ACAP

UNITS OF WORK

Cover illustration for this volume and *Teachers Handbook*:
'Singalong around the Fire Bucket' by Leonie Dennis of Boomalli Artists Co-operative.
Acrylic on canvas, 1999.
Every time family and friends would get together, whether it was for a funeral, birthday, Christmas or just a get-together, everyone would end up sitting around the fire bucket listening to father's or uncle's guitar. Everyone would join in and sing, even the little kids. This was not just my family and my husband's family, but just about all koori families all over.

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Thanks

Acknowledgements

1. INTRODUCTION

Welcome to the Aboriginal Career Aspirations Program (ACAP) Units of Study.

ACAP is a career education initiative undertaken by the NSW Office of the Board of Studies (OBOS) as part of the national Indigenous Education Strategic Initiatives Program (IESIP) and Strategic Results Program (SRP). The project is managed by the Aboriginal Curriculum Unit within the Board.

The Commonwealth Department of Education, Training and Youth Affairs (DETYA) has provided funding for the project, to include development, pilot phase, research and publications.

Other stakeholders and partners include the Aboriginal Education Consultative Group (AECG), NSW Department of Education and Training (DET), Catholic Education Commission, and the Australian Student Traineeship Foundation (ASTF).

Existing initiatives within Indigenous education funded by DETYA include the Aboriginal Tutorial Assistance Scheme (ATAS), Vocational Education Guidance for Aboriginal Students (VEGAS), and Aboriginal Career Aspirations Programs in Queensland and South Australia.

The project aim to cater for the particular needs of Indigenous students. It should be noted, however, that the teaching strategies are applicable to all students and are designed for mainstream classes. ACAP is proposed for implementation in Stages 4–5 (Years 7–10).

Project Development

The project development included the following phases:

- The development of a curriculum document that provides an educational resource across a number of the Key Learning Areas, and encourages both cultural relevance and career education within teaching methodologies and strategies. Although the document is aimed at Indigenous students, the approach includes the delivery of subjects to all students within these contexts and is not a withdrawal project. It includes 11 teaching programs that combine career education outcomes and Aboriginal perspectives. The document is called *Units of Work*.

- The development of a *Teachers Handbook* to be used in the implementation of specific career education programs/activities for Indigenous students. The *Handbook* provides a flexible strategy for the implementation of these initiatives and is tailored to cater for the needs of students in Stages 4 and 5 (Years 7–10).

- The development of *Worksheets* for Indigenous students to use as part of specific career education programs and activities. These link to the activities and outcomes set out in the *Teachers Handbook*.

- The pilot phase consisted of testing the materials developed. This was carried out at 12 NSW schools. Participating schools trialled the program to varying degrees and in different ways. In line with the aim of the development process, the test schools implemented the programs to cater for their students' particular needs and to fit within their school context. Feedback was taken into account in the final development of materials.

- A research project was carried out to evaluate the pilot phase and the associated resource documents. This included pre- and post-questionnaires which were completed by all participating students. Meetings with community and student focus groups were also held in some areas.

- The production phase incorporated modifications emanating from feedback in the pilot study, and from consultation with the stakeholders. The end result is a synthesis of research, development, implementation, writing, editing and design.

ACAP Units of Work

Career Education Context

In 1996 the NSW Office of the Board of Studies released the review document *A Statement of Career Education Outcomes — Years 7–12*. The review identified four main elements, or themes, that should be incorporated into the teaching strategies of Career Education:

- learning about self in relation to work
- learning about the world of work
- learning to make career plans and pathway decisions
- learning the skills required to implement career decisions and manage work/study transitions.

Furthermore, the review went on to note that:

> '… effective Career Education involves a combination of strategies including the integration of aspects of Career Education across the curriculum while maintaining its separate identity ...'

ACAP attempts to provide schools with a context and framework within which these fundamental aspects of career education may be addressed. The project as whole provides specific and targeted career education strategies and activities (see *Teachers Handbook* and *Worksheets*). It also provides resources to facilitate career education within normal classroom activities on a daily basis. The project encompasses the four career education themes identified above, through strategies on a number of fronts. These themes are reiterated throughout the project as the basis of its strategies and methodologies.

Eleven outcomes have been identified as being essential for students in relation to career education:
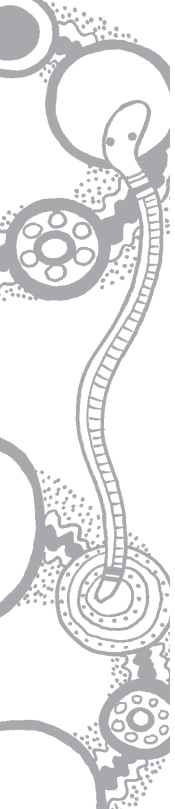
1. Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace.
2. Analyse the key factors influencing the career values, aspirations and achievements of individuals and groups.
3. Analyse the place and meaning of work in the life of individuals and communities.
4. Describe cultural and structural features of the world of work.
5. Describe features of the labour market, including emerging trends and the impact of change.
6. Identify occupational pathways and their related educational, training and skill requirements.
7. Recognise the ongoing nature of career-path planning.
8. Use appropriate strategies for career decision-making and career planning.
9. Locate and use a range of career-planning support materials and services.
10. Demonstrate the job application and interview skills required for entry into employment and post-secondary education and training courses.
11. Discuss the lifestyle changes and personal adjustments involved in the transition from school to post-school employment and further education.

The following matrix correlates these outcomes with the subject areas identified in this resource and the corresponding units of work. The matrix shows that some outcomes are not adequately covered; however, this resource should be only one part of an overall career education plan within the school. The selected outcomes have been chosen to emphasise critical skill areas that can be reinforced over the course of a number of subjects. Schools will be expected to build on career education strategies as they are implemented, using this resource kit to form part of a whole-school approach. In addition, schools are encouraged to include initiatives such as the Aboriginal Career Aspirations Program (as articulated in the *Teachers Handbook*) in any future school strategy.

Map of Stage 4 Career Education Outcomes

Career Education Outcomes and Indicators	Design & Technology	Geography	PDHPE	History	Science	Maths	Music
Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace							
Recognise that individuals have different skills, abilities and talents	✔	✔	✔	✔	✔	✔	✔
Identify social and interpersonal skills needed to work cooperatively in a variety of work situations, paid and unpaid	✔	✔	✔	✔	✔	✔	✔
Relate their own interests and values to different work tasks and occupations	✔	✔			✔	✔	✔
Describe personal strengths and weaknesses as they relate to career choice							✔
Identify career choices that suit their interests and personal characteristics		✔			✔	✔	✔
Assess their own physical attributes relative to specific work requirements	✔	✔			✔	✔	
Recognise that interests, values and skills related to work roles vary with age, experience and changing circumstances			✔	✔			✔
Analyse the key factors influencing the career values, aspirations and achievements of individuals and groups							
Describe how the ways people are stereotyped can damage their chances of finding paid work, their job satisfaction and advancement, and their effectiveness at work	✔			✔			✔
Discuss factors that influence an individual's choice of an occupation	✔	✔	✔	✔	✔	✔	✔
Investigate the ways in which factors such as gender, disability, race and non-English-speaking background influence access to employment or career advancement	✔	✔	✔	✔			✔
Describe how gender, race and socioeconomic status may influence an individual's career aspirations	✔	✔	✔	✔		✔	✔

LEARNING ABOUT SELF IN RELATION TO WORK

Career Education Outcomes and Indicators	Design & Technology	Geography	PDHPE	History	Science	Maths	Music
Analyse the place and meaning of work in the life of individuals and communities							
Categorise some different forms of work (self-employment, parenting and part-time, full-time, volunteer, and household work)				✔		✔	
Identify contributions made by people doing different forms of work in the community and say why they are valued		✔	✔	✔	✔	✔	✔
Describe some of the benefits that individuals and the community derive from paid and unpaid work		✔	✔	✔			
Show how their work at home and at school affects themselves and others	✔	✔	✔				✔
Demonstrate an appreciation of the role of work (paid and unpaid) in an individual's life	✔	✔	✔	✔		✔	✔
Describe cultural and structural features of the world of work							
Describe the structure of workplace sectors using a system of classification such as primary, secondary, tertiary							
Investigate and report on how different cultures organise work	✔	✔		✔			
Describe the work of organisations concerned with work conditions (union, training/support groups, employer organisations)	✔		✔				
Explain how wages and working conditions are influenced by the actions of employees, employers, unions, employer groups and governments	✔		✔				
Identify and analyse a range of workplace issues and how they can influence productivity and work conditions (child care, sex-based harassment, redundancy)	✔	✔	✔	✔			
Identify factors that enhance work outcomes (rewards, satisfaction, security, safety measures)		✔	✔	✔			✔
Investigate and report on laws that promote non-discriminatory practices in school and community workplaces (equal opportunity and anti-racism legislation)	✔	✔	✔	✔			
Describe practices that promote work safety including home and community settings	✔		✔		✔		
Explain the roles and responsibilities of employers and employees			✔				
Recognise that there is a place in the world of work for people with different skills, abilities and talents	✔	✔	✔	✔	✔		✔
Identify factors that enhance or impede work outcomes for the individual and organisation			✔	✔			

LEARNING ABOUT THE WORLD OF WORK

Career Education Outcomes and Indicators	Design & Technology	Geography	PDHPE	History	Science	Maths	Music
Describe features of the labour market including emerging trends and the impact of change							
Investigate whether values associated with different forms of work have changed over time		✔	✔	✔			
Describe how factors of location, cycle and season affect work opportunities and estimate their possible impact on career plans			✔	✔	✔		
Identify the effect of structural factors on work prospects (business reorganisation, workplace reform, technological change)	✔						
Explain the high participation rates of one gender or of a particular cultural group in some occupational paths	✔		✔				✔
Identify present and future features of the Australian and global economy that might affect opportunities for paid work		✔					
Compare past and present trends in the nature and composition of the labour market		✔				✔	
Investigate and discuss the impact of technology on the nature of work in a range of occupations	✔	✔		✔	✔	✔	✔
Describe the role of governments, unions and employer groups in influencing and responding to workplace changes		✔	✔				
Identify occupational pathways and their related educational, training and skill requirements							
Identify skills and understanding that may be transferred from one form of work to another	✔		✔	✔		✔	✔
Describe relationships between education, training, skills and experience, and work opportunities			✔		✔	✔	✔
Analyse workplace practices in an occupational field and predict future changes		✔			✔		✔
Identify government and other initiatives to increase participation in education and training for disadvantaged groups		✔		✔			
Identify school courses and further study options associated with different occupational pathways					✔		✔
Investigate and report on different occupational pathways and their educational and training requirements					✔	✔	
Describe the components of post-secondary education and training, the articulation of levels of awards and qualifications, credit transfers and the range of providers							
Describe employer expectations of entry-level employees							
Describe selected occupations in terms of the tasks performed, entry and training requirements and appropriate personal characteristics					✔	✔	

LEARNING ABOUT THE WORLD OF WORK

Career Education Outcomes and Indicators	Design & Technology	Geography	PDHPE	History	Science	Maths	Music
Recognise the ongoing nature of career-path planning							
Describe key decisions in the career pathways of different people	✔	✔					✔
Identify different needs and priorities that emerge throughout the lifespan			✔	✔	✔	✔	
Explain why individuals need to review career plans to respond to changes in work	✔		✔	✔	✔		
Demonstrate flexibility in generating personal career action plans to provide for a range of contingencies							✔
Use appropriate strategies for career decision making and career planning							
Describe and assess different methods of making career decisions	✔						✔
Describe the key influences on decisions made in work situations in the home and at school			✔	✔			✔
Explain the steps used in decision-making		✔					✔
Describe school options and work options and the rationale for making personal choices			✔				✔
Use a range of appropriate resources in clarifying work and career goals							
Develop action plans for achieving education, training and work-related goals and evaluate the consequences of such action				✔			✔
Use their knowledge of occupational pathways and their education and training requirements to develop possible career plans					✔		
Locate and use a range of career planning support materials and services							
Describe the role and functions of career advising services (eg school careers advisor, Centrelink, vocational services, course information officers)							
Use a range of occupational and course information resources to investigate future career, post-secondary education and training options					✔		
Evaluate occupational information and careers advice in terms of objectivity, accuracy and relevance							

LEARNING TO MAKE CAREER PLANS AND PATHWAY DECISIONS

Career Education Outcomes and Indicators	Design & Technology	Geography	PDHPE	History	Science	Maths	Music
Demonstrate the application and interview skills required for entry into employment and post-secondary education and training courses							
Estimate and compare the level of competition for entry to courses, and describe entry requirements and selection criteria for different post-secondary education and training courses							
Recognise the importance of personal presentation in the workplace					✔		✔
Describe methods of locating job vacancies (eg newspapers, employment agencies, personal contacts, cold canvassing)							
Provide evidence of progressive implementation procedures for personal career or study plans							
Accurately complete sample job and course application forms							
Prepare a resumé for a specific job advertisement							
Format a job application letter in response to an advertised work experience position							
Present a personal portfolio containing, for example, school reports, references, certificates							
Identify and meet requirements and closing dates for relevant job and course applications							
Describe the types of questions that may be asked in an interview							
Explain personal strengths or suitability for a particular job in a simulated interview situation							
Establish telephone contact with a potential employer to arrange a personal visit or interview							
Describe the appropriate follow-up techniques to use after an interview							

LEARNING THE SKILLS REQUIRED TO IMPLEMENT CAREER DECISIONS AND MANAGE TRANSITIONS

Career Education Outcomes and Indicators	Design & Technology	Geography	PDHPE,	History	Science	Maths	Music
LEARNING THE SKILLS REQUIRED TO IMPLEMENT CAREER DECISIONS AND MANAGE TRANSITIONS							
Discuss the lifestyle changes and personal adjustments involved in the transition from school to post-school employment and further education							
Identify time management and goal setting strategies in work and study situations	✔			✔	✔		✔
Describe how they would plan and manage post-school transitions (school–work, school–TAFE, school–university, country–city)							
Describe and analyse the emotional stages individuals go through during transitions that are both planned and unplanned			✔	✔			
Apply strategies to ensure that personal work opportunities are not limited by the effects of stereotyping			✔				
Identify and use coping skills to manage transitions including unemployment			✔				
Describe support services and strategies to use in adjusting to a new workplace							

Map of Stage 5 Career Education Outcomes

Career Education Outcomes and Indicators	Maths	Music	English	Visual Arts
Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace				
Recognise that individuals have different skills, abilities and talents	✔	✔	✔	✔
Identify social and interpersonal skills needed to work cooperatively in a variety of work situations, paid and unpaid	✔	✔	✔	✔
Relate their own interests and values to different work tasks and occupations		✔	✔	✔
Describe personal strengths and weaknesses as they relate to career choice		✔	✔	
Identify career choices that suit their interests and personal characteristics		✔		✔
Assess their own physical attributes relative to specific work requirements	✔		✔	
Recognise that interests, values and skills related to work roles vary with age, experience and changing circumstances		✔		✔
Analyse the key factors influencing the career values, aspirations and achievements of individuals and groups				
Describe how the ways people are stereotyped can damage their chances of finding paid work, their job satisfaction and advancement, and their effectiveness at work				
Discuss factors that influence an individual's choice of occupation		✔	✔	✔
Investigate the ways in which factors such as gender, disability, race and non-English speaking background influence access to employment or career advancement				
Describe how gender, race and socioeconomic status may influence an individual's career aspirations		✔		✔

LEARNING ABOUT SELF IN RELATION TO WORK

Career Education Outcomes and Indicators	Maths	Music	English	Visual Arts
Analyse the place and meaning of work in the life of individuals and communities				
Categorise some different forms of work (self-employment, parenting and part-time, full-time, volunteer, and household work)				✔
Identify contributions made by people doing different forms of work in the community and say why they are valued		✔	✔	✔
Describe some of the benefits that individuals and the community derive from paid and unpaid work				
Show how their work at home and at school affects themselves and others		✔	✔	
Demonstrate an appreciation of the role of work (paid and unpaid) in an individual's life		✔	✔	✔
Describe cultural and structural features of the world of work				
Describe the structure of workplace sectors using a system of classification such as primary, secondary, tertiary				
Investigate and report on how different cultures organise work				
Describe the work of organisations concerned with work conditions (union, training/support groups, employer organisations)				
Explain how wages and working conditions are influenced by the actions of employees, employers, unions, employer groups and governments				
Identify and analyse a range of workplace issues and how they can influence productivity and work conditions (child care, sex-based harassment, redundancy)				
Identify factors that enhance work outcomes (rewards, satisfaction, security, safety measures)		✔		✔
Investigate and report on laws that promote non-discriminatory practices in school and community workplaces (equal opportunity and anti-racism legislation)				
Describe practices that promote work safety, including home and community settings				

