Transport & Movement – Tiny Town

Grade Prep/One/Two

Summary: In this unit of work, students investigate a range of shapes in different contexts and how they relate to buildings and objects within a range of environments. Students will also investigate towns as a whole, including maps, modes of transport, buildings and what part these play within different towns and communities. In the culmination of this unit, students will create a "Tiny Town", in which they will create structures and simple machines to demonstrate their learning. Students will create a "Design Brief" to plan out their ideas for the "Tiny Town".

Australian Curriculum Links:

- **Interpersonal Development (http://ausvels.vcaa.vic.edu.au/Interpersonal-Development/Overview/Stages-of-learning)**

  Foundation

  Students demonstrate behaviour that shows awareness of the safety of self and others behaviour that is helpful to peers, family members and teachers application of calming strategies such as being silent, waiting, smiling and relaxing cooperative behaviours that help them to participate in groups, games and other forms of play

  One

  Students demonstrate a willingness to share and take turns and identify strategies for allocating speaking and listening time; for example, taking turns. Knowledge of the link between choice, behaviour and consequences; for example, choices between generous or selfish, inclusive or excluding behaviour.

  Two

  Students reflect on the appropriateness of their behaviours in different contexts and knowledge of behaviours that promote positive social relationships.
  With teacher direction, evaluation of strategies for meeting group timelines and reflecting on their own contributions to team outcomes

- **The Arts (http://ausvels.vcaa.vic.edu.au/The-Arts/Curriculum)**

  Foundation

  Exploration of textures and shape using mark-making and collage media, materials and techniques in two- and three-dimensional art works
  Contribution to classroom conversations about aspects of performing and visual arts works they have made and experienced

  One

  Exploration of effective ways to use arts elements such as colour, sound or shape to communicate imagined ideas
  Making of visual, sound and/or voice effects to represent ideas in response to stimulus material
  Identification of features of performing and visual arts works they and others have made

  Two

  Selection of movements and/or actions to enhance expressive qualities of own dance, drama or music works
  Decisions about how visual, sound and/or voice effects should be arranged to create intended effects

Use of arts language in discussion about why they and others have chosen to arrange aspects of arts works in particular ways

- **English**
  (http://ausvels.vcaa.vic.edu.au/English/Curriculum/F-10)

  Foundation

  When writing, students use familiar words and phrases and images to convey ideas. They listen to and use appropriate language features to respond to others in a familiar environment. They identify and describe likes and dislikes about familiar texts, objects, characters and events. In informal group and whole class settings, students communicate clearly. They retell events and experiences with peers and known adults.

  One

  Students read aloud, with developing fluency and intonation. They recall key ideas and recognise literal and implied meaning in texts. When writing, students provide details about ideas or events. They listen to others when taking part in conversations using appropriate language features. They create short texts for a small range of purposes. They interact in pair, group and class discussions, taking turns when responding. They make short presentations of a few connected sentences on familiar and learned topics.

  Two

  Students read texts that contain varied sentence structures, some unfamiliar vocabulary, a significant number of high frequency sight words and images that provide additional information. They identify literal and implied meaning, main ideas and supporting detail. Students make connections between texts by comparing content. Students create texts that show how images support the meaning of the text. They listen for particular purposes. When discussing their ideas and experiences, students use everyday language features and topic-specific vocabulary. They create texts that show how images support the meaning of the text. Students create texts; drawing on their own experiences, their imagination and information they have learned. Students use a variety of strategies to engage in group and class discussions and make presentations.

- **Mathematics**
  (http://www.vcaa.vic.edu.au/Documents/auscurric/Maths_scope_and_sequence_AusVELS.pdf)

  Foundation

  Students identify simple shapes in their environment and sort shapes by their common and distinctive features.

  One

  Students describe two- dimensional shapes and three-dimensional objects.

  Two

  Students order shapes and objects, using informal units for a range of measures.
  Students draw two- dimensional shapes, specify their features and explain the effects of one-step transformations. They recognise the features of three-dimensional objects.

