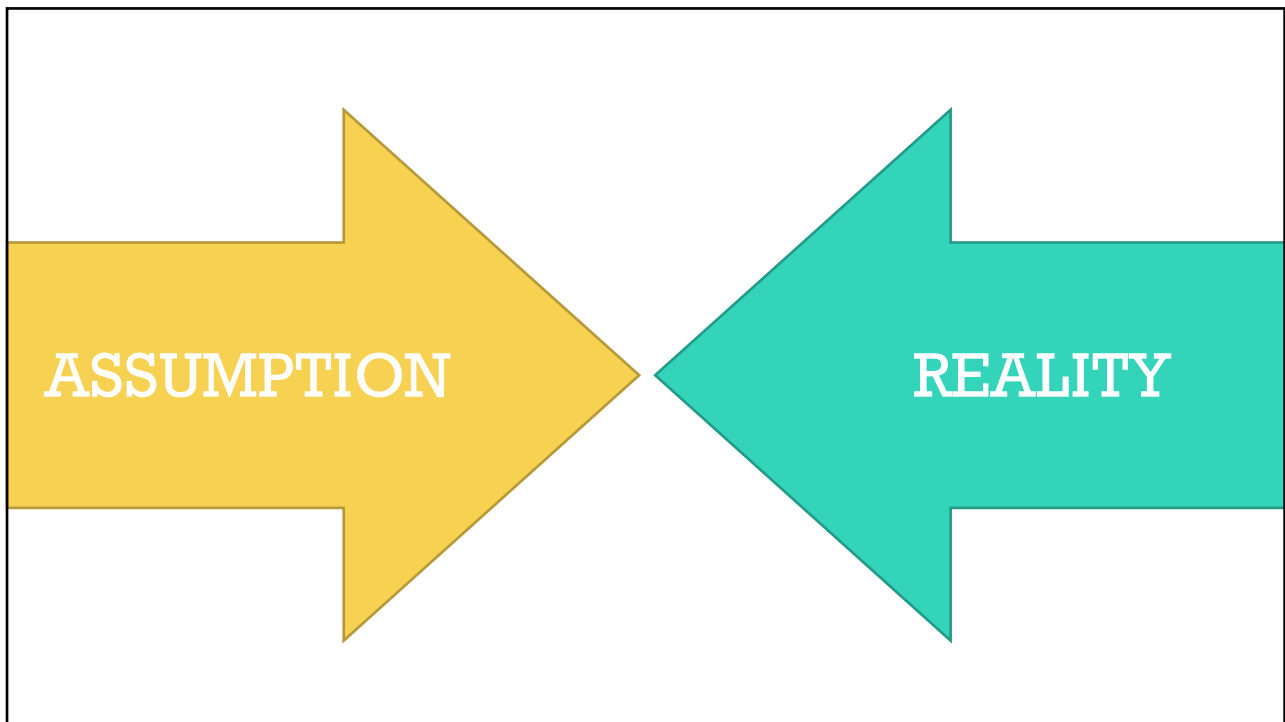
Alvin Toffler, *Future Shock*





# SHIFT HAPPENS



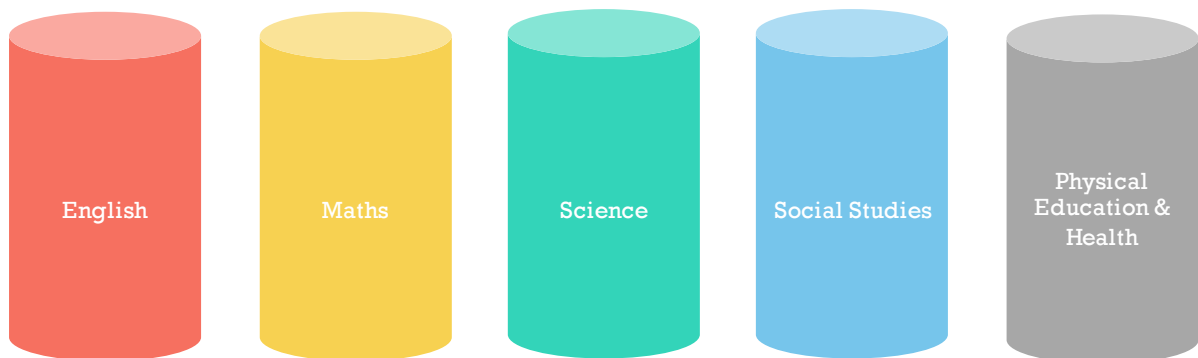


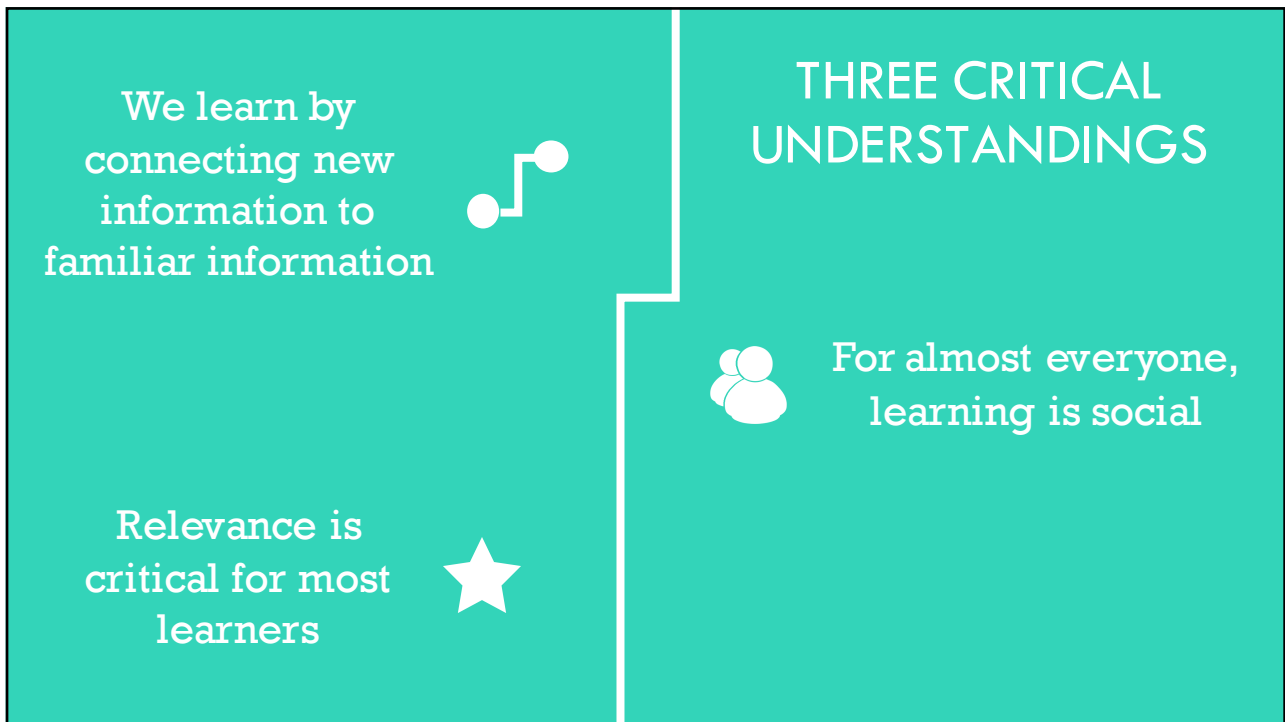


# HOW WE LEARN

Three Critical Understandings

## CURRENT CONSTRUCT





## INTEGRATED LEARNING

A **shift away** from teaching isolated facts toward a more constructivist (co-dependant) view of learning, which values in-depth knowledge of subjects.