LEARNING ABOUT THE WORLD OF WORK

Career Education Outcomes and Indicators	Maths	Music	English	Visual Arts
Describe cultural and structural features of the world of work				
Explain the roles and responsibilities of employers and employees				
Recognise that there is a place in the world of work for people with different skills, abilities and talents	✔	✔		✔
Identify factors that enhance or impede work outcomes for the individual and organisation				✔
Describe features of the labour market including emerging trends and the impact of change				
Investigate if values associated with different forms of work have changed over time				✔
Describe how factors of location, cycle and season affect work opportunities and estimate their possible impact on career plans	✔			
Identify the effect of structural factors on work prospects (business reorganisation, workplace reform, technological change)				
Explain the high participation rates of one gender or of a particular cultural group in some occupational paths				✔
Identify present and future features of the Australian and global economy that might affect opportunities for paid work				
Compare past and present trends in the nature and composition of the labour market				
Investigate and discuss the impact of technology on the nature of work in a range of occupations		✔		✔
Describe the role of governments, unions and employer groups in influencing and responding to workplace changes				

LEARNING ABOUT THE WORLD OF WORK

ACAP Units of Work

Career Education Outcomes and Indicators	Maths	Music	English	Visual Arts
Identify occupational pathways and their related educational, training and skill requirements				
Identify skills and understanding that may be transferred from one form of work to another	✔	✔	✔	✔
Describe relationships between education, training, skills and experience and work opportunities		✔	✔	✔
Analyse workplace practices in an occupational field, and predict future changes		✔		✔
Identify government and other initiatives to increase participation in education and training for disadvantaged groups				
Identify school courses and further study options associated with different occupational pathways		✔		✔
Investigate and report on different occupational pathways and their educational and training requirements				✔
Describe the components of post-secondary education and training, the articulation of levels of awards and qualifications, credit transfers and the range of providers				
Describe employer expectations of entry-level employees				
Describe selected occupations in terms of the tasks performed, entry and training requirements, and appropriate personal characteristics			✔	✔
Recognise the ongoing nature of career-path planning				
Describe key decisions in the career pathways of different people		✔		✔
Identify different needs and priorities that emerge throughout the lifespan				✔
Explain why individuals need to review career plans to respond to changes in work				✔
Demonstrate flexibility in generating personal career action plans to provide for a range of contingencies		✔		✔

LEARNING ABOUT THE WORLD OF WORK (rows in first section)

LEARNING TO MAKE CAREER PLANS (rows in second section)

Career Education Outcomes and Indicators	Maths	Music	English	Visual Arts
Use appropriate strategies for career decision making and career planning				
Describe and assess different methods of making career decisions		✔		✔
Describe the key influences on decisions made in work situations in the home and at school		✔		✔
Explain the steps used in decision-making				
Describe school and other work options and the rationale for making personal choices	✔	✔		
Use a range of appropriate resources in clarifying work and career goals				✔
Develop action plans for achieving education, training and work-related goals, and evaluate the consequences of such action	✔	✔	✔	
Use their knowledge of occupational pathways and their education and training requirements to develop possible career plans				✔
Locate and use a range of career planning support materials and services				
Describe the role and functions of career advising services (eg school careers advisor, Centrelink, vocational services, course information officers)				
Use a range of occupational and course information resources to investigate future career, post-secondary education and training options				✔
Evaluate occupational information and careers advice in terms of objectivity, accuracy and relevance				

LEARNING TO MAKE CAREER PLANS AND PATHWAY DECISIONS

Career Education Outcomes and Indicators	Maths	Music	English	Visual Arts
LEARNING THE SKILLS REQUIRED TO IMPLEMENT CAREER DECISIONS AND MANAGE WORK/STUDY TRANSITIONS				
Demonstrate the application and interview skills required for entry into employment, post-secondary education and training courses				
Estimate and compare the level of competition for entry to courses, and describe entry requirements and selection criteria for different post-secondary education and training courses				
Recognise the importance of personal presentation in the workplace		✔		
Describe methods of locating job vacancies, eg newspapers, employment agencies, personal contacts, cold canvassing				
Provide evidence of progressive implementation procedures for personal career or study plans	✔		✔	
Accurately complete sample job and course application forms			✔	
Prepare a resumé for a specific job advertisement			✔	
Format a job application letter in response to an advertised work experience position	✔	✔	✔	
Present a personal portfolio containing, for example, school reports, references, certificates			✔	
Identify and meet requirements and closing dates for relevant job and course applications				
Describe the types of questions that may be asked in an interview			✔	
Explain personal strengths or suitability for a particular job in a simulated interview situation				
Establish telephone contact with a potential employer to arrange a personal visit or interview				
Describe the appropriate follow-up techniques to use after an interview				
LEARNING THE SKILLS REQUIRED TO IMPLEMENT CAREER DECISIONS AND MANAGE TRANSITIONS				
Discuss the lifestyle changes and personal adjustments involved in the transition from school to post-school employment and further education				
Identify use of time management and goal-setting strategies in work and study situations	✔	✔	✔	✔
Describe planning and management of post-school transitions (school–work, school–TAFE, school–university, country–city)				
Describe and analyse the emotional stages, both planned and unplanned, that individuals go through during transitions				✔
Apply strategies to ensure that personal work opportunities are not limited by the effects of stereotyping				
Identify and use coping skills to manage transitions including unemployment				
Describe support services and strategies to be used in adjusting to a new workplace				

2. IMPLEMENTING ACAP UNITS OF WORK

An Overview

The materials contained in this document have been prepared with the following in mind.

1. In all units the integrity of the syllabus has been maintained. The syllabus references and outcomes are all clearly identified and appropriate teaching strategies are provided to meet these objectives and outcomes.

2. The document provides a means by which career education can be delivered in a mainstream classroom context. Each unit demonstrates the career education outcomes that may be achieved through the teaching strategies outlined in the unit.

3. The units of work are examples of an inclusive curriculum that embeds Aboriginal perspectives. Each unit addresses this concept differently; however, they all recognise that the inclusion of Aboriginal perspectives across the curriculum must involve consultation with, and the participation of, Indigenous people. This must be the starting point for any meaningful approach to the integration of Aboriginal perspectives. Including parents, Aboriginal school staff and community representatives (including committees, associations etc) is the starting point for the incorporation of Aboriginal perspectives into the educative process. Some further information is provided below.

Developing an Inclusive Curriculum: Aboriginal Perspectives

When developing curriculum with the aim of incorporating Aboriginal perspectives it is useful to consider the following:

■ *Speak to Aboriginal staff first*. This may include Indigenous teachers, Aboriginal Education Assistants, Aboriginal Community Liaison Officers and/or Aboriginal Education Consultants.

■ *Community consultation and participation*. The inclusion of Aboriginal perspectives across the curriculum means seeking the views of Aboriginal people on education and including Aboriginal people in the classroom context, as well as involving Aboriginal community groups and educational organisations/committees in the planning, developing and implementation of appropriate programs. There are a number of publications that may assist you in working with Aboriginal communities (see next page), or speak directly to your local AECG or ASSPA committee.

■ *Contemporary and historical perspectives*. Include Indigenous perspectives, images and ideas that are both pre- and post-invasion. Aboriginal culture, history, identity and perspectives are (as with all peoples) evolving, changing, and NOT homogeneous. There is not one stagnant perspective on 'Aboriginality'.

■ *Use appropriate materials/resources*. A good starting point may be as simple as re-assessing the resources that are currently used with students. Be sure that materials are not offensive to any nationality/race, and include a variety of images/perspectives — not just 'white Anglo-Saxon' Australian. Also check the authenticity of references/materials.

■ *Do not force Indigenous perspectives*. There is no point trying to include an Aboriginal perspective within the classroom context if it is inappropriate. This does not do justice to Aboriginal culture or your teaching.

Resources that have explored this issue in some detail include:

■ *Aboriginal Perspectives Across the Curriculum*. This publication, produced by the South Australian Education Department, includes a number of units of work that demonstrate the integration of Aboriginal perspectives across the Key Learning Areas. The units include comments and process from the teachers involved, and quotes from students. It also includes a very useful planning model for teachers.

■ *You Can Do It Too: Aboriginal Studies and Torres Strait Islander Studies Across the Curriculum*, VHS Video, Curriculum Corporation, 1993. This video would be useful to show to all staff as part of an in-service or training session. It includes ideas on all of the above suggestions.

Resources that will assist when working with Indigenous communities include:

■ 'Community Consultation: It's Essential', by Bev Smith. Chapter 11 in *Teaching Aboriginal Studies*, edited by Rhonda Craven, 1999

■ *The Greater Perspective*, 2nd edition, SBS, 1997. This publication has been developed to assist people working with Indigenous communities for the production of film and television; however it is relevant to any community consultation process.

Some of these references also provide information on copyright, resource development, language and other related issues.

Incorporating Career Education Outcomes: Lessons from the ACAP Pilot

Twelve NSW schools were involved in the pilot project. All schools implemented the program materials using a variety of techniques that suited their particular situations. In line with the manner in which the materials were developed, each program was trialled at a local level. Schools implemented the materials in a fashion best suited to their curriculum and community context. Some pilot schools used the models/guidelines provided in the development of curriculum materials, some of which have been incorporated into this resource. In each unit, the development process was determined by the school involved, the client group or students, the teachers developing the program or a combination of these. While each unit evolved in a unique way, some common themes are apparent from the pilot study and the development process. Some points are highlighted below.

■ The aim of embedding career education across the curriculum is a positive one, and has the added benefit of making school more relevant to students. This has the potential for a positive impact on all students.

■ Some subjects lend themselves more easily than others to the integration of career education — for example, it has proved to be very difficult to achieve the specific career education outcomes in Mathematics. Many of the approaches that were used relate closely to key competencies and development of the skills in those areas. However, while it is not always easy to see the link between careers and some of the subjects, it is achievable in all subject areas, if not across the entire subject syllabus.

■ Rather than taking a tokenistic approach, it is more useful to provide career education outcomes in a realistic context. In other words, there is little point in forcing career education outcomes where they are neither relevant nor appropriate.

■ Career education using this delivery method needs to be reinforced in other areas and in other ways, including a holistic school approach to the development of career education outcomes for students in Years 7–10. This should include both explicit activities (site visits, work experience etc) and activities integrated within mainstream teaching (such as some of the strategies within the curriculum materials). This accords with the BOS findings as articulated in *A Statement of Career Education Outcomes — Years 7–12* as discussed in the Introduction, page 6.

■ In many instances, discussions with teachers have indicated that there is uncertainty about their own personal knowledge of career education. This may lead to reticence in the further development of career education across all subject areas. While teachers are not negative about the concept, their lack of understanding could be a barrier to schools successfully achieving these outcomes. There might be a need, therefore, to enlist the help of experts such as careers advisors or VET consultants or other staff as appropriate.

While each unit has grown and developed in a different way, some guidelines are provided below for practitioners who are interested in developing their own programs to facilitate the delivery of career education outcomes.

Step by Step Guide

Step 1: Identify syllabus outcomes

In each unit the syllabus outcomes have been the first priority in terms of curriculum development. When developing a program it is useful to target specific units within a subject area for the incorporation of a career education focus. Breaking the subject down into smaller, more workable components makes the task manageable and less daunting.

Step 2: Identify career education outcomes

The pilot study has demonstrated that, by first targeting the subject area and then matching career education outcomes that fit, the process of developing appropriate teaching strategies becomes clearer. The maps of career education outcomes in this document can be used to assist with this process (see pages 7–18).

Step 3: Identify appropriate teaching strategies

Once the syllabus and career education outcomes have been identified it is a relatively simple process to identify teaching strategies that will ensure the delivery of both syllabus and career education outcomes. We would encourage including practical activities as much as possible, as well as inviting external guests, arranging site visits etc.

Step 4: Refining the Unit

As the pilot has very clearly demonstrated, the process of developing inclusive curriculum and embedding career education outcomes is a difficult one that takes a considerable amount of review and input. Following the three steps above will help with this process, but continual peer review and evaluation should be included in any development work.

ACAP Units of Work

Using ACAP Units of Work

This resource attempts to address one fundamental aspect of a whole-school approach to career education: the integration of career education outcomes in the curriculum. While it attempts to do this in a context that is culturally relevant for Indigenous students, drawing on Aboriginal community support and resources will benefit all students.

The following materials provide teaching strategies that may be implemented in everyday classroom situations. Each unit provides the following:

- Target Year or Stage
- Unit name
- Length of the unit (indicative)
- Introduction
- Career education outcomes
- Syllabus references
- Teaching strategies
- References/additional resources
- Worksheets (as applicable).

The units are flexible, to ease implementation across the range of NSW schools. It is hoped that sufficient information and materials have been provided so that teachers can implement them with little extra preparation or research. However, it is expected that, fundamental to the implementation of these units, local Indigenous communities and/or education committees or organisations will be consulted. This will require forward planning and preparation.

Schools are encouraged to incorporate these units into their programming and planning. It is also hoped that schools will further incorporate career education outcomes across the curriculum and that a broader approach will be initiated, so that these units will be just the start of a whole-school career education implementation plan for all students.

3. English – Stage 5 Year 9

Text and the World of Work

Duration: 6–8 weeks

Introduction

The activities and work units outlined in this chapter have been designed to demonstrate to students the relevance of their studies in English, different types of texts, and the skills required in the study of texts. These have been placed in the context of the 'world of work' with reference to the particular requirements students will face in the workplace. They have not been combined as a single unit, but rather they are a series of related ideas and resources adaptable by teachers according to the needs and interests of students.

Teachers delivering this unit are encouraged to make informed decisions about the appropriate length of time to be spent on the various activities, and the manner in which they are to be delivered. This will be determined by the students' needs, the local environment and other teaching constraints or parameters.

Use of external resources (personnel, organisations etc) is strongly encouraged; however the unit does not depend on this.

The activities are designed to address a number of communication outcomes from the *English 7–10 Syllabus*, the key competencies and the relationship between them. The unit also delivers the career education outcomes as listed below. Teachers should be aware that while the outcomes listed could be incorporated throughout all the activities in this unit, attaining them will depend on the way teachers structure lessons. Teachers should be careful to choose a broad selection of activities to ensure that a diverse and complementary selection of outcomes are achieved, and to employ a range of teaching strategies to help ensure this result.

Career Education Outcomes

Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace

■ Recognise that individuals have different skills, abilities and talents.
■ Identify social and interpersonal skills needed to work cooperatively in a variety of work situations, paid and unpaid.
■ Relate their own interests and values to different work tasks and occupations.
■ Describe personal strengths and weaknesses as they relate to career choice.
■ Assess their own physical attributes relative to specific work requirements.

Analyse the key factors influencing the career values, aspirations and achievements of individuals and groups

■ Discuss factors that influence an individual's choice of occupation.

ACAP Units of Work

Analyse the place and meaning of work in the life of individuals and communities

- Identify contributions made by people doing different forms of work in the community and say why they are valued.
- Show how their work at home and at school affects themselves and others.
- Demonstrate an appreciation of the role of work (paid and unpaid) in an individual's life.

Identify occupational pathways and their related educational, training and skill requirements

- Identify skills and understanding that may be transferred from one form of work to another.
- Describe relationships between education, training, skills and experience, and work opportunities.
- Describe selected occupations in terms of the tasks performed, entry and training requirements and appropriate personal characteristics.

Use appropriate strategies for career decision making and career planning

- Describe school and other work options and the rationale for making personal choices.
- Develop action plans for achieving education, training and work-related goals, and evaluate the consequences of such action.

Demonstrate the application and interview skills required for entry into employment and post-secondary education and training courses

- Provide evidence of progressive implementation procedures for personal career or study plans.
- Accurately complete sample job and course application forms.
- Format a job application letter in response to an advertised work experience position.
- Present a personal portfolio containing, for example school reports, references, certificates.
- Describe the types of questions that may be asked in a job interview.
- Explain personal strengths or suitability for a particular job in a simulated interview situation.

Discuss the lifestyle changes and personal adjustments involved in the transition from school to post-school employment and further education

- Identify use of time management and goal-setting strategies in work and study situations.

