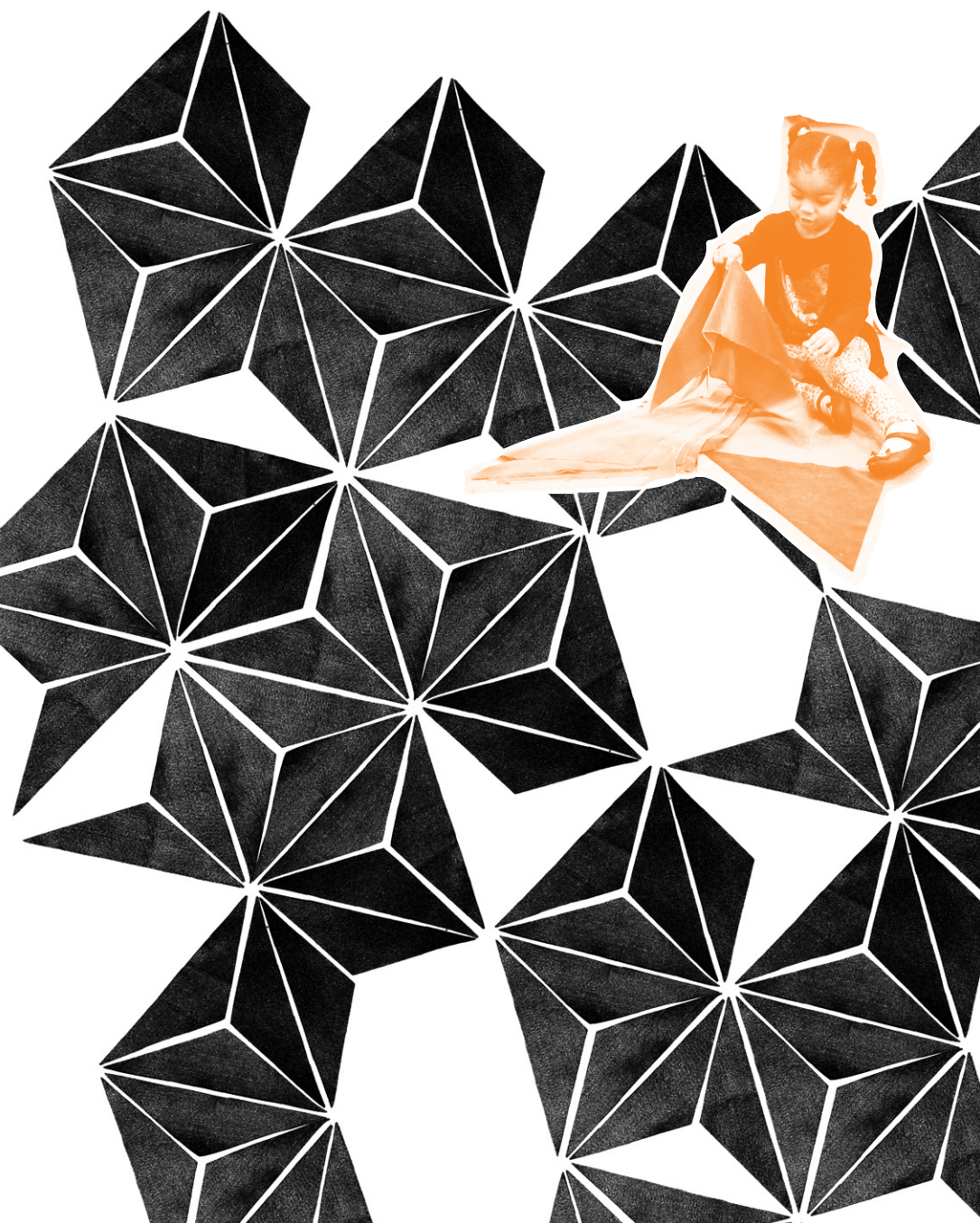
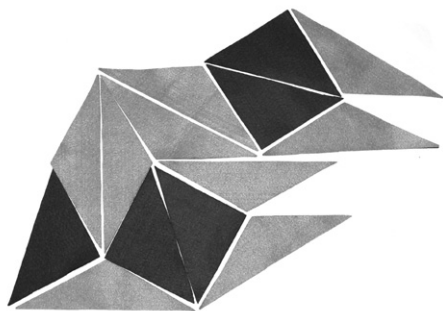


# Shapes



## What is **Shapes**?

**Shapes** is a kit for play. **Shapes** is deceptively simple; the mathematics behind it are very precise. It includes five geometrical shapes: one square and four triangles that all share one side measurement. The geometrical shapes can be made with different materials and can be different in size and scales.



