Dance in another dimension

Strand
Dance

Possible link
Mathematics

Purpose

Students will explore the dance components of space, time, energy, form and action using mathematical concepts involving space and shape.

Overview

Activities in this module are based on a learner-centred approach and are organised into the three phases of:

Exploring
Students will:
- explore mathematical concepts of shape, including angles (with two-dimensional and three-dimensional images and objects)
- use dance components of space, time and energy to represent their understandings of shape and angles.

Developing
Students will:
- explore mathematical concepts of symmetry, slides, turns, enlargements, reductions and viewpoint
- use dance components of space, time and energy to represent their understandings of symmetry, slides, turns, enlargements, reductions and viewpoints.

Culminating
Students will:
- explore the mathematical concepts of location and direction using dance components of space, time, energy and form
- draw on their dance exploration and development of mathematical concepts of shape, angles, symmetry, viewpoints, location and direction to create and practise dance sequences.

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Using this module

This module provides suggestions for planning, teaching and assessing using core learning outcomes and core content from the *Years 1 to 10 The Arts Syllabus*. It provides one way of addressing the core learning outcomes and may be adapted to suit the particular context of a school. The activities are neither exhaustive nor definitive but are intended as a guide for planning units suited to the needs of students. You are encouraged to modify the activities in this module to meet the specific needs and interests of particular individuals and student groups, and the learning environment. Some students with physical, hearing or vision impairment may need assistance with some of these activities. Seek advice from their support teachers.

This module identifies possible links to the Mathematics key learning area through its activities.

Activities also contribute to learning in literacy, numeracy, and lifeskills and can be used for gathering evidence about students' development in these cross-curricular priorities. Literacy practices include speaking and listening, viewing images, writing lists, representing and recording ideas, structuring ideas, communicating meaning and increasing vocabulary. Numeracy practices include awareness of time, shape, space and spatial relationships, and identifying and making use of patterns and sequences. Lifeskills addressed include personal development skills, social skills, and self-management and citizenship skills.

Module organisation
When developing a unit of work from this module, select activities from each phase — Exploring, Developing and Culminating. While the phases are sequential, the activities may be arranged in any order within the phases and combined with activities from other modules and sources.

At the end of the activities in each phase, you will find suggested Focus questions that may be useful at various times throughout that phase. Teaching considerations are also included to provide ideas, suggestions and clarification relevant to the activities. See Teacher resource 1 for a sample lesson plan that shows one way of sequencing activities in a lesson within a 35 minute time frame.

Evaluation of a unit of work
After completion of units of work developed from this module, collect information and make judgments about:

- teaching strategies and activities used to progress student learning towards demonstrations of core learning outcomes
- opportunities provided to gather evidence about students' demonstrations of core learning outcomes
- future learning opportunities for students who have not yet demonstrated the core learning outcomes and to challenge and extend those students who have already demonstrated the core learning outcomes
- the extent to which activities matched needs of particular groups of students and reflected equity considerations
- the appropriateness of time allocations for particular activities
- the appropriateness of resources used.

Information from this evaluation process can be used to plan subsequent units of work so that they build on, and support, student learning. The evaluated units of work may also be adapted prior to their reuse. For further information, refer to the 'Curriculum evaluation' section in the sourcebook guidelines.

Core learning outcomes

This module focuses on the following core learning outcomes from the Dance strand of the *Years 1 to 10 The Arts Syllabus*.

Level statement: Level 3
Students combine and manipulate dance components when creating sequences or modifying intended meanings of existing movement sequences. They perform movement sequences from beginning to end with accuracy. They demonstrate awareness of an audience through use of appropriate focus.

Students work individually and collaboratively for a familiar audience and specific purpose. They interpret and evaluate their own and others' dance using various communication methods, such as writing, talking, moving or drawing.

Students demonstrate safe warm-up techniques in preparation for movement.

DA 3.1 Students modify intended meanings of movement sequences using dance components.

DA 3.2 Students perform rehearsed movement sequences with focus and accuracy.

DA 3.3 Students interpret their own and others' dance.

Other key learning areas

Mathematics core learning outcomes
The core learning outcomes in this key learning area were in development at the time of publication. The activities described in this module could contribute to learning in the Mathematics key learning area.