Syllabus Outcomes and Objectives

The English 7–10 Syllabus (1987) and its associated outcomes document (1992) are to be evaluated and reviewed. One of the contexts of review is the recent development of the English K–6 Syllabus and the Stage 6 English Syllabus. Accordingly, some of the terminology and conceptual understandings from those syllabuses have been adopted to ensure the currency of this work. This includes terms such as 'composing' and 'responding'. The current syllabus reference is documented below.

Students will develop:

• Knowledge and understanding of the range of possible forms within the oral language repertoire and skills to broaden and exercise control over their oral language repertoire

• Understanding of what they read in a wide range of contexts and skills to read competently and thoughtfully for a wide range of purposes and in a wide range of situations

• Knowledge and understanding of the components of register and its effect on their written language and that of others, and skills to be able to write with competence over a wide range of registers

• Knowledge and understanding in order to recognise the ways that mass media actively construct and shape reality, and skills in constructing and responding sensitively to a wide range of mass media products

Units of work developed through the following outlines should focus on students:

Learning through texts:
• What skills, knowledge and understanding can I gain through responding to and composing texts?
• How will these skills, knowledge and understanding help me in workplace contexts?

Learning about texts:
• What is a text?
• What is there to know about a text?
• What skills, knowledge and understanding can I develop which will assist me when I have to encounter texts in workplace contexts?

Learning about the relevance of texts to workplace contexts:
• What sort of texts am I likely to meet in workplace contexts?
• How are they similar to/different from the texts I am dealing with at school?
• In what ways can the texts I deal with at school help me to cope with other texts in the workplace context?
• What is the relationship between a fiction text, a poem, a film, a website, a TV program, a piece of media text I read in the classroom, and what I will do in the workplace?
• How will knowing about texts help me to get and keep a job and be useful in the workplace?
• Why is the knowledge of texts and how they work relevant to my life?

Acquiring various key competencies:
• What are key competencies?
• How will these skills assist me in the workplace?
• How will my work in English help me with these key competencies?

In order to meet the outcomes of this unit, students should participate in an appropriate combination of the following tasks:

■ read at least **two** books of their own choice that relate to adolescent experiences;

■ read and view a range of smaller texts of varied mediums;

■ complete tasks relating to a particular text;

■ demonstrate an understanding of several communication techniques;

■ give several 1-minute oral commentaries on something they have read, heard or viewed that relate to this unit. These commentaries could include:

  • endorsements
  • critiques
  • explanations of links with other texts
  • personal reflection/evaluations
  • opportunities for comment by other students;

■ write a number of pieces of work in various contexts and targeting diverse audiences; and

■ use a journal to reflect on and gauge their own performance.

Teaching Strategies

Overview

The following teaching strategies comprise a number of aspects. In the first instance teachers are presented with three methods of overseeing students' work and progress. They are headed 'Writing A Work Contract', 'Monitoring the Progress of Work' and 'Guided Reflection on the Relationships of Schoolwork and Life'. These strategies are seen to be integral to the delivery of this unit and are strongly recommended. While the strategies are crucial in the development of key Career Education Outcomes, there is flexibility in their implementation. Then follows a series of topics which could form the basis of lessons. There are nine topics in total, as follows:

■ Research Project
■ Communication Skills – Role Play
■ Prediction
■ Constructing a Profile
■ Viewing Activity
■ Technology and Communication
■ Guided Conversation
■ Assessing Communication
■ Descriptive Writing.

The combination of topics, their emphases, and their delivery are at the discretion of teachers and will be guided by local needs and environments.

During the work units students should maintain a journal to record their reflections on the activities and the knowledge and understanding gained. Opportunities should be provided in class for this reflection as open personal response or through guided questions.

During delivery of the unit, teachers should:

■ encourage students to do drafts and to take risks in their drafts;

■ encourage students to edit each other's draft work with the teacher, in a *supportive environment*. (This may involve Indigenous parents/community representatives, AEAs, older students etc);

■ encourage students to work with texts of their own choosing wherever possible, and ensure that these texts have meaning for them. These might include visual texts and texts in Aboriginal English; and

■ encourage students to make connections between texts — in particular between the texts they choose and any set texts, or texts in standard English.

Writing a Work Contract

This process can be used in conjunction with the research project or any other appropriate tasks. Developing the contract should incorporate both discussion with the whole class and facilitated group discussion within small project teams. It is strongly advised that facilitators or assistants are included in this process. Facilitators should be drawn from appropriate school and community sources. It is important that before this process begins, assistants are thoroughly briefed on their roles. Be sure that the expectations of the assistants and the teacher are clear.

As a starting point, it may be useful to include a general discussion about 'contracts' in the context of work. This can include discussion on employer and employee rights and obligations. It may be appropriate to develop a set of guidelines or 'rights and obligations' for both students and the teacher in relation to the 'contract'.

The following is a guide for students to use when developing a work contract:

Parts of the Process

Project Definition
Make a short but complete statement of what needs to be done.

Intended Outcomes
What will I learn from completing this project?

Time Frame
When must the project be completed?

(You should write the date the project is due.)

Resources
What do we need to complete the project?

Task Allocation (for groups)
Who will do which tasks?

Things to Consider

Break the job down into its parts or individual tasks. List all the things that need to be completed. You may find that as you work through the project some extra tasks will emerge that you could not predict.

It is important that you list:
• what knowledge you will gain
• what skills you will develop
• what use these will be in your work in English and other subjects, and your work in your community.

You need to map backwards from *some time before* the due date and work out:
• how much time is available in class?
• how much work is needed outside the classroom to complete the project on time?
• deadlines for each part of the project.

By allowing spare time at the end of the project you will leave room to deal with any surprise mistakes or problems.

In your plan you need to consider:
• what you have that you need
• what extra things you need to get. These could involve going to your local library, setting up interviews, getting internet access, hiring a video, organising the group to watch or listen to a media program.

In allocating tasks you need to consider:
• strengths and weaknesses of different group members
• personal and ability relationships between different members of the groups.

Ask students to summarise the contract on a sheet similar to the following:

Project:

Date due:

Team members:

Intended outcomes:

Individual Tasks	Individuals Involved	Resources Needed	First Draft Due	Revision Due	Completion

Monitoring the Progress of Work

To encourage planning, time management, self-evaluation, critical appraisal, and other critical student skills, teachers may employ a strategy (or strategies) to monitor work progress in a way that is easily accessible and recognisable to students. This also clearly demonstrates to students their own progress over a length of time. Each task could be staged to undergo such processes as drafting, revision and editing, and publication. This enables teachers to discuss the development of the product with their students and offer feedback at critical points. It provides students with the ability to see their progress at a glance, plan their work more strategically and pace themselves more effectively, particularly if some kind of indication is given to mark the completion of each stage — for example:

1st draft ☞

Revised draft 👍

Completed ✋

These sheets can be displayed in the classroom and enable students to chart their progress against clearly set timelines and other groups in the class. An example is suggested below.

Student Group Progress Chart:

Student Group Name	Set Task 1 Due:	Set Task 2 Due:	Set Task 3 Due:	Set Task 4 Due:
Group A				
Group B				
Group C				
Group D				

Work in Progress (as on 14th May)

Group	Poster Due: 15th May	Proposal Due: 20th May	Interview Due: 23rd May	Project Due: 28th May
Studs	☞ 👍 🖐	☞	☞ 👍	☞
Kazam!	☞ 👍 🖐	☞ 👍 🖐	☞	
Koo-o-l	☞ 👍	☞ 👍 🖐		☞
Scurf	☞ 👍 🖐	☞ 👍		☞
Warriors	☞	☞	☞ 👍 🖐	☞ 👍

The method as documented on the sheet above assists students to develop skills of goal setting, monitoring and evaluation of group and individual learning processes.

The methodology facilitates skills in planning, time management and goal setting. These skills should be encouraged and their applicability to life goals and career aspirations can easily be linked.

Students should also be encouraged to reflect on their work practices periodically. It would be appropriate for students to consider such questions as listed below, as homework or at the end of a group session. It is suggested that students are encouraged to use their journals during this reflection.

1. What did I have to complete within the group? How long did I have to complete it?
2. Did I achieve the goal? If yes, what got me there?
3. If no, what went wrong? How could I have changed this outcome?
4. If no, did I achieve something else instead? Was it more valuable or less valuable than the original goal? In what ways?
5. What made the group work effectively?
6. What prevented us from achieving our goal for the day?
7. What have I learnt from this exercise about working effectively?
8. What needs to be the next step in the process?
9. What can we do to make sure we succeed?
10. How can I apply what I have learnt to other situations?

ACAP Units of Work

Guided Reflection on the Relationships of Schoolwork and Life

Students should also be encouraged to reflect specifically on their studies at school and their future roles within the workforce or community. Again, this process may occur as a group activity, individually, or as homework, and students should use their journals. In facilitating discussion and student reflection be sure that all aspects of work are incorporated (ie paid, unpaid, voluntary, community-based, corporate, full-time, part-time, etc). These sample questions are provided to assist in stimulating students' thinking:

1. What was the task?
2. What did I enjoy about it?
3. What skills did I use while completing the task?
4. How can I use this skill in my life outside school?
5. What did I find unpleasant?
6. What do I need to be able to do to avoid this kind of task in my life outside school?
7. What was easy? OR What was I good at? How can I use this skill in my life outside school?
8. What was difficult? What do I need this skill for in my life outside school?
9. How can I develop this skill?
10. How would I present or demonstrate the skills I have developed to a new employer?

Research Project

Ask students to complete a research project of their choosing (see below). Set a deadline for completion. Identify with each student over a period of time:

■   the topic area they have chosen
■   accessing and identifying resources for research
■   timelines to ensure completion
■   identifying tasks involved in completing the project
■   problems in completing the project
■   presentation ideas for the project.

The research project is the ideal opportunity to establish a work contract with students.

This project may be completed in groups or individually, depending on the students and available resources. If the task is to be completed in group work, ensure each student has identified their role in the project and that each is clear on the expectations of the group, individually and as a collective. This process may be facilitated by using external support (parents/community representatives etc) to assist with each group's working through this process.

Projects could involve researching the types of jobs that involve the production of a text. The text chosen could be in any mode or medium and so would include:

■   printed texts – fiction or nonfiction
■   dramatic texts
■   computer texts
■   television, film or radio texts.

Jobs relating to those texts could be in the areas of:

■   creation of the text such as its verbal/pictorial/oral/video or computer composition
■   presentation of the text such as performance, design, articulation or communication

- marketing and promotion of the text
- composition of a text for use within the workplace.

Activities could involve:

1. Designing a poster/cover/web page/program for a text of the student's choice.
2. Writing and presenting a promotion for a text for radio/television as a movie trailer.
3. Role-playing a committee meeting of the group that determines who wins a Logie/Oscar/literary prize/ATSIC award etc. Each student should propose a particular text and argue for its winning outright or in a particular category.
4. Writing the introduction for the ways in which the text will be used.
5. Interview someone who works in an area related to the production of texts or whose job involves the production of texts as part of their wider employment. Students could find out:

   - what they do
   - how they got the job
   - what they like about it
   - what they would like to change
   - the kind of people they think would enjoy the work
   - what are the processes, and what people are involved, as they produce texts as part of their work
   - what different types of texts are used, or operate, in their workplace
   - what career path they follow
   - how many jobs they have had to get to this job
   - what training and/or education requirements they needed.

All of these activities have associated texts that are required in the workplace. For example:

Activity 1 could require a proposal to the commissioning company.

Activity 2 could require a proposal and/or a storyboard.

Activity 3 could require a meeting agenda, minute-takers or a written justification of one's choice.

Communication Skills – Role-play

Ask students to imagine they have been thrown a challenge and are not confident about succeeding. In pairs or small groups, students are to:

- outline what the challenge is
- explain their hopes and fears in meeting the challenge
- plan how they are going to try to succeed
- present their role-play to the class/the group.

This activity would be ideal for using local resources, including parents/community representatives, and could be linked to career aspirations and planning. Students may be asked to identify their career aspiration as 'the challenge', and their career plan to identify how they are going to succeed. Local people could be used to present their own stories of personal challenges (whether they were career-related or otherwise), and how they planned to succeed. Local people might also be used in a group facilitation role.

Be sure that various forms of presentation are explored and encouraged, including verbal/nonverbal, written text, pictorial etc.

ACAP Units of Work

Prediction

Texts set up expectations based on things we have experienced and other texts we have read. The predictions we make of a particular text may not turn out to be accurate. This is not important, as some of the pleasure of reading comes from the surprises it brings.

By reading the first chapter we can make predictions about the rest of the book. Ask students to choose a text and to work through the following activity. This could be completed in groups with students 'brainstorming' what is going to happen next. If this is the case, students should first be asked to explain the occurrences in the first chapter.

The scene may first be set for the class by reading or showing an appropriate piece and asking students what they think is going to happen. The 'end of the story' should then be shown to students and their predictions compared. Be sure to pick a piece that has an unexpected outcome.

Question	Prediction	Why do I expect this? *
Who is going to be the main character?		
What is the book likely to be about?		
Is the book likely to focus on a single character?		
Whose point of view are we going to trust?		
What other predictions can I make?		

 * Ensure students are alerted to using examples and quotations from the text when explaining how they made the prediction. Indicate to students that these provide the evidence for their statements and that this method adds weight to their perspective.

This idea may be explored further during classes and/or via guided reflection. Students should be encouraged to look at other ways of providing evidence for the validity of their point of view. Discussion could then be led to the ways in which students can demonstrate skills or experience by providing evidence. For example, they could include awards/certificates in a resumé, or, in a written job application letter, they could provide evidence that they have performed similar tasks before, listing examples.

Constructing a Profile

The following activities relate to constructing a profile; they should encourage students to write descriptive texts, and should promote critical evaluation skills of themselves and others.

Find appropriate pictures and present them to students. Ensure that a diverse range is drawn upon and that it includes various age and cultural groups. It may be useful to use images of athletes and celebrities as well as 'unknowns'. Ask students to describe the person under headings such as:

- physical appearance
- behaviour
- qualities of character.

Each heading should then be broken down into subheadings including positives, negatives, clothing, hair, eyes, height, weight etc.

This activity could be extended to include students completing a profile of themselves, using headings such as the above, and also:

- strengths
- weaknesses
- interests.

As a homework activity students could be asked to profile someone they know and/or admire (eg parents, guardians, siblings) using similar headings.

Students choose one of the texts which they have read and complete a profile of a character or characters. Ensure the themes identified above are explored by students (the characters need not be central to the story).

Viewing Activity

Ask students to watch an item on the television news about an incident or character. To facilitate discussion, teachers may choose to videotape a piece and show it in class before this activity takes place.

Ask students to use a journal to map the item guided by the following.

a) Divide the item into parts (eg introduction, film footage, interview, reporter comment, summing up).

b) In the introduction, what information did the presenter provide about the character or incident?

c) What attitude was demonstrated in the introduction — sympathy, anger, humour? How was this demonstrated?

d) What expectations did students have immediately after the introduction?

e) Apply questions b), c) and d) to the other parts of the item.

f) What similarities and what differences did students notice in their observations?

g) How do they account for these?

Technology and Communication

The following is included as an example only. There are many other sources to draw on from magazines, video, television clips, advertising etc.

Leave a Message
by Lisa Bellear

Yesterday I needed

To talk,

Leave a message

After the beep, however

If you wish to send

A fax, kindly press

The asterisk button

On your phone, after

This message has ended:

"now that you've bothered

to call, don't waste that

thirty cents"

"nobody home at the moment …

"I answer correspondence

in the morning"

I've got a name

For being a listener

Yeah, but even listeners

Need to

Talk.

From *Dreaming in Urban Areas*,
University of Queensland Press, St Lucia, 1996.

Facilitate class discussion, asking students their feelings about the poem, and exploring issues such as:

■ How many different references to technology are there in the poem?

■ Do they help the speaker of the poem? Ask students to explain the answer.

■ How does technology affect their lives?

■ How does technology affect the lives of others? (This question can be explored locally, nationally and globally and include issues such as work, living standards, environment etc.)

Returning to the poem, draw students' attention to the fact that the speaker of the poem needs to talk. Ask students to imagine that they are the speaker and there is someone on the other end of the line. In pairs, ask students to complete a successful conversation. Potentially they could be ringing:

■ a company for information

■ a store to make a complaint

■ a community service to offer their help for a particular project

■ a business to place an order

■ a company/organisation about a job advertisement

- an educational institution to find out about training courses
- a sporting club to find out about joining.