## How to play?

There is not a single way to play **Shapes**.

**Shapes** provides an open infrastructure that allows for free play exploration. It celebrates the curiosity of young children, their individuality and differences.

The five parts are deliberately loose, with no means for connection with glue or tape. They can be moved, carried, combined, redesigned or lined up. **Shapes** encourages experimentation and reconfiguration without a predetermined end point. Children can play without having to produce anything specific, or ascribing to any measure of value that can be attached to that process.

**Shapes** is easy to reproduce at a low cost or with recycled materials using the pattern on the packaging. You can make extra pieces for your kit or share the instructions with friends for free at the website: [serpentinegalleries.org/shapes](http://serpentinegalleries.org/shapes).

**Shapes** is designed to be enjoyed by children under five years of age, but can also be played by siblings, parents, and grandparents – intergenerational play is encouraged!

## How was **Shapes** developed?

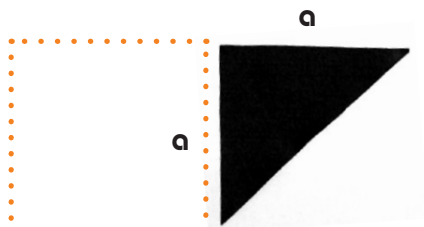
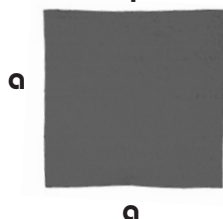
In autumn 2014, the Serpentine Galleries commissioned artists Andrea Francke and Kim Dhillon of Invisible Spaces of Parenthood to collaborate with the Portman Early Childhood Centre on Changing Play. Through a series of workshops, we explored five of Friedrich Fröbel's original "Gifts" and "Occupations", experimenting with different materials, scales and modes of interaction. The workshops took place with children aged from six months to four years old, their family members, and staff from the Portman Early Childhood Centre.



Although remaining true to the mathematical principles of the original "Gifts", we expanded the scale of the shapes by taking them off table tops and onto the floor, so that children and adults could work together in a more collective way. In the development stage, felt was selected as the material for **Shapes** because of its soft tactility and bright colour palette. We hope to encourage you to reproduce **Shapes** by creating your own play kit from inexpensive materials. You can use the cutting patterns in the packaging to make your own **Shapes** with different types of materials. We also used cardboard, fabric leftovers, foam board and even acetate to play with transparency and overlaying. You can download a .pdf of the **Shapes** patterns for free on the website: [serpentinegalleries.org/shapes](http://serpentinegalleries.org/shapes) or use the mathematical instructions provided to try different scales. The kit comes with a set of **Shapes** on a 40 cm scale that allows children to occupy the space and facilitates collective use.

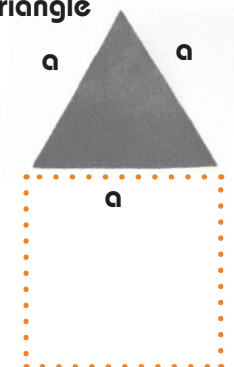
## The geometry of **Shapes**

1. a square



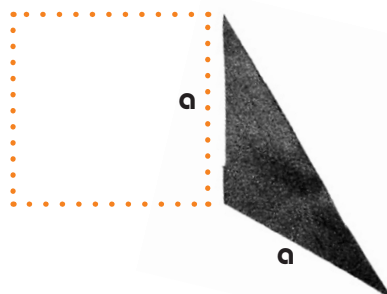
2. a right-angled triangle that is the same square cut in half

3. an equilateral triangle



4. a right-angled triangle with angles  $90^\circ$ ,  $30^\circ$  and  $60^\circ$

5. an isosceles triangle with two equal sides and angles  $30^\circ$ ,  $30^\circ$  and  $120^\circ$



