

Play and learning pack

Sand play

An intentional teaching resource

September 2026

This Play and Learning Pack on sand play was designed to help early childhood teachers, educators and leaders understand intentional teaching and how to strengthen it in early childhood education and care (ECEC) services.

About the early childhood intentional teaching model and supporting resources

These Play and Learning Packs were used in the Australian Education Research Organisation (AERO)'s [2025 research](#) to develop and test an [intentional teaching model and supporting resources](#). For this research, we used an iterative design-based methodology, working alongside educators from 13 diverse ECEC services. The resources provided information on foundational knowledge, beliefs and practices that support play-based learning with intentionality.

This series of resources supports more effective intentional teaching. These Play and Learning Packs were designed to help early childhood teachers, educators and leaders understand:

- what intentional teaching is
- what it looks like in practice
- how to strengthen it in their settings.

The Play and Learning Packs complement an intentional teaching model AERO developed with ECEC services. The model, the practice resource and the Play and Learning Packs, emerged directly from that research collaboration.

The intentional teaching model and supporting resources bring evidence-based approaches for effective intentional teaching together with the wisdom of educators and teachers to ensure both evidence-informed rigor and usefulness in everyday practice.

How to use this Play and Learning Pack

This pack is intended to support your use of AERO's intentional teaching model and practice resource. Focusing attention on a specific aspect of the program will support you in setting learning intentions for children and broader program goals. Using a stepped approach to guide your reflections supports you in engaging in meaningful planning for individual children and the whole group.



Step 1: Observation and reflection

Spend some time reflecting on your sandpit or sand play area.

Read the information in this pack and ask yourself:

- What are our learning intentions for this area?
- How are the children playing there now?
- What kind of learning is happening?
- How does the environment support this?

Identify what opportunities there are for:

- sensory play
- functional play

- symbolic/pretend play
- construction play
- cooperative play.

Consider what other opportunities you could provide for sand play.

An interesting and stimulating learning environment provides the foundation for meaningful and engaging play. This, in turn, helps us to identify and set meaningful learning intentions.



Step 2: Planning for learning

Use the Intentional Teaching Thinking Tool to identify 'what stands out' from your observations and to plan your learning intentions.

Use your learning intentions to plan what you will do to achieve them.

Record your plans using the Intentional Teaching Planning Format.

Implement your plans.



Step 3: Reflection and evaluation

Continue to implement your plans, reviewing and evaluating them regularly, and using the thinking tool to continue to plan your next steps. Reflect on the impact of your intentions and teaching strategies for educators, children and families.

Playing and learning with sand

Sand play supports a broad range of learning outcomes.

As they play with sand, children are learning physically, intellectually, creatively and, often, socially.

The open-ended nature of sand as a material means that children can use it in different ways and at different ages and developmental levels. When combined with water, its possibilities are increased even further.

Children often engage with sand play deeply and for long periods of time. The sensory properties of sand also mean that many children find playing with it to be a soothing or calming experience.

In many ways, it's the ultimate 'loose part' – able to be used for many purposes on its own, but also able to be extended further with the addition of props, tools and other resources.

Most, if not all, ECEC services have a permanent sandpit or sand play area of some kind. If not, sand play can also be set up in a trough or other temporary container.



How children play with sand

Younger children (Babies and toddlers)

For very young children, sand play is primarily a **sensory experience**. They may enjoy the feel of it in their hands or watching it being poured.

As they get older, their play becomes:

- **more functional** – they fill and empty buckets and other containers, dig with shovels or spades and carry and dump it
- **more symbolic** – sand begins to represent other things (e.g., food) and they start to imitate simple actions they have seen adults performing (e.g., cooking)
- **more social** – as they play alongside each other, or engage in simple interactions (such as offering ‘food’).

Older children (Preschoolers and beyond)

For older children, sand play becomes much more social and imaginative.

Imaginative pretend play (such as cooking play or play with props such as construction vehicles) develops, as does more **sophisticated construction play**.

Children may build complex castles, tunnels or bridges or combine sand with other props and resources (e.g., pipes and water) for complex engineering projects.

They cooperate with each other and begin to plan their play (e.g., deciding what they will build or do in advance and assigning or taking on specific roles within the play).

