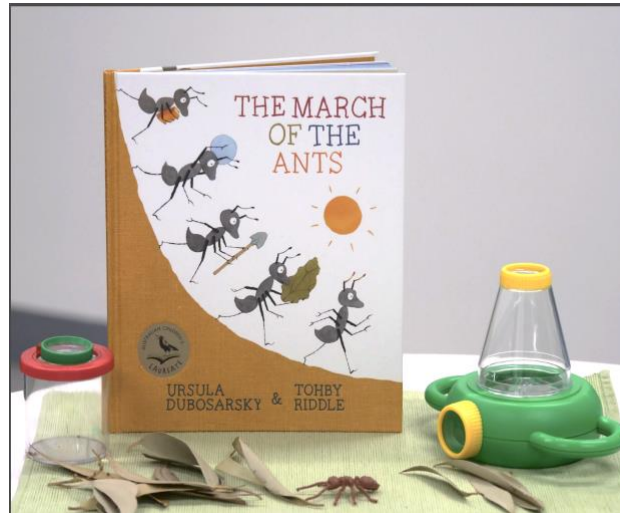


**The March of the Ants**  
 Written by Ursula Dubosarsky  
 Publisher: Book Trail Press



**Planning a Conceptual PlayWorld in STEM (Fleer, 2022)  
 Monash PlayLab**

*Five Characteristics of a Conceptual PlayWorld to support imaginary play and Science, Technology, Engineering and Mathematics (STEM) thinking and learning (Fleer, 2022)*

Pedagogical characteristics & planned practices	Conceptual PlayWorld in action	Planning ideas & notes
<p><b>Selecting a story for the <i>Conceptual PlayWorld</i></b></p> <p>Story: <b>The March of the Ants</b></p> <ul style="list-style-type: none"> <li>Selecting a story that is enjoyable to children and adults. Summary of the story.</li> <li>Building drama for the characters in the story.</li> </ul>	<ul style="list-style-type: none"> <li>This story is about a team of ants and the important roles they play. It brings forward the concept of decomposition.</li> <li>Develop the drama in the story e.g. going on an expedition, with all of the different ant characters. They have a long way to march.</li> <li>Develop empathy with the ant characters who march for days and days. They are tired. Will they reach their destination? Ants, don't give up hope. Do the Worker Ants know how important they are?</li> <li>Concept – 1. Decomposition, e.g. ants play an important role in breaking down organic matter. 2. The different types of roles in ant colonies.</li> <li>Problem situation: The ants need the children's help to understand their role in the ecosystem.</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>

Pedagogical characteristics & planned practices	Conceptual PlayWorld in action	Planning ideas & notes
<ul style="list-style-type: none"> <li>▪ Building empathy for the characters in the story.</li> <li>▪ A plot that lends itself to introducing a problem situation. Overview of the problem.</li> <li>▪ Being clear about the concept(s) and its relation to the story and play plot to be developed</li> <li>▪ Adventures or journeys that spring from the plot (e.g., chapters).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Possible plot extension: Introducing the Queen Ant character. She relies on the Worker Ants to find and bring the food back to the nest. What happens if the ants stopped marching? What would happen to the Queen?</li> <li>▪ <b>For infants and toddlers:</b> You could use an abridged version of the story or songs in place of text. Emphasise rhythm and rhyme in the story. Make posters for the wall e.g. photocopy key parts of the story A3 and laminate. You can make links between children’s understanding about home and the ant's having a home - a nest. Create empathy with ant characters, e.g. “Are the ants in their home?” “Are the ants in their nest?” “They are small, but they are brave and strong.” One of the ant characters has a favourite book - do the children have a favourite book?</li> </ul>	
<p><b>Designing a Conceptual PlayWorld space</b></p> <ul style="list-style-type: none"> <li>▪ Finding a space in the classroom/centre/out door area suitable for an imaginary <i>Conceptual PlayWorld</i> of the story.</li> <li>▪ Designing opportunities for child-initiated play in ways that develop the play plot further or explore concepts and make them more personally meaningful.</li> </ul>	<ul style="list-style-type: none"> <li>▪ A section in the outside space could be turned into an ant nest where the children could pretend to be the ants in the story - little ants, stubborn ants, chief ants, brave ants.</li> <li>▪ You could also pretend to be entomologists in ‘the field’. You might need to take your field equipment e.g. a magnifying glass or take maps, tools and books like the characters in the book.</li> <li>▪ You could meet the Queen Ant or larvae, or other Worker Ants? Some ants have wings. How would you communicate if you were pretending to be an ant?</li> <li>▪ You could create a collage of ants underground, digging galleries and tunnels, helping to aerate the soil. You might add some food – what do ants eat e.g. leaf litter, other insects.</li> <li>▪ Have you ever seen or made an ant farm? Also known as a ‘Formicarium’.</li> <li>▪ <b>For infants and toddlers:</b> You could create resources - a visual of ants, the ant colony and/or nest. You could invite the older preschool children to make and give the younger</li> </ul>	<ul style="list-style-type: none"> <li>▪</li> </ul>

