

## 1: How to find patterns for your body type

*Shapes and Patterns We Know: A Book About Shapes and Patterns (Math Focal Points) [Nancy Harris] on [www.enganchecubano.com](http://www.enganchecubano.com) \*FREE\* shipping on qualifying offers. Teaches Young Readers About Shapes And Patterns Using The Seasons Of The Year And Pictures Of Nature.*

Building with blocks help children understand the concept of patterns through sequencing. Many times we look at patterns and do not "see" them. Patterns balance our view of life and add to its beauty. There is a certain symmetrical harmony that comes from understanding how patterns bring a natural order to our lives. Did you ever count the number of stairs going up or down, count the number of windows in your home, or notice the pattern in your wallpaper? If you give a child a box full of paper cups she will make some interesting arrangements with them, but eventually she will most likely stack them into a pyramid. Again, this demonstrates the natural tendency to make sense of every day experiences through patterns. Patterns help children learn sequencing and to make predictions which leads to mathematical skills, logic structure in algebra, and to establishing order in life. A toddler will sort green blocks from yellow ones as he builds a tower. He begins to notice things repeat in a certain order by size, shape or color. An older preschool child notices slightly more complicated sequencing such as knowing the days of the week, months of the year or odd and even numbering. Size, shape and color are elements of a pattern. Source Can you guess what this is? Bridges have interesting configurations. Source Moving Patterns Some patterns, such as flowing water, teach creative thinking and help to define the concept. As they enjoy the activity, they will understand the sequencing of items and predict "what comes next? My mother kept a huge jar of assorted buttons on her dresser. She would often ask my sister and me to pick out a certain color button for her mending of an item. Of course we would enjoy sorting through the different styles, shapes and colors to find it. Little did we know that this was an actual learning activity for us. So, any task or activity you can think of that would make for a fun time can be used to teach patterns. Once your child has grasped the sorting concept, you can begin to teach simple patterns. In primary school children learn patterns through the use of a variety of tools such as pattern blocks and math cubes. This is all good, but to extend the learning experience at home parents can use items in the home and outdoors to reinforce the importance of patterns and relationships. Play an upbeat song that has a good basic tempo, such as a march, that your child can clap hands to the beat. Role model how to clap with the beat and encourage your child to follow along. Clap fast, clap slow, vary the claps of fast and slow as you play together. This will help them understand rhythm and pattern. You can also jump to the music in the same manner fast, slow, jump three times and then stop, etc. For preschoolers, another great approach to patterns is to have them stamp shapes or use stickers on a strip of paper. Model the pattern for them and use a simple sequence at first, keeping it to two or three items; for example: A great introduction to a math pattern concept is to use numbers and ask them to complete the sequence, asking the child what is next? Or, you can have them fill in the blank as a practice in order of alphabet letters. Keep in mind that most preschool children can only recognize numbers to twenty and may need help with letters of the alphabet.

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EMAIL Have you ever wondered why most early childhood programs teach children their colors and shapes early in the year? Why not letters and numbers? Why not cats and dogs? When you look out your window, you may not be saying it Color and shape are ways children observe and categorize what they see. These very recognizable characteristics encourage children to define and organize the diverse world around them. These first teachings in preschool and kindergarten are basics that your child needs to know before she learns the "other basics" of reading, writing, and math. Understanding color and shape is a tool for learning many skills in all curriculum areas, from math and science to language and reading. For example, when your child learns to discern the similarities and differences between colors and shapes, she is using the same skills she needs to recognize the differences between letters and numerals. When young children are asked to mathematically sort objects such as leaves, rocks, shells, or keys they usually use the most obvious attributes of color and shape, plus size, to categorize the items. When your child plays, he uses sorting and classifying skills as he observes similarities and differences of color and shape, makes comparisons, and organizes this information into piles. This seemingly simple process that we use every week when we sort the laundry or find things in the grocery aisles is the foundation for living in a mathematical world. Sorting by color and shape prepares your child for the future application of these skills in making graphs or searching for a book at the library.