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## THE BRAIN



Organizes new knowledge on the basis of previous experiences



The meaning that has developed from those experiences

Processes many things at the same time



Holistic experiences are recalled quickly and easily

Actively seeks patterns



Searches for meaning through these patterns

The brain research points toward interdisciplinary learning, thematic teaching, experiential education and teaching that is responsive to student learning styles

## WHAT IS INTEGRATED LEARNING?

Cuts across subject-matter lines

Focus upon comprehensive life problems or broad based areas of study

Brings together the various segments of the curriculum

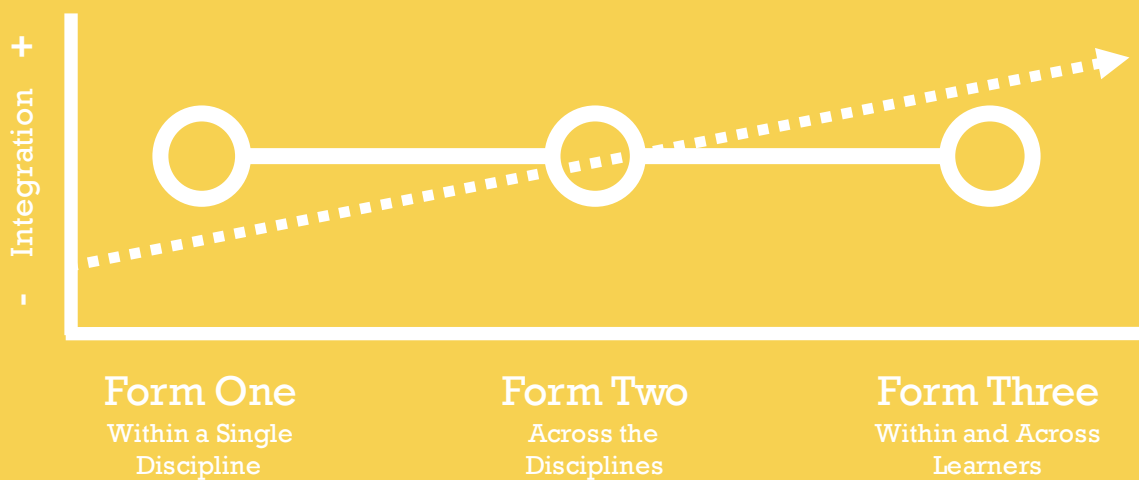
Meaningful association

Prepares children for **lifelong learning**



A combination of subjects  
 An emphasis on projects  
 Sources that go beyond textbooks  
 Relationships among concepts  
 Thematic units as organizing principles  
 Flexible schedules  
 Flexible student groupings

## THE INTEGRATION CONTINUUM



## METHODOLOGIES OF INTEGRATION

### Form One

Within a Single Discipline



Fragmented



Connected



Nested

### Form Two

Across the Disciplines



Sequenced



Shared



Webbed



Threaded



Integrated

### Form Three

Within and Across Learners



Immersed

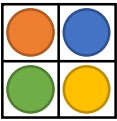
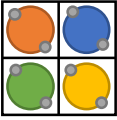

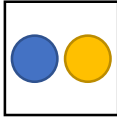


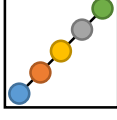


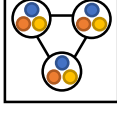


Networked



CHALLENGES OF  
INTEGRATING  
PHYSICAL  
EDUCATION AND  
HEALTH

## Ten Levels of Curriculum Integration

	Name	Description	Advantages	Disadvantages
FORM ONE Within a Single Discipline	Fragmented 	Separate and distinct disciplines	Clear and discrete view of a discipline	Connections are not made clear for students; less transfer of learning
	Connected 	Topics within a discipline are connected	Key concepts are connected, leading to the review, reconceptualization and assimilation of ideas within a discipline	Disciplines are not related; content focus remains within the discipline
	Nested 	Social thinking and content skills are targeted within a subject area	Gives attention to several areas at once, leading to enriched and enhanced learning	Students maybe confused and lose sight of the main concepts of the activity or lesson
FORM TWO Across Disciplines	Sequenced 	Similar ideas are taught in concert, although subjects are separate	Facilitates transfer of learning across content areas	Requires ongoing collaboration and flexibility, as teachers have less autonomy in sequencing curriculum
	Shared 	Team planning and/or teaching that involves two discipline focuses on shared concepts, skills or attitudes	Shared instructional experiences; with two teachers on a team it is less difficult to collaborate	Requires time, flexibility, commitment and compromise
	Webbed 	Thematic teaching, using a theme as a base for instruction in many disciplines	Motivating for students, helps students to see connections between ideas	Themes must be carefully and thoughtfully selected to be meaningful, with relevant and rigorous content
	Threaded 	Thinking skills, social skills, multiple intelligences and study skills are "threaded" throughout the disciplines	Students learn how they are learning, facilitating future transfer of learning	Disciplines remain separate
	Integrated 	Priorities that overlap multiple disciplines are examined for common skills, concepts and attitudes	Encourages students to see interconnectedness and interrelationships among disciplines, students are motivated as they see these connections	Requires interdepartmental teams with common planning and teaching time
FORM THREE Within and Across Learners	Immersed 	Learner integrates by viewing all learning through the perspective of one common interest	Integration takes place within the learner	May narrow the focus of the learner
	Networked 	Learner directs the integration process through selection of a network of experts and resources	Pro-active, with learner stimulated by new information, skills or concepts	Learner can be spread too thin, efforts become ineffective

## CHALLENGES

Stigma

Relegated  
to the  
status of  
“specialist”  
subject

Placed in  
the “too  
hard”  
basket

Resulting in the learning operating outside of integrated  
approach in schools

## NEW PERSPECTIVES

**AUTHENTIC INQUIRY**

**STUDENTS**

Possible  
Probable  
Preferable

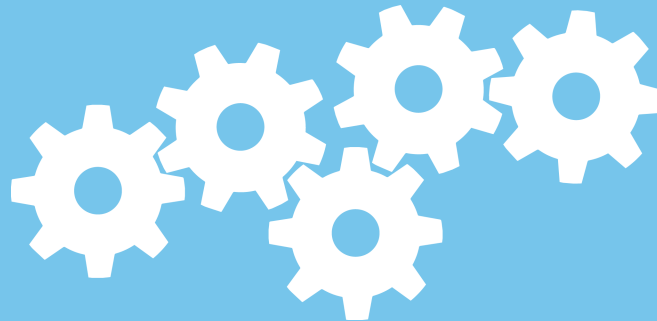
Ownership of Learning

**COLLABORATIVE PROCESS**

**TEACHERS**

Innovate  
Design  
Implement

Shared Learning Outcomes



# BUILDING INTEGRATED UNITS

A “How to” Guide in Collaborative Planning

Provide fertile ground for high-quality learner projects/ inquiries

Help students and teachers make connections across academic disciplines

Link academic and technical content and skills

Foster professional growth by encouraging teachers to go beyond the boundaries of their academic and technical fields

