MATHS @HOME

Developing young children's maths abilities through everyday play

UCL

Save the Children

Level One - Preschool Games
(age 2/3 - easy)

Maths in the Bath

Location: Bathroom

Materials needed: Your hands.

Aim: This activity will help your child to understand that there are 5 fingers on each hand and to recognise 1,2,3,4,5 fingers without counting.

1. Ask your child to look at your hand and ask them: "How many fingers am I showing you?"
2. If your child cannot say the number just tell them you are showing 5 fingers.
3. Show your child 1 or 2 or 3 or 4 or 5 fingers in random order.
4. Can your child recognise automatically the number of fingers without counting?
5. If your child cannot give a correct answer just tell them the correct number without counting.

Dinner Time

Location: Kitchen/Dining Room

Materials needed: Cutlery and a table to be set.

Aim: This activity will help your child to develop their counting abilities.

1. Ask your child to help with setting the table
2. Ask your child: "How many people are going to eat?" (It might be confusing for your child to include in their count people that are not present in the room. You can ask them to use their fingers to help them to count)
3. Ask them: "How many chairs do we need?"
4. Ask your child "How many forks do we need? Can you put them on the table?"
5. Ask your child to put on the table the same number of plates and glasses as people who will need to eat.

Level Two - Reception Games
(age 4/5 - medium)

Maths in Steps

Location: Anywhere

Materials needed: Your feet.

Aim: This activity will help your child to count up to 20 steps correctly and to use words such as, more, same, and fewer.

1. Ask your child to walk from one side of the room to the other. Then ask them "How many steps did you take?"
2. Now you do the same. Ask your child to count your steps as you walk. Then ask them: "How many steps did I take?"
3. Ask your child: "Are the number of the steps the same?", "Who made more steps?", "Who made fewer steps?"

Scavenger Hunt

Location: Garden

Materials needed: Things you can find in the garden like leaves, stones, flowers, and feathers.

Aim: This activity will help your child to understand and solve additions up to 10.

1. Ask your child to find 2 groups of objects. For example:

   Find 5 leaves and 3 stones. How many do you have in total?

   Find 3 small stones and 1 big leaf. How many do you have in total?

   Find 6 green leaves and 2 brown leaves. How many do you have in total?
2. What other examples can you think of?
3. If your child cannot count correctly / add the items, put them all in a line and count all the items pointing at each one.

Level Three - Year One Games
(age 6 - hard)

Go Compare

Location: Lounge

Materials needed: Sets of items that have different lengths and heights (e.g., crayons, pens, cups)

Aim: This activity will help your child to order the items measured from smallest to largest.

1. Ask your child: "Can you find all the pencils that are in this room? Now, let's order the pencils from shortest to longest!"
2. Then ask your child: "Show me, which pencil is first? Which pencil is second? And which one is the last?"

Before & After

Location: Bedroom

Materials needed: A book with at least 100 pages and page numbers in it.

Aim: This activity will help your child to name the number before and after a given number up to 100.

1. Choose one of your child's favourite books with page numbers in it
2. Open the book randomly and ask your child: "What page number is it?"
3. "Can you guess what page number comes before this number?"
4. "Which page number comes after?"
5. Go to the next page, point to the page number and say it out loud to check if your child's guess is correct. Do the same for the second guess (after)

Maths@Home game

Maths@Home is an app targeted at parents and professionals who wish to help children aged two to five years old to develop their mathematical knowledge through fun activities.

Maths@Home app provides adults with a bank of ideas of various activities that will support the child's mathematical development using resources easily available in and around the home. Its design was based on the latest research on mathematical development in children and personalised learning and was designed by developmental psychologists with expertise in mathematical development and education at UCL, whilst considering feedback from parents and practitioners.

Features and Benefits of the app.

- Fun games that can be easily implemented in a child's daily routine without any fuss.
- Off-screen engagement between family members/teaching staff and children, using resources easily accessible in the home.
- Games that promote a wide range of concepts and knowledge that children need to acquire, including number name knowledge, digit knowledge, number sequence knowledge, number sense understanding, shape, money, etc.
- Evidenced-based games based on latest research in mathematical development
- The activities are informed by the English national curriculum and Early Years Foundation Stage framework.
- Each game include levels to scaffold a child's learning at appropriate developmental levels

What users have said:

- "It is inexpensive, **the stuff is readily available**"
- "It encourages you to be interactive with your child"
- "I certainly found that **there were things that I would never have thought to have done that were really simple but actually he really enjoyed it"**
- "I read what was to do and I then I kind of put the phone away, if you like and I sat with my child and did the talk and **I felt it like of encouraged**…

Partnerships

The project partners are currently seeking licensing partnerships with education providers/educational technology companies who have expertise in this market to further develop the app.

Maths@Home links:

- https://www.ucl.ac.uk/ioe/departments-and-centres/departments/psychology-and-human-development/child-development-and-learning-difficulties-lab/educational-technologies-and-apps/mathshome
- https://blogs.ucl.ac.uk/mathsathome/

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