**The Importance of Color** Color is one of the first ways your preschooler makes distinctions among things she sees; color words are some of the first words she uses to describe these things. Helping you fold the laundry, she may naturally start sorting the socks into piles of different colors while exclaiming, "Look what I did! You can help by inviting him to notice many shades, hues, and tints. Make up names for these colors together, such as lemon yellow or apple red. You will be helping him use color as a means for creative thinking and language. Invite him to use descriptive language as he tells you how one green is different from another. One 4 year old I observed proudly said, "That green is dark like a Christmas tree and this one is light like celery! She can sort them into different color piles, match similar colors, and create a sequence or "color train" of hues from light to dark. Bring out the glue stick and she can cut and paste the colors to make monochromatic collages of yellows, reds, blues, etc. Find more games and activities about color.

**The Power of Shape** We all use shape as a way of identifying and organizing visual information. Very early, your child begins to make a connection between familiar objects and their shapes. Changes in these can be surprising. For example, at first he may not want to eat round waffles or square cookies. But once he experiences this new shape information and finds out it is still delicious! When your child explores different shapes, she is using one of the most basic educational processes: This concept provides her with a basic process that she will be able to use in observing, comparing and discussing all she sees and encounters. Play shape-sorting games with simple household items. Put a collection of objects on the floor and invite your child to sort them into different piles "€" for round, square, flat, or rectangular items. Then ask him to go on a treasure hunt around the house to find one more thing that can go in each pile. You will be asking him to apply what he has learned in sorting the shapes to the greater world around him. Take a shape walk around the neighborhood. You might want to focus on one shape at a time. This will help your child match the shape to objects in the environment, and to notice same and different. Give her a cardboard circle to carry as you go on your "circle walk. Carry a clipboard and a piece of paper with the basic shapes drawn on it. Every time your child finds one of the shapes, she can draw a tally mark. Which shape did she find the most of? Find more shape and size activities. Shapes are also symbols. Capital letters are made mostly of circles or parts of circles and lines. The first step in understanding letters is the ability to know the difference between a circle and a square or rectangle. Provide your child with lots of paper and crayons to experiment with drawing lines and shapes. It is most important for him to get the "feel" of the shapes in his hand before it is perfectly represented on paper. This shape drawing will naturally lead to writing letters. Take the letters of his name and help him see the shapes inherent in them. Of course, where would the

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world of art be with out color and shape? Explore your favorite picture books together with an eye for color and shape. Great authors to explore include Leo Lionni and Eric Carle. Help your child see the way the artist has used colors and shapes to create. Bring out the paper and paints or markers and encourage her to create her own art in the style of her favorite illustrator! About the Author Ellen Booth Church is a former professor of early childhood, a current educational consultant, keynote speaker, and author.

## 3: Exploring Shapes and Patterns | An Everyday Story

*Teaches Young Readers About Shapes And Patterns Using The Seasons Of The Year And Pictures Of Nature.*