Establish a culture of professional dialogue about student work

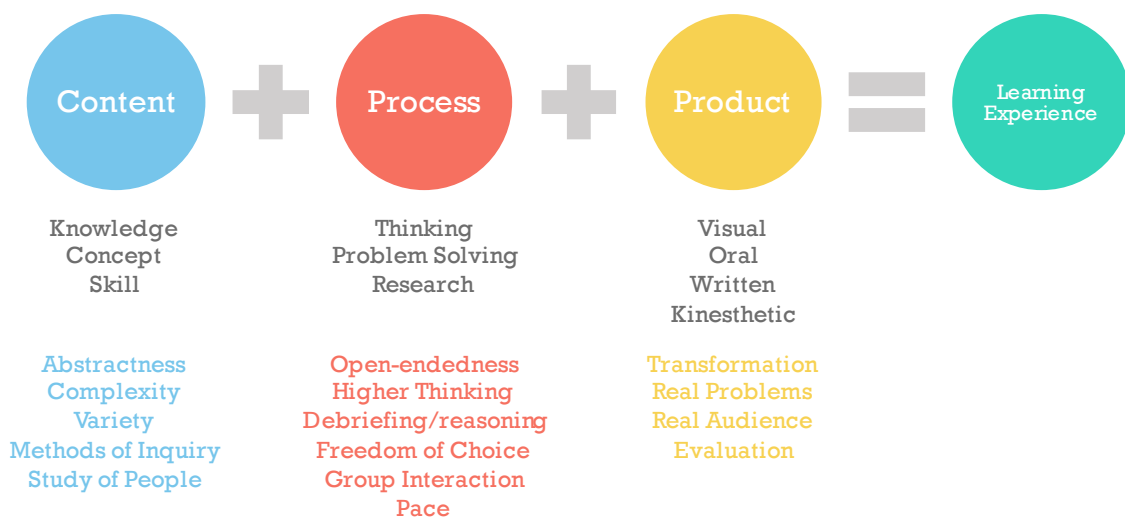
Connect students and their work to the larger community



## WHAT DOES IT TAKE TO BUILD A SUCCESSFUL INTEGRATED UNIT?

- Cooperation and teamwork
- Agreement on shared learning goals
- Risk-taking and flexibility
- Focus on deeper structures and understanding of a “discipline”
- Willingness to forego some specific content goals
- Peer observation and feedback/feed-forward
- Encouragement and student ownership

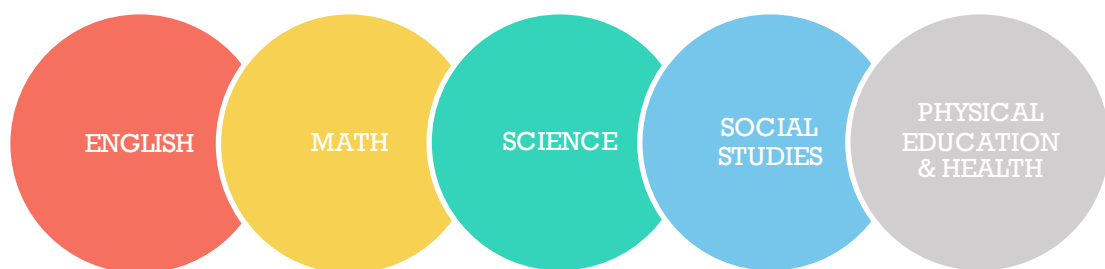
## HOW WE EXTEND



## STEP 1: LEARNING GOALS



## SHARED LEARNING OUTCOMES



Common themes, ideas, competencies and student outcomes are identified, discussed and agreed upon.



# CURRICULUM TRACKING

## PHYSICAL EDUCATION & HEALTH TRACKING SHEET

### Achievement Objectives Level 4

	Who am I?	Problem Solving	Our World	Who are we?	Star gazing	Creativity
<b>Personal Health and Physical Development</b>						
A.1 Students will describe the characteristics of pubertal change and discuss positive adjustment strategies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A.2 Students will demonstrate an increased sense of responsibility for participating in regular, enjoyable physical activity to maintain well-being.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A.3 Students will access and use information in a range of contexts to make and action safe choices in a range of contexts.	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A.4 Students will describe how social messages and stereotypes, including those in the media, can affect feelings of self-worth.	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Movement Competency and Movement Skills</b>						
B.1 Students will demonstrate consistency and control of movement in a range of situations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B.2 Students will demonstrate willingness to accept challenges, learn new skills, and extend their abilities in movement-related activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B.3 Students will experience and demonstrate how science, technology, and the environment influence the selection and use of equipment in a variety of settings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B.4 Students will experience ways in which cultural and social practices are expressed through the ritual of movement, demonstrate understanding of this, and learn skills associated with a range of cultural activities.	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Interconnectedness of Knowledge</b>						
C.1 Students will identify the effects of changing situations, roles, and responsibilities on relationships and describe appropriate responses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C.2 Students will recognise instances of discrimination and act responsibly to support their own rights and feelings and those of other people.	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C.3 Students will investigate and demonstrate a range of assertive communication skills and processes that enable them to interact appropriately with other people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Healthy Communities and Environments</b>						
D.1 Students will describe and demonstrate a range of lifestyle factors and media influences that contribute to common health problems across the lifespan of people in New Zealand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D.2 Students will access a range of health care agencies, recreational resources, and sporting resources and evaluate the contribution made by each to the well-being of community members.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D.3/4 Students will specify individual responsibilities and take collective action for the care and safety of other people in their school and in the wider community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## ENGLISH TRACKING SHEET

### Achievement Objectives Level 4

	Who am I?	Problem Solving	Our World	Who are we?	Star gazing	Creativity
<b>Writing</b>						
A.1 Students have produced a piece of formal writing and show ability to work with this structure of writing.	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A.2 Students have produced a piece of creative writing, narrative and/or descriptive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
A.3 Students have produced different forms of creative writing e.g. poetry, song lyrics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
<b>Reading</b>						
B.1 Students have had opportunities to read for pleasure and to build reading mileage.	X	X	X	X	X	X
B.2 Students have read a text as a piece of literature (extended text, short text) and are able to identify and describe the elements of literature.	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
B.3 Students have had opportunities to read a variety of transactional texts and to develop their understanding of the skills required to read these texts. (40%)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
<b>Visual Language</b>						
C.1 Students have viewed a visual text (extended film or short film) as a piece of literature and are able to identify and describe the elements of literature.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C.2 Students have had opportunities to develop their knowledge and understanding of visual and verbal language.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C.3 Students have had the opportunity to create a presentation using visual and verbal language.	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
<b>Oral Language</b>						
D.1 Students have opportunities to develop their knowledge and understanding of the features of oral language.	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D.2 Students have had the opportunity to prepare and present using oral language.	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Mechanics of Language</b>						
E.1 Students have opportunities to develop their knowledge and understanding of grammar, spelling conventions, punctuation.	X	<input type="checkbox"/>	X	<input type="checkbox"/>	X	<input type="checkbox"/>
E.2 Students have opportunities to develop their knowledge and understanding of how language features are used for effect within and across texts.	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Our World: A World Without Borders