Adults’ role in sand play

Teacher and educator choices about props, tools and resources play a key role in guiding children’s learning with sand and shaping what learning potentials are most likely to be achieved.

Adults can also support children’s sand play by:

- asking open-ended questions to encourage curiosity, creativity and problem-solving
- modelling and demonstrating how to use resources (e.g., making castles or moulds)
- introducing relevant vocabulary or concepts to support learning (e.g., maths vocabulary if children are interested in measurement or volume).



Learning potentials of sand play

Learning area	Potential learning	Links to learning outcomes
Maths	• volume • measurement • quantity • comparison (e.g., full/empty, more/less) • patterning	• Confident and involved learners • Effective communicators
Science	• cause and effect • experimentation • observing change (e.g., when adding water) • engineering and design principles (e.g., how to make a castle that stays up or a tunnel that doesn't collapse)	• Confident and involved learners • Effective communicators
Physical skills	• Fine motor skills such as scooping, pouring, digging and moulding • Gross motor skills, such as digging, that encourage full-body movement and coordination	• Wellbeing
Social skills	• Sand play often involves groups of children playing together and provides opportunities for teamwork, cooperation and group problem-solving • The sandpit is also a site for dramatic and pretend play (e.g., cooking play, construction play with props such as dress-ups or trucks and diggers) and provides opportunities for children to develop social skills such as negotiating roles, sharing materials and giving or following instructions	• Identity • Connection • Wellbeing • Effective communicators
Emotional skills	• Taking turns, sharing resources and engaging in social play supports the development of self-regulation and emotional development • The sensory properties of sand make it a calming and therapeutic material for many children	• Identity • Wellbeing
Creativity and imagination	• Opportunities for imaginative pretend play • Creative expression using sand and decorative materials (e.g., decorating castles with sticks, leaves, gumnuts)	• Confident and involved learners • Effective communicators
Communication	• Descriptive, social and imaginative language use (e.g., opportunities for talking about the properties of sand as well as about children's actions and creations) • Children often narrate their actions or create stories about their sand play, as well as engaging in group and pretend play that involves language use	• Connection • Confident and involved learners • Effective communicators

Suggested props and resources

Basic resources

- Buckets and other large containers
- Shovels, spades and scoops
- Rakes and brooms
- Sand moulds
- Sieves and colanders
- Cups and jugs for tipping and pouring
- Water

Additional resources to support specific kinds of play

Construction and engineering play

- PVC pipes or tubing
- Funnels
- Outdoor blocks
- Loose parts for building with (e.g., boards, planks, tires, rope, material)

Measurement and math

- Scales or balances
- Tape measure or rulers
- Measuring cups or jugs

Pretend/dramatic play

- Old pots, pans and other kitchen utensils
- Bench, table and chairs, play oven, sand kitchen
- Construction vehicles (e.g., bulldozers, dump trucks)
- Dress-ups (e.g., construction vests, hard hats)
- Figurines (e.g., people, animals, dinosaurs)

Nature play

- Shells, rocks, sticks, pinecones
- Leaves or flowers



Intentional teaching planning format

This template is informed by AERO's intentional teaching model and practice resource. These resources will support an understanding of intentional teaching and completion of this planning resource.

Group:**Date:****Area:**

Context/Background

What has been happening in this area recently? Who has been involved? What learning seems most prominent? What are the children most interested in?

Learning intentions

Front-of-mind (short-term) goals: What is your main learning focus for this area for this period of time? Try to keep this to one to 3 goals max.

Back-of-mind (long-term) goals: What other learning goals are you keeping in the back of your mind in case there is an opportunity to pursue them? Keep this to 5 goals max.

Learning provisions

Resources and materials: What specific resources and materials will you provide to support your learning intentions? How will you set them up?

Learning provisions

Planned experiences: Are there any pre-planned and/or adult-guided experiences you will plan for this area? If so, include details.

Teaching strategies: Based on your learning intentions, what teaching strategies are going to be most important to use to successfully achieve them?

Evaluation

What happened? Remember to focus on what learning occurred rather than just what the children did.

What next? Based on what happened, what is the next phase for this learning? Will you simplify, consolidate, extend or challenge what you have observed? Or will you change your focus and introduce something new?