



# TEACHER'S TOOLKIT

A plan for an inspirational and educational visit to LEGOLAND® Discovery Centre Manchester



# TABLE OF CONTENTS

Kingdom Quest	2
MINILAND® Manchester	4
LEGO® Racers: Build & Test	6
Earthquake Tables	8
LEGO® Space Mission	10
Enhance your next visit: Workshops	12
Ask a Master Model Builder	13



## THE ULTIMATE INDOOR LEGO® PLAYGROUND



- |  |                                |
|--|--------------------------------|
| 1 LEGO® Factory Tour                   | 10 Merlin's Apprentice         |
| 2 Kingdom Quest                        | 11 Seating Area                |
| 3 Miniland                             | 12 LEGO® Duplo® Farm           |
| 4 LEGO® 4D Cinema                      | 13 Café                        |
| 5 LEGO® Ninjago™ City Adventure        | 14 Master Model Builder Studio |
| 6 The Great LEGO® Race Virtual Reality | 15 Creative Workshop           |
| 7 LEGO® Build and Test                 | 16 Toilets                     |
| 8 LEGO® City Forest Pursuit            | 17 LEGO® Space Mission         |
| 9 Birthday Party Room                  | 19 The LEGO® Store             |

# KINGDOM QUEST

## Topics Covered:

KS2 Maths

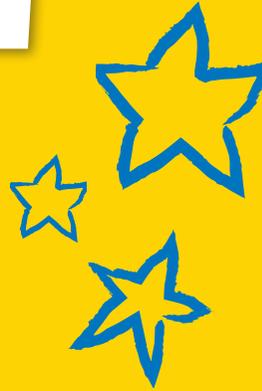
- Demonstrate an understanding of statistical variability by displaying, analysing and summarising distributions.

## Skills Addressed:

- Communication
- Critical thinking
- Collaboration

## Suggested Post-Visit Discussion Points and Activities:

Gather all scores from students. Once back in the classroom, use the scores as a way to build an authentic connection for analysing data. This could include using it to explore measures of central tendency (mean, median, mode, range) graphing data and drawing conclusions from it.



# DURING YOUR VISIT

## Suggested Materials

- Pencils (please ask a member of the team if you require these)
- Scoresheet

## Suggested Task and Activities at LEGOLAND® Discovery Centre:

- As a group, have your class take a ride on Kingdom Quest and record their final scores.
- Make sure that your class complete this task after they get off the ride!





### Topics Covered:

KS1 & 2 Geography & History

- Describe geographic tools and their uses
  - Basis on which maps, graphs and diagrams are created
  - Aerial and other photographs
  - Reference works
  - Field observations
  - Surveys
- Geographic representations to display spatial information
  - Absolute location
  - Relative location
  - Flows (e.g. goods, people, traffic)
  - Historic events
- Basic spatial elements for depicting the patterns of physical and human features
  - Point, line, area, location, distance, scale
  - Map grids
  - Cardinal & intermediate directions
- Identify the difference between past, present & future using timelines and/or other graphic representations.

### Skills Addressed:

- Creativity
- Communication
- Critical thinking
- Collaboration
- Learners will gain insight into how establishments, commerce/industry, and politics/government in Manchester have changed over time and how they operate.



### Suggested Pre-Visit Discussion Points and Activities:

- Review and/or discuss some of the major landmarks within the North-West to prepare you class for what to look for during their visit.
- Landmarks (Featured in our MINILAND) to consider discussing: Blackpool Tower & Winter Gardens, Manchester MediaCity UK, Trafford Centre, Liverpool Liver Building, Albert Dock, Alton Towers.

### Suggested Post-Visit Discussion Points and Activities:

- Investigate the history of each city featured in our MINILAND
- Create a document of then and now of the locations
- What does it look like now?
- When was the building originally built?
- What did it look like in the past?
- Why do you think that it has changed or not changed?
- What do you think Manchester will look like 30 years in the future? Why?

## DURING YOUR VISIT

### Suggested Materials

- MINILAND Manchester
- Activity sheet to compare buildings to show how these buildings have changed since they were first built
- LEGO® bricks

### Suggested Task and Activities at LEGOLAND® Discovery Centre:

- All master builders need to know about different buildings from the past in order to build new ones for the future. LEGOLAND® Discovery Centre wants you to explore our MINILAND Manchester to pick out some of your favourite Manchester, Liverpool and Blackpool landmarks.
- Write down or take pictures of 3-5 buildings to conduct research on following your visit.
- Build your own new LEGO® building or landmark at one of our build stations.

### Share Your Builds

Share photos of some of your class' landmark builds with us and they may end up featured on our social pages or website!  
Facebook & Instagram: @LDCManchester

# LEGO® RACERS BUILD & TEST

## DURING YOUR VISIT

### Topics Covered:

KS1 Maths

- Simple counting challenge. Build a race car with X number of LEGO® bricks.
- Practice addition and subtraction by asking your class to add or remove X number of bricks.

Challenge your class to build the Fastest race car. Time their vehicle on the racetrack and record results. Can your class improve their car to make it Faster?