Content (Knowledge, Concepts, Skill)	Modifications for Gifted
<p>Students will / have had opportunities to:</p> <ul style="list-style-type: none"> <li>Develop their knowledge and understanding of the features of oral language.</li> <li>Develop their knowledge and understanding of the key social studies concepts (social action, social justice, human rights etc.)</li> <li>Develop their knowledge and understanding of Patterns and relationships (Number and Algebra).</li> <li>Use graphs, tables, and rules to describe linear relationships found in number and spatial patterns (Number and Algebra).</li> <li>Begin to group plants, animals, and other living things into science-based classifications.</li> <li>The structure of matter - Begin to develop an understanding of the particle nature of matter and use this to explain observed changes.</li> <li>Explore, describe, and represent patterns and trends for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat.</li> <li>Investigate the components of the solar system, developing an appreciation of the distances between them.</li> </ul>	<p>Abstractness Complexity Variety Methods of Inquiry Study of People</p>
<p>Process (Thinking, Problem Solving, Research)</p> <p>Students will / have had opportunities to:</p> <ul style="list-style-type: none"> <li>Access and use information in a range of contexts and networks to make and action safe choices in a range of contexts.</li> <li>Research gather, communicate, interpret and evaluate information.</li> <li>Communicate and express their ideas/findings in a range of presentations (including oral, written and visual presentation).</li> <li>Interpret and use scales, timetables, and charts (Geometry and Measurement).</li> <li>Recognise instances of discrimination and act responsibly to support their own rights and feelings and those of other people.</li> <li>Experience ways in which cultural and social practices are expressed through the ritual of movement, demonstrate understanding of this, and learn skills associated with a range of cultural activities</li> <li>Read for pleasure and to build reading mileage.</li> </ul>	<p>Open-endedness Higher Thinking Debriefing/reasoning Freedom of Choice Group Interaction Pace</p>
<p>Product (Visual, Oral, Written, Kinesthetic)</p> <p>Students will / have had the opportunities to:</p> <ul style="list-style-type: none"> <li>Prepare and present (share) using oral language.</li> <li>Develop their knowledge and understanding of grammar, spelling conventions, punctuation.</li> <li>Create and interpret a range of information using Graphs (Line, Pie, Scatter, Bar etc)</li> <li>Describe how social messages and stereotypes, including those in the media, can affect feelings of self-worth</li> <li>Explain how living things are suited to their particular habitat and how they respond to environmental changes, both natural and human induced.</li> </ul>	<p>Transformation Real Problems Real Audience Evaluation</p>

## Sports Media – English and Physical Education & Health

Content (Knowledge, Concepts, Skill)	Modifications for Gifted
<p>Students will / have had opportunities to:</p> <ul style="list-style-type: none"> <li>develop their knowledge and understanding of visual and verbal language</li> <li>describe and demonstrate a range of assertive communication skills and processes that enable them to interact appropriately with other people</li> </ul>	<p>Abstractness Complexity Variety Methods of Inquiry Study of People</p>
Process (Thinking, Problem Solving, Research)	
<p>Students will / have had opportunities to:</p> <ul style="list-style-type: none"> <li>view a visual text (extended film or short film) as a piece of literature and are able to identify and describe the elements of literature.</li> <li>demonstrate willingness to accept challenges, learn new skills, and extend their abilities in movement-related activities</li> <li>investigate and describe lifestyle factors and media influences that contribute to common health problems across the lifespan of people in New Zealand</li> </ul>	<p>Open-endedness Higher Thinking Debriefing/reasoning Freedom of Choice Group Interaction Pace</p>
Product (Visual, Oral, Written, Kinesthetic)	
<p>Students will / have had the opportunities to:</p> <ul style="list-style-type: none"> <li>create a presentation using visual and verbal language</li> <li>demonstrate consistency and control of movement in a range of situations</li> </ul>	<p>Transformation Real Problems Real Audience Evaluation</p>

## Our World: A World Without Borders

Content (Knowledge, Concepts, Skill)	Modifications for Gifted
<p>Students will / have had opportunities to:</p> <ul style="list-style-type: none"> <li>• Develop their knowledge and understanding of the features of oral language.</li> <li>• Develop their knowledge and understanding of the key social studies concepts (social action, social justice, human rights etc.)</li> <li>• Develop their knowledge and understanding of Patterns and relationships (Number and Algebra).</li> <li>• Use graphs, tables, and rules to describe linear relationships found in number and spatial patterns (Number and Algebra).</li> <li>• Begin to group plants, animals, and other living things into science-based classifications.</li> <li>• Explore how the groups of living things we have in the world have changed over long periods of time and appreciate that some living things in New Zealand are quite different from living things in other areas of the world.</li> <li>• Explore, describe, and represent patterns and trends for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat.</li> <li>• Investigate the components of the solar system, developing an appreciation of the distances between them.</li> </ul>	<p>Abstractness Complexity Variety Methods of Inquiry Study of People</p>
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Product (Visual, Oral, Written, Kinesthetic)	
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## STEP 2: GENERATIVE THEMES