Pedagogical characteristics & planned practices	Conceptual PlayWorld in action	Planning ideas & notes
<ul style="list-style-type: none"> <li>Planning different opportunities for children to represent their ideas and express their understandings.</li> </ul>	<p>children ants made from reused materials e.g. egg cartons and pipe cleaners. Use reference books, and/or tablets to view images/videos of real ants marching, eating, tunnelling. You could discuss similarities and differences between ants and the children. “This is the ant’s mouth. Where is your mouth?”. You could look at ant figurines or other resources that children can touch and feel. Comment on the anatomy e.g. body parts and number of legs. “Look at the antennae.” You can look for signs of engagement (e.g. facial expressions and signs of recognition) when talking about the ant characters in the story and ants in real life. For example, if you’re talking about ants, children might express their understanding by getting a soft toy ant.</p>	
<p><b>Entering and exiting the <i>Conceptual PlayWorld</i> space</b></p> <ul style="list-style-type: none"> <li>Plan a routine for the whole group to enter and exit the <i>Conceptual PlayWorld</i> of the story where all the children are in the same imaginary situation.</li> <li>Children choose characters as they enter into the imaginary situation.</li> <li>Adult is always a character in the story.</li> </ul>	<ul style="list-style-type: none"> <li>To signify entering and exiting the imaginary situation (e.g. Ant Nest) you could pretend to shrink to the size of an ant or march through a tunnel together. You might like to sing the song “The Ants Go Marching” by Robert D. Singleton.</li> <li>Children and adults could pretend to be entomologists to learn more about the role of the ants as decomposers. Children might like to learn more about ant colonies (e.g. a caste system) and nests (e.g. where the Queen lives).</li> <li>Or you could pretend to be an ant. What sort of ant would you be? E.g. You could play the Queen Ant. Do you march in a trail like the characters in the story? Do you work in a team? Ants might be small but they have a big team. What job do you have? E.g. Feeding the larvae? Or finding food and defending the nest.</li> <li>You could meet other ants. There are many species for you to meet. And 1,000,000,000,000,000 ant friends! Did you know that ants are strong in relation to their size? You could pretend to be ants lifting organic matter e.g. leaves.</li> <li><b>For infants and toddlers:</b> You could role model crawling first and the infants and toddlers could imitate, joining in crawling through the tunnel to the ‘ant nest’. “Let’s all be ants together”. You could create experiences relating to size comparison e.g. trace the child and draw the size of the ant next to the tracing. You could ask “How big is an ant?” to support the infants and toddler to transition. “Let’s pretend to shrink to the size of an ant”.</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>