- **Science**
  (http://www.vcaa.vic.edu.au/Documents/auscurric/Science_scope_and_sequence_AusVELS.pdf)

  Foundation

  Objects are made of materials that have observable properties
  The way objects move depends on a variety of factors, including their size and shape

One

Everyday materials can be physically changed in a variety of ways
Living things have a variety of external features
Living things live in different places where their needs are met

Two

Different materials can be combined, including by mixing, for a particular purpose
A push or a pull affects how an object moves or changes shape.

Indicators of Success:

Knowledge: What the students will know…

- How to identify 2D and 3D shapes in different contexts
- Identification of shapes through practical and theory activities
- Modalities of human movement
- Different mediums to present learning through artwork
- How to identify familiar and unfamiliar locations on maps
- How to identify the necessary buildings, vehicles, structures in a town
- Different modes of transport
- How to identify forces and motions using different materials and surfaces
- How to compile a design brief for a whole class project

Discipline Based Skills: Students will be able to…

- Demonstrate their ability to work in small groups and with the whole class
- Construct a project based on their individual design brief
- Move in a co-ordinated manner to represent human movement
- Demonstrate their ability to identify shapes, both 2D and 3D
- Construct objects relating to clues, questions
- Listen and form questions based on their new found knowledge
- Experiment and form opinions on forces and motions

Interdisciplinary Skills: Students will be able to…

- Monitor and evaluate their involvement in all activities, based on teacher input and individual student reflection
- Use ICT to organise thoughts and ideas
- Socialise and behave appropriately in group and whole class situations

Unit of Work Sequence:

Key Vocabulary	Week One
Shapes Triangles, Circles, Squares, Rectangles, Pentagon, Hexagon, Star, Octagon, Diamond, etc. **Forces and Motion** Pull, push, bounce, shapes, movement, fast, slow, roll, slide, fly, spin, float, big, light, small, empty,	**Weekly Topic:** "Shapes are Everywhere" Students will investigate the variety of shapes present in the environment and how we can label these shapes. Students will also investigate how shapes move in a variety of environments. ***Learning Intention:*** For students to identify different shapes within the environment and to use this knowledge to create a collage. ***Success Criteria:*** Completion of set activities, Ability to identify a number of different shapes within different environments. **Lesson One** *KWL Chart – What do we know about shapes?*

gravity, force, motion, **KWL Chart** What we want to know, what we want to learn and what we learnt. **Modalities of Movement** Human, movement, running, jumping, hopping, skipping, backwards, forwards, sideways, down, up, left, right, **Sorting** Colour, shapes, size, weight, length. **Collage** Mixing, colour, paper sorting, cover, creating, creativity. **Map** Map, location, roads, streets, familiar locations, my house. **Vehicles, Buildings, Structures** Big, small, large, flat, tall, window, vehicles, structures, buildings, sky scrapers, working. **Clocks, Movement** Minute, hour, analogue, digital, minute hand, hour hand, circle shapes, seconds, second hand. **Fast/Slow** Movement, actions **Experiment** Materials, equipment, hypothesis, results,	As a class, complete a KWL chart (using IWB) that details student knowledge on the topic of Shapes. Where do we see shapes? What are the names of the shapes? Where have we seen these shapes before? Guide students to discuss the variety of shapes present in the environment. Fill in the K part, which is the knowledge, and discuss the L part, which is what we want to learn. http://www.readwritethink.org/classroom-resources/student-interactives/creator-30846.html **Lesson Two** *Label different shapes found in the environment* Have students go a walk around the school environment and identify different shapes. How do the shapes of the objects affect how they are used? Does a square shape roll? How do these shapes move? Discuss the different areas shapes may be found in. Have students create a poster (cut and paste) of the shapes they have identified within the environment. **Lesson Three** *Modalities of movement* Have students participate in a variety of activities that demonstrate the way that humans move and interact with each other. Different modes of movement could include running, walking, hopping, skipping, jumping, sprinting, clapping, etc. Have students complete a course where they demonstrate their knowledge and experience with human movement. **Lesson Four** *Sorting Shapes* Using learning from Lesson Two, have students sort the shapes into different categories based on their location in the environment. Have students watch the clip below and identify the shapes shown in the video. http://www.bbc.co.uk/learningzone/clips/dancers-making-shapes-with-poles/3125.html **Lesson Five** *Shape Collage* This activity will be used for assessing student's knowledge on shapes and how to identify these within multiple environments. Have students create a collage of their favourite shapes using the given materials (magazines, newspapers, kinder squares, coloured paper). *Extra Activity:* Introduce students to Tangrams. Have students create shapes pictures using the shapes identified within the complete tangram.
	Week Two
	Weekly Topic: "Tour of the Town" Students will investigate their local town; look at the movement within the town and what their town looks like on a map. ***Learning Intention:*** For students to identify familiar locations in their town, Identify the importance of different buildings within in the town. ***Success Criteria:*** Successful participation in class discussions, completion of set work, ability to identify different modes of movement within different environment.