Brainstorm  
Themes /  
Subthemes



Establish  
Essential  
Questions



Backwards  
Planning:  
Set Goals  
and  
Objectives

## STEP 3: ACTIVITIES, DIAGRAM AND TIMELINE

Generate  
Integrated  
Inquiry/  
Projects



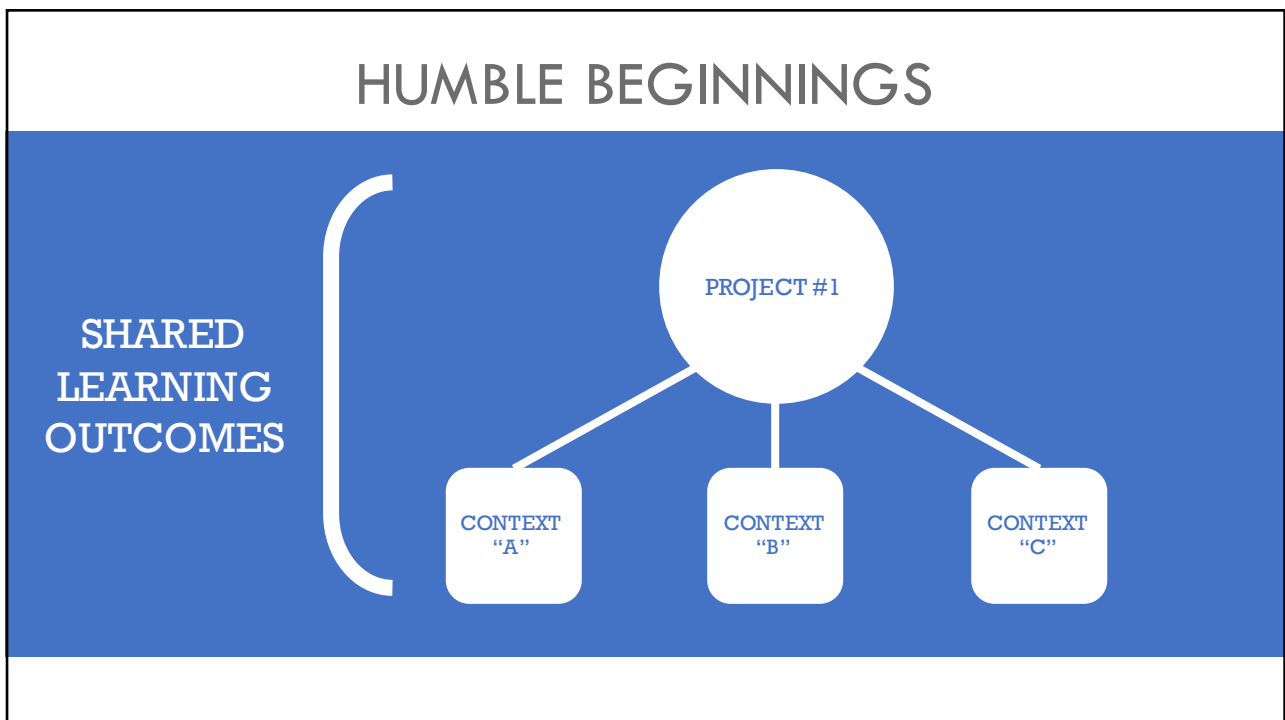
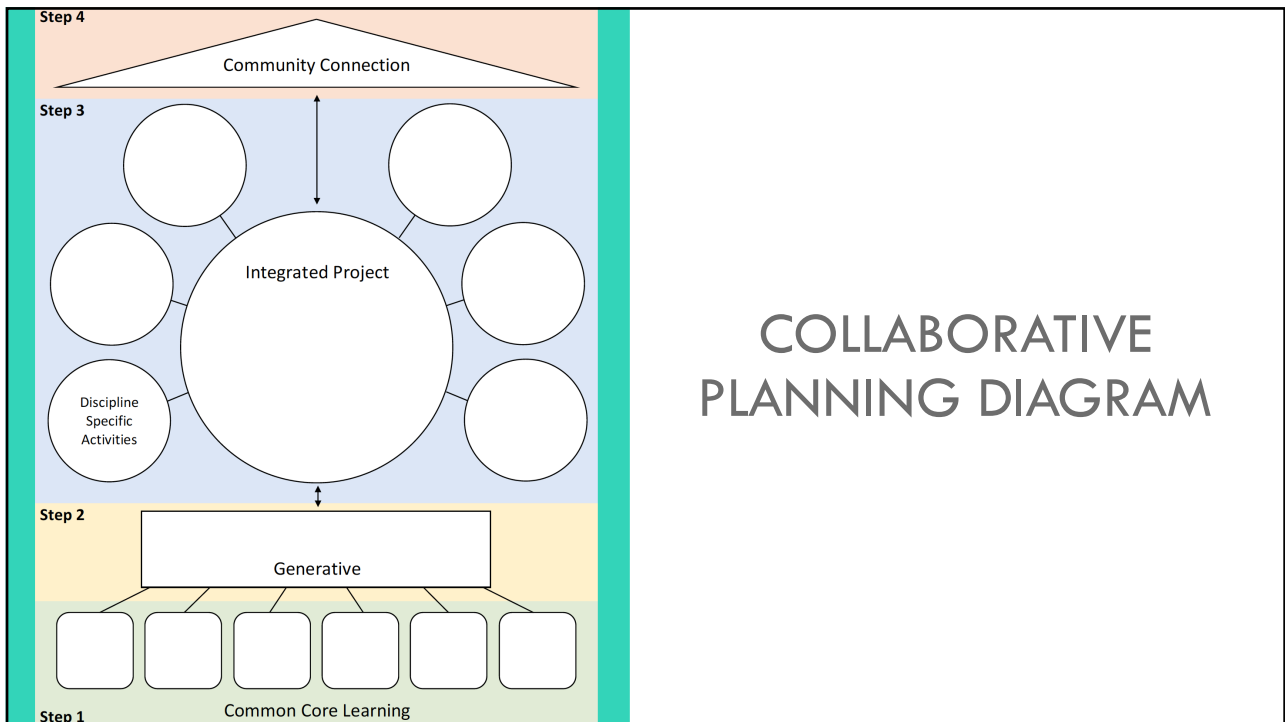
Generate  
Discipline  
Specific  
Activities