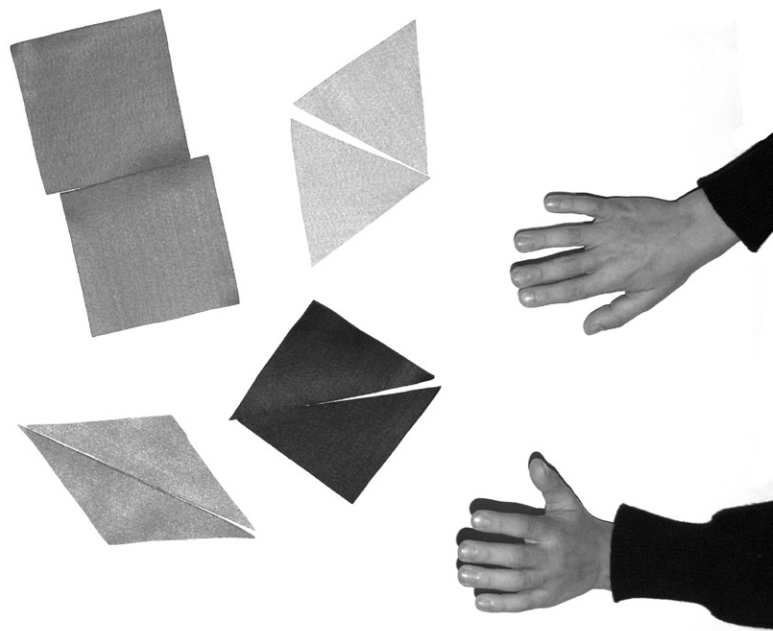
## Where does **Shapes** come from?

The geometrical forms of **Shapes** are based on the play materials designed by Friedrich Fröbel, who developed one of the first models of early years education in the 1840s, the Kindergarten. Fröbel was interested in encouraging children to perceive the relation between the natural world and abstraction. One method he used to explore abstraction was a series of “Gifts” – a number of very specific handheld resources for children to play with for a set period of time. Children are presented with the “Gifts” in sequence, increasing in complexity.

**Shapes** was developed from Fröbel’s 7th Gift: parquetry tablets.

Fröbel’s original shapes were much smaller and in paper forms, they were explored by a child in an specific order: firstly, as forms of nature using them to make representational drawings and narratives; secondly, as forms of knowledge for the adult and a child to use them to explore geometrical and mathematical concepts together; and finally, as forms of beauty when they would be used to create patterns and explore abstraction.





## Shapes in art

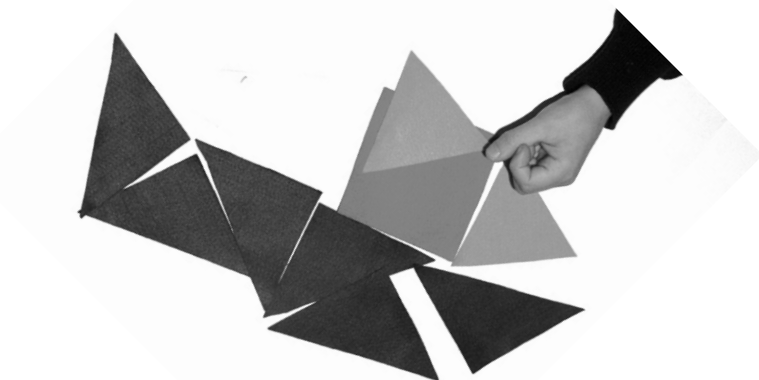
Despite the fact that the dissemination of the Kindergarten model was one of the motivating forces in the development of abstraction in modern art, the connections between early years education and culture remain largely ignored by the art world.

The Bauhaus was one of the most influential art schools in the world. Johannes Itten, who developed the preliminary course that was mandatory for every student in campus, had previously worked as a Kindergarten teacher. During the development of **Shapes** we explored the relations between the Bauhaus preliminary course and Fröbel's Kindergarten "Gifts". The idea was to identify the similarities between the two educational settings as a means of making visible the importance and sophistication of early years educational practice.