predictions, reflection. **PMP** Perceptual Motor Program, human movement, dancing, jumping, running, hopping **Transport - Air, Land, Water** What is it? Air, land, water, **Movers and Shakers** Movement, moving, running, jumping, hopping **2D and 3D Shapes** Shapes, nets, templates, construction **Design Brief** Ideas, predictions, plan of action, results, materials and equipment. **Roads** Looks like, feels like, sounds like **Demonstrations** Looking, seeing, writing, reading	**Lesson One** *Picture Story Books – About Towns* Share different picture storybooks with students relating to towns and the people within towns. Discuss with students why different shops within towns are important and why these are needed for people within the town. Identify shops within the local township which students are familiar with. Questions: Why do you visit these stores? What services do these stores provide? **Lesson Two** *Map of local town* Investigate the concepts of maps and what they tell us. Provide students with a map of their local town and discuss the different features of the map that help to provide us with direction, etc. Identify the familiar parts of the town that students are familiar with. Questions: How do we know these places in the town? What do the images of the map tell us about the town? What is a place that you would like to visit in the town? Have students create their own map of the local town and place in the familiar areas that students know. **Lesson Three** *Name of things in the community – vehicles, special people, cars, buildings, etc.* Discuss the different things that we may see if we walk down the main street in the local town. Questions: Do we see different cars at different times of the day? Do we see different people at different times of the day? What does the Post Office, Supermarket, Café, Bakery, Hardware, Ice-cream Shop provide? Have students discuss why they think these businesses are important to the local town. Using circular paper plates, have students create a display of the different shops in the local town and which ones students think are more popular than others. **Lesson Four** *How can things move in the environment? Clocks in the classroom, cars on the road* Discuss the different ways humans, building, vehicles and objects can move within the environment. Identify the different modes of movement within the classroom (clock ticking, pushing in a chair, opening the door, sharpening a pencil, opening a pencil case, eating food, etc.) Identify the different modes of movement outside the classroom (cars moving, trucks moving, pushing a trolley at the supermarket, running at football, walking down the street). Have students create a mini book that illustrates the different ways people and objects can move within the environment. **Lesson Five** *Guest Speaker – to talk about the local town and everything in it* Organise a Guest Speaker to come in and discuss the history of the local town, history of buildings in the township and any general information. Question and Answer session.
	Week Three
	<u>Weekly Topic: "Moving and Carrying"</u> Students will be guided through a number of activities that involve looking at the

movement of objects and how things are carried throughout the environment. Students will investigate human movement; movement with certain objects and how transport moves.

Learning Intention: To identify different ways of moving and carrying within the environment, different pushes and pulls; and how different modes of transport move within their respective environments.

Success Criteria: Completion of set work, demonstration of a mode of human movement and identification of movement within the Air, Land and Water.

Lesson One
How do we move and carry objects? Can we move them fast or slow?
Discuss the different ways that objects can be moved within the environment. Questions: Do they need to be carried by a person or moved by other means? Does a machine move the object? Do objects need to be moved fast or slow? Discuss the concept of forces and how it relates to the movement of objects within the environment. Have students interact with different objects to determine the appropriate forces to allow them to move to a certain point.

Lesson Two
Experimenting with different object and how to move them – Pushes and Pulls
Forces make things move in different ways. When you push a ball, it rolls. When you push a swing, it moves back and forth. When a kangaroo hops it bounds along, pushing off the ground. A car drags a trailer behind it smoothly. When you pull your fishing line in, it jerks up and down. There are many, many ways objects might move. However they move they can only move when subjected to a push or a pull.