This article was written following a conversation with a teacher of young children who was planning a unit of work on pattern. She bemoaned the fact that children enjoyed the work but to her it was repetitious because of the limitations of what could be done. I kept thinking about the comment and concluded that the problem with patterns is there is so much that can be done. In fact the whole curriculum could, and perhaps should, be organised around pattern. We live in a universe of patterns. It is interesting that Stewart sees fit to take his adult readers on that intriguing and important journey into pattern as he explores what mathematics is for and what it is about. In asking why pattern, what is it studied for and what is it about, we are actually asking about the role and purpose of mathematics itself. Mathematics is the study of patterns. Studying pattern is an opportunity to observe, hypothesise, experiment, discover and create. By understanding regularities based on the data we gather we can predict what comes next, estimate if the same pattern will occur when variables are altered and begin to extend the pattern. Practical activities that allow us to construct knowledge for ourselves with all of the ingredients for a meaningful, thought provoking and mentally and physically engaging mathematics curriculum. Study of pattern integrates both the strands of mathematics and a variety of curricular areas. We can use and extend skills and knowledge of number, measurement, geometry, data collection and statistics, probability and algebraic thinking. It allows us to bring together mathematics with music, visual art and craft, vocabulary building, creative writing and verbal communication, social studies, science and environmental studies, talent and technology. What better way to build a rich, developmentally appropriate curriculum for youngsters? If we ask the youngest of learners, "What are patterns? Somewhere is the idea of repeating over and over again. Is it a simple A, B pattern? An A, B, A, B pattern or more complex, perhaps with three or more elements. What symbols can be used to represent the pattern - can it be clapped, clicked, counted, drawn? Is the pattern generalisable - can we find other tunes, poems that have the same rhythm or beat? No fieldtrip into the local environment is complete without looking for the patterns that brighten and enliven our world. What patterns are present, are they from the natural or manmade world? What are the elements of pattern? What shapes do we see, how are colours used, do the patterns have meaning or purpose, how many varieties are there, how do they differ, what elements are the same? Looking at the overlapping tiles or wooden shingles on a roof we see a wide variety of patterns. We see the same type of pattern in the leaves of certain plants, on the scales on fish and snakes and fir tree cones. They are not just pretty they are protection. Animals having overlapping body structures are flexible; they can curl up. We might not be able to see an armadillo first hand, but meal worms known also as pill bugs and roly-polys can be found easily in most damp outdoor environments. Looked at through a hand lens, the pattern of the overlapping structure can be seen. Overlap one card in a line on the next and flip the first card laid down. All of the cards move and turn. Change to the pattern in one element of a system causes change and disruption to all elements of the system. Typically we consider the elements of shape and colour, often colour simply emphasises shape. Tartans are created through the same basic element, repeated lines, intersecting. The variety is immense as the thickness and colour of lines alternate, as we see in books detailing Scottish clans and their tartans. We could be even more creative in designing our own tartans and clan history than the Celts were. Some lines are not all that they seem. The stripes are the fingerprints of the animal, each has its own unique pattern. They are an example of how the purpose of pattern comes into its own in the natural world. In the animal kingdom, like colour, they are signal friend or foe. The stripes of a zebra act to distort what the predators see. We could investigate the effect of different shapes in helping animals hide and keep safe. Stripes, lines or bands of colour, can cause optical illusions. Here is an opportunity to investigate the causes after-images on the retina. Pattern and colour is seen to change as the speed of the motion increases. Colour wheels or discs made of lines, circles or coloured sectors can be stuck masking tape works very well on the end of a hand-held electric beater and observed as the speed increases. The results are fascinating. Recording daily changes in temperature, amount of sunshine, rainfall etc. Data, information that can be used to solve problems, is full of pattern and the

purpose of analysing data is to enable people to predict and plan. We can do plenty of that with climate, weather and other seasonal data. Motifs on buildings and in fabrics, in the trimmings and decorations that brighten our lives, often illustrate repeated patterns. We are surrounded by translational or rotational symmetry patterns. Mathematical vocabulary, sorting and classifying skills are developed and extended as attributes and properties of geometric shapes in these patterns are recognised and described. Measurement, design and technology can be brought in as accumulated knowledge of pattern is applied. A motif can be designed, cut into polystyrene, lino or potato and printed on to large sheets of paper. Wrapping gifts in your own paper makes it special. Why not wear your maths lesson? Children could cut their motif from pop-up sponge, which then swells in water, with fabric paint they can personalise a plain coloured tee shirt. The questions to be asked are: There is more than one form of symmetry and this is an ideal opportunity to discover the different types of pattern created by different symmetries. Do the shapes tessellate? No study of pattern would be complete without regard to tessellation. Finding shapes that fit together without leaving gaps between them has long been a preferred way for people to add visual decoration to their built environment. Mosaic and stained glass windows are the usual way to explore tessellations with young children, and the hexagon is the shape of choice. As well as examining soccer balls and honeycombs, there are other hexagonal patterns to be explored. Try to arrange a set of the same sized coins so that they fit as tightly together as possible. Six of them will always cluster around the central one to form a shape similar to a honeycomb. What happens with different sized coins? Concentric circles, those endless series of ripples and rings are fascinating. Investigating the pattern created when one or more stones are dropped into a pool allows children to dip into concepts of gravity, force, resistance, motion and surface tension. No nature fieldtrip is complete without investigating tree rings. How do local species compare with a Giant Sequoia from Nevada which, through its rings, was found to be years old? What important history unfolded during those lifetimes? Why are some rings thicker than others, how can we know about the climate during the years the tree was alive? Children are never too young to learn the value of tools in mathematics, especially for geometric constructions. Little hands may require some help and guidance with safety compasses, but the fascinating patterns they can create are worth the effort. Having children experiment to find out how, with a little help from their friends, they can turn a piece of string and pencil into a compass may produce a low-tech instrument but it is an exercise in lateral thinking. Where else do we see concentric circles? On old records, compact disc surfaces? Well, yes to the first but no to the second. A strong magnifying lens will help the careful observer see that in fact the CD is made of millions of tiny dots arranged in tight spirals. Spirals start at a central point and coil around. They are easily seen on nautilus shells and ammonite fossils, in springs and the threads of screws and the tight coils of tendrils on climbing plants. Is there a purpose to this natural and common manmade shape? If we look at and think about spiral staircase we begin to get a clue. They take up very little space and in some structures are very strong - springs are tight and tough! Spirographs, whether the wheels of varying sizes or the newer battery operated pen style, allow youngsters to create neat and regular spiral shapes. Again, string, pencil and a friend to gently pull and shorten the string length, act together to make an admirable tool. Not what we expect! What we probably expect to find in a web is a radial pattern, that is to say, one in which straight lines radiate from a central point. Where roads meet at a roundabout, on a dart board which is a combination of concentric circles and radial sections, in cactus spines where they meet the barrel and in flowers like the waterlily and the gerber daisy. In these flowers the purpose of such an arrangement is to attract insects to their centres. The Sea Anemone is a radial animal, and so is a Starfish, its five arms allow it to move in any direction. When children make a paper flower or snowflake by folding a circle into eighths or sixths from the centre point and then cutting patterns into the folded sides and edge circumference, they are part of a long tradition. Almost years ago, Kepler wrote a book called the 6 Cornered Snowflake. He concluded upon examining the structure and pattern of snowflakes that matter is composed of identical units or atoms. The edges are equilateral triangles.