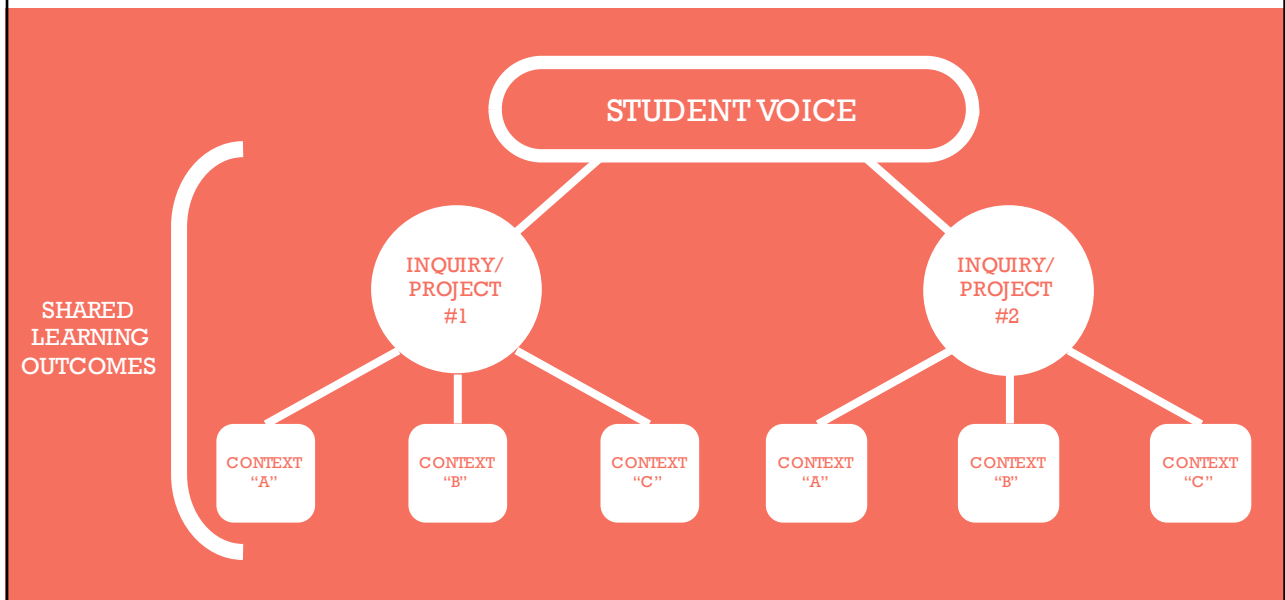
Create a  
Diagram



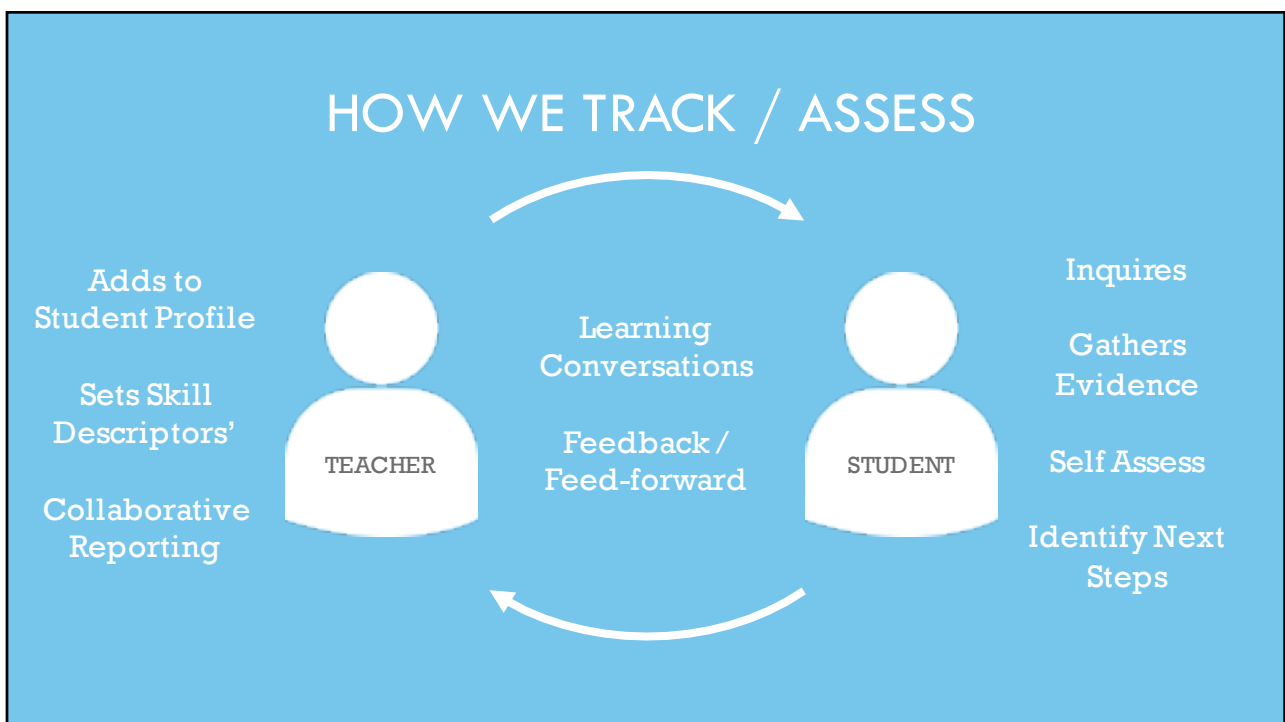
Make a  
Timeline



## LOFTY GOALS



## HOW WE TRACK / ASSESS



# Designing an Integrated Unit

# What is an Integrated Unit?

True integration cuts across subject-matter lines to focus upon comprehensive life problems or broad based areas of study that brings together the various segments of the curriculum into meaningful association in an effort to prepare children for lifelong learning.

**Integrated units** bring together academic and/or technical subject areas around a common theme.

Integrated Units:

- Provide fertile ground for high-quality student projects
- Help students and teachers make connections across academic disciplines
- Link academic and technical content and skills
- Foster professional growth by encouraging teachers to go beyond the boundaries of their academic and technical fields
- Establish a culture of professional dialogue about student work
- Connect students and their work to the larger community

What does it take to build a successful integrated unit?

- Cooperation and teamwork
- Agreement on core learning goals
- Risk-taking and flexibility
- Focus on deeper structures and understanding of a “discipline”
- Willingness to forego some specific content goals
- Peer observation and feedback/feed-forward
- Encouragement and student ownership



# Designing an Integrated Unit

## STEP 1: LEARNING GOALS

### i. Identify Learning Goals

- List 5-15 learning goals, concepts, objectives, competencies, or outcomes for your particular discipline (Learning Area)

### ii. Create Learning Goals Maps

- Draw two column grid on a piece of paper. Enter each course or discipline in the left column and the corresponding learning goals in the right column.

### iii. Share Learning Goals

- Each teacher explains his/her learning goals
- Identify common themes, ideas, competencies and student outcomes
- Allow for questions, clarification and general discussion
- Clarify common learning goals

# Designing an Integrated Unit

## STEP 2: GENERATIVE THEME

### WHAT IS A GENERATIVE THEME?

Are the focal points of the integrated unit?

Cut across disciplines

Lend themselves to student investigation (inquiry) and projects

Link with student interests

Link with community needs and issues

### SAMPLE GENERATIVE THEMES

The Environment: Love it or lose it?

Day of the Dead: Cultural perspectives on death and dying

What Counts: What do we measure and how do we measure it?

The Two Edge Sword of Technology

Immigration and Assimilation: What does it mean to be a Kiwi?

Building Bridges: Connecting history, culture and time.

Nutrition and Health: What's good to eat?

#### i. Brainstorm and Agree on a Generative Theme and Sub-themes

- Brainstorm until you arrive at a generative theme that can accommodate the learning goals of the school and can be addressed through various disciplinary lenses.
- Brainstorm sub-themes that “unpack” the generative theme.

#### ii. Establish “Essential Questions”

- Identify four to six “big questions” that relate to the generative theme, across core learning goals and may engage student interest.

#### iii. Planning Backward: Set Goals and Objectives

- a) Review Essential Questions
- b) Develop a list of possible integrated unit outcomes, using questions below as a guide.
- c) At the completion of the integrated unit:
  - o At the completion of the integrated unit:
    - o What do you want students to understand?
    - o What do you want students to be able to do?
    - o What resources will the students have used?
    - o In what ways will you have fostered student ownership?
    - o What interdisciplinary connections will you have made?
    - o What connections will students have made with the community?
    - o How will students demonstrate their learning?

# Designing an Integrated Unit

## STEP 3: ACTIVITIES AND TIMELINE

### i. Generate Integrated Projects

- a) Working individually and as a team, review:
  - Learning Goals
  - Generative Theme
  - Essential Questions
- b) Generate Integrated Projects for students that address these goals and questions.
- c) Identify possible initiating, mid-point and culminating activities.

### ii. Generate Discipline-Specific Activities

- a. Think of activities and projects for your classroom that relate to your theme and the integrated projects.
- b. Share those proposed activities with your theme
- c. Brainstorm Projects that link two or more disciplines.

