

ART



On Thursday 13th May, we celebrate **National Numeracy Day**. So this month's **Art Challenge** is to produce a piece of artwork where you have had to use one or more of the following numeracy skills:

Ratio, Perspective, Enlargement, Symmetry, Tessellation, Construction or Cubism.

When submitting your work, you should include a brief summary of the numeracy skills you have used.

Please hand in your entries to Mrs Waller by Friday 28th May.

NUMERACY IN ART & DESIGN

SYMMETRY

A LINE OF SYMMETRY IS A LINE WHICH DIVIDES A PICTURE INTO TWO PARTS, EACH OF WHICH IS THE MIRROR IMAGE OF THE OTHER.

PICTURES MAY HAVE MORE THAN ONE LINE OF SYMMETRY.

THE NUMBER OF POSITIONS A FIGURE CAN BE ROTATED TO, WITHOUT BRINGING IN ANY CHANGES TO THE WAY IT LOOKS ORIGINALLY, IS CALLED THE ORDER OF ROTATIONAL SYMMETRY.

RATIO

A RATIO TELLS YOU HOW MUCH YOU HAVE OF ONE PART COMPARED TO ANOTHER PART. IT IS USEFUL IF YOU ARE TRYING TO MIX PAINTS ACCURATELY.

MANY ARTISTS AND ARCHITECTS HAVE PROPORTIONED THEIR WORKS TO APPROXIMATE THE **GOLDEN RATIO** BELIEVING THE PROPORTION TO BE AESTHETICALLY PLEASING.

THE GOLDEN RATIO IS GIVEN BY THE GREEK LETTER PHI (ϕ) WHERE:
 $\phi = 1 + \sqrt{5} = 1.6180339887... 2$

CONSTRUCTIONS

CONSTRUCTION METHODS IN ART ARE ORGANISED TECHNIQUES, SYSTEMS, LOGICAL PRACTICES, PLANNING AND DESIGN IN THE CREATION OF STRUCTURE.

THERE IS ALSO A BRANCH OF ART CALLED CONSTRUCTIVISM THAT ORIGINATED IN RUSSIA IN 1919 AND SAW ART AS A PRACTICE FOR SOCIAL PURPOSES.

IN GEOMETRY CONSTRUCTIONS REFER TO THE DRAWING OF VARIOUS SHAPES USING ONLY A COMPASS AND STRAIGHT-EDGE.

NO MEASUREMENT OF LENGTHS OR ANGLES IS ALLOWED. TYPICAL CONSTRUCTIONS INCLUDE DRAWING THE PERPENDICULAR BISECTOR OF A LINE, CREATING A 60 ANGLE AND BISECTING AN ANGLE.

COULD YOU USE GEOMETRICAL CONSTRUCTIONS IN ART LESSONS TO SUPPORT YOUR DESIGNS? WHAT WOULD BE THE ADVANTAGES AND DISADVANTAGES OF DOING THIS?

CUBISM

CUBISM IS AN EARLY 20TH CENTURY AVANT-GARDE ART MOVEMENT. IN CUBISM ARTWORK, OBJECTS ARE ANALYSED, BROKEN UP AND REASSEMBLED IN AN ABSTRACT FORM - INSTEAD OF DEPICTING OBJECTS FROM ONE VIEWPOINT, ARTIST DEPICTS THE SUBJECT FROM A MULTITUDE OF VIEWPOINTS TO REPRESENT THE SUBJECT IN A GREATER CONTEXT.

IN MATHS WE ALSO DRAW OBJECTS FROM DIFFERENT VIEWPOINTS USING PLANS, ELEVATIONS OR ISOMETRIC DRAWING. THERE ARE OFTEN COMPARED ON THE SAME PAGE IN ORDER TO GIVE A FULL UNDERSTANDING OF WHAT THE 3D SHAPE LOOKS LIKE.

HOW DO MATHEMATICAL TECHNIQUES COMPARE WITH THE ARTISTIC ONES USED IN CUBISM?

PERSPECTIVE, ENLARGEMENT & SCALE FACTOR

PERSPECTIVE IN ART AND DESIGN IS AN APPROXIMATE REPRESENTATION, ON A FLAT SURFACE, OF AN IMAGE AS IT IS SEEN BY THE EYE.

LINES RADIATING FROM A VANISHING POINT ARE USED TO DRAW IN DETAIL ON THE PICTURE.








IN MATHS WE USE A CENTRE OF ENLARGEMENT (8,0) IN THE CASE AND A SCALE FACTOR (2) IN THIS CASE TO CARRY OUT ENLARGEMENTS.

CAN YOU SEE THE SIMILARITIES AND DIFFERENCES IN THE PROCESSES INVOLVED?

TESSELLATION

TESSELLATION IS THE PROCESS OF CREATING A TWO-DIMENSIONAL PLANE USING THE REPETITION OF A GEOMETRIC SHAPE WITH NO OVERLAPS AND NO GAPS.

ESCHER WAS FAMOUS FOR CREATING DETAILED DRAWINGS USING DIFFERENT TESSELLATIONS.

<p>BUSINESS</p> 	<p>The pandemic has upended the way people buy - online retail has soared as high-street shops close. Watch this YouTube clip from the economist about the future of shopping. https://www.youtube.com/watch?v=ad-GuV6YIMl</p>
<p>DT</p> 	<p>Make – How to fold 3 of the best paper aeroplanes in the world! https://www.youtube.com/watch?v=3dbmsdprJoA</p>
<p>MATHS</p> 	<p>It is important that when you have exams that you are as prepared as you can be and that you use all the time available to check your work; sometimes ideas can appear from nowhere providing you have time to do it; be resilient. Watch this funny clip of Mr Bean completing a Maths exam and it all goes wrong for him - fail to prepare, prepare to fail. https://www.youtube.com/watch?v=9LhLjpsstPY</p>
<p>HISTORY</p> 	<p>Read 'Boy in the Striped Pyjamas' to go alongside your study of 'Nazi Germany'</p>
<p>MFL</p> 	<p>Watch - Please look through the foreign languages content on Netflix as there are many excellent series and films to choose from. Remember, check the age certificate and ensure your parent/carer gives you permission.</p> <p>Watching foreign language series and films is a great way to tune your ear to the language, develop your vocabulary and also explore different cultures.</p>
<p>PE</p> 	<p>Watch - BBC iPlayer - Driven: The Billy Monger Story Follow the remarkable story of 18 year old Billy Monger, one of Britain's most exciting young racing drivers, who in April 2017 was involved in a devastating crash, resulting in the amputation of his legs. Incredibly, soon after his accident, Billy resolved to get back to racing, in the hope of becoming the first ever double amputee to race competitively in a single-seater racing car. https://www.bbc.co.uk/iplayer/episode/p06qx4gt/driven-the-billy-monger-story</p>
<p>RS</p> 	<p>To support our lessons on sexuality and attitudes towards same sex relationships, why not watch the film Pride? This is based on a true story when gay activist Mark Ashton was watching the news about the miners' strike in the 1980s and realises that the police have stopped harassing the gay community because their attention was elsewhere. He spontaneously arranges a bucket collection for the miners during the Gay Pride Parade in London. Encouraged by the success, he founds "Lesbians and Gays Support the Miners". The film shares their journey and the prejudices they faced.</p>