Core content

This module provides a learning context for the following Level 3 core content from the syllabus, in addition to the core content from previous levels:

space	• focus • group formations • relationships between people and objects in the space
time	• variety of time signatures such as $\frac{2}{4}$ $\frac{3}{4}$ $\frac{4}{4}$ and $\frac{6}{8}$
energy	• sustaining, suspending, vibrating
form	• canon, movement motifs, ternary
action	• locomotor and non-locomotor movements
function	• recreation
analysis	• interpretation of a choreographer's use of dance components, visual elements and aural elements

Assessment

The following table provides examples of opportunities in this module for gathering evidence and making judgments about student demonstrations of The Arts core learning outcomes. When making an on-balance judgment about demonstrations of the learning outcomes, consider all the points in the 'Making judgments' column. The table is neither exhaustive nor mandatory. Assessment opportunities should be negotiated with students to maximise their demonstrations of these outcomes in a variety of ways. Reflect with students on evidence gathered to make judgments about their demonstrations.

<table>
<tr><th>Outcomes</th><th>Gathering evidence</th><th>Making judgments</th></tr>
<tr><td rowspan="2">DA 2.1
Students select dance components to create movement sequences that communicate feelings, relationships and narratives.

DA 3.1
Students modify intended meanings of movement sequences, using dance components.</td><td rowspan="2">Students may:
create, practise and perform a dance sequence that incorporates the following:
shapes that represent a chosen three-dimensional object, viewed from a range of perspectives
shapes that are symmetrical
a floor pattern that includes a diagonal and a circular direction
a beginning to the dance that faces north and an ending to the dance that faces west.
The teacher may use:
observation
peer-assessment
recorded in:
anecdotal records.</td><td>Level 2
Do students:
work with a partner in a personal space to create movements that represent different perspectives of a three-dimensional object?
create shapes on low and high levels to communicate understanding of contrast?
create movement spontaneously, but repeat the movements in order to remember them?</td></tr>
<tr><td>Level 3
Do students:
create shapes with their bodies to represent two- and three-dimensional images and objects?
modify the two-dimensional shapes to create three-dimensional shapes?
use different group formations to change the appearance of a shape?
create movement motifs to represent particular shapes or the concept of symmetry?
change and combine movement components to make a variety of movement effects?</td></tr>
<tr><td rowspan="2">DA 2.2
Students perform short sequences that communicate feelings, relationships and narratives.

DA 3.2
Students perform rehearsed movement sequences with focus and accuracy.</td><td rowspan="2">Students may:
perform a sequence based on the compass points of N, S, E, W. Students then re-perform the sequence but in a new order, according to the way peers or teacher jumble the sequence of movements — for example, S, W, N, E or W, E, S, N.
The teacher may use:
observation
focused analysis
recorded in:
observation notes.</td><td>Level 2
Do students:
move freely through personal (close) and general (open) space when moving individually, in pairs or in groups, maintaining created shapes?
use direction in performance of sequences to show a distinction between one phrase of movement and the next?
use facial expression and body language to help communicate the feeling of the shape being represented?</td></tr>
<tr><td>Level 3
Do students:
perform combinations of movements such as quick changes of direction, speed or levels?
no longer rely on visual or verbal prompting from teacher or peers?
perform movements with accuracy regardless of the speed with which they are performed or the amount of room available to perform in?
perform the rehearsed sequences as accurately as possible?
concentrate during the performance of sequences by maintaining the established shapes, directions, speed and energy of movements?</td></tr>
</table>

This table is continued on the next page…

<table>
<tr><th>Outcomes</th><th>Gathering evidence</th><th>Making judgments</th></tr>
<tr><td rowspan="2">DA 2.3
Students identify dance components when responding to their own and others' dance.

DA 3.3
Students interpret their own and others' dance.</td><td rowspan="2">Students may:
• reflect on their created dance sequences that demonstrate mathematical concepts.