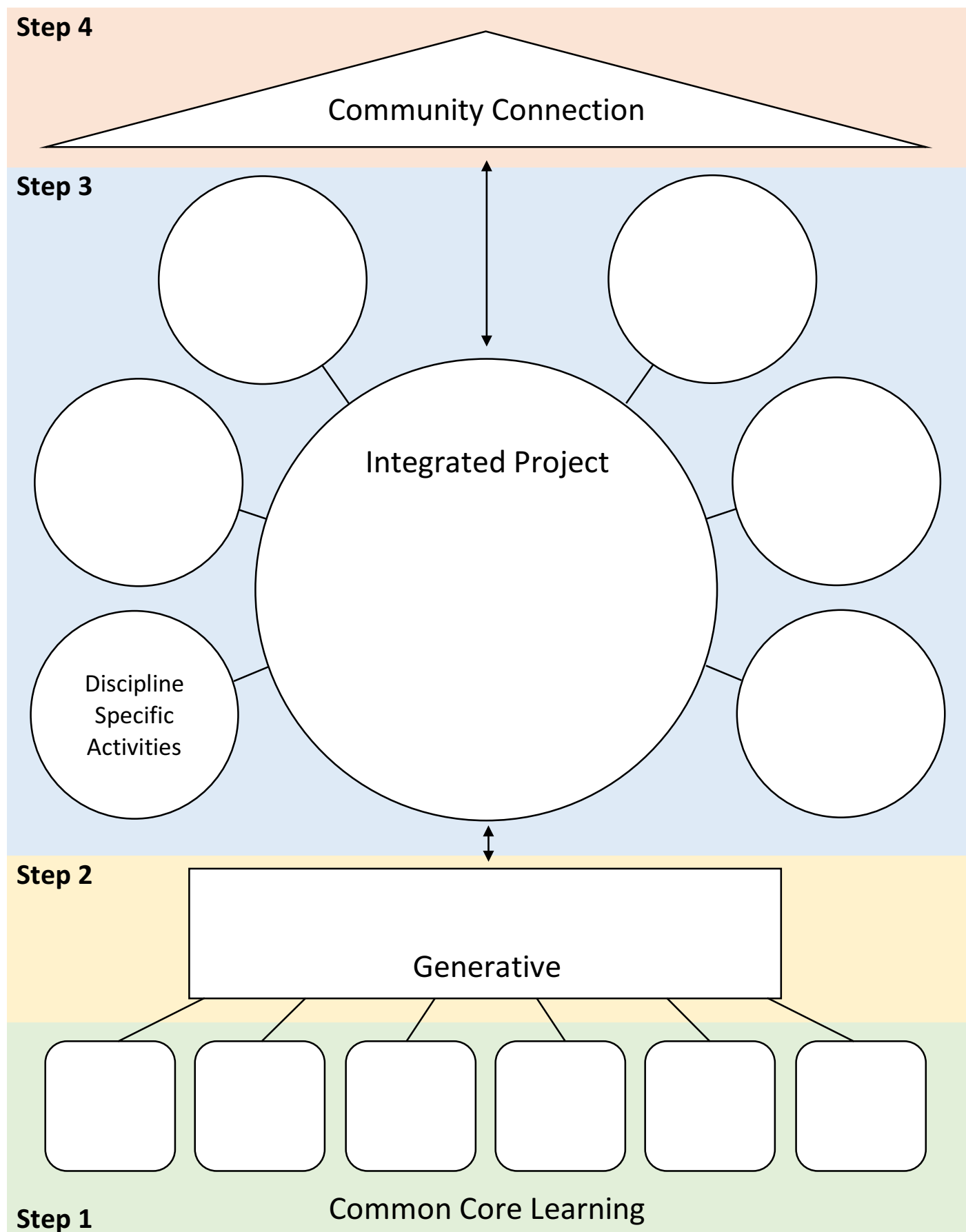
### iii. Create a diagram

- a. Use Resource to insert your essential questions, core learning goals and skills discipline-specific activities into the diagram, drawing connections where appropriate.
- b. Refer to your diagram to generate new connections and projects.
- c. Further develop the initiating, mid-point and culminating activities.
- d. Reflect on your generative theme:
  - i. Is it focused enough? Is it too focused?
  - ii. Will students find it meaningful and accessible?
  - iii. Is there room for student input?
  - iv. How will it accommodate various content standards?
  - v. Do students have opportunity to present their project to a wider audience?

### iv. Make a Timeline

- a. Decide on the final activities
- b. Co-ordinate times and dates for activities
- c. Determine preparation time for mid-point and culminating activities.

## Resource A



# Sample Generative Theme and Sub-themes

Generative Theme	<ul style="list-style-type: none"> <li>The Environment: Love it or lose it?</li> </ul>
Generative Sub-themes	<ul style="list-style-type: none"> <li>Global warming: rumour or reality</li> <li>The Environment and Developing Countries: Whose standards count?</li> <li>The Global Economy and the environment</li> <li>Pollution Prevention</li> <li>The Environment: Teaching the Next Generation</li> </ul>
Essential Questions	<ol style="list-style-type: none"> <li>How can we preserve the environment for future generations?</li> <li>What is the overall impact of technological and economic progress on the environment?</li> <li>What are our priorities and who is responsible for the environment?</li> <li>Economic progress and environmental preservation: can they co-exist?</li> </ol>
Sample Backward Planning	<ul style="list-style-type: none"> <li>At the completion of the integrated unit what do you want students to understand? <ul style="list-style-type: none"> <li>Individuals and groups share responsibility for the environment</li> <li>Views of the environment are linked to culture, time and place</li> <li>Everything we do affects the environment. For good or bad.</li> <li>Every solution generates new problems and opportunities</li> <li>There are human costs ignoring the environment</li> <li>We have the power to effect change</li> </ul> </li> </ul>
What do you want students to be able to do?	<ol style="list-style-type: none"> <li>Demonstrate good habits with respect to environment (eg recycle as appropriate, be mindful of waste, exhaust etc) (Ethics and Responsibility)</li> <li>Explain the theory of global warming (Communication)</li> <li>Help develop, analyze, or evaluate “environmentally friendly” products (Art &amp; Design)</li> <li>Know and interact with environmental agencies (Collaboration)</li> <li>Explain how humans and their innovations impact their environment</li> <li>Recognize various cultural perspectives toward the environment</li> <li>Be aware of careers in environmental fields</li> <li>Prepare presentations of their thinking and work (Collaboration, Technology)</li> </ol>

# Sample Integrated Projects

Generative Theme	<ul style="list-style-type: none"><li>• The Environment: Love it or lose it?</li></ul>
Integrated Projects	<ul style="list-style-type: none"><li>• Hold an environmental fair with presentations and visual displays</li><li>• Create a website that focuses on environmental issues</li><li>• Hold an “Earth Day” event: developing songs, dances, plays and games that celebrate the beauty of the earth and raises awareness</li><li>• Run a recycling campaign in the school or community</li><li>• Organize a whole school activity where students and teachers “live naturally” i.e. refrain from the use of technology for a day</li><li>• Write and produce an original drama that predicts Earth’s environment in the year 3000 from two perspectives:<ul style="list-style-type: none"><li>a. If we do not change our actions</li><li>b. If we implement environmental controls</li></ul></li><li>• Analyze the impact of technologies on the local environment</li><li>• Plan and paint a mural about the environment</li></ul>