Pedagogical characteristics & planned practices	Conceptual PlayWorld in action	Planning ideas & notes
<p><b>Planning the play inquiry or problem scenario</b></p> <ul style="list-style-type: none"> <li>Problem scenario is not scripted, but a general idea of the problem is planned.</li> <li>The problem scenario is dramatic and engaging.</li> <li>The problem invites children to investigate solutions to help the play in the <i>Conceptual PlayWorld</i>.</li> <li>Being clear about the concepts that will be learned from solving the problem situation. Concepts are in service of the children's play.</li> </ul>	<ul style="list-style-type: none"> <li>The Queen Ant contacts the children via a Chief Ant, such as "Hi Children, my Worker Ants have given up. They've stopped marching. They don't know how important their role is. Not just in my ant colony but in the whole ecosystem. I need your help to tell them because I can't leave the nest. Love from the Queen Ant."</li> <li>You could visit the ants and tell them about their important role in the ecosystem e.g. decomposition. Or you could pretend to be an ant and learn how they find food and bring it back to the nest. What do they eat? How do they eat? The colony needs your help. You could also pretend to take food back to the Queen Ant. We need to work together to help.</li> <li>Concept – 1. Decomposition, e.g. ants play an important role in breaking down organic matter. 2. The different types of roles in ant colonies</li> <li><b>For infants and toddlers:</b> You could investigate "Where do the ants live?" "What do they eat?". These questions can be repeated and revisited as the CPW unfolds throughout the day and over weeks. Ants are very little but very special, they do big work. You could go looking for ants. "Are the ants in their nest/home?" <b>Ants are brave and strong</b> The children might like to carry baskets carrying things from the stories e.g. ant food or a map. The children might like to collect leaf litter for the ants to help look after the ants so that they can do their important work of eating the organic matter.</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<p><b>Planning adult interactions to build conceptual learning in role</b></p> <ul style="list-style-type: none"> <li>Adults are not always the same character. Roles are not scripted.</li> <li>Planning of who will have more knowledge and who will be present with</li> </ul>	<ul style="list-style-type: none"> <li>There are different roles adults can take: Adults plan their role for the PlayWorld to be equally present with the older children (e.g. <b>"Let's investigate how ants find and bring food back to the nest."</b>), or to model practises in role (e.g. <b>"I'm an entomologist, I love ants. Did you know that ants have antennae to find their way?"</b>), or to be needing help from the children (e.g. <b>I'm a Worker Ant. Why does the Queen Ant need my help?"</b>). Their role can also be together with the child leading (primordial we) (e.g. <b>Let's pretend to march one by one. We can go on an expedition together</b>) where they literally cradle the child or hold their hand and together act out the role or solution.</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>

Pedagogical characteristics & planned practices	Conceptual PlayWorld in action	Planning ideas & notes
<p>the children to model solving the problem. There are different roles adults can take: Adults plan their role for the <i>Conceptual PlayWorld</i> to be <b>equally present</b> with the children, or to <b>model practices</b> in role, or to be <b>needing help</b> from the children. Their role can also <b>be together with</b> the child leading (primordial we), where they literally cradle the child or hold their hand and together act out the role or solution.</p>	<ul style="list-style-type: none"> <li>■ <b>For infants and toddlers:</b> You could start by modelling being an ant (use props, like costumes, if helpful). You can repeat this many times. Children often imitate e.g. if you swap roles from Queen ant to worker ant, they might join in. In character, you can point out various characteristics of an ant “I have six legs.” “Do you have six legs?”. Allow time and space for children to develop the play scenarios on their own. You can have incidental discussions. For example, at meal times you could say “Are you hungry like the ants? I wonder if they are eating plants for lunch?”. During rest time you could say “Are you tired like the ants? I wonder if they are tired from marching?”</li> </ul>	

**Acknowledgement:** Australian Research Council Laureate Fellowship Scheme (Grant Number 180100161) funding contributed to the development of open access curriculum materials and research: Fleer, M. (2022). *Conceptual PlayWorlds*: Monash University Working Papers: <https://www.monash.edu/education/research/projects/conceptual-playlab/publications>