*Encyclopedia Britannica, The seasons of the year and pictures of nature are used to teach young readers about shapes and patterns.*

Patterning is also a basic math skill upon which many mathematical concepts are based. Times tables, addition and skip counting all require an understanding of and proficiency in patterning. In preschool, identifying and creating patterns is just the beginning of the mastery of life-long mathematical skills. Download Article How can you introduce your preschooler to patterning? In short, using the world around you and objects from around the house will introduce your child to patterning and give him a head start in mathematical thinking. A pattern is only a pattern if it is repeated twice. The easiest patterns are those involving two colors or variables for example, red, blue, red, blue, referred to as an AB,AB pattern. This will allow him the opportunity to fix any misplaced objects in his pattern. Identifying Patterns in Your World: By taking the time to notice and identify patterns with your child, he will begin to see and identify them as well. Be on the lookout for some of these patterns as you go through your day: Many patterns can be found in the fabric used to create clothing. Stripes, prints, and plaids often repeat themselves providing many opportunities for identifying patterns as you go through the day. Many shoes have a pattern on the bottom of the sole. Notice shoe tracks when you walk through dirt or make prints with wet soles. Nature provides patterns in flower petals, colorful gardens, and even in the coats of animals such as tigers and zebras. Once children are aware of patterns they will begin to see them in everything. They might notice that breakfast is served in a pattern: Do you have patterns in your weekly schedule or daily routine? Help your child become aware of your everyday patterns. When you go to the grocery store, notice patterns in the food displays, display cases, and even the floor tiles. Even grocery shopping can be a learning time if you take note of what is around you. Create and Extend Patterns: Provide opportunities for your child to extend a pattern you have started or to create her own pattern using items found around your house such as the following: When serving small crackers or cereal that comes in multiple colors, ask your child to create a pattern with her food before eating it. String beads or colored cereal into a beautiful patterned necklace for hands-on pattern work. Use blocks, Legos or other small toys to create patterns across the room. The longer you make it, the more fun it is and the more practice for your little one Use stickers or rubber stamps to make patterns on paper. Your child will be delighted in the opportunity to use these fun tools for learning. For example walk, walk, jump; walk, walk, jump. Try any of these movements to add to the fun: Patterns are all around us, as are opportunities to teach your child more about them. The key to teaching this basic math skill is to make your child aware of patterns and give her opportunities to create and extend patterns in daily life. More preschool patterning activities:

