

## What's in the box? Science and Curiosity for Tots

### Notes for parents and carers at home

We first devised Tots Time Science for local libraries in Nottingham and thanks to support from Nottingham charity, Small Steps Big Changes, we have developed the series of activities and published a booklet for families to share at home.

In this online version we will suggest the simple steps you can take to create your own Curiosity 'What's in the Boxes?' activities.



#### **Lots of boxes, which one to choose? Many different colours, many different sizes.**

Look at all the boxes. Luke, Nefeli, Hans, Eleanor and Jessica like playing with the boxes.

What else is different about the boxes? Shall we play?

Find some boxes of different sizes (and shapes), preferably with a lid (or you could improvise with some old cardboard boxes and some wrapping paper), and then find some simple everyday objects to put inside.

We liked the idea that by hiding things in a box, there could be a guessing game..

What's in the box?

Luke plays with the smallest, this teeny tiny red round box.

Before we take off the lid, Luke gives it a little shake.

It doesn't make a noise – does that mean there is nothing inside, Luke?

Is it heavy? Is it light?

Let's open the lid and look inside. What is it?

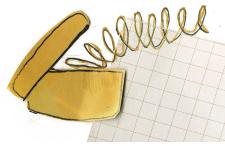
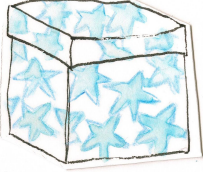

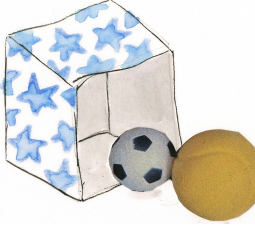

Look Luke, the small red box has a mirror inside.



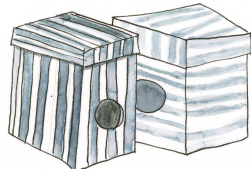

Who can you see? Are you bigger?

There are some clues that build curiosity before they open the lid. Is it heavy or light? Does it make a noise?

In this game we stuck a mirror to the bottom of the box; it happened to be a magnifying mirror, and Luke had fun because his image changed as he moved the box closer and further away from his face.



<p>Nefeli finds a small yellow box, small and round. When we shake it does it make a noise?</p> <p>Let's open the lid...</p> <p>Boing Boing Boing</p> <p>Look Nefeli, it's a spring! How far can we pull it? Does it make a noise?</p>	<p>You can buy small springs – slinkies – from pocket money toy shops; children are fascinated by them anyway, but by combining the excitement with curiosity we can have even more fun.</p> <p>We stuck a small slinky to both the bottom of the box and the lid, so that it extended a bit like a concertina.</p> 
<p>Jessica likes a square box with stars on</p> <p>Look Jessica, there's some material, very pretty with lots of colours</p> <p>Sniff sniff. It has a smell. Can you tell? Can you tell what it is? Is it a nice smell? What does it make you think of?</p> <p>Jessica uses the box as a hat.</p>	<p>Taking care if your child has adverse reactions or may be allergic to certain scents and smells, you could take pieces of material, scraps of different colours and textures.</p> <p>We sprinkled a few drops of food flavourings and other scents on to the material.</p> <p>This activity opens up the other senses with colour, texture and smell.</p> 
<p>Eleanor, what is in that box?</p> <p>Look it's another quite heavy box with lots of noisy instruments inside.</p> <p>What makes the loudest noise? What makes the deepest noise? How can you play them?</p> <p>Eleanor has worked out how to make the most noise.</p>	<p>Again, although playing with simple musical instruments is an obvious activity for tots, by putting small cymbals, a shaker, a bell, a wooden block and beater in the box, we increase the level of interest for the infant.</p> 
<p>All the children like this box – the one with stars and quite heavy, and it rattles and wobbles when you shake it. What's inside this box, children?</p> <p>Open the lid. Look it has some balls to play with, big and small. Some are big, some are bouncy. But look, this small ball is not the same as the others although it's the same size. It's heavier than all the others. Why could that be so?</p>	<p>We had fun making the box with different balls, though it does take a little more preparation. Take different coloured table tennis balls, and with care and ingenuity, make a small slit in one and pour sand in (a bit fiddly this). It helps to restick the flap of the slit afterwards.</p> <p>Children get to weigh the different balls in their hands.</p> 
<p>And look children, there are some balls that stick together with magnets inside - how did the magnets get there? What else do they stick to? How does it feel when you pull them apart?</p>	<p>We took two bright tennis balls, and again by making a small slit, we were able to introduce the small but strong magnets into each ball. The slit may close up by itself or use a small dab of glue.</p> 

<p>And what about this blue box? Eleanor has discovered something about this blue box that makes it different from all the others we play with.</p> <p>When Eleanor tries to pick it up it is really really heavy. What could it have inside to make it so heavy? How can we pick it up?</p>	<p>We made a couple of boxes where the children couldn't open them. One contained rice that they could shake as a musical instrument.</p> <p>The other contained a one kilogram weight. Make sure it is either stuck or a snug fit so that it doesn't move around, and make sure the lid is well stuck.</p> 
<p>Look Hans, inside this box there's a torch and some coloured glass, and some gels you can shine the light through.</p> <p>What colours can you make? Can you see the light? How can you make a shadow?</p> <p>Hans likes to make patterns with the light.</p>	<p>Simple torches are fun; children shine them anywhere, through their fingers, in their faces (take care). We included marbles, glass balls and coloured paper and gels (like sweet wrappers) to shine light through. Shadows are fun too.</p> 
<p>Nefeli and Jessica have found some boxes that you can put your hand inside - is it soft/hard/scratchy? What do you think it is? Is it a nice feeling or not so nice?</p>	<p>We created some boxes where the children could not see inside and had to put their hands in and feel the objects. We placed items that were smooth, soft and hard or scratchy like a pan scourer.</p> 
<p>And Luke and Hans have found the box with different things inside that look like leaves and feathers and other objects from nature.</p> <p>Where did they come from? What are they called? What do they look like under a magnifying glass? Luke and Hans like exploring and finding out. And looking through a magnifying glass is fun too.</p>	<p>We included some magnifying glasses (with handles, around £3 from a high street domestic hardware store).</p> <p>Introducing infants to natural materials like leaves and twigs and feathers is a nice way of progressing from objects.</p> <p>And using magnifying lenses means that children start to observe patterns and other details in nature.</p> 

The series of Tots Time Science and Curiosity worked well in Nottingham libraries – now we are delighted to make the booklet and ideas available online so that parents and carers can try these for themselves.

We are continuing to build the ideas around how to stimulate curiosity in infants and very young children, and hope to place more ideas online from time to time.

Meanwhile we would love to hear from you with your questions and suggestions. Perhaps together we could create a compendium of ideas for curiosity!

Get in touch via the website or [info@ignitefutures.org.uk](mailto:info@ignitefutures.org.uk)

We look forward to hearing from you and sharing more Tots Time Science.