Ask students to consider what makes a conversation successful. Brainstorm class ideas, identifying barriers as well as things that assist. This should include consideration of the objectives of a call, timing, noise etc. Ask students to consider if their first conversations were successful and to repeat the exercise considering the barriers and aids to successful conversations.

Guided Conversation

Provide students with examples of conversations demonstrating various techniques. Ask students to identify which conversations flowed and which were difficult/stilted. Explain that there are various ways to help a conversation flow and that the key skill in conversation is listening to your partner carefully and showing interest in what he or she is saying by asking questions based on what you have heard. Demonstrate that you can encourage conversation by:

- **Repeating the statement as a question:**

  Conversation Partner: *I didn't get my homework done last night.*

  You: *You haven't done your homework?*

- **Repeating keywords sympathetically:**

  Conversation Partner: *No. Not only did I have a load of Maths but my English homework was due and my baby sister was playing up and making such a racket.*

  You: *Oh no. Doesn't it drive you mad when you've got a load to do and things go wrong?*

- **Asking for more details:**

  Conversation Partner: *You're not kidding. I just can't seem to get anything finished.*

  You: *What exactly do you need to finish?*

- **Asking for reasons:**

  Conversation Partner: *Well, I got all that geometry done but I can't get anywhere with that English stuff.*

  You: *Why are you stuck on that English?*

Ask students to pair off and hold a conversation with a partner using at appropriate times all of the above ways of moving a conversation forward.

Ask students to think of other ways of encouraging conversation. Students should share them with the class.

Ask students to consider examples of where it is important to keep a conversation flowing by listening and asking appropriate questions. This may include a job interview, applying for a training course, going to the doctor, a counsellor etc. Students could be encouraged to think in terms of the things they would like to know about a job vacancy, and then to construct questions around this.

Assessing Communication

Many texts we read or view contain episodes involving communication between people. Ask students to find an incident in one of the texts they have read where there has been a dialogue or discussion that has been particularly helpful or particularly destructive.

1. Ask students to perform the dialogue to the class.

2. Students should then explain to the class why the dialogue is effective. In their explanations they should consider:

   • whether all participants believe that the same thing has been achieved

   • whether all participants are happy with the outcome of the conversation

   • what the key phrases were in the conversation and how they affected different people

   • how important body language and tone of voice were to the conversation.

Alternatively, teachers could present a piece of dialogue to the class and ask them to consider the above questions. This could be carried out in small groups or within the context of the class as a whole.

Descriptive Writing

Ask students to choose a picture: it may be a photo, a piece of artwork (their own or someone else's) or any other image. Encourage students to try to make it into a piece that has great meaning for themselves. Ask students to write half a page explaining the meaning to various audiences, including:

a) a friend who has a lot in common with them

b) a person of their age from a different country or culture

c) an adult from a different cultural background from themselves

d) an employer who has asked them to provide a formal report on the meaning of the picture because the employer is thinking about putting it on the cover of a company document.

Additional Resources

Below are some suggested resources that might assist in delivering the unit with an Indigenous perspective.

Journals

■ *Koori Mail*

■ *Land Rights News*

■ *Scan* (This publication produced by the NSW DET includes a number of book reviews and resources.)

Websites

■ http://www.aiatsis.gov.au/archprod/aspc/rasp/frameset_frame.htm

  The Australian Institute of Aboriginal and Torres Strait Islander Studies has a comprehensive publications list with short summaries of books for sale. This may assist in identifying relevant novels for use in this unit.

■ http://www.filmaust.com.au

  Film Australia has an extensive list of Indigenous videos that can be purchased and may assist in the delivery of this unit. (Search 'Indigenous Australians' on this website.)

■ http://www.dreamtime.net.au

  This site includes stories that 'come from the cultures of Indigenous Australians and have been collected from all over Australia. They reflect an essential part of the life of Indigenous Australians.' The site also has a glossary and each story includes text, video and audio versions.

■ The ABC has several sites that include relevant text. Sites include:
  Frontier Education (http://www.abc.net.au/frontier/education/default.htm)

  Kam Yan (http://www.abc.net.au/ipu/kamdefau.htm)

Many Nations One People (http://www.abc.net.au/schoolstv/nations/)

Message Stick (http://www.abc.net.au/message/).

- http://www.natsiew.nexus.edu.au/lens/index.html

  The National Aboriginal and Torres Strait Islander Education website may also provide other links, references, etc.

Video

The *Australian Biography* video series (available through Film Australia) has a number of interviews with Indigenous Australians including Jimmy Little, Ruby Langford Ginibi, Lois O'Donoghue and Charles Perkins. They are all around 30 minutes (or less) in length. The content is good, although the style is not particularly engaging and would probably suit more mature students.

Fiction

My Girragundji, by Meme McDonald and Boori Pryor (1998), Allen & Unwin.

Deadly Unna? by Phillip Gwynne (1998), Penguin Press.

Gracey by James Moloney (1994), University of Queensland Press.

Wild Cat Falling by Colin Johnson (1965), Angus & Robertson.

Maybe Tomorrow by Boori Monty Pryor and Meme McDonald (1998), Penguin.

My Own Sweet Time by Wanda Koolmatrie (1994), Magabala Books Aboriginal Cooperative.

Going Home by Archie Weller (1986), Allen & Unwin.

The Day of the Dog by Archie Weller (1981), Allen & Unwin.

Unna You Fullas by Glenyse Ward (1991), Magabala Books Aboriginal Cooperative.

Unbranded by Herb Wharton (1992), University of Queensland Press.

Saltwater Fella by John Moriarty (2000), Penguin Press.

The Burnt Stick by Anthony Hill (1994), Penguin Press.

The Honey Spot by Jack Davis (1987), Currency Press.

Pilawuk: When I was Young by Janeen Brian (1996), Era Publications.

My Place by Sally Morgan (1987), Fremantle Arts Centre Press.

Poetry

Pacific Highway Boo – Blooz. Country Poems by Mudrooroo (1996), University of Queensland Press.

You Have the Power by Archie Roach (1994), Angus & Robertson.

4. MATHEMATICS – STAGE 4 YEARS 7/8

Interpretation of Graphs, Tables and Charts

Time: 3 weeks (approx.)

Introduction

This work is based on the Mathematics Stage 4 syllabus topics *Interpretation of graphs used by the community* and *Interpretation of tables, charts*. It is designed to enhance current teaching programs with activities that aid the development of the prescribed career-based outcomes through the use of engaging materials and creative approaches. The achievement of career education outcomes is facilitated through the key competencies incorporated in the listed examples of practical activities. These activities are provided as a starting point for teachers. Students should be encouraged to reflect upon not only the skills they are learning, but also the information they are exploring and the way in which tasks are undertaken. The activities provide teachers with the opportunity to employ a range of assessment strategies. As some of the activities involve literacy-based skills, it may be advisable to seek support from appropriate personnel, eg literacy support teacher.

The relevant career education outcomes from the Board of Studies' *A Statement of Career Education Outcomes —Years 7–10* (1996) are listed below, and are also referenced in each of the units. Some suggestions are put forward for the expansion of the activities through the use of extension/option topics. However, there are many alternatives that could be used to incorporate or further expand upon career education.

Career Education Outcomes

Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace

■ Recognise that individuals have different skills, abilities and talents.

■ Identify social and interpersonal skills needed to work cooperatively in a variety of work situations, paid and unpaid.

■ Relate their own interests and values to different work tasks and occupations.

■ Identify career choices that suit their interests and personal characteristics.

■ Assess their own physical attributes relative to specific work requirements.

Analyse the key factors influencing career values, aspirations and achievements of individuals and groups

■ Discuss factors that influence an individual's choice of occupation.

■ Describe how gender, race and socioeconomic status may influence an individual's career aspirations.

Analyse the place and meaning of work in the life of individuals and communities

■ Categorise some different forms of work (self-employment, parenting, and part-time, full-time, volunteer, and household work).

■ Identify contributions made by people doing different forms of work in the community and say why they are valued.

■ Demonstrate an appreciation of the role of work (paid and unpaid) in an individual's life.

Describe cultural and structural features of the world of work

■ Recognise that there is a place in the world of work for people with different skills, abilities and talents.

Describe features of the labour market, including emerging trends and the impact of change

■ Describe how factors of location, cycle and season affect work opportunities and estimate their possible impact on career plans.

■ Compare past and present trends in the nature and composition of the labour market.

■ Investigate and discuss the impact of technology on the nature of work in a range of occupations.

Identify occupational pathways and their related educational, training and skill requirements

■ Identify skills and understanding that may be transferred from one form of work to another.

■ Describe relationships between education, training, skills and experience, and work opportunities.

■ Investigate and report on different occupational pathways and their educational and training requirements.

■ Describe selected occupations in terms of the tasks performed, entry and training requirements, and appropriate personal characteristics.

Recognise the ongoing nature of career-path planning

■ Identify different needs and priorities that emerge throughout their lifespan.

Units of Work

Overview

■ Each of the units is designed for one to three 80-minute lessons.

■ *Syllabus Reference:* Shows the section of *Mathematics Syllabus Years 7–8* (1989) to which the unit relates.

■ *Introduction:* Provides an outline of the work students are to undertake in the unit.

■ *Skills:* This section outlines the mathematical skills that are being addressed in the unit.

■ *Practical Activity:* The activities suggested are designed to facilitate the achievement of career education outcomes as well as to engage and motivate students. Some discussion questions have been suggested at the end of activities to facilitate the transfer of skills to life outside school, and to enhance more specific or targeted career education outcomes.

■ *Equipment/Resources:* This section details necessary equipment and includes references to the appropriate worksheets. The worksheets have been designed using various sources, including magazine articles and information from the internet. They are provided as examples only.

ACAP Units of Work

- ■ *Extension/Options:* These are provided for further investigation of the topic and to suggest alternative ideas for teachers.
- ■ *Career Education Outcomes:* These are documented so that they may be linked to the activities.

| INTERPRETATION OF GRAPHS, TABLES AND CHARTS | SYLLABUS REFERENCE S1 (pp 62–63) |

Unit 1: Graphs – Types and Features

Introduction

The way a number of people in different occupations spend their day is shown in the various graphs. Students are to explore the features of the graphs and decide which graph types are best suited to display this type of data.

Skills

Students should develop the following skills:

- recognise the features of a graph, such as:
  - title
  - scale
  - symbols
  - axes
- determine the relative advantages and disadvantages of the different graph types in different circumstances.

Equipment/Resources

Mathematics Stage 4 Worksheet 1.1
Mathematics Stage 4 Worksheet 1.2
Mathematics Stage 4 Worksheet 1.3
Mathematics Stage 4 Worksheet 1.4

These worksheets are provided as examples only. Other worksheets may be developed to demonstrate various types of graphs and careers/work etc. Graphs should be of a range of types and should depict paid and unpaid work, part-time and full-time work etc.

Practical Activity

The basic features of graphs should be demonstrated to students through examples. The students are then to complete the table *Features of Graphs* on *Worksheet 1.3* and then work through the questions on *Worksheet 1.4* relating to each graph. This may be done in groups or individually.

A whole-class discussion about the activities should then follow, including:

- What do the graphs tell you about each job (time spent travelling, leisure time, various activities, etc)?
- Does the information provided in the graphs make any of the jobs appeal to you?
- Why?
- How do you think these jobs have changed over time in relation to time spent on particular tasks?

Career Education Outcomes

Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace

- Relate their own interests and values to different work tasks and occupations.
- Identify career choices that suit their interests and personal characteristics.

Analyse the place and meaning of work in the life of individuals and communities

- Categorise some different forms of work (self-employment, parenting, and part-time, full-time, volunteer, and household work).
- Demonstrate an appreciation of the role of work (paid and unpaid) in an individual's life.

Extension/Options

Ask the students to identify a career in which they have an interest, and construct a graph of what they think would be a typical day. They may choose any appropriate type of graph to display their information.

As a further activity, students should be encouraged to find out how a day in their chosen career is spent, either through internet research or interviewing a person employed in that area. They should then develop graphs based on this information, and compare these to their original expectations.

Describe cultural and structural features of the world of work

• Recognise that there is a place in the world of work for people with different skills, abilities and talents.

Describe features of the labour market including emerging trends and the impact of change

• Investigate and discuss the impact of technology on the nature of work in a range of occupations.

Identify occupational pathways and their related educational, training and skill requirements

• Describe selected occupations in terms of the tasks performed, entry and training requirements, and appropriate personal characteristics.

Graphs – Types and Features (1)

Graph 1: 24 Hours for a Paralympian
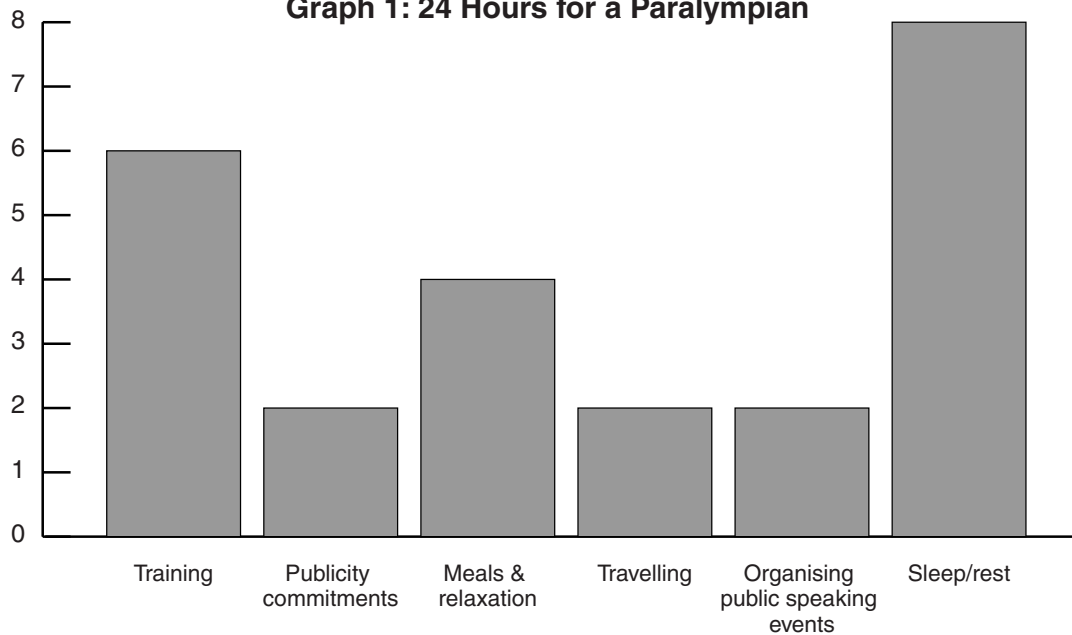
Graph 2: 24 Hours for a Fashion Magazine Editor

Meetings
Family time
Fashion show
Overseeing magazine edition
Sleep/rest
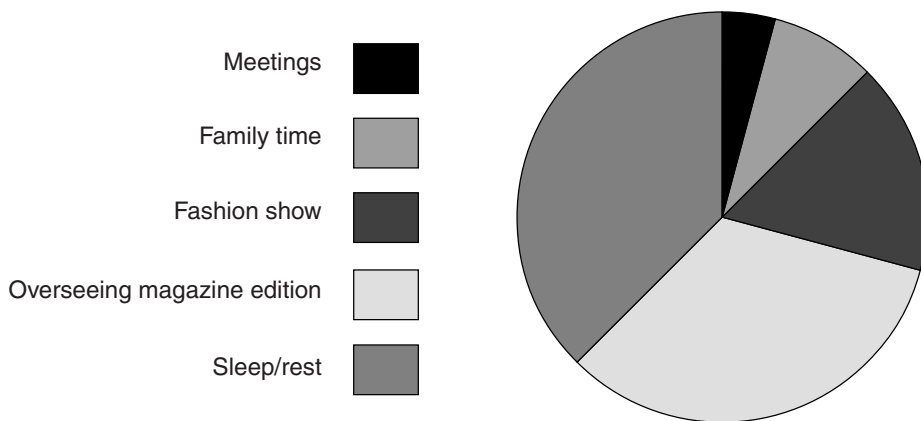
Graph 3: 24 Hours for a Midwife
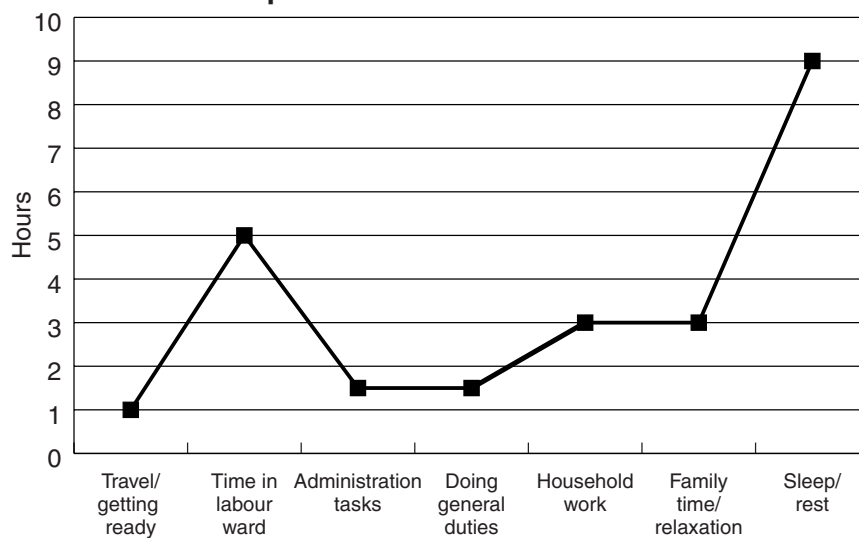
Graphs – Types and Features (2)