The teacher may use:
• peer-assessment
• student/teacher consultation

recorded in:
• reflective diaries
• anecdotal notes.</td><td>Level 2
Do students:
• use dance language such as 'low levels', 'fast speed', 'a lot of energy', 'angular shapes' to describe movements they created or performed?
• identify instances when they observed repeated movements?
• discuss what concepts the movements are representing?
• identify movements that are changed by changing a component — for example, movement that travels or stays on the spot?</td></tr>
<tr><td>Level 3
Do students:
• interpret a dance by commenting on the movements observed, with regard to space, time, energy and form?
• provide positive feedback to peers?
• offer suggestions for improvement and discuss what was effective?
• identify the ideas communicated through the dance?
• respond to dance in a variety of ways such as discussion, movement, drama, other forms of visual expression?</td></tr>
</table>

Background information

Stimulus
The stimuli for the activities in this module are explorations of the concepts of shape and space at Level 3 of the Mathematics key learning area. These explorations encompass line, angle, symmetry, location and direction.

Movement
Throughout the module students are encouraged to use movements they are familiar with and develop them by using stimulus material. Students could, for instance, use:
- every day locomotor and non-locomotor movements such as walking, sitting and rolling
- shapes made with their bodies to communicate their understandings of mathematical concepts
- movements learnt in dance classes that some students participate in outside school hours such as local ballet studios or creative movement classes.

Dance organisers — choreography, performance and appreciation
The three organisers through which dance is explored are choreography, performance and appreciation.
- Choreography involves the creation, planning and arranging of movements into a meaningful whole through the use of choreographic elements and structuring devices.
- Performance involves the presentation of physical, expressive or interpretive movement in an educational setting that emphasises process and development, or performance in a formal manner to entertain an audience.
- Appreciation involves discerning the forms of dances, and describing, interpreting and evaluating dance, by observing the students' own dances or the dance of others in a variety of contexts, and through the use of appropriate dance terminology.

Terminology

Students have opportunities to become familiar with and use the following terminology in this module:

angle	levels	position	sphere
canon	line	reduction	suspending
compass points	location	representation	symmetry
diagonal	modify	right angle	three-dimensional
directions	more than	shape	turn
enlargements	pathways	slide	two-dimensional
floor pattern	percussive	space	viewpoints
less than	perspective		

School authority policies

Be aware of and observe school authority policies that may be relevant to this module. Education Queensland policies on health and safety considerations for Dance may be found at www.education.qld.gov.au/corporate/doem/sindex/d-ind.htm.

For policies and guidelines for the Catholic sector, refer to the Queensland Catholic Education Commission website at www.qcec.qld.catholic.edu.au/www/index.cfm.

Equity considerations

This module provides opportunities for students to increase their understanding and appreciation of equity and diversity within a supportive environment. It includes activities that encourage students to:

- be involved within a supportive environment
- work individually or in groups
- value diversity of ability, opinion and experience
- value diversity of language and cultural beliefs
- support one another's efforts
- become empowered to take on roles
- negotiate and accept change
- become empowered to communicate freely.

It is important that these equity considerations inform decision making about teaching strategies, classroom organisation and assessment.

Support materials and references

The following resources may be helpful additions to your professional library. Review material before using it with students.

Information relating to copyright issues can be found at the Australian Copyright Council's *Online Information Centre* at www.copyright.org.au/index.htm. Please note the licence conditions that apply to downloading and printing information sheets from this site.

Print

Teacher reference

Donohue Zakkai, J. 1997, *Dance as a Way of Knowing,* Stenhouse Publishers, California.

Gilbert, A. 1992, *Creative Dance for All Ages,* Alliance for Health, Physical Education, Recreation and Dance, USA.

Harrison, K. & Auty, J. 1991, *Dance Ideas: For Teachers, Students and Children,* Hodder and Stoughton, London.

Hinkley, C. 1980, *Creativity in Dance,* Alternative Publishing Co-operative Ltd, Australia.

McGreevy Nichols, S. & Scheff, H. 1995, *Building Dances,* Human Kinetics, USA.

Rickett-Young, L. 1996, *Essential Guide to Dance*, Hodder and Stoughton, London.

Shreeves, R. 1979, *Children Dancing,* Ashton Scholastic, London.

Slater, W. 1993, *Dance and Movement in the Primary School*, Northcote House, United Kingdom.

