WARREN ELSMORE

BRICK FLICKS

PHOTOS OF ICONIC MOVIE SCENES MADE FROM LEGO®

Saturday 30 July to
Sunday 9 October 2016

EDUCATIONAL RESOURCE FOR BRICK FLICKS

Introduction

During your visit to Brick Flicks students will learn to look closely and think critically, develop a greater understanding of LEGO® as an art form, the social culture surrounding it and it's history.

Brick Flicks was created by UK LEGO® enthusiast and artist, Warren Elsmore, Brick Flicks brings to life much-loved movies by recreating them in LEGO® and photographing them. The show features 30 iconic movie scenes, everything from sci-fi and drama to action blockbusters and is supported by LEGO® models from local builders from the Wellington LEGO® User Group (Well LUG) The Exhibition will showcase King Kong, E.T, Jurassic Park, Tron, The Sound of Music, The Wizard of Oz, Planet of the Apes, Back to the future, Night at the Museum.

Supporting the exhibition will be huge Brick Pit which children and adults alike can build their own creations throughout the exhibition period. Renowned for his iconic LEGO® creations, Warren Elsmore and his team of artists have recreated 40 famous movies and then photographed them. The exhibition celebrates the versatility of the LEGO® palette with each film bringing its own challenges to create an image that is instantly recognisable. The exhibition is based on the book Brick Flicks, which follows on from Elsmore's bestselling series book ,Brick Wonders and Brick City. Expressions Whirinaki will be supplying two tables filled with 25,000 bricks as part of the exhibition.

Warren Elsmore

Warren is an author and artist in LEGO® bricks. Yes, that means he gets to play with LEGO® for a living! He has written books including Brick City, Brick Wonders, and Brick Flicks. He has built massive LEGO® models. Warren has spoken at major international conferences, organised huge events and exhibited displays to VIPs and royalty.

"Sometimes to get things moving, someone has to take the lead to just 'make things happen'. That's what I do."