Graph 4: 24 Hours for a Graphic Reproductionist

- ■ Travel/getting ready
- ■ Document preparation
- ☐ Preparing film
- ■ Cleaning/organising
- ☐ Household chores
- ■ Family time/relaxation
- ■ Sleep
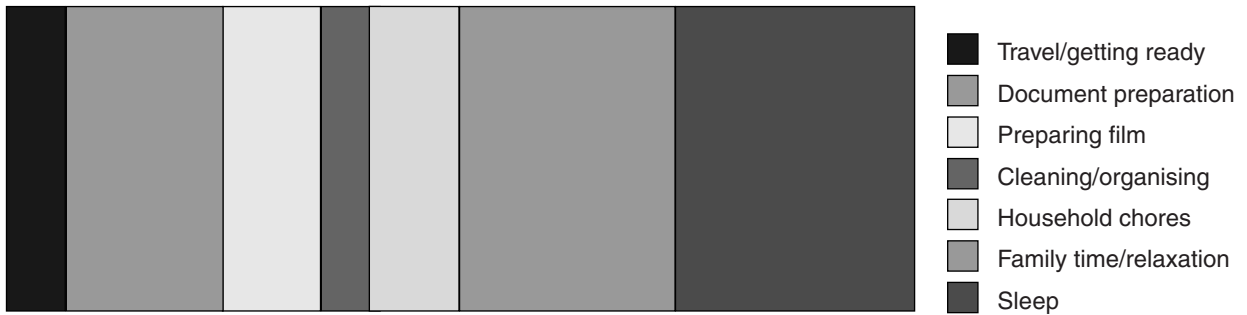
Graph 5: 24 Hours for a Sales Representative

KEY = 1 hour

Travelling/Customer visits

Cold selling

Customer service

Travel home

Family time/Relaxation

Meals

Sleep
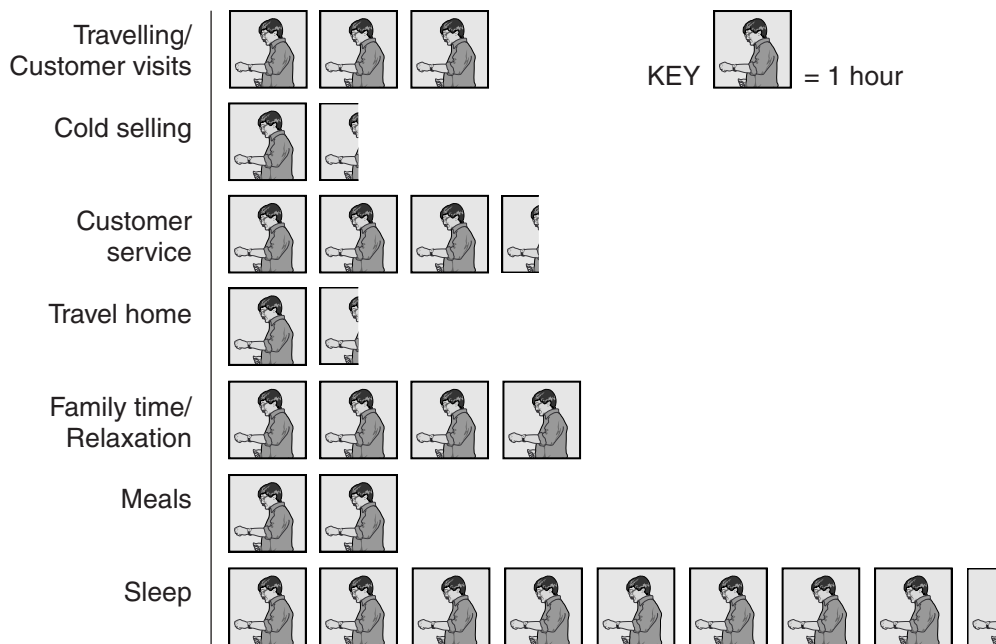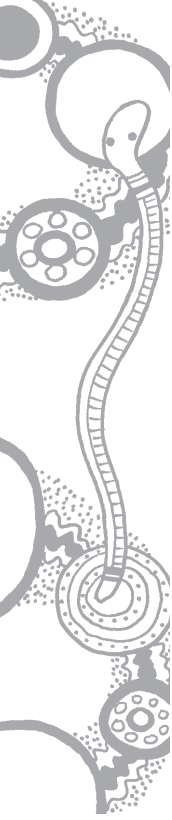
Graphs – Types and Features (3)

Features of Graphs

By looking at the features of the graphs on Worksheets 1.1 and 1.2, complete the following table.
If a graph does not have a particular feature write *N/A* (for *Not Applicable*).

Graph No.	Graph Type	Heading	Label on Horizontal Axis	Label on Vertical Axis	Scale on Horizontal Axis	Scale on Vertical Axis	Key/No key?
1							
2							
3							
4							
5							

Questions

1. Which graph is the easiest to read?

2. Which graph is the hardest to read?

3. Which graph attracts the eye?

4. Which graph(s) do not suit this data?

Graphs – Types and Features (4)

1.   Refer to the graph *24 Hours for a Paralympian*

(a)   How much time in a day is spent training? _____

(b)   If a paralympian trains six days a week, how many hours are spent training each week? _____

(c)   What other work activities do paralympians undertake? _____

_____

2.   Refer to the graph *24 Hours for a Fashion Magazine Editor*

(a)   List each of the work activities undertaken. _____

_____

(b)   How much time is spent on work activities each day? _____

(c)   On which work activity is the most time spent? _____

3.   Refer to the graph *24 Hours for a Midwife*

(a)   On which activity is the least time spent? _____

(b)   On which work activities is the same amount of time spent?_____

(c)   How much time is spent on the main work activity? _____

(d)   What is the total time spent at work? _____

4.   Refer to the graph *24 Hours for a Graphic Reproductionist*

(a)   On which two activities is more than half the day spent? _____

(b)   On which work activity is the most time spent? _____

(c)   On which work activity is the least time spent? _____

(d)   How much time in a day is spent at work? _____

5.   Refer to the graph *24 Hours for a Sales Representative*

(a)   How much time each day is spent on customer service?_____

(b)   List each of the work activities undertaken. _____

_____

(c)   How much time per day is spent on work activities?_____

(d)   What fraction of the work-time is spent travelling and visiting customers?_____

INTERPRETATION OF GRAPHS, TABLES AND CHARTS	SYLLABUS REFERENCE: S1 AND S2 (pp 62-65)

Unit 2: Reading Graphs

Introduction

The skills in presenting information in graphs and tables are very important in the business world. The reading of graphs, therefore, becomes an essential skill. In this unit, students will examine a variety of graphs that explore the lives and careers of a number of well-known Australians. Students are to extract information from the graphs and answer a series of questions.

Skills

Students should develop the following skills:

- read and interpret various types of graphs (and realise that graphs are an effective form of communication)
- extract appropriate information from graphs to solve problems.

Practical Activity

Students should already be familiar with reading graphs, and with features of graphs such as: title, key, axes, and scales on axes. They should undertake activities based on previous worksheets and discussion, and further explore their ideas in terms of their own career choices, various forms of work, and changes in the nature of the workforce.

Equipment/Resources

Mathematics Stage 4 Worksheet 2.1
Mathematics Stage 4 Worksheet 2.2
Mathematics Stage 4 Worksheet 2.3
Mathematics Stage 4 Worksheet 2.4

Career Education Outcomes

Analyse the place and meaning of work in the life of individuals and communities

- Categorise some different forms of work (self-employment, parenting, and part-time, full-time, volunteer, and household work).
- Demonstrate an appreciation of the role of work (paid and unpaid) in an individual's life.

Describe features of the labour market including emerging trends and the impact of change

- Investigate and discuss the impact of technology on the nature of work in a range of occupations.

Reading Graphs (1)

Yothu Yindi Album Sales

Birrkuta-Wild Honey

Freedom

Tribal Voice

Homeland Movement

KEY ☀ = 10 000
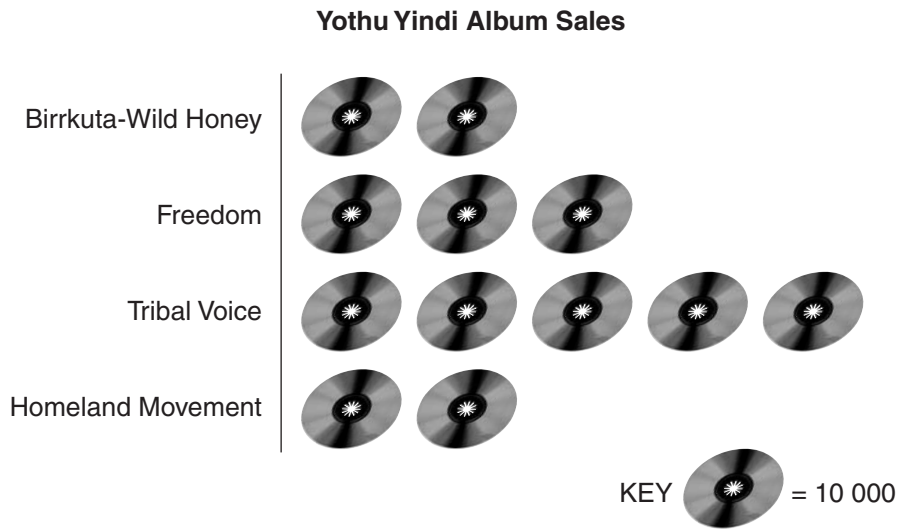
1. Use the graph to answer the following:

(a) Which of the four albums has the highest sales? _____

(b) Approximately how many copies of this album have been sold? _____

(c) Of which two albums have about the same number of copies been sold? _____

(d) Approximately how many of the four albums have been sold in total? _____

2. For each song on an album, the band spends two weeks in the recording studio.

(a) If there are 12 songs on the Freedom album, how many weeks did the band spend in the
     recording studio?_____

(b) Assuming there are also 12 songs on each of the other albums, what was the total number of
     weeks spent by the band in the recording studio?_____

**3. Why is it likely that the band members would have had to give up other careers to start
     their recording careers?**

_____

_____

_____

Extension

Use the internet to find the release dates of the four albums in the picture graph.

Reading Graphs (2)

Yothu Yindi Band Members

Number of Members

9	
8	Vocals (8)
7	
6	
5	
4	
3	Guitar, Bilma, Yidaki, Dancers (3)
2	
1	Bass, Keyboards (1)
0	

Bass   Guitar   Bilma   Yidaki   Keyboards   Vocals   Dancers
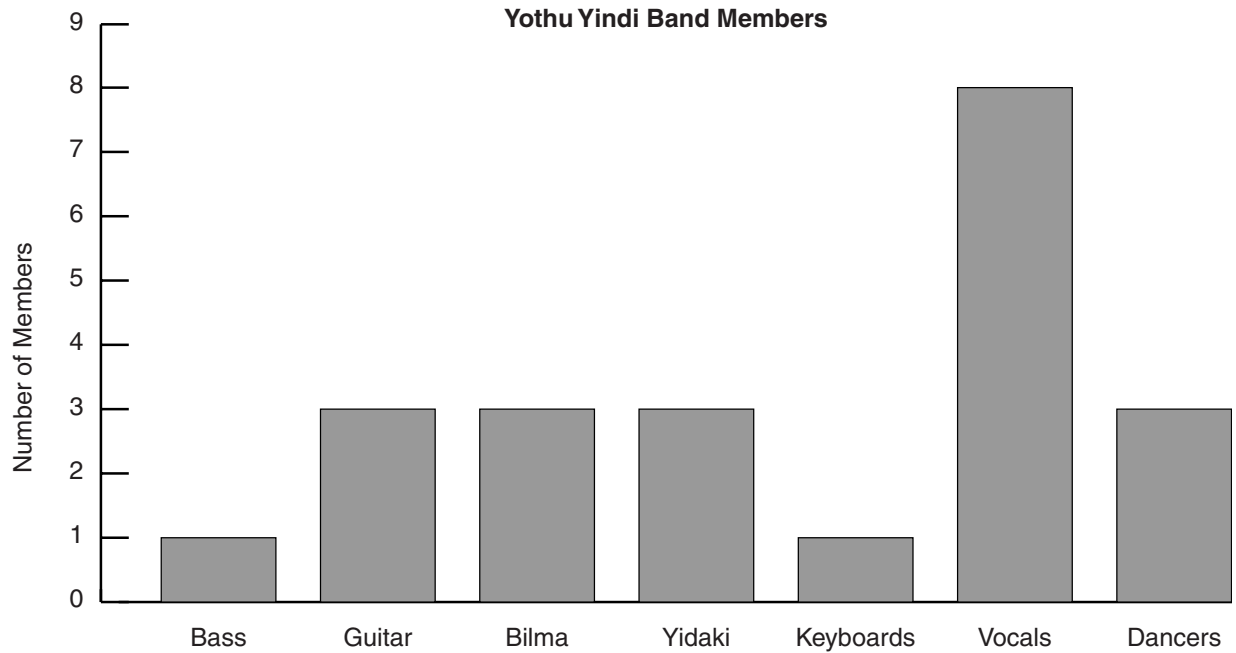
1. From the graph, how many members would you say the band Yothu Yindi has? _____

2. At the time this information was recorded the band actually had 13 members.

   Why do you think this answer is different to the one that is most likely to be given by people to Question 1?_____

   _____

   _____

   _____

3. Give examples of other jobs where a similar situation is likely to occur. _____

   _____

   _____

   _____

   _____

   _____

   _____

Reading Graphs (3)

Midnight Oil World Tour
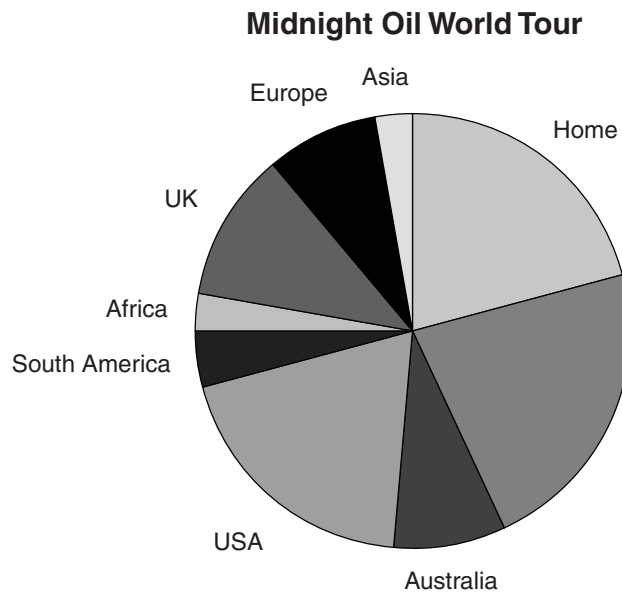
1. One section of the graph above is not labelled.