# Building Integrated Units: Checklist

STEP 1	LEARNING GOALS	DESCRIPTIONS	EXAMPLES
<input type="checkbox"/>	1. Identify Learning Goals	<ul style="list-style-type: none"> <li>List 5-15 learning goals, concepts, objectives, competencies, or outcomes for your particular discipline (Learning Area)</li> </ul>	
<input type="checkbox"/>	2. Create Learning Goals Maps	<ul style="list-style-type: none"> <li>Draw two column grid on a piece of paper. Enter each course or discipline in the left column and the corresponding learning goals in the right column.</li> </ul>	
<input type="checkbox"/>	3. Share Learning Goals	<ul style="list-style-type: none"> <li>Each teacher explains his/her learning goals</li> <li>Identify common themes, ideas, competencies and student outcomes</li> <li>Allow for questions, clarification and general discussion</li> <li>Clarify common learning goals</li> </ul>	
STEP 2	GENERATIVE THEME	DESCRIPTIONS	EXAMPLES
<input type="checkbox"/>	1. Brainstorm and Agree on a Generative Theme and Sub-themes	a) Brainstorm until you arrive at a generative theme that can accommodate the learning goals of the school and can be addressed through various disciplinary lenses.  b) Brainstorm sub-themes that “unpack” the generative theme.	<ul style="list-style-type: none"> <li>The Environment: Love it or lose it?</li> <li>Global warming: rumour or reality</li> <li>The Environment and Developing Countries: Whose standards count?</li> <li>The Global Economy and the environment</li> <li>Pollution Prevention</li> <li>The Environment: Teaching the Next Generation</li> </ul>
<input type="checkbox"/>	2. Establish “Essential Questions”	<ul style="list-style-type: none"> <li>Identify four to six “big questions” that relate to the generative theme, across core learning goals and may engage student interest.</li> </ul>	<ul style="list-style-type: none"> <li>How can we preserve the environment for future generations?</li> <li>What is the overall impact of technological and economic progress on the environment?</li> <li>What are our priorities and who is responsible for the environment?</li> <li>Economic progress and environmental preservation: can they co-exist?</li> </ul>
<input type="checkbox"/>	3. Planning Backward: Set Goals and Objectives	a) Review Essential Questions  b) Develop a list of possible integrated unit outcomes, using questions below as a guide.  c) At the completion of the integrated unit: <ul style="list-style-type: none"> <li>What do you want students to understand?</li> <li>What do you want students to be able to do?</li> <li>What resources will the students have used?</li> <li>In what ways will you have fostered student ownership?</li> <li>What interdisciplinary connections will you have made?</li> <li>What connections will students have made with the community?</li> <li>How will students demonstrate their learning?</li> </ul>	<ul style="list-style-type: none"> <li>At the completion of the integrated unit what do you want students to understand?               <ul style="list-style-type: none"> <li>Individuals and groups share responsibility for the environment</li> <li>Views of the environment are linked to culture, time and place</li> <li>Everything we do affects the environment. For good or bad.</li> <li>Every solution generates new problems and opportunities</li> <li>There are human costs ignoring the environment</li> <li>We have the power to effect change</li> </ul> </li> <li>What do you want students to be able to do?               <ul style="list-style-type: none"> <li>Demonstrate good habits with respect to environment (eg recycle as appropriate, be mindful of waste, exhaust etc) (Ethics and Responsibility)</li> <li>Explain the theory of global warming (Communication)</li> <li>Help develop, analyze, or evaluate “environmentally friendly” products (Art &amp; Design)</li> </ul> </li> </ul>

			<ul style="list-style-type: none"> <li>○ Know and interact with environmental agencies (Collaboration)</li> <li>○ Explain how humans and their innovations impact their environment</li> <li>○ Recognize various cultural perspectives toward the environment</li> <li>○ Be aware of careers in environmental fields</li> <li>○ Prepare presentations of their thinking and work (Collaboration, Technology)</li> </ul>
STEP 3	ACTIVITIES AND TIMELINE	DESCRIPTIONS	EXAMPLES
<input type="checkbox"/>	1. Generate Integrated Projects	<p>a) Working individually and as a team, review:</p> <ul style="list-style-type: none"> <li>• Learning Goals</li> <li>• Generative Theme</li> <li>• Essential Questions</li> </ul> <p>b) Generate Integrated Projects for students that address these goals and questions.</p> <p>c) Identify possible initiating, mid-point and culminating activities.</p>	<ul style="list-style-type: none"> <li>• Hold an environmental fair with presentations and visual displays</li> <li>• Create a website that focuses on environmental issues</li> <li>• Hold an “Earth Day” event: developing songs, dances, plays and games that celebrate the beauty of the earth and raises awareness</li> <li>• Run a recycling campaign in the school or community</li> <li>• Organize a whole school activity where students and teachers “live naturally” i.e. refrain from the use of technology for a day</li> <li>• Write and produce an original drama that predicts Earth’s environment in the year 3000 from two perspectives: <ul style="list-style-type: none"> <li>a. If we do not change our actions</li> <li>b. If we implement environmental controls</li> </ul> </li> <li>• Analyze the impact of technologies on the local environment</li> <li>• Plan and paint a mural about the environment</li> </ul>
<input type="checkbox"/>	2. Generate Discipline-Specific Activities	<p>a) Think of activities and projects for your classroom that relate to your theme and the integrated projects.</p> <p>b) Share those proposed activities with your theme</p> <p>c) Brainstorm Projects that link two or more disciplines.</p>	
<input type="checkbox"/>	3. Create a diagram	<p>a) Use Resource to insert your essential questions, core learning goals and skills discipline-specific activities into the diagram, drawing connections where appropriate.</p> <p>b) Refer to your diagram to generate new connections and projects.</p> <p>c) Further develop the initiating, mid-point and culminating activities.</p> <p>d) Reflect on your generative theme:</p> <ol style="list-style-type: none"> <li>Is it focused enough? Is it too focused?</li> <li>Will students find it meaningful and accessible?</li> <li>Is there room for student input?</li> <li>How will it accommodate various content standards?</li> <li>Do students have opportunity to present their project to a wider audience?</li> </ol>	



<input type="checkbox"/>	4. <a href="#">Make a Timeline</a>	<div>a) Decide on the final activities</div> <div>b) Co-ordinate times and dates for activities</div> <div>c) Determine preparation time for mid-point and culminating activities.</div>	
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## REFERENCES & INSPIRATION

**Integration of the Disciplines:  
Ten Methodologies for Integration** Dr. Mark L. Merickel  
Oregon State University

**“Integrated Curriculum: A Research Study”** Kathy Lake

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