### 5: Shapes and Patterns We Know - Encyclopedia Britannica

*Get this from a library! Shapes and patterns we know. [Nancy Harris] -- Learn about different shapes and where they can be seen in the different seasons.*

**GO Geometric Shapes** There are several kinds of shapes you will learn in elementary school; this page will provide you with the names and examples of each one. **Circle** A round shape, drawn like this: **Triangle** A shape with three sides. Their names are sometimes different depending on the length of the sides. We will show you the common ones: **Equilateral triangle**—this triangle has 3 equal sides. **Isosceles triangle**—this triangle has 2 equal sides. **Scalene triangle**—this triangle has no equal sides. **Square** A box shape, with four equal sides—opposite sides are parallel, drawn like this: For example, **parallel lines** means that if the two lines kept going forever, they would never cross over each other—they would always be an equal distance apart. **Rectangle** Another box shape, with two sets of equal sides. Equal sides are opposite each other. The sides are parallel to each other. **Trapezoid** Another 4 sided shape, with one set of parallel lines the other set of lines is not parallel, drawn like this: **Pentagon** A shape with five sides. They can be drawn many different ways, but these are the most common: The pentagon on the left is known as a **regular pentagon**, because all of its sides are the same length. The one on the right is also a commonly known pentagon, shaped like a house. **Hexagon** A shape with six sides, drawn like this: **Heptagon** A shape with seven sides, drawn like this: **Octagon** A shape with eight sides, drawn like this: **Nonagon** A shape with nine sides, drawn like this: **Decagon** A shape with 10 sides, drawn like this: **Dodecagon** A shape with 12 sides, drawn like this: **Polygons** All of these shapes are polygons. Most of what you will be asked to do with these shapes is recognize them and draw them, so memorize how many sides they have, what they look like, etc.

### 6: Shapes and Patterns - Swing Out Sister | Songs, Reviews, Credits | AllMusic

*Get this from a library! Shapes and patterns we know: a book about shapes and patterns. [Nancy Harris] -- The seasons of the year and pictures of nature are used to teach young readers about shapes and patterns.*

They are all around us; in nature, in words, in songs, in movementâ€¦ everywhere. Patterns are also a fundamental part of maths. Learning to recognise patterns helps children to make connections, make predictions and begin to understand how different things work together. By understanding patterns, children are laying down those first steps towards understanding and recognising patterns in numbers and equations. For the last couple of weeks we have been looking at patterns and shapes; recognising, copying, creating and extending patterns. Can you see a pattern? Can you continue this pattern? What predictions can you make? Can you create a pattern? We started by looking at shapes and talking about their characteristics. We looked at shapes in nature and shapes in our home. Jack and Sarah ran around the house collecting different things for a shapes hunt , collecting all kinds of interesting materials from spools to a ukulele. I created a shapes feely bag using our window blocks a rectangle, square, triangle and circle for Jack and Sarah to explore. Without looking, Jack and Sarah would reach their hand into a calico bag and search around for a particular shapes. They really enjoyed this little game. A simple art project was creating shapes with yarn and cellophane. Jack and Sarah cut the yarn to the size they wanted then shaped them onto contact paper before filling them with cellophane. We looked particularly at cubes, spheres, pyramids and cones. We looked at their characteristics and created our own with playdough and rods. We spent some time looking at wooden geometric shapes; characterising them, comparing and sorting. This week we have been looking at patterns; what pattern can they see? What can they create? What can they predict? Our Spielgaben set has been getting quite the work out this week; lots of creating with shapes. Today we did something really fun. After spending quite a bit of time playing with the transparent triangles on the light panel, I thought Jack would enjoy creating his own geometric collage. I cut equilateral triangles out of pages from some old Australian Geographic magazines and set them out with some craft glue. The colours looked beautiful. He dove straight in, creating beautiful collages.

### 7: Pattern Worksheets

*Read "Shapes and Patterns We Know" by Nancy Harris with Rakuten Kobo. The seasons of the year and pictures of nature are used to teach young readers about shapes and patterns.*

### 8: Geometric Shapes | Wyzant Resources

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