Electronic

Websites

(All websites listed were accessed in April 2002)

Afro-Celt Sound System:
www.bbc.co.uk/radio2/folk/artist_database/pages/afroceltsoundsy.shtml

Philip Glass: www.philipglass.com/

Jean-Michel Jarre: www.homestead.com/jarre

Refer to the Queensland School Curriculum Council website for information about the Mathematics key learning area: www.qscc.qld.edu.au/

Organisation

Australian Dance Council: Ausdance (Qld)
http://sunsite.anu.edu.au/ausdance/index.html

Activities

Phase 1 — Exploring

Students:
- explore mathematical concepts of shape including angles (with two-dimensional and three-dimensional images and objects)
- use dance components of space, time and energy to represent their understandings of shape and angles.

Outcomes	Activities	Gathering evidence
DA 3.1 Students modify intended meanings of movement sequences using dance components. **DA 3.2** Students perform rehearsed movement sequences with focus and accuracy. **DA 3.3** Students interpret their own and others' dance.	Through movement, students explore and demonstrate their understandings of two-dimensional and three-dimensional images and shapes. Students: • view two-dimensional and three-dimensional images and shapes. They identify and discuss similarities and differences. • individually or in pairs, create shapes with their bodies that represent two-dimensional images — for example, making a shape that represents a circle or a triangle. • are challenged to modify the shape by asking them to create the shape on a low level, facing a different direction or joining the shape with another person's or group's — but still keeping the two-dimensional feel to the shape. • modify the representation of the two-dimensional shape to create a representation of a three-dimensional shape — for example, change the circular shape into a spherical one. • make the still shape move by choosing an energy type and movement quality such as strong — percussing movement as though the sphere is bouncing; or weak — suspending movement as though the sphere is rolling. Through movement, students explore and demonstrate their understanding of the mathematical concept of angles. They: • discuss the concept of angles and square corners, and compare angles with a right angle. They identify angles in images and objects in the environment. • individually, create shapes with their bodies that represent different angles — a right angle, less than and more than a right angle. They use a range of separate body parts such as fingers or legs, or their whole body, to make the angles. • in groups, create a three-dimensional shape made up entirely of angular body shapes. • change a body shape that has an angle less than a right angle into a body shape that has an angle more than a right angle. • change the body shape's size (for example, small to big) and levels (for example, low to high) to investigate whether or not the angle changes. • explore the connection between right angles and quarter turns. They create a body shape that represents a right angle, and change the direction it faces by turning quarter turns on the spot.	**DA 3.1** *Assessment technique:* • *peer-assessment* To assist in making judgments, refer to the questions in the Assessment table on page 4.

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Outcomes	Activities	Gathering evidence
	• discuss how dance components of space, time and energy can be used to represent a range of angles. • create a short sequence of 'angle' movements altering the speed of the changes between the shapes — for example, begin with a less than a right angle body shape; make a slow change to a right angle shape; make a quick change to a more than a right angle shape; finish with a slow change to a right angle shape. • further structure the 'angle' sequence by adding canon form. Some students begin the sequence while others come in at later starting points to repeat the sequence. Practise and perform for peers.	**DA 3.3** *Assessment technique:* • *student–teacher consultation* To assist in making judgments, refer to the questions in the Assessment table on page 4. **DA 3.2** *Assessment techniques:* • *teacher observation* • *focused analysis* To assist in making judgments, refer to the questions in the Assessment table on page 4.

Focus questions
- How do you identify whether a shape or object is two-dimensional or three-dimensional?
- Where will you see angles? What are some angles you found?
- How can two-dimensional shapes and three-dimensional objects, or different angles, be shown through movement?
- Was it easy or difficult to create two-dimensional shapes with your body? Why?
- Did creating the shape on different levels, or using different energy, change the appearance of the intended shape? How and why?
- When you view the body shape from different positions, how does what you see change?

Teaching considerations
Introduce students to the idea that performance in dance does not have to be for a formal audience. Students practise dance sequences choreographed by themselves or the teacher. Students should be encouraged to experiment with and manipulate their performances by using the components of time, space and energy, to learn how to communicate personal intent and expression to an audience.

When looking at the angles created by the body, the students should be encouraged to engage the torso as well as the extremities. Draw attention to the idea of the shapes being three-dimensional, how the torso can spiral (twist) and how the shape may be created at any level (high, medium, low). Point out to the students that they can only represent, not actually 'be', two-dimensional shapes, because their bodies are three-dimensional.