Have students explore the different pushes and pulls required to make a selection of objects move. Discuss the different words that can be associated with moving objects. Take photos of students performing the push and pull action and use these as a discussion prompt at the conclusion of the activity.

Lesson Three
PMP Activities – How do we move and carry objects (Perceptual Motor Skills Program)
Have students participate in structured PMP activities that investigate the different ways humans can move and interact within the environment. Suggested activities: skipping, jumping over objects, walking slow, using a hoola hoop, balloon tap, throwing, ball play, etc.)
Have students discuss their experiences with others in the classroom.

Lesson Four
Transport Bingo
Have students identify and discuss the different modes of transport within the environment. As a class, play a Transport Bingo game. Use clues to assist students to think about the mode of transport in question.
http://www.sparklebox.co.uk/4561-4570/sb4562.html#.Uj9yKeA0ovs

Lesson Five
Movement in Air, Land and Water (things seen around the town)
Have students watch a video clip and identify the different environments in the

video.
Questions: What transport can be identified in each clip? What does each mode of transport move or carry?
www.youtube.com

Week Four

Weekly Topic: "Group Fun"

Through a series of activities students will work individually, in small groups, and as a large group to investigate, explore, observe, and describe structures and movement. Students will learn, develop, and explain, through writing and drawing, the concepts of speed and motion of an object on various surfaces and containing different materials.

Learning Intention: To learn about the different surfaces that can affect the movement of an object.

Success Criteria: Participation in class activities and discussions and completion of set work.

Lesson One

Bouncing Surfaces

Students will participate in a variety of small experiments, which will investigate the different surfaces that allow a ball to bounce/not bounce. Before students complete the activity, note down what they think is going to happen when they bounce the ball on different surfaces. Complete the experiment. Note down results and compare with notes from beginning of activity/experiment.

Lesson Two

Creative Activity Centres – lots of materials for students to investigate and build objects to move in whichever way they like.

Students will complete rotation styles activities that will investigate the construction of different objects and the way in which they move, based on different forces applies to the objects. Provide students with a variety of materials to experiment with.

Lesson Three

Action in Motion – "Movers and Shakers" (Musical Statues and Simon Says)

Have students create human movement through participating in games that relate to specific modes of human movement.
http://www.kidspot.com.au/kids-activities-and-games/Party-games+7/Musical-Statues+3916.htm

Lesson Four (This lesson could tie in with investigating 2D and 3D shapes in Maths – cross curricular)

3D and 2D Shapes construction

Discuss 2D and 3D shapes and where they are found in the environment. Have students watch the following clip and identify what buildings could be made from the 3D shapes and where the 2D shapes could be found in a city or town (http://www.youtube.com/watch?v=aBUjH2KJns4)
Have students create sample buildings that they would place in a town by using 3D shape templates.
http://www.senteacher.org/Worksheet/12/3D.html

Lesson Five
Movie DVD relating to shapes and Towns (to be decided).
Students will reflect on their learning and new knowledge acquired throughout the Tiny Town unit.

Week Five

Weekly Topic: "Tiny Town Construction"

At the end of the unit, the students will celebrate the creativity and ingenuity of humans as they themselves build structures and simple machines. Through differentiated groupings, students will design and construct a Tiny Town using the knowledge and understanding of concepts taught during the course of this unit. The Grade Prep/1 students will be assessed on their design and construction of the buildings and structures. The Grade 2 students will be assessed on their design and construction of the vehicles. Each student will create a design plan before the construction performance task, and then a self-evaluation on the function, purpose, and appearance of their creation.

Learning Intention: To introduce the purpose of a design brief when creating or building an object and to create a Tiny Town that represents our knowledge of shapes, buildings and vehicles that assist in running a town.

Success Criteria: Participation in whole class activity, completion of design brief before construction and successful completion of a building or vehicle for the Tiny Town.

Lesson One
Design Brief – How are we going to build our town, vehicles and structures?
Model and demonstrate what a design brief is and how it is going to help in building the town, vehicles and structures. Guide students through completing the design brief based on the specific object they are building (vehicle or structure).

Lesson Two
Creating the Road and General Activities
Students will begin creating the base for the Tiny Town (roads) and revising their Design Briefs for their vehicles and buildings.