   What do you think it could be? _____

2. The information in the graph above has also been represented in the graph below.

   Which of the two graphs do you think best displays the information? _____

   Why? _____

3. Why do you think the band stayed longer in some places than in others? _____
   _____

4. What effect do you think the world tour would have had on the family life of the band members?

   _____
   _____
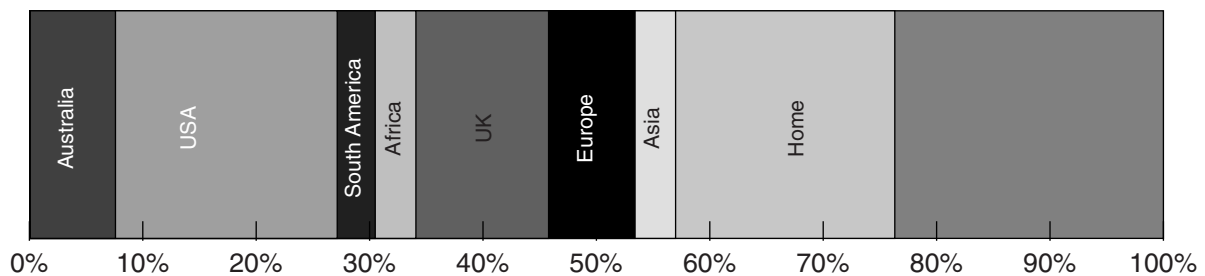
Extension

If you were planning this world tour, what would you suggest as the best order to visit the given locations? _____

   Why? _____

   _____

Reading Graphs (4)

Truganini's Story
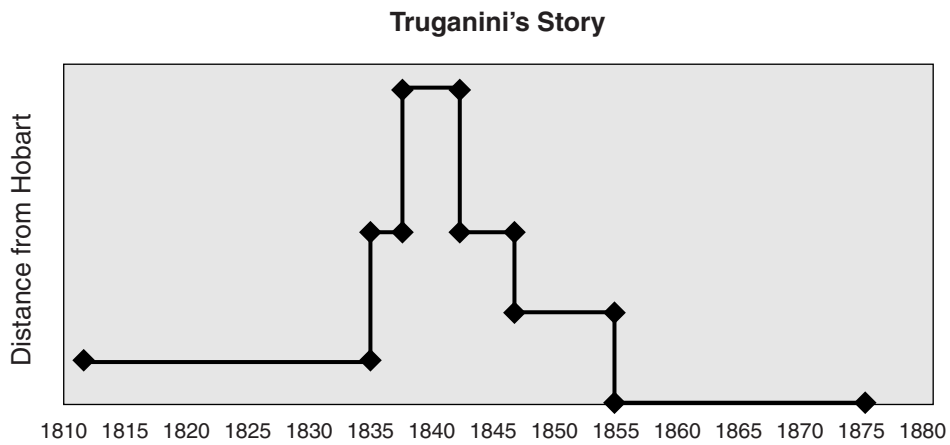
Truganini was a famous Tasmanian Aboriginal woman who, despite seeing her people decimated by murder and disease, refused to be a passive victim. Her strength and determination persist today within the Palawah people who have lived in the region for over thirty thousand years. Some of the events in her fight to help her people are listed below. Use the graph to number the events (from 1 to 6) in the order that they occurred.

☐ Truganini moves to Hobart where she stays until her death.

☐ Truganini and the majority of the remaining Aboriginal people are persuaded to move to Flinders Island by a government officer, George Augustus Robinson.

☐ Truganini and the remaining 45 of her people move from Flinders Island to a settlement at Oyster Cove on the Tasmanian mainland.

☐ Truganini returns to the Wybelanna settlement on Flinders Island after being abandoned by Robinson.

☐ Truganini is born in the Bruny Island-D'Entrecasteaux Channel area of Tasmania at a time when there is a great deal of fighting between the Indigenous people and the new settlers.

☐ Truganini and 13 other Indigenous people are accompanied by Robinson to Melbourne to lobby for improvement in the conditions on Flinders Island.

INTERPRETATION OF GRAPHS, TABLES AND CHARTS   SYLLABUS REFERENCE: S2 (pp 64-65)

Unit 3: Reading Tables 1

Introduction

Information about a tour of Australia by the band Yothu Yindi is given in table form. This is supported by a series of tables showing distances, hotel room-rates and travel arrangements. Students are to extract information from the tables and answer a series of questions. At the conclusion of the activities, students are to consider the positive and negative aspects of this career option, and whether such a career would be suitable for them. Students should be encouraged to explore skills, personal characteristics, training, and other career path options related to this career.

Skills

Students should develop the following skills:

• read and interpret data from a table
• extract appropriate information (from a table) to solve problems.

Practical Activity

Students should already be familiar with the reading of tables, and with checking headings, identifying the columns and the rows, and measurement units, if used.

Students could be asked to answer questions such as:

• what skills do band members need to have?
• do the students themselves have any of these skills?
• what personality traits would band members need to successfully live this lifestyle?
• do the students themselves have any of these traits?
• do the students think they'd enjoy such a career?
• why/why not?
• what training/education would you need to have?
• what other related careers could someone pursue?

This career may be contrasted with another related musical career, and students could explore: the demands that the careers make on a person; training/education requirements; necessary skills/traits; and career paths.

Equipment/Resources

Mathematics Stage 4 Worksheet 3.1
Mathematics Stage 4 Worksheet 3.2
Mathematics Stage 4 Worksheet 3.3

Career Education Outcomes

Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace

• Recognise that individuals have different skills, abilities and talents.
• Identify social and interpersonal skills needed to work cooperatively in a variety of work situations, paid and unpaid.
• Relate their own interests and values to different work tasks and occupations.
• Identify career choices which suit their interests and personal characteristics.
• Assess their own physical attributes relative to specific work requirements.

Identify occupational pathways and their related educational, training and skill requirements

• Identify skills and understanding which may be transferred from one form of work to another.
• Investigate and report on different occupational pathways and their educational and training requirements.

Reading Tables 1 (1)

The table below sets out information relating to a tour by Australian band Yothu Yindi.

After answering the questions below the table, you might consider whether you would like a career as a performer.

Yothu Yindi Tour Information

DATE	VENUE	CITY/TOWN	TIME
12/9	Fox Studios	Sydney	8:15 pm – 8:45 pm
14/9	Domain	Sydney	9:10 pm on stage
15/9	The Great Northern Hotel	Byron Bay	10:30 pm on stage
17/9	The Great Northern Hotel	Byron Bay	10:30 pm – 12 midnight
19/9	Sawtell RSL Club	Coffs Harbour	9:45 pm on stage
21/9	Dapto Leagues Club	Dapto	10:00 pm – 11:15 pm
22/9	Darling Harbour	Sydney	10:30 pm on stage
23/9	North Sydney Leagues Club	Sydney	8:00 pm on stage
24/9	Revesby Workers Club	Sydney	9:30 pm – 10:45 pm
1/10	Olympic Games Closing Ceremony	Sydney	7 pm – 11 pm
14/10	Stompem Ground	Broome, WA	TBA
18/10	Paralympic Games Opening Ceremony	Sydney	TBA
22/10	The Basement	Sydney	TBA
23/10	Deadly Vibes Awards	Sydney	TBA

Use the table to answer the following questions.

1. Where are Yothu Yindi performing on 17 September? _____

2. Between what times does the band perform on 21 September?_____

3. What does 'TBA' mean?_____

4. For how many days in total will the band be on tour? _____

5. On how many days is the band performing in Sydney? _____

6. On how many days is the band performing away from Sydney?_____

7. How many times does the band travel from Sydney to another city/town during the tour?_____

8. How long is the band on stage on:

    a) 12 September?_____   b) 21 September? _____   c) 24 September? _____

Reading Tables 1 (2)

Distances

Sydney				
455	Coffs Harbour			
705	250	Byron Bay		
79	534	784	Dapto	
982	527	277	1061	Brisbane

1. How many kilometres does Yothu Yindi cover in travelling from Sydney to Byron Bay? _____

2. The band then travels from Byron Bay to Coffs Harbour.

   What distance is this?_____

3. How far from Sydney is the band then? _____

4. The band then travels from Coffs Harbour to Dapto, before returning to Sydney. How far is this in total? _____

5. If some of the band members travel to Brisbane from Byron Bay, how far is their return journey?

   _____

Hotel Rates

City/Town	Hotel	Cost per room per night
Sydney	Southern Cross	$150
	Parkroyal	$250
Byron Bay	Sunseeker	$70
	Holiday Inn	$95
Brisbane	Rothbury	$155
	Camelot	$88
Coffs Harbour	Windmill	$72
	Beach Village	$100

1. If Yothu Yindi requires 7 rooms, how much will it cost per night for the band to stay at the:

   a) Parkroyal, Sydney?_____   b) Windmill, Coffs Harbour? _____

2. How much will it cost per room to stay three nights at the Sunseeker, Byron Bay? _____

3. At the Holiday Inn in Byron Bay, the band can stay for three nights for the price quoted for two nights.

   a) How much is this per room? _____

   b) Which hotel in Byron Bay offers the better price for the three-night stay – the Sunseeker or the Holiday Inn? _____

   c) What is the maximum number of nights that the concert schedule allows the band to stay in Byron Bay? _____

4. During the tour, the band spends three nights in Byron Bay and two nights in Coffs Harbour.

   What is the lowest amount the band could pay for accommodation (per room) if they are to stay only at hotels listed in the table? _____

5. During the band's trip to Brisbane, some group members stay at the Rothbury, while others stay at the Camelot.

   For a two-night stay, how much money per room do the group members staying at the Camelot save? _____

Reading Tables 1 (3)

Travel Arrangements

Cost and Travel Time from Sydney

DESTINATION	TRAIN		BUS		PLANE	
	Cost ($)	Time	Cost ($)	Time	Cost ($)	Time
Brisbane	110.00	14 h 11 min	81	16 h	353	1 h 25 min
Byron Bay	97.90	12 h 45 min	79	12 h 30 min	291	1 h 35 min
Coffs Harbour	79.20	8 h 35 min	65	9 h 45 min	257	1 h 15 min
Dapto	30.80	4 h 11 min*	22	2 h	N/A	N/A

* Train to Moss Vale and then coach service to Dapto.

1. A Yothu Yindi fan travels by bus from Sydney to Byron Bay.

   How long does this take? _____

2. (a) Which is the faster mode of transport to Coffs Harbour, train or bus?_____

   (b) How much time is saved if this mode is used, rather than the other? _____

3. Jane wishes to attend the band's performance in Coffs Harbour on 19 September.

   Should Jane take the bus or the train, if the earliest she can leave Sydney is 12:30 pm? _____

4. (a) Yothu Yindi is scheduled to fly from Sydney to Byron Bay on 15 September. If the band members depart at 11:30 am, what time will they arrive in Byron Bay? _____

   (b) How much time will they have before they are due to perform?_____

   (c) If the band has 13 members, what is the total cost to fly the band to Byron Bay?_____

5. The band decides to travel by bus from Byron Bay to Coffs Harbour.

   How long would the trip be expected to take? _____

Conclusion

1. What do you think are some of the positive aspects of a career as a performer? _____

   _____

   _____

2. What do you think are some of the negative aspects of a career as a performer? _____

   _____

3. Do you think you would like such a career?_____

   Why/why not?_____

   _____

ACAP Units of Work

Unit 4: Reading Tables 2

Introduction
The careers of a number of well-known Australians are shown in the table provided (Worksheet 4.1). Students are to extract information from the table and write a brief biography of one of the personalities. Scaffolding is provided to assist the students.

Skills

Students should develop the following skills:

- read and interpret data from a table
- extract appropriate information (from a table) to solve problems
- report on their findings.

Practical Activity

Students are to use the information that they find in answering the questions on Worksheet 4.2 to construct a simple biography.

Teachers should first demonstrate the suggested process by constructing an example with the class. The students should then construct their own simple biography, either individually or in small groups.

To help promote discussion, students could read their completed biography to the class.

Extension/Options

Students could work from the opposite direction, ie construct a table from a given biography. Biographies can be found at:

www.abc.net.au/btn/australians   or
www.adelaidehs.sa.edu.au/topics/biographies.htm#australian

Equipment/Resources

Mathematics Stage 4 Worksheet 4.1
Mathematics Stage 4 Worksheet 4.2

(The careers of four noted Australians are outlined in Worksheet 4.1. These are examples only, and career outlines of other well-known people may be used, as appropriate.)

Career Education Outcomes

Identify occupational pathways and their related educational, training and skill requirements

- Identify skills and understanding that may be transferred from one form of work to another.
- Describe relationships between education, training, skills and experience, and work opportunities.
- Investigate and report on different occupational pathways and their educational and training requirements.

Recognise the ongoing nature of career-path planning

- Identify different needs and priorities that emerge throughout their lifespan.

Reading Tables 2 (1)

Name	Year of Birth	Place of Birth	Career	Start of career	Major accomplishments	Other work/ education
Billy Stockman Japaltjarri	1925	Central Australia	Artist	1971	• Jointly supervised the first published piece of Central Desert art, *Honey Ant dreaming*, in 1971. • Instrumental in the instruction of young Aboriginal men in the use of cultural symbols to represent their dreamings, which empowered a renewed sense of pride and cultural identity among the Aboriginal people of the region. • In 1988, exhibited in New York for the *Dreamings: Art of Aboriginal Australia* exhibition.	Cook; stockman; founder of the Papunya community.
Cathy Freeman	1973	Mackay, Queensland	Athlete	When young she won a scholarship to boarding school and had a professional coach	• In 1994 became the first Aboriginal person to win a gold medal at the Commonwealth Games. • In 1996 won a silver medal at the Atlanta Olympic Games. • Young Australian of the Year in 1990. • Australian of the Year in 1998. • In 2000 won a gold medal at the Sydney Olympic Games.	Has often appeared on television to encourage young people to live healthy lifestyles and to do their best.
Neville Bonner	1922	Ukerebagh Island, Tweed River	Senator in Federal Parliament	While living on Palm Island he took an interest in changing the way his people lived	• In 1967, he decided to enter politics when he saw votes in a referendum change the way Aboriginal people were treated. They would be counted in the census and the Federal Government was empowered to make laws for their benefit. • In 1971 he was sworn in as the first Aboriginal senator in Australia. • He was a senator for 12 years, representing his people and working to establish their rights.	As a child, from 7 years of age, worked clearing bush; worked as a labourer and stockman; had little formal schooling.
Dick Smith	1944	Sydney	Businessman Adventurer Environmentalist	1968	• He started his own electronics business that became so successful he was able to retire in 1982 and do other things. • In 1986, he started the *Australian Geographic* magazine. • He supports many charities. • Australian of the Year in 1986. • In 1999, Smith started his Australian-owned and Australian-made brand of foods.	

Reading Tables 2 (2)

Use Worksheet 4.1 to answer the questions below about one of the famous Australians listed.

Famous Australian: _____

Career: _____

When was he/she born?
_____

Where was he/she born?
_____

What year or event is identified as the start of his/her career?
_____

What are his/her major accomplishments?
_____
_____
_____
_____
_____
_____
_____

Use the information you have found in answering the questions to construct a simple biography.

INTERPRETATION OF GRAPHS, TABLES AND CHARTS

Unit 5: Presentation of Data

Introduction

Various career options available in the local area are to be explored and presented as a research project. The project is to be written up as a newspaper article.

Skills

Students should develop the following skills:
• present statistical data in a variety of forms
• interpret information presented in graphical form.

Equipment/Resources

Various sources of information may be used, including school destination surveys (should be obtained from Careers Advisor).

The local Council and Chamber of Commerce will have information specific to the local area relating to the labour market, job opportunities, workforce trends etc.

The Australian Bureau of Statistics also has information on the labour market and workforce trends.

Mathematics Stage 4 Worksheet 5.1

Career Education Outcomes

Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace

• Recognise that individuals have different skills, abilities and talents.
• Relate their own interests and values to different work tasks and occupations.

Analyse the key factors influencing career values, aspirations and achievements of individuals and groups

• Discuss factors that influence an individual's choice of an occupation.
• Describe how gender, race and socioeconomic status may influence an individual's career aspirations.

Analyse the place and meaning of work in the life of individuals and communities

• Categorise some different forms of work (self-employment, parenting, and part-time, full-time, volunteer, and household work).
• Identify contributions made by people doing different forms of work in the community, and say why they are valued.

Describe features of the labour market including emerging trends and the impact of change

• Describe how factors of location, cycle and season affect work opportunities, and estimate their possible impact on career plans.
• Compare past and present trends in the nature and composition of the labour market.