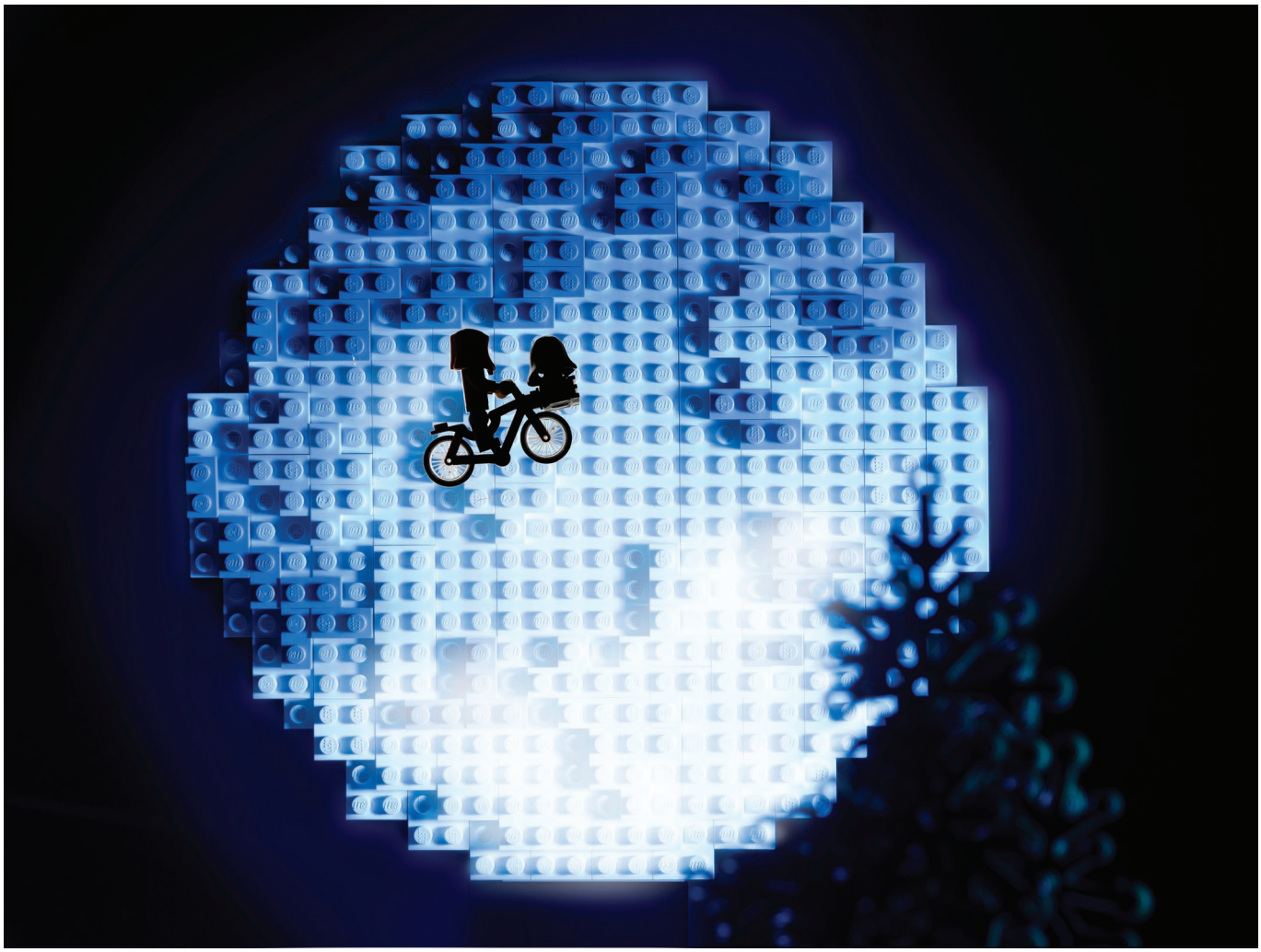
History

LEGO® is a privately held company based in Billund, Denmark. Billund is a small town in Jutland, Denmark, most notable as the home of the LEGO® Group head office. A typical company town, it is also known for its theme park, LEGO®land, and for Billund Airport which is the second largest airport in Denmark.

In 1916, Ole Kirk Christiansen, who later founded LEGO®, bought a Billund furniture company that was founded in 1895. He invested in the town, creating a new dairy and the Skjoldbjerg church a few miles south of town. In 1930, Kirk Christiansen began producing utility items such as ironing boards, stepladders and miniature toys. His first toys were created from scraps from the production of his other goods but his true toy production started in 1932. In 1934, the toy factory was named 'LEGO®'.

In the late 1930's Billund experienced growth due to the factories and began to build waterworks, a gymnasium, and the town hall, though the local power station was closed and relocated. During the Nazi occupation in World War II, (in 1942) the old LEGO® Factory was destroyed by fire , but a new one was immediately erected. In 1946, the railway track from Grindsted was extended to the LEGO® factory. Plastic LEGO® Bricks were first released from the factory in 1949. The 1950's brought a recession to Billund with the closing of the railroad. In response to the growing poverty, the Billund Housing Association was founded and created affordable housing as well as a retirement home. LEGO® created a large park north of town with a playground, outdoor scene, toboggan hill and a man-made lake in 1959.

In 1962 the Billiund Airport was inaugurated, first as the LEGO® Group's private airport, and was later opened for other uses. LEGO®land opened in 1968, and Billund again began to experience growth. The company's flagship product, LEGO®, consists of colourful interlocking plastic bricks accompanying an array of gears, figurines called minifigures, and various other parts. LEGO® pieces can be assembled and connected in many ways, to construct objects; vehicles, buildings, and working robots.



Anything constructed can then be taken apart again, and the pieces used to make other objects. The Billund airport opened in 1964 and was built by the LEGO® Group, but is now run independently. On the outskirts of the town there is a LEGO® factory. Adjacent to the company's headquarters is the first LEGO®LAND theme park, which opened in 1968 and is called LEGO®land Billund.

How are they made?

LEGO® bricks and elements are manufactured at the Group's own factories in Denmark, Hungary, Czech Republic and Mexico.

During the moulding process, plastic is heated to 230-310C so it is the consistency of dough. It is then injected into moulds at a pressure of 25-150 tons, depending on which element is being produced. On average it then takes 5-10 seconds for the elements to cool and be ejected.

The moulds used in production are accurate to within five microns (~0.005mm), and this accuracy means than only 18 elements in every million products fail to meet the high quality standard.

In 2011, more than 36 billion elements were made, equivalent to approximately 68,000 per minute or 1,140 elements every second. All LEGO® elements are fully compatible, no matter when they were made during the period from 1958 until now or by which factory.

There are roughly 4,200 different elements in the LEGO® range in 58 different colours. With elements available in a wide variety of different colours and decorations, the total number of active combinations is around 9,000.