When performing the 'angle' sequence, you may wish to use music that in some way mirrors the shapes being created. Some musical suggestions include Philip Glass, Jean-Michel Jarre and Afro-Celt Sound System (see Support materials and references).

The use of video when discussing shape should always take into consideration that the video image flattens the appearance of the shape, and may change the dynamic of the movement. What the students think are exciting and interesting shapes, or high energy movements, may be disappointing when viewed on video. It may be necessary to explain these changes. This could include discussion of:
- camera angles
- the moving camera
- lighting
- camera frames

Have information texts, visual stimulus and teaching aids readily available in the room for students to refer to when exploring and representing mathematical concepts through movement.

Phase 2 — Developing

Students:
- explore mathematical concepts of symmetry, slides, turns, enlargements, reductions and viewpoints
- use dance components of space, time and energy to represent their understandings of symmetry, slides, turns, enlargements, reductions and viewpoints.

Outcomes	Activities	Gathering evidence
DA 3.1 Students modify intended meanings of movement sequences using dance components. **DA 3.2** Students perform rehearsed movement sequences with focus and accuracy. **DA 3.3** Students interpret their own and others' dance.	Through movement, students explore and demonstrate their understanding of the mathematical concept of symmetry (see teaching considerations). Students: • view found images and objects to identify shapes that have a line of symmetry. • face a mirror and create shapes with their bodies that appear to be equal in shape and size on both sides of an imaginary centre line. • work in pairs to create a larger shape that has a line of symmetry. • explore ways of making the symmetrical shapes move, whilst maintaining the symmetry. They use a range of levels (low, medium and high), directions (forward, backward and diagonal), pathways (under, over, around and through) and group formations (pairs, threes and fours). • design a symmetrical floor pattern for a sequence of movements, incorporating pathways and directions such as diagonals, right angle turns, and circles. They perform their exploration of movements along the floor pattern (see Student resource 1). Through movement, students explore and demonstrate their understanding of the mathematical concept of the actions required for slides, turns, enlargements and reductions. • discuss and make a list of ideas about how an image or object may be viewed — for example, turning or rotating an object to see it from a different viewing point, and imagining a single shape in a range of sizes — reduced to enlarged. • view a sculpture from one direction only and create shapes with their bodies that represent the sculpture from that viewing point. • now change the viewpoint from which they observe the sculpture — for example, from a bird's eye view or a worm's eye view, or side on, and create a new shape/s, in order to modify the first shape they made. • sequence the shapes they have explored to create a short dance sequence. They perform it for their peers for discussion and reflection. • using peer input, modify some of the shapes in the sequence so that they reflect another person's viewing point — for example, seeing the movement from behind rather than from in front.	**DA 3.1** *Assessment technique:* • *teacher observation* To assist in making judgments, refer to the questions in the Assessment table on page 4. **DA 3.3** *Assessment technique:* • *peer-assessment* To assist in making judgments, refer to the questions in the Assessment table on page 4.

Focus questions
- What makes a two-dimensional shape or a three-dimensional object symmetrical?
- Is it easier to create a symmetrical shape with your own body or with a partner? Why?
- How did you have to change your shapes to reflect the new viewing point from which it could be seen?
- Which body parts did you use to change your shapes?

Teaching considerations
Students are encouraged to think about and discuss their choreographic processes. It is important for students to remember to justify their thoughts and ideas about dance, and to be receptive to the thoughts and ideas of others.

When creating symmetrical shapes in pairs, draw the student's attention to the details of mirroring an exact body shape. Encourage students to check that their head lines, fingers, shoulders and eye lines are a mirror image of their partner's position. You might show them a kaleidoscope to illustrate duplicating symmetrical body shapes for group formations.

When the students are forming their symmetrical shapes in pairs, you may wish to consult with the Health and Physical Education Module, Level 3, *Fantastic gymnastics,* for ideas for group and partner balancing using symmetrical formations.

The dance sequence can be created by linking the shapes with locomotor movements such as rolling, leaping, twisting, sliding, crawling. You may wish to have the students create a list of 'moving words' to help them decide on movements they could use to link their shapes. Try using contrasting music to accompany the dance sequence — for example, a slow lyrical piece in contrast to a fast, sharp piece of music. Draw students' attention to the change in energy when they perform the same movements to different music. Ask students to nominate music they think works well for their dance sequences, and why.