ACAP Units of Work

RESEARCH QUESTION

In the local area, what career options are likely to be available to students when they leave school?

Step 1:

Students collect newspaper articles which include various graphs. They analyse the articles and consider the following questions:

• Why did the writer of the article use a graph?
• Did the article refer to the graph directly?
• Did it mention figures presented in the graph?
• Did it use figures from the graph to calculate other information?
• How was the article written? (Describe, for example, paragraph format, length of sentences, first sentence in each paragraph.)
• Was the graph misleading?

Step 2:

Using data on school-leaver destinations or local career opportunities, students construct a variety of graphs. They then choose which graph is best suited for a newspaper article.

Step 3:

Students decide which information from the graph they will write about.
• What are the trends?
• What are their findings?

Step 4:

Using the scaffolding on Worksheet 5.1, students write an article in which they include their chosen graph.

 Step 5:

Students are to present the article and graph in a newspaper-style report of their research.

Practical Activity

It would be advantageous to first find an article from a newspaper (ideally dealing with local labour force issues) and deconstruct it as a model for the students.

Features that might be identified include the introduction and background information, any reference in the article to a graph, and any explanation of trends.

The assignment should be presented to the class with a series of deadlines. This could be in the form of a project overview or contract, or could be determined by the students themselves.

Computers may be used for the drawing of graphs. This enables graphs to be drawn quickly and aids in the choice of graph types.

The scaffolding may be varied to enable the students to investigate one or two trends in the data, or to include other information that they may have found.

Newspaper Article Scaffold

Heading:

Introductory paragraph:

Trend from graph:

Further detail or explanation:

Trend from graph:

Further detail or explanation:

Trend from graph:

Further detail or explanation:

Conclusion:

5. MATHEMATICS – STAGE 5 YEARS 9/10

Mathematics Involving Sport

Time: 5–6 weeks

Introduction

This work is based on the Stage 5 Standard Course theme: *Mathematics Involving Sport*. It is designed to enhance current teaching programs with activities that aid the development of the prescribed career-based outcomes through the use of engaging materials and creative approaches. The achievement of career education outcomes is facilitated through the key competencies incorporated in the listed examples of practical activities. These activities are provided as a starting point for teachers. Students should be encouraged in decision-making processes, establishment of time-management techniques, and project goal-setting. As the activities rely on the successful use of group work, teachers are strongly advised to gain assistance from parents and community representatives and Aboriginal Education Assistants.

The relevant Career Education Outcomes from the Board of Studies' *A Statement of Career Education Outcomes — Years 7–10* (1996) are listed below, and are also referenced in each of the units. Some suggestions are put forward for the expansion of the activities through the use of discussion and extension/option topics. However, there are many alternatives that could be used to incorporate or further expand upon career education.

Career Education Outcomes

Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace

■ Recognise that individuals have different skills, abilities and talents.

■ Identify social and interpersonal skills needed to work cooperatively in a variety of work situations, paid and unpaid.

■ Assess their own physical attributes relative to specific work requirements.

Describe cultural and structural features of the world of work

■ Recognise that there is a place in the world of work for people with different skills, abilities and talents.

Describe features of the labour market, including emerging trends and the impact of change

■ Describe how factors of location, cycle and season affect work opportunities and estimate their possible impact on career plans.

Identify occupational pathways and their related educational, training and skill requirements

■ Identify skills and understanding that may be transferred from one form of work to another.

Use of appropriate strategies for career decision making and career planning

■ Explain the steps used in decision making.
■ Develop action plans for achieving education, training and work-related goals, and evaluate the consequences of such action.

Discuss the lifestyle changes and personal adjustments involved in the transition from school to post-school employment and further education

■ Identify use of time management and goal-setting strategies in work and study situations.

Units of Work

Overview

■ Each of the units is designed for approximately one half-week.
■ *Syllabus Reference:* Shows the section of *Mathematics Years 9–10 Syllabus* (1996) [Standard Course] to which the unit relates.
■ *Introduction:* Provides an outline of the work students are to undertake in the unit.
■ *Skills:* This section outlines the mathematical skills that are being addressed in the unit.
■ *Syllabus Links:* Lists relevant content statements from the 'Content Mapped to Themes' section of *Mathematics Years 9–10 Syllabus* (1996) [Standard Course].
■ *Practical Activity:* The activities suggested are designed to facilitate the achievement of career education outcomes as well as to engage and motivate students. Some discussion questions have been suggested at the end of activities to facilitate the transfer of skills to life outside school, and to enhance more specific or targeted career education outcomes.
■ *Equipment/Resources:* This section details necessary equipment and includes references to the appropriate worksheets.
■ *Extension/Options:* These are provided for further investigation of the topic and to provide alternative ideas for teachers.
■ *Career Education Outcomes:* These are documented so that they may be linked to the activities.

ACAP Units of Work

Unit 1: Field/Court Marking

Introduction
Your school is holding a sporting event, which will be attended by a high-profile sporting personality. There needs to be a field/court marked for the sport (eg badminton, hockey, mini-soccer, netball, volleyball) to be played.

Skills

Students should develop the following skills:

- use Pythagorean triads to construct right angles (Pythagoras's theorem)
- use geometric equipment to construct right angles and parallel lines
- use simple ratios for scale (use a scale on a drawing to obtain actual lengths)
- read scale drawings (use a scale drawing to mark out a playing field/court of true size)
- estimate lengths (estimate the amount of twine needed to mark out a field/court)
- make calculations involving perimeters.

Each of the skills needed should be reviewed and practised before commencement of the practical activity outlined below.

Practical Activity

In groups of four, students are to mark out, from a scale drawing, one of the following:
- badminton court
- basketball court
- netball court.
  (Examples only – see Worksheet 1.1)

All students in the group are first given a scale drawing of the field/court and must convert lengths on the drawing to actual lengths, before proceeding outside. An estimate of the twine required to mark out the field/court should also be made (flour may be used as a substitute for twine and pegs, if they are not readily available).

Each member of the group is then given a Job Card (Worksheet 1.2) that describes the role to be undertaken.

The roles are as follows:
The Distance Marker – uses trundle wheel to measure out lengths as read out by *The Records Keeper*.
The Construction Manager — constructs right angles (using Pythagorean triads).

Syllabus Links

M9 (ii) Use Pythagoras's theorem to solve practical problems.
G1 (i) Use appropriate geometric instruments to draw angles, parallel and perpendicular lines, and common plane shapes.
N2 (iv) Use a ratio to calculate one quantity from another.
G1 (ix) Interpret scale drawings, using the scale to calculate actual lengths.
M1 (i) Give reasonable estimates for size.
    (ii) Select appropriate units to measure length and area.
M4 (i) Find the perimeter of plane shapes.

Equipment/Resources

Flour, or twine and pegs
Trundle wheels and tape measures
Mathematics Stage 5 Worksheet 1.1
Mathematics Stage 5 Worksheet 1.2

Career Education Outcomes

Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace

- Recognise that individuals have different skills, abilities and talents.
- Identify social and interpersonal skills needed to work cooperatively in a variety of work situations, paid and unpaid.
- Assess their own physical attributes relative to specific work requirements.

Identify occupational pathways and their related educational, training and skill requirements

- Identify skills and understanding that may be transferred from one form of work to another.

The Marker — places pegs and twine (estimation of twine needed if all of the field/court is to be marked out).
The Records Keeper – reads lengths for *The Distance Marker* and checks these once measured.

If this is the first time the class has been involved in this type of group work, it is suggested that these roles are given to students. If not, students are encouraged to work out roles amongst themselves. Roles can also be exchanged after students have shown a basic competency in the area. This will foster the identification of skills and develop team communication.

Topic/question for discussion

Ask students if they can see how any of the activities that they have just been involved in could be related to the real world (including the world of work).

Extension/Options

Costing of line-marking materials.

Assessment

Assessment of this unit could simply be checking the correctness of the field/court set up, with reference to the amount of help required. Assessment of individual student performance could be linked to the Course Performance Descriptors for the Stage 5 Mathematics Standard Course.

Field/Court Marking (1)

Tennis Court
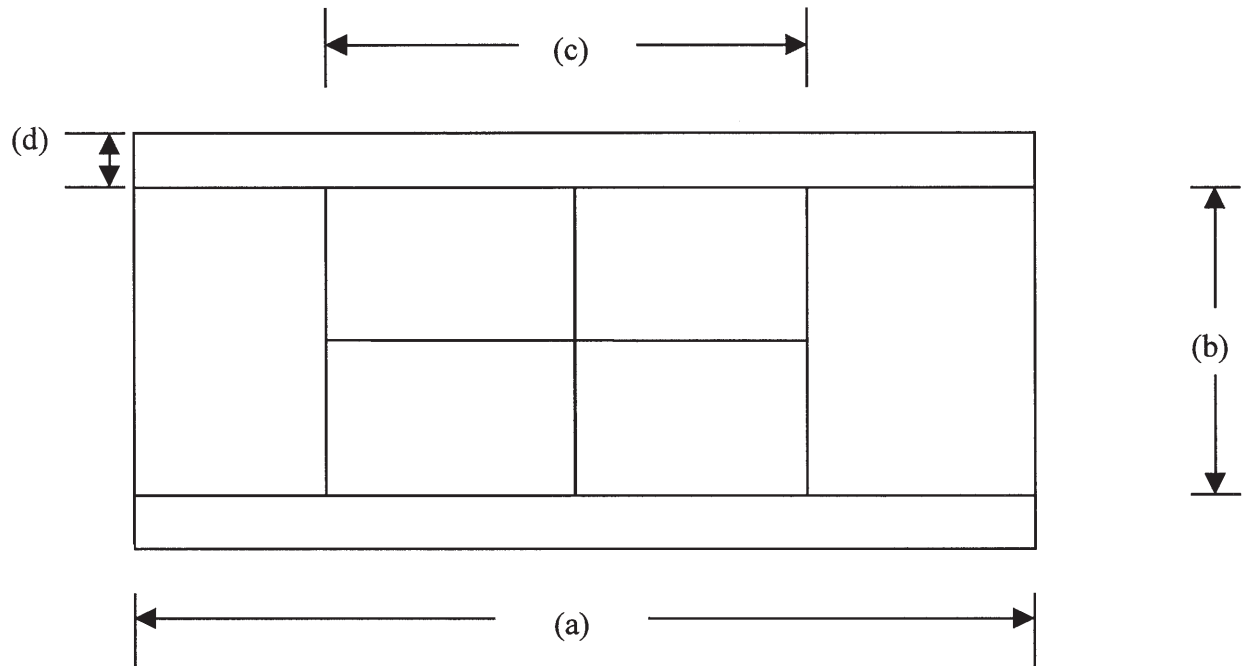
SCALE: 1:200

Actual measurements   **Estimation of twine needed**

(a) _____   _____

(b) _____

(c) _____

(d) _____

Field/Court Marking (2)

JOB CARDS

The Distance Marker

Your job is to use a trundle wheel to measure out lengths as read out by the Records Keeper.

The Construction Manager

You are responsible for the construction of required right angles using Pythagorean triads.

The Marker

You are responsible for the placing of pegs and twine.

The Records Keeper

You are responsible for the reading of lengths for the Distance Marker and the checking of these once they are measured.

ACAP Units of Work

Unit 2: Where in the Park?

Introduction

This section commences with activities involving the arrangement of shapes within a given area and the construction of scale drawings. These activities are followed by a practical activity addressing the following:

Your Year is having a throwing competition (javelin, shot-put, discus, hammer-throw) between Mathematics classes.

Skills

Students should develop the following skills:

- use descriptions of land areas to construct simple diagrams (two-dimensional shapes)
- given a scale, make simple scale drawings of land areas
- calculate areas of simple two-dimensional shapes.

Practical Activity 1

In this activity, students arrange shapes within a given area.

They complete the activity by cutting out the diagrams representing the various facilities on Worksheet 2.1 and arranging them on the diagram of the park provided.

Students should give consideration to the practicality of the position of each facility and document the reasons for the particular locations.

Game – Back-to-Back

Without showing their completed worksheets to other students, students pair off and sit back-to-back, or one in front of the other. One student, the caller, must tell the other student where their facilities are placed. The other student must arrange the facilities to achieve the same arrangement as the caller.

At this stage, teaching should focus on:
- common two-dimensional shapes
- simple scale drawings
- area of two-dimensional shapes.

Practical Activity 2

In this activity, students construct scale drawings (see Worksheet 2.2) from descriptions of land areas and from diagrams.

Syllabus Links

G3 (i)   Recognise and name common plane figures.
G1 (xi) Make scale drawings and use them to solve problems.
M5 (ii), (iii), (iv) and (v)
        Calculate the areas of squares, rectangles, triangles, quadrilaterals, circles and composite figures.

Equipment/Resources
Mathematics Stage 5 Worksheet 2.1
Mathematics Stage 5 Worksheet 2.2

Career Education Outcomes

Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace

- Recognise that individuals have different skills, abilities and talents.
- Identify social and interpersonal skills needed to work cooperatively in a variety of work situations, paid and unpaid.

Use appropriate strategies for career decision-making and career-planning

- Explain the steps used in decision-making.

Practical Activity 3

This activity is concerned with setting up a field for the throwing events: javelin, shot-put, discus, hammer-throw.

Each of these events can be divided into a throwing area and a landing area. The objective of this activity is for students to construct a scale diagram (see Worksheet 2.2) of one of the school fields which is to accommodate all four events.

Again the class is divided into groups of four. The groups may be different from those for the last activity. Each member of the group is responsible for a particular task:

Student 1:
• Javelin area: Making measurements of the field to be used.

Student 2:
• Shot-put area: Recording of field measurements.

Student 3:
• Discus area: Conversion of distances to be used on the scale drawing of the field.

Student 4:
• Hammer-throw area: Calculation of total field area.

Each student calculates the area needed for both the throwing area (including a 2-metre clearance around the perimeter) and the landing area. The student groups will also construct a scale drawing of the field using a scale of 1:1000.

Groups then decide how to arrange the areas on the field, maximising the space between the areas for events that can be held at the same time, with a view to the safety of the participants and spectators. (Note that the areas to be used for some events will need to overlap with others.)

A list of agreed criteria should be recorded.

Topic/question for discussion

Ask the students to discuss how they came to their decisions about where the throwing and landing areas need to be placed.

Extension/Options

Students could prepare:
• a presentation that addresses the reasons for the placement of the throwing and landing areas in particular positions
• a costing for the surfacing of the throwing areas
• a schedule of entry fees for the competition and a set of prizes to be awarded.

Assessment

Students could be assessed on their evaluation of their solutions, by answering questions such as:
• is the layout practical?
• is the layout safe?
• is there room for spectators?

Assessment of individual student performance could be linked to the Course Performance Descriptors for the Stage 5 Standard Course.

Toilets

Canteen

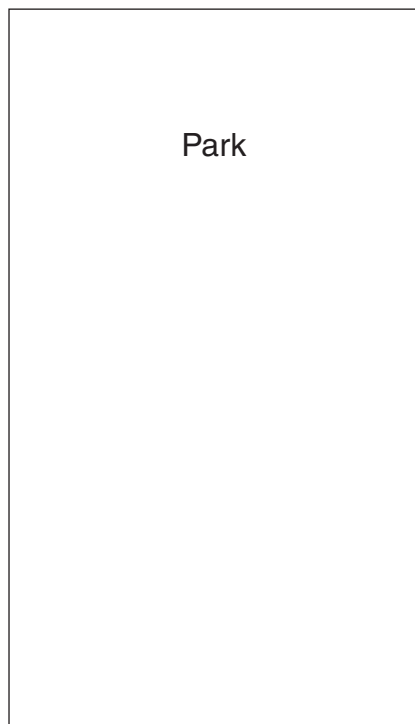Carpark

Grandstand

Field

Where in The Park? (1)

Activity 1

To the left are diagrams representing a number of facilities that are to be placed in the park.

Each is drawn to a scale of 1:2000.

Cut out the diagrams of the facilities and set them out in a practical way in the diagram below.

Park

Can you see any problems with your layout? _____

Activity 2

1. For each of the following descriptions construct a scale drawing of the block of land using a scale of 1:2000. Indicate also whether the block of land will fit all of the facilities given in Activity 1.

   (a) A rectangular block of land with length 150 m and width 100 m.
   (b) A block of land in the shape of a parallelogram with base length 130 m and height 70 m.
   (c) A square block of land of side length 130 m.
   (d) A triangular block of land with a right angle, base length 200 m and height 100 m.