## What did we do?

With the Changing Play commission we explored how Fröbel's "Gifts" might be reinterpreted within the specific context of play and art in early years education at the Portman Early Childhood Centre. We were not simply reappropriating the "Gifts" and presenting them to the children. Rather, in an initial meeting with the nursery staff at the Portman it was suggested that issues that the children faced at home be used as starting points for how our workshops might test models for play. For example, the constraints of space that many children experienced in central London council housing was raised as a concern. What might the children do with objects if they were expanded in scale and without limits of space? For this reason, we took Shapes off tables and desks, as Fröbel originally designed his 7th "Gift", and placed them on to the floor. This removed boundaries of scale and opened up the potential for collaboration amongst the children to work together. We also explored different materials and a range of textures, weights, and opacity to see how these might be engaged with by children.

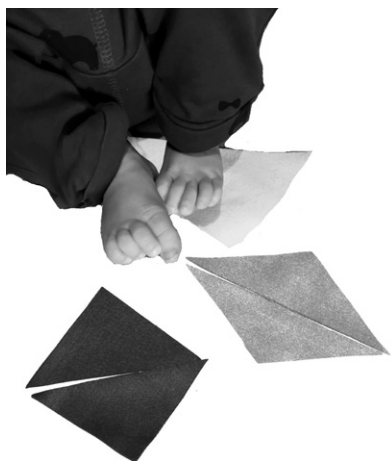
Each workshop was trialed consecutively with the nursery (with children from 2 to 5 years and facilitated by nursery staff) and the drop-in centre (with babies from 12 weeks to toddlers, accompanied by their parents). Some models were more successful with older children, but failed with babies. Others were more successful with infants. Adaptations of Fröbel's "Gifts" succeeded and failed dependent on the materials used and the ages of the children.





## The context for **Shapes**

Early years education is overwhelmingly performed by women and does not tend to receive the recognition it deserves, even when considered in comparison with primary and secondary education. Early years education is not only seen as “women’s work” but also, a “women’s problem.” As a result, early years education suffers from a lack of recognition of the labour involved and its wider social value and has resultantly been devalued in public policy, contributing to its broader invisibility across education and society as a whole.



### **Maintained nursery schools**

The Portman and other maintained nursery schools that are funded by local authorities are currently under threat in the UK. Changes in policy mean that their access to government funding is no longer guaranteed and the number of maintained nurseries have gone down from almost 600 in the 1980s to barely 400 in 2015. Maintained nursery schools provide childcare in conjunction with early years education. Although they are inspected by Ofsted more often and rigorously than other nursery, primary and secondary schools, they consistently remain the highest graded part of the UK’s educational system. Maintained nursery schools have a track record of sustaining high quality provision in both low and high income areas and have particular expertise in working with children with Special Education Needs and Disability (SEND). Their range of early intervention strategies means that a maintained nursery school will usually have a profound impact in their local communities.



These institutions are one of the most important promoters of equality in the United Kingdom and it is symptomatic that the current wave of closures of maintained nurseries has not been more visible.