Phase 3 — Culminating

Students:
- explore the mathematical concepts of location and direction using dance components of space, time, energy and form
- draw on their dance exploration and development of mathematical concepts of shape, angles, symmetry, viewpoints, location and direction to create and practise dance sequences.

Outcomes	Activities	Gathering evidence
DA 3.1 Students modify intended meanings of movement sequences using dance components. **DA 3.2** Students perform practised movement sequences with focus and accuracy. **DA 3.3** Students interpret their own and others' dance.	Through movement, students explore and demonstrate their understanding of the mathematical concepts of location and direction. They: • participate in performing a dance sequence by following instructions on a map (see Student resource 2). This can be a pair or small group activity. • modify three of the movements used in the previous activity by changing the space, time or energy of the movements. • create a sequence based on the compass points of N, S, E, W. For example, they may: – travel in a northward direction slowly performing movements on a low level – travel in an eastward direction performing movements with a lot of energy and on a high level – travel in a southward direction using percussive movements that zigzag – travel in a westward direction using a little amount of energy and travelling backward. • recall the way they moved toward each direction. Peers or teacher jumble the sequence of movements by calling out the directions in different orders — for example, S, W, N, E or W, E, S, N — and the students perform the movements in the new order. Students draw on their dance exploration and development of mathematical concepts of shape, angles, symmetry, location and direction to create and practise dance sequences. They: • create, practise and perform a dance sequence that incorporates the following: – shapes that represent a chosen three-dimensional object observed from a range of viewing points – shapes that are symmetrical and have a right angle – a floor pattern that includes a diagonal and a circular direction – a beginning to the dance that faces north and an ending to the dance that faces west. • discuss the structure of their dances and their success in representing the mathematical concepts through movement.	**DA 3.1** *Assessment technique:* • *teacher observation* To assist in making judgments, refer to the questions in the Assessment table on page 4. **DA 3.2** *Assessment techniques:* • *teacher observation* • *focused analysis* To assist in making judgments, refer to the questions in the Assessment table on page 4. **DA 3.3** *Assessment technique:* • *peer-assessment* To assist in making judgments, refer to the questions in the Assessment table on page 4.

Focus questions
- How do you identify the compass points of north, south, east and west?
- What is one way of committing a sequence of movements to memory that works for you?

Teaching considerations
When beginning the activities involving location you may wish to mark the compass in the dance space using cards, tape or chalk marks on the floor, until the students develop their sense of where the compass directions are.

Sample lesson plan — Teacher resource 1

Focus core learning outcomes: DA 3.1, DA 3.2 and DA 3.3

Focus of this lesson: Exploring phase.
Students explore movement and develop movement vocabulary by:
- using knowledge of, and responding to, the mathematical concept of angles
- using dance components of space, time, energy and form
- using known actions (movement) such as rolling, walking, sitting, hopping, sliding.

Resources
- Teachers will need to set up an uncluttered space for movement to take place.

Purpose	Mins	Activity procedure
Preparation — at some time prior to the lesson		• Students discuss the concept of angles. They view images and objects in the environment and identify right angles and angles that are less than or more than right angles.
Warm-up	5	• Individually, students create shapes with their bodies that represent different types of angles. • They use a range of separate body parts such as fingers or legs, or their whole body, to make the angles — for example, using one arm outstretched, bend at the elbow to make an angle less than a right angle; a right angle; and an angle more than a right angle. Repeat with the other arm; try with the legs.
Exploration	10	• In groups, students create a three-dimensional shape made up entirely of angular body shapes. • They demonstrate their shape to peers and discuss the effect the angular shapes make.
Development	10	• Students modify the group angular shape so that some shapes are smaller or larger or face different directions.
Culmination	5	• Students explore making the shape move. This will require them to compromise and negotiate the ways and directions in which they would like to move. • Discuss whether or not *making a still shape move* changes the appearance of the shape.
Cool down	5	• Repeat the warm-up but begin with the big movements and finish with small movements.

Dance classroom management — Teacher resource 2

Organising a dance classroom
For a dance lesson to be a positive experience for all, consideration needs to be given to the space where the lesson is to take place, as well as the way the lesson is conducted.