Sustainable Practice

As part of the LEGO®® Group, LEGO®® Education is committed to leaving a positive impact on the surroundings in which we work. We want to inspire and develop the builders of tomorrow and we need to leave them a future that will allow them to do this.

Since 2003 the LEGO® Group has been working consciously and deliberately towards sustainability and since 2006 a full and in-depth sustainability report has been issued every year to track this progress.

A number of goals have been set by the organisation to focus on sustainability, including our "planet promise". The goals for this promise include a commitment to improve energy efficiency with a target of using a minimum of 50 percent renewable energy by 2015, rising to 100 percent by 2020. Another focuses on meeting a target of zero waste, by creating more environmentally friendly products and recycling waste.

16 Interesting Facts About LEGO®

- *The LEGO® name is made from the first two letters of the Danish words LEG GODT, meaning "play well".*
- The LEGO® Group patented the LEGO® brick with the familiar tubes inside and studs on top on 28 January 1958.
- *All 2x4 LEGO® bricks manufactured since have been produced to the exact same measurements as this patient.*
- LEGO® DUPLO bricks are eight times the size of original LEGO® bricks—yet they both connect together.
- *On average, every person on the earth owns 86 LEGO® bricks!*
- In 2012, 45.7 billion LEGO® bricks were produced at a rate of 5.2 million per hour.
- *The LEGO® Group is one of the world's largest tyre manufacturers.*
- Laid end to end, the number of LEGO® bricks sold in 2012 would stretch round the world more than 18 times.
- *To reach the moon you would need to build a column of around 40 billion LEGO® bricks.*
- The first minifigure was produced in 1978. Since then more than 4 billion have been made—making it the world's largest population group!
- *Each minifigure is exactly four bricks high without a hat.*
- The first version of LEGO® MINDSTORMS was launched in 1998 based on a collaboration between the LEGO® Group and MIT (Massachusetts Insititute of Technology), USA. Two further versions have been released, one in 2006 and the latest in 2013.
- *LEGO® is made from recycled plastic, the LEGO® group have sustainable business practice.*
- Six eight-stud LEGO® bricks (2x4) can be combined in 915,103,765 many ways (calculated with the aid of computers)
- *Two eight-stud LEGO® bricks can be combined in 24 different ways.*
- Three eight-stud LEGO® bricks can be combined in 1,060 ways.

CURRICULUM DEVELOPMENT AROUND THE EXHIBITION VISITS

Mathematics

LEVEL 1–3

Through the context of building with LEGO® blocks the students will be given the opportunity to think

mathematically working with shape and form . The students will be given the opportunity to draw plans and develop models. They will be given the opportunity to solve problems.

LEVEL 4-6

Through the context of planning and building with LEGO® blocks the students will be given the opportunity to think mathematically working with shape and form both two dimensionally and three dimensionally.

The students will be given the opportunity to draw plans and develop models. They will be given the opportunity to solve problems. The students will be given the opportunity to use proportional reasoning to recognize the nature of two dimensional brick flick images of three dimensional characters.

Social Science

LEVEL 1–3

By working with LEGO® Bricks in groups, students will gain knowledge, skills and experiences in belonging to a group with the opportunity to experience roles and responsibilities. Using skills such as negotiating, turn taking, problem solving, and collaboration.

By researching the history of LEGO® and information about the LEGO® industry and the people who work in it, including Brick Flicks Author, Warren Elsmore, the students will develop an understanding that the past is important to people. They will develop ideas about what has made the LEGO® industry an economic success and the values inherent within the LEGO® industry.

LEVEL 4–6

The students will gain knowledge, skills and experience to understand how people seek and have sought economic growth through business, enterprise and innovation by researching LEGO® History to the LEGO® movement of today.

LEVEL 7–8

Students will gain knowledge skills and experience to understand how the historical LEGO® movement has influenced the causes and consequences of events of significance to New Zealanders by researching the history of LEGO® through to the global LEGO® movement of today. To have lively conversations around what effect the LEGO® movement has on New Zealand society and what we can learn from the industry for business development.

Technology

LEVEL 1–3

Students will be encouraged to plan their LEGO® construction, identify each of the stages in the build and revisit their planning. They will be given the opportunity to study and evaluate the models made by the LEGO® enthusiasts to evaluate their own build and to evaluate outcomes for further development.

The students will understand the relationship between the LEGO® bricks and the their performance in technological products such as Warren Elsmore and his teams photography.

