Play-based Maths in the Early Years
Play-based Maths in the Early Years
Workshop 1
**Key Messages**

- Play-based maths allows pupils to explore mathematical strands, language and skills.
- Playful teaching involves planning for both teacher-led and child-led play.
- Teacher interactions play a key role in assessing play-based maths.
Overview

Workshop 1

- Play Pedagogy
- Teacher-led vs. Child-led play
- Language Play
  - Picture Books
- Games with Rules Play
  - Strands
- Parents and ICT

Workshop 2

- Feedback
- Planning for Play
- Physical Play
  - Interactions
- Creative Play
  - Skills
- Pretend Play
  - Assessment
Objectives

Teachers will be enabled to:

1. Differentiate between teacher-led and child-led play as a teaching methodology.

2. Identify maths language in play-based maths, and plan for its development using picture books.

3. Utilise games with rules across all maths strands in a playful way.
Describe your school’s experience of Aistear.

Go to www.menti.com and type in the code XX XX XX
Guidelines for Best Practice

- building partnerships between parents and practitioners
- learning and developing through interactions
- learning and developing through play
- supporting learning and development through assessment

Playful teaching and learning all day
Child-led play session
10 minute promise
Teacher-led vs. Child-led Play
Intentional Play and Interactions

https://vimeo.com/167398222
Tell Me Everything You Know
Maths Language

Mom says a rectangular prism has 6 faces.

My teacher said we needed to find the volume of the cereal box.

The teacher said there are 100 centimeters in a meter.

My teacher says the Earth is like a giant sphere.
Maths Language

Students must be exposed to a word about six times to adequately learn a new word in context. (*Jenkins, Stein, Wysocki, 1984*)

Words should be used in meaningful contexts between ten and fifteen times. (*Allen, 1999*)
Maths Language

Hi, my name is Mathy!
Language Play
Planning for Play-based Maths
Mathematising a Story
Choosing Picture Books

Mathematical content?
Appropriate level?
Opportunities to introduce/reinforce mathematical symbols/vocabulary
Opportunities to think/reason mathematically
Build appreciation of both mathematics and literature
Padlet
Subitising Bingo
Games with Rules

Ready, Set, Go - Maths
- Change Please
- Guess My Secret

Measures
- Introducing Tokens
- Sequencing Events

Data
- Three Block Tower
- Missing Piece Grid

Shape and Space
- Secret Shape Folder
- 2-D Shape Bingo
Planning for Play-based Maths
ICT and Parents

Seesaw

@PDSTPrimary STEM
Circle, Square, Triangle

What is still going around in your head?

What is squared away?

What 3 activities will you use in your classroom?
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Warm-Up Activity
Feedb from the Classroom
Planning for Play-Based Maths (Child-led)

Child-led play for up to an hour per day is a methodology promoted in Alstear (NCCA, 2009) for infant classes. This play is shaped and influenced by the resources made available by the teacher. In this way, the teacher has a critical role in the ‘behind-the-scenes’ work in resourcing and organising the play environment. This process is known as the pedagogical framing. The planning framework for play supports teachers in ‘doing’ this important framing work.

A **variety of play areas** should be used to engage children and cater for different learning opportunities. Some suggestions for areas are provided in the table below. In the case of each area, some examples of resources are provided. The table has been adapted from: Alstear: Guidelines for good practice: Learning and developing through play (NCCA, 2009, p.54-55). See Appendix 1 of Alstear: Guidelines for good practice (NCCA, 2009) for examples of resources to support children’s learning and development in different play areas.

<table>
<thead>
<tr>
<th>Suggested play areas</th>
<th>Play Type</th>
<th>Description</th>
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<tbody>
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<td>Socio-dramatic play (e.g. supermarket, pet shop, garden centre)</td>
<td>Pretend</td>
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<tr>
<td>Small world (e.g. doll’s house, model animals, people, cars and train sets)</td>
<td>Physical</td>
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<td>Construction (e.g. large wooden blocks, shoes-boxes, hard hats, clipboards)</td>
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<td>Sand (e.g. sand-tray, sieves, jugs, scoops, buried objects, water added)</td>
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<td>Water (e.g. tubing, funnels, jugs, scoops, buckets)</td>
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<td>Play-dough (e.g. range of colours of play dough, rolling pins, cutters)</td>
<td>Creative</td>
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<tr>
<td>Junk art (e.g. cardboard boxes, tubes, yoghurt pots, scissors, cellotape)</td>
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<tr>
<td>Permanent literacy and maths table (e.g. range of papers, pens, pencils, measuring tapes, weighing scales, calculators)</td>
<td>Supports literacy and numeracy in all play areas</td>
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The planning framework for play focuses on:

- **The topic** being used to guide the play. This can emerge from the children’s own interests, a class discussion, a story read aloud by the teacher, an upcoming event etc. The topic facilitates curriculum integration through play. The teacher also uses the topic in timetabled subject curriculum area lessons.
- **The timeframe.** A ‘typical’ timeframe could be 2-4 weeks.
- **The language and maths** taught in discrete lessons that children will have the opportunity to use in the play areas.
- **The number of play areas.** Using five play areas can help the teacher ensure that all children have an opportunity to play in each area in a given week. However, the number of areas and the extent to which each relates to the topic will vary from one topic to another.
- **How each area is resourced.** Key resources change to support the play topic but not all the resources in each area have to ‘fit in’ to the play topic.
- **Links to children’s learning across the primary school curriculum** (integration).
- **The teacher’s reflections** on the use of the play methodology.

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Physical Play: Interactions

Playful teaching and learning all day

Child-led play session

10 minute promise

NCCA
An Chomhairle Náisiúnta Curáilaim agus Measúnachta
National Council for Curriculum and Assessment

PLAN for Teacher-led Play

Strand: Number
Unit: Comparing
Skill: Reasoning
Language: more, less, same
Creative Play: Skills
Pretend Play: Assessment

Teddy’s Party
- **Assessment Tool:** Sample of Pupil’s Work / Checklist

Zootropolis
- **Assessment Tool:** ICT

Teddy City
- **Assessment Tool:** Observations
Seesaw

Transform Learning with
Seesaw
Facilitating Reflection

- Pass the Ball
- Show and Tell
- Before and After
- Hands Up
Reflection

Where to from here?
Thank You

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