- Clear the space of any desks, chairs and other moveable objects, so that all students are able to move freely, on their own or in small groups in the space, without bumping into others or objects.
- Ideally, a bare wooden floor, not lying directly in contact with concrete underneath, is the most suitable flooring for dance. If a carpet covered, concrete floor is all that is available, it is advisable that no jumping action takes place.
- When using audio equipment, it is important that it is on a table or shelf out of the way of the movement that is taking place. Be aware of the volume of the accompanying recorded or live music. If the music is too loud students will not be able to follow teacher instructions, there will be risk of voice strain, and nearby classes will be interrupted.
- The duration of a dance lesson should run for 20 to 30 minutes. This time does not include set-up and pack-up time. The actual number of activities in a lesson will depend on how much development or expansion of the activities takes place.
- It is beneficial to revisit movement sequences or activities from previous lessons, so that students build their movement vocabulary.
- If students are required to remove their shoes, establish a place for the shoes that is out of the way of the movement. Encourage the students to wear clothing that is not restrictive, is modest, and offers protection from the sun if dance is to take place outdoors.

Preparation for movement — warm-up and cool down
Prior to beginning any movement lesson, a warm-up is essential. An ideal warm-up should involve visual and verbal instructions from the teacher. During warm-up exercises it is important that each student is able to follow teacher instructions.

Warm-up could include:

- simple stretching and bending movements that involve the entire body
- small gentle movements that isolate and prepare joints such as ankles and wrists
- locomotor and non-locomotor aerobic exercises that raise heart rate and increase blood circulation.

The warm-up should be connected to the content or stimulus of the lesson to develop the understanding that warm-up is preparation for movement and not an isolated experience. Using music that reflects the stimulus of the lesson, or incorporating simplified versions of movements the students may use in the lesson, is an easy way to do this.

During the cool down students should stretch slowly using movements that reflect the content of the lesson in addition to familiar movements from the warm-up. Students should be encouraged to reflect on what has occurred during the lesson.

Safety considerations
Students should:

- respect the other students dancing with them in the space and allow them enough room to move without bumping into each other
- remove shoes so that other students are not injured while moving on the floor
- remove socks if the floor surface is slippery
- not make physical contact with other students unless specifically requested by the teacher when performing partner or group activities
- be aware of the objects around the room that may need to be avoided — for example, the edges of desks, chairs, windows or doorways.

Using symmetry in dance sequences — Student resource 1

Create a symmetrical floor pattern for your very own dance!

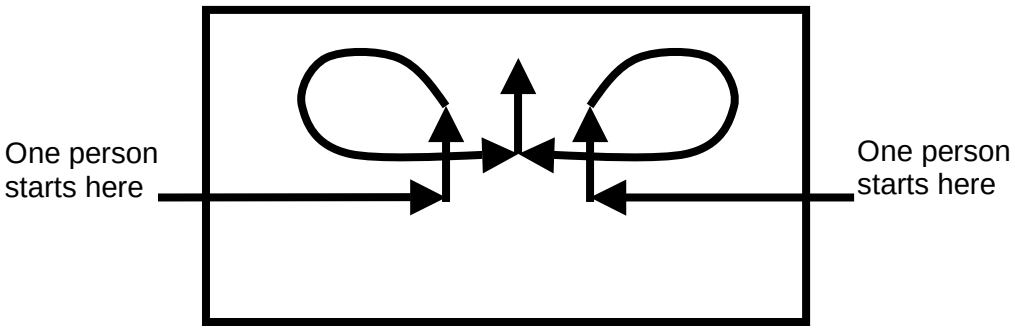
You already know the following things:

- how to identify shapes that have a line of symmetry
- how to create symmetrical shapes with your own body
- how to make your symmetrical shapes move.