LEVEL 4–6

Students will be encouraged to research LEGO® building prior to visiting Expressions Whirinaki. They will also be given the opportunity to research some of the movies used in the Brick Flicks images ready to plan their LEGO® construction which will be based on a movie. The students will be given the opportunity to identify each of the stages in the build and revisit their planning. They will be given the opportunity to study and evaluate the models made by the LEGO® enthusiasts to evaluate their own build and to evaluate outcomes for further development.

The students will understand the relationship between the LEGO® bricks and the their performance in technological products such as Warren Elsmore and his team's photography.

LEVEL 7–8

The students will understand the concepts and processes employed in the development of Brick Flick images and in the LEGO® modeling of the enthusiasts. They will be able to evaluate and implement changes to their own designs and constructions Warren and his team have created photographs which have minifigures which are in focus and which have a big depth of field with a closed aperture, creating a blurred effect in the back ground.

Due to the minifigures being so small this created some challenges. The depth of field needed to be tiny to match the size of the minifigures. To get the whole of the minifigures in focus required multiple takes to create the final shot. Highly reflective bricks were a challenge with the light.

Art

LEVEL 1–3

Students will be given the opportunity to explore the elements of construction and design by:

Designing a plan in groups using pencil and paper to develop their ideas.

Working as a team to build based on their plan, using methods of construction and design such as developing foundations, creating shape and form which are 3 dimensional. Development of their own ideas and the ideas of others. Learning through the tactile process of building.

They will be given the opportunity to be inspired by the Brick flick images and the work of the LEGO® enthusiasts, developing their own imagination and creativity.

They will be given the opportunity to photograph their own work. **PK**

Students will be given the opportunity to explore, describe and express ideas about their own LEGO® work and the work of the LEGO® enthusiasts and the photographic Brick Flick images by observing the images asking questions and through lively informative discussion. **CI**

LEVEL 4–6

Students will apply knowledge of elements and principles for construction and design through working with LEGO®. Designing a plan in groups using pencil and paper to develop their ideas.

Working as a team to build based on their plan, using methods of construction and design such as developing foundations, creating shape and form which are 3 dimensional. Development of their own ideas and the ideas of others. Learning through the process of doing.

They will be given the opportunity to be inspired by the Brick flick images and the work of the LEGO® enthusiasts, developing their own imagination and creativity. **PK**

Students will describe and evaluate how media and LEGO® construction are used to create meaning. **DI**

LEVEL 7–8

Students will study and identify the techniques used to construct and film the LEGO® models.

Students will evaluate the meaning of the imagery and the viewer's reception of it. **CI DI**

Students will design and create LEGO® inventions using the techniques that they have identified. **PK**

Use the following codes to ascertain how to apply each of the Curriculum Links.	**PK** Developing Practical Knowledge in the Visual Arts **DI** Developing Ideas in the Visual Arts	**CI** Communicating and Interpreting in the Visual Arts

Pre and Post Visit Activities (Without LEGO®)

Make friendship bracelets
Create campsites for minifigures using folded card
Write poems about LEGO®, displaying the poems on LEGO® or Duplo blocks
Create LEGO® blocks using a selection of coloured card
Make minifigures masks using yellow gift bags. To create the students favourite movie character

Build an obscurer to demonstrate aperture
http://www.pinholephotography.org/camera%20obscurer.htm

Watch the LEGO® Movie and then watch and learn about how it was made.
http://entertainment.time.com/2014/02/20/how-the-lego-movie-was-made-animation-video

Introduce a new LEGO® game
http://ideas.brickimedia.org/wiki/Lego_Minecraft

LEGO® Educational activities
http://www.learningliftoff.com/20-fun-activities-learning-legos/#.V4WlEk1f2Uk

Pre and Post Visit Activities (With LEGO®)

Take a photo or find a photo from a small file and blow it up until you can see the pixels then use it as a plan to work on a mosaic using LEGO® blocks.
http://photobrix.com/pictures/create

Build with LEGO® and photograph the photos from above and below to demonstrate perspective
http://www.digitalphotography4kids.com

Design a film create it from LEGO® and act it out
http://www.teachingideas.co.uk/maths/ways-to-use-lego-in-the-classroom
https://education.lego.com/en-gb/lesi/elementary/wedo-2

Research

Warren Elsmore

http://warrenelsmore.com

https://www.unglobalcompact.org/system/attachments/cop_2016/269731/original/LEGO_GROUP_RESPONSIBILITY_REPORT_2015.pdf?1458216730

https://en.wikipedia.org/wiki/Lego *https://en.wikipedia.org/wiki/Lego.com*