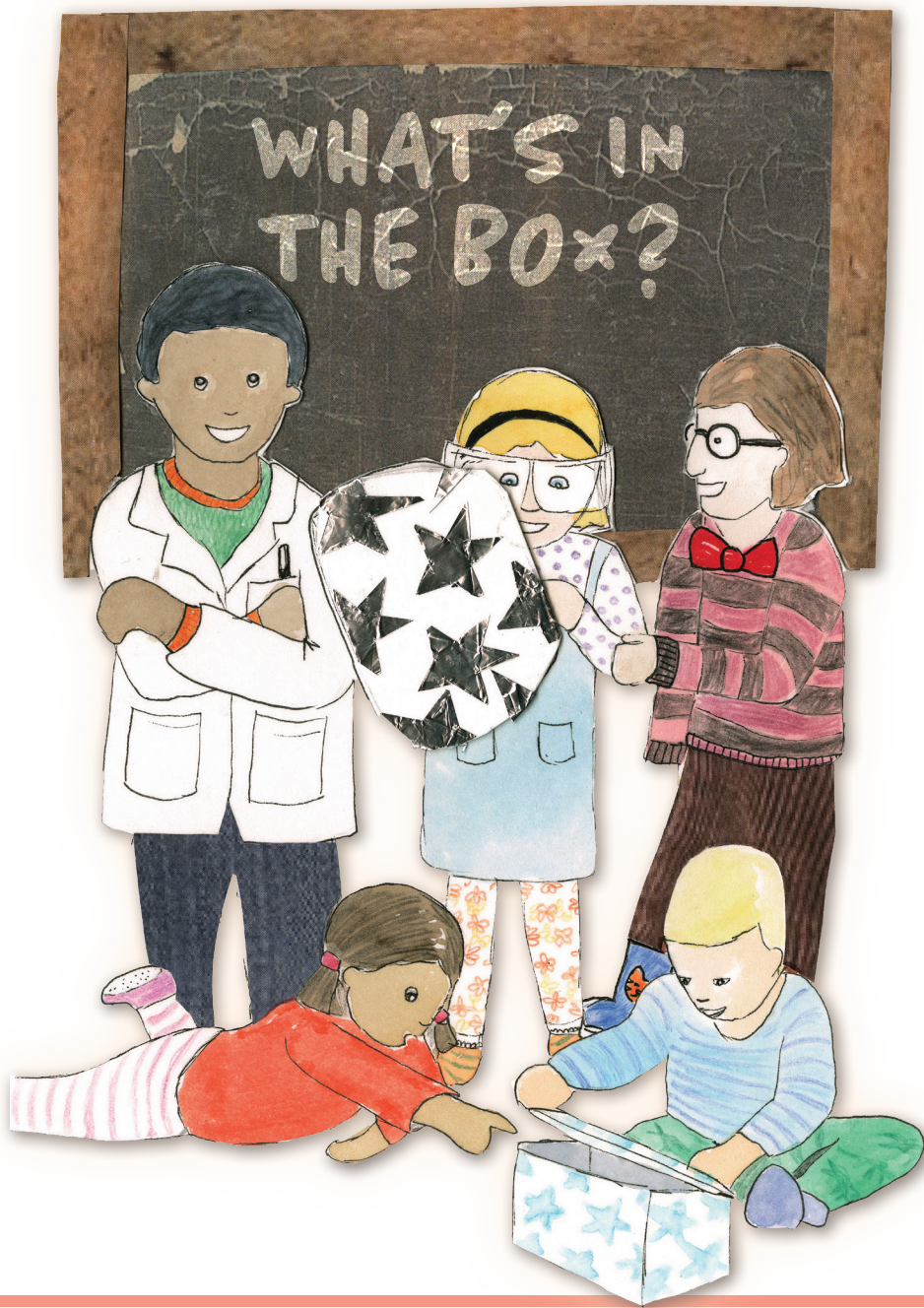


SCIENCE AND CURIOSITY FOR TOTS





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?



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?

Which box shall we look at next?

Nefeli finds a small yellow box, small and round.
When we shake it does it make a noise?

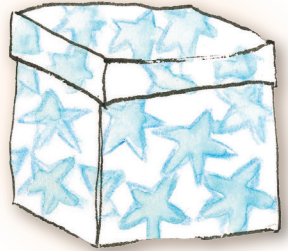


Let's open
the lid...