Lesson Three
Creating the Buildings and Structures
Students will create the buildings and structures within the Tiny Town. Discuss with students the placement of the buildings and structures and why they built their respective buildings and structure a particular way (based on learning from previous lessons relating to shapes and movement).

Lesson Four
Creating Vehicles and movable objects for the town.
Students will create the vehicles and movable objects for the Tiny Town. Discuss with students the placement of the vehicles and movable objects and how they will affect the running of the town. Have students discuss their activity and experiences with a peer.

Lesson Five

	Presenting to Parents, Students and Teachers Students will place the final objects in the Tiny Town to represent their knowledge and learning about shapes, buildings, towns, maps and design briefs. Students will present to Parents, fellow Students and teachers. Students will discuss their part in the construction of the Tiny Town and what objects/buildings/structures they have individually created. Have students explain the concepts of forces and motion and how it affects the movement of objects and humans. Have students complete a self-evaluation of their participation in class activities, class discussions and their individual completion of their task.

Assessment:

Week One
• Observations made and recorded by the teacher • Successful completion of activities • Participation in class and small group discussions (knowledge attained through this) • Questioning is used throughout the unit to help students develop their higher-order thinking skills and process content • Assessment of key vocabulary • Correct labelling of shapes • Ability to identify and sort shapes based on clues and questions • Ability to move in a co-ordinated manner based on the modalities of human movement
Week Two
• Observations made and recorded by the teacher (Anecdotal records) • Participation and contribution in class discussions following reading of books related to "Shapes and Towns" • Ability to identify familiar places on a map of the local town • Successful completion of activities • Ability to identify the importance of buildings, vehicles and people within a town (e.g.: doctor, supermarket, chemist) • Assessment of key vocabulary • Participation in whole class and small group activities • Ability to ask and answer questions based on listening to a Guest Speaker
Week Three
• Observations made and recorded by the teacher (Anecdotal records) • Ability to identify similarities and differences in objects and their ability to be moved and carried in different ways • Participation and contribution to whole class reading and discussions • Participation in PMP activities and reflection on how movement occurs • Participation in whole class and small group experiments • Questioning to elicit higher order thinking from students • Assessment of key vocabulary
Week Four
• Observations made and recorded by the teacher (Anecdotal records) • Ability to identify surfaces that affect the movement of different objects • Participation in whole and small group discussions • Completion of set activities • Ability to identify 2D and 3D shapes within different environments and create shapes using provided templates

• Assessment of key vocabulary
Week Five
• Observations made and recorded by the teacher (Anecdotal records) • Participation in whole and small group discussions • Completion of set activities - building their respective part of the Tiny Town • Assessment of key vocabulary • Reflection of learning throughout the unit - completion of KWL chart • Sharing of learning and construction through demonstrating to parents, teachers and fellow students

Resources:

IWB
Laptop
Tub of Library Books relating to "Shapes, Building, Towns, Cities"
Camera to document student learning

Websites:
http://www.senteacher.org/Worksheet/12/3D.html
(http://www.youtube.com/watch?v=aBUjH2KJns4)
http://www.kidspot.com.au/kids-activities-and-games/Party-games+7/Musical-Statues+3916.htm
www.youtube.com
http://www.sparklebox.co.uk/4561-4570/sb4562.html#.Uj9yKeA0ovs
http://www.bbc.co.uk/learningzone/clips/dancers-making-shapes-with-poles/3125.html
http://www.readwritethink.org/classroom-resources/student-interactives/creator-30846.html
http://www.everyschool.co.uk/science-key-stage-1-forces.html
http://www.tes.co.uk/article.aspx?storyCode=6068482

CD Player
Shapes/Tiny Town Movie DVD
Bouncing Balls
Transport Bingo Game
PMP Physical Education Equipment
Guest Speaker – local

Materials
Coloured Paper (A4 and A3)
Display Paper
Permanent Markers
Poster Paper
Whiteboard
Sentence strips (wide)
Paper Plates
Various size boxes
BLM's of various 'Tiny Town resources
3D Shape Templates
Materials to construct vehicles

Blackline Masters
KWL Chart
Tangram
Design Brief