Now … design a floor pattern for the movements you have created that includes the following aspects:

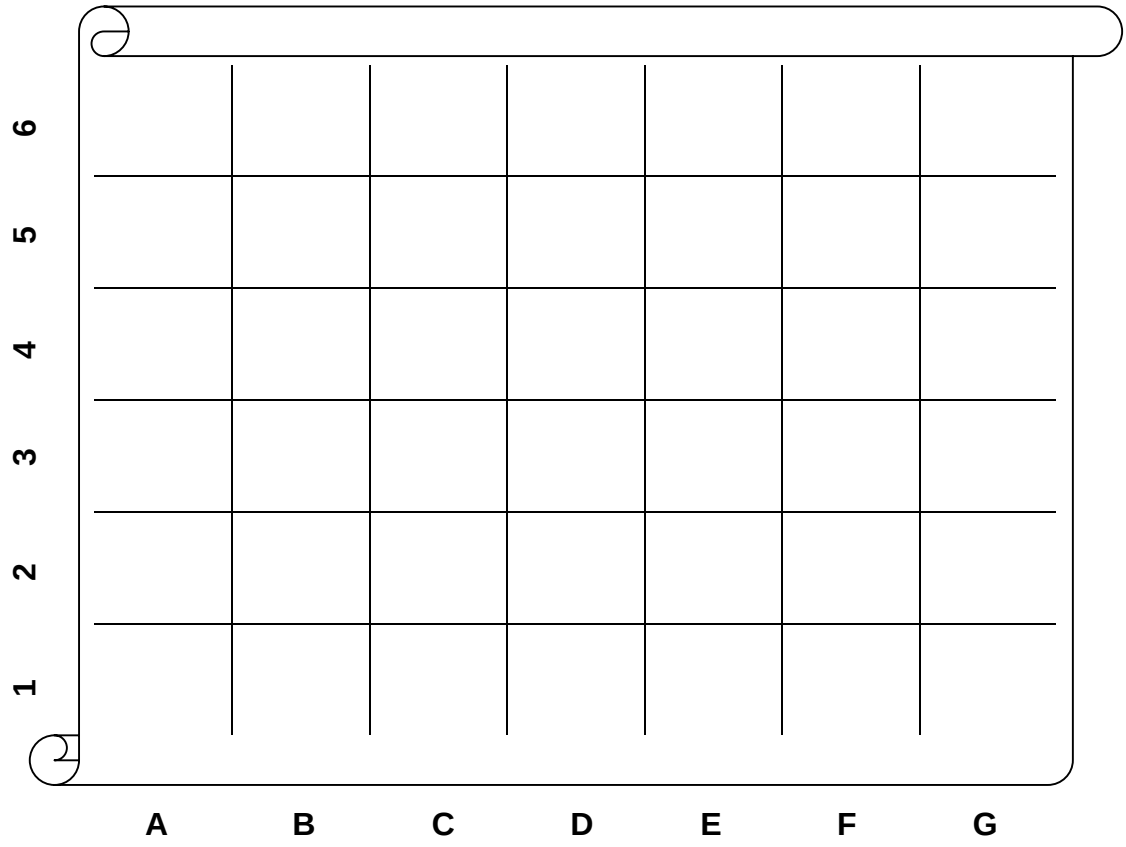
- pathways such as around and through
- directions such as diagonals, right angle turns, and circles
- a symmetrical floor pattern.

An example is provided below for you.



Now it is your turn. Draw a floor pattern in the box below.

Dance on a grid! **Student resource 2**



Follow your partner's instructions to create a dance on a grid. Then change roles. Together, you will create a *moment of mathematical movement!*

Student A dances while student B gives the instructions.

Change roles

Student B dances while student A gives the instructions.

Instructions

Start in E5 and make a two-dimensional shape with a right angle in it.
Travel in a diagonal direction to C3, keeping the same shape.
Enlarge your shape.
Slide your new shape to G4.
Change you shape into a three-dimensional shape.
Turn your shape and move with a leap to G5.
Reduce your shape and move in a sideways direction to B5.
Change to a two-dimensional symmetrical shape and move at a low level to A2.

Try creating your own directions to create a new dance.

This sourcebook module should be read in conjunction with the following Queensland School Curriculum Council materials:
Years 1 to 10 The Arts Syllabus
Years 1 to 10 The Arts Sourcebook: Guidelines
The Arts Initial In-service Materials

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In July 2002, the Queensland School Curriculum Council amalgamated with the Queensland Board of Senior Secondary School Studies and the Tertiary Entrance Procedures Authority to form the Queensland Studies Authority. All inquiries regarding this module should be directed to:

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