Look Nefeli, it's a spring! How far can we pull it?
Does it make a noise?

Jessica likes a square box with stars on.

Look Jessica, there's some material, very pretty with lots of colours.



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?





Jessica uses the box as a hat.

Eleanor, what is in that box?

Look it's another quite heavy box with lots of noisy instruments inside.

What makes the loudest noise? What makes the deepest noise? How can you play them?



Eleanor has worked
out how to make
the most noise.



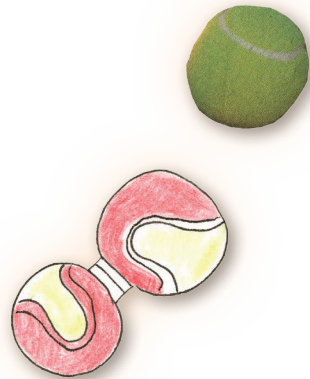


All the children like this box – the one with stars and quite heavy, and it rattles and wobbles when you shake it.

What's inside this box, children?

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?



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?

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.



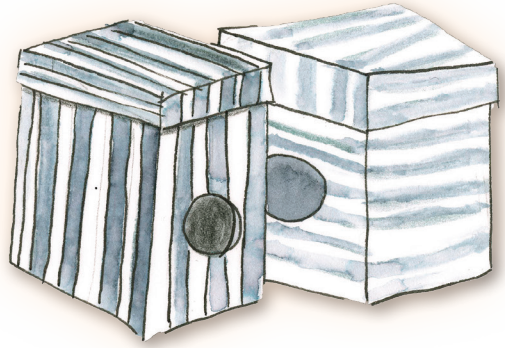
When Eleanor tries to pick it up it is really really heavy. What could it have inside to make it so heavy? How can we pick it up?



Look Hans, inside this box there's a torch and some coloured glass, and some gels you can shine the light through.



What colours can you make? Can you see the light? How can you make a shadow?
Hans likes to make patterns with the light.



Nefeli and Jessica have found some boxes that you can put your hand inside - is it soft or hard or scratchy? What do you think it is?

Is it a nice feeling or not so nice?







And Luke and Hans have found the box with different things inside that look like leaves and feathers and other objects from nature. 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.





All the children have fun playing with the boxes.
Eleanor, Luke, Hans, Jessica and Nefeli – did you
have a favourite box?
Which was your favourite? What did you like best?



Notes for parents and carers

In the first week of Tots Time Science we brought you some colourful round boxes, with different things to explore with your child. We hope that you and they found them interesting, funny and perhaps a little surprising.

What could you do at home?

Maybe you could have fun with a regular Curiosity Time, when you play with different things that your Tot could explore using their senses. We had fun making the boxes and coming up with different ideas - and you could too.

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?

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

Side Note

Of course if your child is non-verbal, 'What's in the box?' becomes a playtime game of mime and play-acting - looking and expressing your own curiosity for your child to copy.

A note about the science

All great science discoveries came about because someone was curious and wanted to know the answer to four basic questions:

How is it made?

How does it work?

How does it move?

How does it change?

Oh yes, and why?

It's perhaps a little early to be thinking about science for under threes, but we believe that every child is innately curious, always wanting to test something out – and mostly by putting it in their mouths of course.

By helping your child to be curious about their world, you are introducing them to the ideas that will be with them for the rest of their lives.

So the idea behind the boxes is firstly to start to wonder and then to explore what's inside the boxes. We made the boxes with the senses in mind... colours, sizes, shapes, materials... so we can ask whether they make a sound, or smell, or feel different and why that is...

For example, having balls that are the same size but weigh differently introduces the idea that some stuff weighs more even if it takes up the same space. We don't need to explain it just yet, but your children begin to experience the concepts of density and mass.



This project was funded by Small Steps Big Changes Ideas Fund 2019, following an initial pilot funded by Children in Need and Wellcome Trust Curiosity programme in 2018.

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What can you hear?
What can you smell?
What can you feel?

What's in the Box is all about supporting young children to explore the world around them, experiment with science through play and become more confident in expressing their curiosity.

This booklet explores the activities that Ignite! ran with families in Nottingham and gives examples of running curiosity activities with under 3s wherever you are.