## Early years education

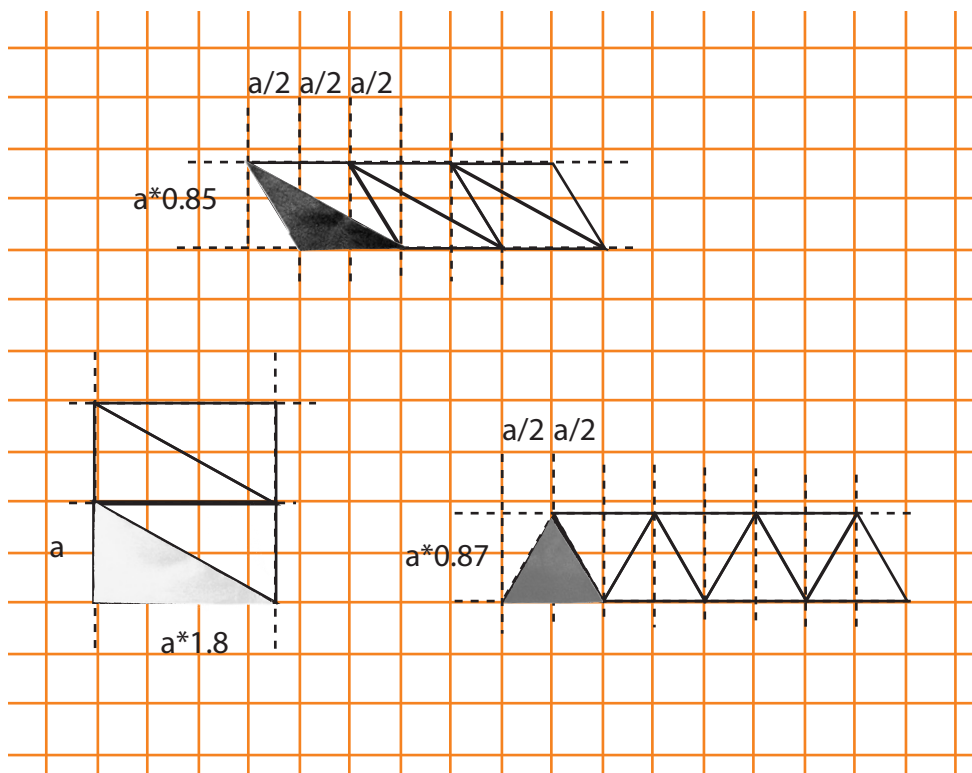
Early years remains largely invisible and devalued in the world of schools and schooling. Because of this, its value as an intense political space and the radical education practices that occur on a daily basis often come as a surprise to those outside of the early years community. In a nursery school setting parents are encouraged to be present on many occasions and interact with other children, parents and staff. Children are given agency and respected as political subjects. Nursery workers have agency (though this is currently being curtailed) that allows them to interact with the children and families in a close and horizontal way (“no-one knows more about your child than you” is a mantra at the Portman). Despite a current trend away from universal services (which position early years education centres as holistic community hubs), towards targeted provision (which risks stigmatising centres as spaces for families experiencing difficulties), there are still a varied range of ethnicities, classes, cultural backgrounds and parenting styles represented and interacting in these spaces.

Nursery schools and government maintained childcare centres in early childhood centres are spaces where care and affection occur in conjunction with expertise and infrastructure in a very particular way. They are democratic spaces where talking about politics seems as natural as changing a nappy. They are radical spaces where children and adults can develop together as political subjects and active citizens.

## Make your own Shapes

You can cut the shapes out using any material and the patterns on the packaging.

Download a pattern from the website: [serpentinegalleries.org/shapes](http://serpentinegalleries.org/shapes) or use these instructions to draw and cut your own. If you cut your own, you can also play with the scale. We used  $a=10\text{cm}$  or  $a=40\text{cm}$ . If you are good at working with angles you can use them to draw the shapes. We used a little trick of using rectangles as the base for all our cuttings.





## Acknowledgements:

**Shapes** was developed by Invisible Spaces of Parenthood with the support of the Serpentine Galleries Education Team, Alex Thorp and Ben Messih. Images in this publication are by the artists and Manuela Barczewski. The **Shapes** in the final kits were cut and prepared by Imilda Wright using the same instructions printed here.

Finally, **Shapes** was developed with the help and support of children, parents and staff from The Portman Early Childhood Centre, a big special thanks for their generosity, kindness and patience.

Printed on Risograph by Hato Press, September 2016.

## Changing Play

**Shapes** is a kit for play, developed with Andrea Francke and Kim Dhillon of Invisible Spaces of Parenthood, following the Serpentine Galleries first Changing Play (2014 –) commission.

Changing Play is a multi-year programme developed in partnership with the Portman Early Childhood Centre, a nursery school and drop-in centre for children aged 0 – 4 and their families in the Church Street Ward, North-West London. Through Changing Play artists, children, families and educators come together to critically reconsider play and early years education.

Changing Play is funded by a gift from The Sackler Trust.

[serpentinegalleries.org/learn](http://serpentinegalleries.org/learn)

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The background of the entire image is a complex, abstract pattern of overlapping triangles. These triangles are rendered in various shades of gray, from light to dark, and are separated by thin white lines. The overall effect is a textured, crystalline surface that resembles a mosaic or a geometric collage.

**Shapes:** there  
isn't a right way  
or a wrong way.  
**Just play.**