2. For each of the following, use the measurements on the diagram, and a scale of 1:1000, to construct a scale drawing of the block of land.

(a)

50 m

150 m

70 m

130 m

(b)

15 m

15 m

40 m

80 m

130 m
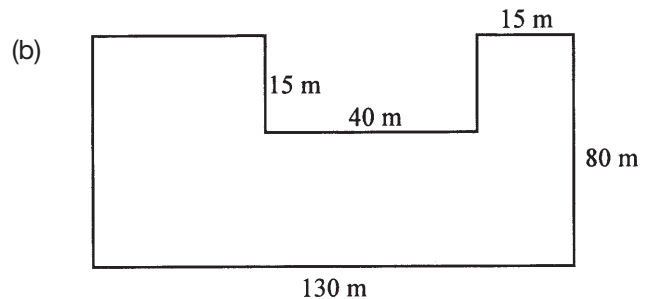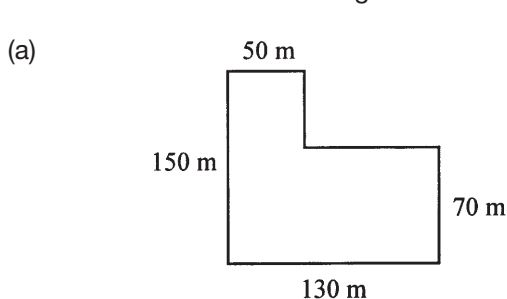
Where In The Park? (2)

Activity 3

The throwing event I am responsible for is

_____

In the space below, construct a scale drawing of the throwing area and landing area using a scale of 1:1000.

My scale drawing of the field

Scale 1:1000

What conclusion would you make about your layout for the field?

_____

MATHEMATICS INVOLVING SPORT – SPORTING VENUES   SYLLABUS REFERENCE: THEME 5(A) (pp 106–107)

Unit 3: The Big Game

Introduction

For a sporting event that is to occur at your school (imaginary or real), your class has decided to raise funds to remove weeds from all of the school playing fields, and to top-dress the field that is to be used. To raise the funds that are needed, your class is going to cater for the event.

Skills

Students should develop the following skills:

- choose an appropriate scale (a scale diagram needs to be drawn of the playing field and surrounding area)
- perform calculations with money (these are the calculations involved in forecasting sales and profit).

Syllabus Links

G1 (x) Choose appropriate scales.
N1 (ii) Choose and sequence arithmetic operations correctly to solve a problem.
(iv) Choose the appropriate mental, written or calculator technique to perform calculations.
(vi) Calculate with whole numbers and money.
(vii) Use a calculator efficiently to perform operations with money, decimals, percentages and common fractions including converting between them.
(xiii) Apply numerical skills to problems including those related to the consumer.

Practical Activity

In groups, students are given the following tasks:

- construct a scale drawing of the area
- choose an appropriate scale to be used for a scale drawing
- estimate the possible crowd size
- suggest where the crowd is likely to stand
- estimate the cost of top-dressing the playing field
- estimate the number of drinks (cans) required for sale (other items may be included or substituted)
- suggest the sale price of items
- calculate the amount of money required to buy drinks (budget/expense)
- forecast the sales
- suggest the position of stalls
- suggest factors that may influence sales
- calculate the profit (forecast).

The students are then asked to sequence the tasks appropriately (do any of the tasks require completion before the commencement of others?). Each student will be responsible for at least two tasks. Once tasks have been completed, each student presents a report to indicate whether it would be a worthwhile activity for the purpose of fund raising (see Worksheet 3.1).

Equipment/Resources

Mathematics Stage 5 Worksheet 3.1

Career Education Outcomes

Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace

- Recognise that individuals have different skills, abilities and talents.
- Identify social and interpersonal skills needed to work cooperatively in a variety of work situations, paid and unpaid.

Describe features of the labour market including emerging trends and the impact of change

- Describe how factors of location, cycle and season affect work opportunities and estimate their possible impact on career plans.

ACAP Units of Work

Topic/question for discussion

Ask the students to suggest and discuss any occupations that they think would be affected by the weather or season.

Extension/Options

The tasks to be completed could be brainstormed by giving students the key ideas: sale of drinks; map for visitors; location of crowd; etc.

Assessment

Students could be assessed by being asked to submit:

• logical order of tasks on a time-line
• completed Worksheet 3.1
• final report.

Assessment of individual student performance could be linked to the Course Performance Descriptors for the Stage 5 Standard Course.

Discuss the lifestyle changes and personal adjustments involved in the transition from school to post-school employment and further education

• Identify use of time management and goal-setting strategies in work and study situations.

The Big Game

The Playing Field

1. Estimation of funds needed:	4. Estimation of costs:
2. Factors that may influence sales:	5. Calculation of profit:
3. Estimation of sales:	6. Suggestions for the event:

MATHEMATICS INVOLVING SPORT – SPORTING VENUES   SYLLABUS REFERENCE: THEME 5(A) (pp 106–107)

Unit 4: Top Field

Introduction

Funds have been made available for the school to treat all of its playing fields for weeds and to top-dress its main playing field (this could be changed to the treatment of fields for any other reason, or the laying of a synthetic surface).

Skills

Students should develop the following skills:

- find areas of plane figures (for each of the areas to be treated)
- perform calculations involving volume (particularly the volume of topsoil required)
- handle money (especially with respect to the purchase of topsoil and herbicides).

Practical Activity

(Concrete materials could be used to show how a volume of material can be spread over an area)

In groups of three, students:

- measure the dimensions of the main playing field
- measure the dimensions of two other playing fields
- calculate the area of each playing field
- calculate the volume of topsoil needed given that one cubic metre will cover 40 square metres
- calculate the amount of herbicide required given that one litre will treat 1000 square metres.

Students distribute the work to be done so that each member of the group has an equal share. A report is written that shows how the work was divided and the group's final costing.

Topic/question for discussion

What are important considerations when using the herbicide?

Extension/Options

Students could compare prices from different topsoil suppliers and for different herbicides.

Assessment

Accuracy of calculations and measurements. Assessment of individual student performance could be linked to the Course Performance Descriptors for the Stage 5 Mathematics Standard Course.

Syllabus Links

M5	**(ii)**	Calculate the area of squares, rectangles and triangles.
M6	**(v)**	Solve problems involving volume and capacity.
N1		Number skills.

Equipment/Resources

Trundle wheels and tape measures.

Career Education Outcomes

Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace

- Recognise that individuals have different skills, abilities and talents.
- Identify social and interpersonal skills needed to work cooperatively in a variety of work situations, paid and unpaid.

Describe cultural and structural features of the world of work

- Recognise that there is a place in the world of work for people with different, skills, abilities and talents.

Use appropriate strategies for career decision-making and career-planning

- Develop action plans for achieving education, training and work-related goals and evaluate the consequences of such action.

MATHEMATICS INVOLVING SPORT – SPORTING VENUES   SYLLABUS REFERENCE: THEME 5 (A) (pp 106–107)

Unit 5: Sports Day

Using skills developed in previous units of work, students are to plan a sports day and present its organisation to the class. The presentation will need to report on the following tasks undertaken in the organisation of the sports day:

- construct a scale drawing of the area including the positioning of drinks stands, officials' table, toilets and at least four playing fields
- estimate the possible crowd size and drink sales
- suggest where the crowd is likely to stand
- suggest the sale price of items
- calculate the amount of money required to purchase the drinks (budget/expense)
- calculate the profit (forecast)
- suggest factors that may influence sales
- forecast the sales
- suggest a sport for the day
- calculate an entry fee for each team and the prizes for first, second and third
- calculate the costs to resurface one playing field
- estimate the number of teams entering, and create a timetable for the day
- create a competition draw.

The presentation/report should be accompanied by a time-sheet recording the order in which tasks were completed and who undertook them.

Career Education Outcomes

Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace

- Recognise that individuals have different skills, abilities and talents.
- Identify social and interpersonal skills needed to work cooperatively in a variety of work situations, paid and unpaid.
- Assess their own physical attributes relative to specific work requirements.

Describe cultural and structural features of the world of work

- Recognise that there is a place in the world of work for people with different skills, abilities and talents.

Describe features of the labour market including emerging trends and the impact of change

- Describe how factors of location, cycle and season affect work opportunities, and estimate their possible impact on career plans.

Identify occupational pathways and their related educational, training and skill requirements

- Identify skills and understanding that may be transferred from one form of work to another.

Use appropriate strategies for career decision making and career planning

• Develop action plans for achieving education, training and work-related goals and evaluate the consequences of such action.
• Explain the steps used in decision-making.

Discuss the lifestyle changes and personal adjustments involved in the transition from school to post-school employment and further education

• Identify use of time management and goal-setting strategies in work and study situations.

MATHEMATICS INVOLVING SPORT – SPORTING COSTS   SYLLABUS REF: THEME 5 (B) (pp 108-109)

Unit 6: How Much to Play?

Introduction

The purpose of this activity is for students to gain an understanding of the costs involved in playing sport, by first exploring their current sports. At the end of the unit, students participate in a class competition. This demonstrates the costs involved in participating in a sport.

Skills

Students should develop the following skills:
• money management skills
• calculating with money.

Practical Activity 1

In small groups, students list types of expenditure associated with their current sports. The aim is to develop a comprehensive list of expenditure types.

Brainstorming may then be used to combine the efforts of the groups.

A class survey may be used to gather data, and appropriate graphical or tabular means used to display the findings.

Practical Activity 2

A competition is conducted involving the whole class. Worksheet 6.1 provides a framework for the draw.

Students calculate the necessary entry fees for competitors and spectators and appropriate prize values for first, second and third place, using Worksheet 6.2.

Syllabus Links

N1   Number skills.
N2   Ratio and rate.
CD2   Displaying, summarising and interpreting data.

Equipment/Resources

Mathematics Stage 5 Worksheet 6.1
Mathematics Stage 5 Worksheet 6.2

Career Education Outcomes

Critically evaluate personal qualities and physical attributes as they apply to career choice and the requirements of the workplace

• Recognise that individuals have different skills, abilities and talents.
• Identify social and interpersonal skills needed to work cooperatively in a variety of work situations, paid and unpaid.

Extension/Options

Students could investigate the running of a sporting entity with consideration of overheads and incomes.

Assessment

This should be focused upon choice of survey questions, and data display methods (graphs, tables).

Appropriate calculations should be evident in the competition planning.

Assessment of individual student performance could be linked to the Course Performance Descriptors for the Stage 5 Mathematics Standard Course.

How Much to Play? (1)

The Class Competition Draw
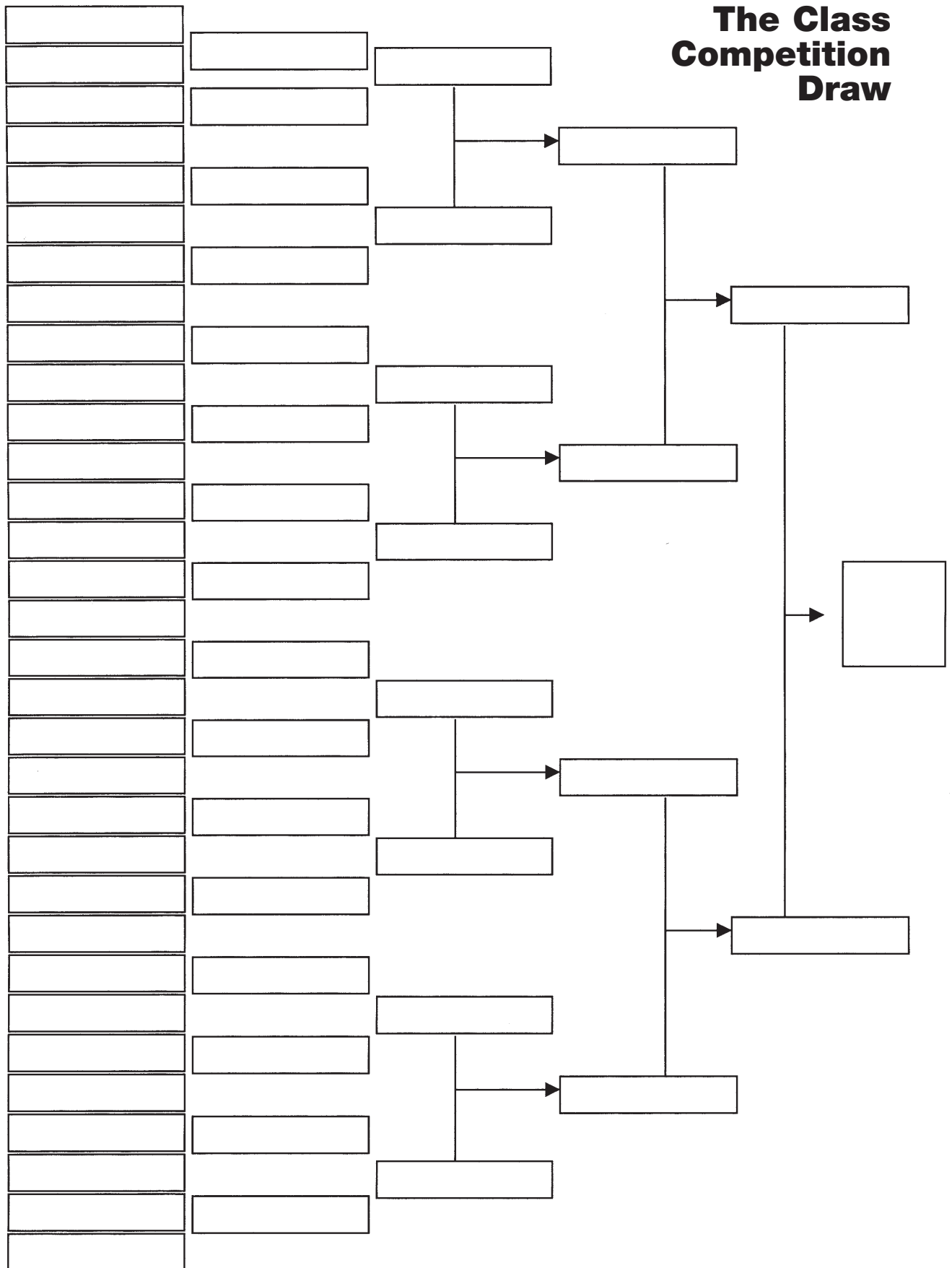
How Much to Play? (2)

Calculation of Prize Money

1. Total entry fees (spectators):	6. Percentage of prize pool for second place:
2. Total game fees (competitors):	7. Prize value ($) for second place:
3. Total prize pool:	8. Percentage of prize pool for third place:
4. Percentage of prize pool for first place:	9. Prize value ($) for third place:
5. Prize value ($) for first place:	

ACAP Units of Work

Unit 7: Run the Race

Introduction
In this activity, students will develop and practise skills associated with time and distance measurement.

Skills

Students should develop the following:
• time measurement skills.

Practical Activity

Students first research (or identify from a list/profile) a famous 100 metres distance runner and complete the first two questions of Worksheet 7.1.

The class then marks out a 100-metre track to run. In pairs, students time each other running the distance. Comparisons can then be made between a student's time and the athlete's time. Particular reference may be made to Question 7 on the Worksheet.

Extension/Options

Present profiles of other famous athletes.

Investigate the world record for the 100 metres over time and present the information in a graph.

Assessment

Assessment of individual student performance could be linked to the Course Performance Descriptors for the Mathematics Stage 5 Standard Course.

Syllabus Links

M8 (ii) Estimate and measure time and duration of time.

Equipment/Resources

Trundle wheels and tape measures
Stopwatches
Mathematics Stage 5 Worksheet 7.1

Career Education Outcomes

Describe cultural and structural features of the world of work

• Identify factors that enhance work outcomes (rewards, satisfaction, security, safety measures).

Discuss the lifestyle changes and personal adjustments involved in the transition from school to post-school employment and further education

• Identify use of time management and goal-setting strategies in work and study situations.

Run the Race

1. The athlete's name is _____

2. The athlete's personal best time for the 100 m is _____

3. My time for running 100 m is_____

4. The difference in times is _____

5. If I were to run 1000 m it would most likely take _____

6. If the athlete were to run 1000 m it would most likely take_____

7. Why do you think this athlete has put in a great deal of time and effort to achieve this result?

_____

_____

_____

_____

_____