Can your class record their results within a graph to explore correlations between the number of bricks and the speed at which it travels?

What scientific methods can your class use to improve the speed of your car? Challenge them with a simple, practical, comparative and Fair test. Your class should take careful observations and record accurate measurements.

### Skills Addressed:

- Creativity
- Communication
- Critical thinking
- Collaboration

### Suggested Pre-Visit Discussion Points or Activities:

- Discuss X & Y axis
- Develop understanding of how to plot points on a graph
- Interpret and analyse data
- Utilise results to determine adjustments needed

### Suggested Post-Visit Discussion Points or Activities:

- Use the times secured for each prototype and graph your data
- Use best times secured by each student to make a graph about the entire class
- Complete a worksheet from your data



### Suggested Materials:

- LEGO® bricks from Build and Test station
- Race ramp
- Stopwatch (please ask a member of the team if you require these)
- Pencils (please ask a member of the team if you require these)
- Worksheet

### Suggested Task at LEGOLAND® Discovery Centre:

You and your LEGO® Friends are racing down the Manchester Race Track. You are trying to design a LEGO® car that will get down the race track as quickly as possible without pushing or pulling them down. Use your stopwatch to put your creations to the test and see which car design is the Fastest!

### Suggested Brainstorm Questions:

- Will your car move faster with smaller or larger tyres?
- Will your car move faster when built smaller or larger in height?
- Will your car move faster when built with more or less LEGO® bricks?

### Share Your Results

Share photos of some of your class' race cars with us and they may end up featured on our social pages or our website!

Facebook & Instagram:  
@LDCManchester

### Suggested Task and Activities at LEGOLAND® Discovery Centre:

- Create a car with LEGO® bricks from the Build and Test stations that can get down the race ramp as quickly as possible, taking the laws of gravity into consideration
- Refine and improve your car designs from one trial to the next
- Record your results
- Analyse your data to see which car creation was the Fastest



# EARTHQUAKE TABLES



## Skills Addressed:

- Communication
- Collaboration
- Critical Thinking
- Creativity

## Suggested Pre-Visit Discussion Points or Activities:

- Review video clips about earthquakes
- What causes earthquakes?
- Discuss and understand the key aspects of earthquakes and their effect on the environment.
- Design a structure your class thinks will withstand an earthquake and build when you visit.

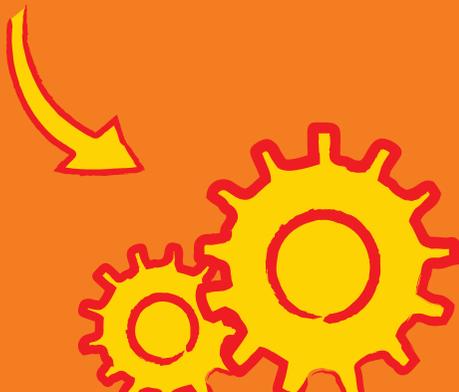
## Suggested Post-Visit Discussion Points or Activities:

Recap this activity with your students; hold a discussion on the design of skyscrapers. What factors do you have to consider when constructing these tall, city buildings?

## Topics Covered:

KS2 Physical Geography

- Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.
- Describe and locate places and regions as defined by physical and human features.
- Identify the effect of the physical systems on people within a community.



# DURING YOUR VISIT

## Suggested Materials

- DUPLO bricks
- Earthquake table station

## Suggested Task as LEGOLAND® Discovery Centre:

Are you ready to become a Master Builder? Emmet and Benny need your help. Emmet thinks you can build a skyscraper higher than Benny can fly his spaceship! Emmet is afraid that if he builds it too tall it will not be able to stand up against the shaking forces of an earthquake on the highest Richter scale setting. Do you have what it takes?

## Suggested Tasks & Activities at LEGOLAND® Discovery Centre:

Build a tower that is 20 DUPLO brick stories high and see if it can last 20 seconds of the earthquake vibrations.

Create a city that will withstand a 20 second earthquake. The city must have at least three buildings of different height and width.

## Share Your Builds

Create a video demonstrating your skyscraper or city's ability to withstand a 20 second earthquake. Share some of your class' videos with us and they may end up featured on our social pages or our website!

Facebook & Instagram:  
@LDCManchester



# LEGO® SPACE MISSION



## Topics Covered:

KS1 English – Build Tables

Write narratives to develop real or imagined experiences or events. Organise an event sequence that unfolds naturally, using temporal words and phrases to signal event order; provide a sense of closure.

## Skills Addressed:

- Creativity
- Communication
- Critical Thinking
- Collaboration

## Suggested Pre-Visit Discussion Points and Activities

KS1 English

- Use a story board template to write a Space Mission themed story
- Use the pictures to build your story out of LEGO® when you visit.

# DURING YOUR VISIT

## Share Your Story

Shares photos or videos of some of your class' story builds and animations with us and they may end up being featured on our social pages or our website!

Facebook & Instagram:  
@LDCManchester

## Suggested Materials

- Storyboard paper
- Pencils (please ask a member of the team if you require these)
- LEGO® bricks From Space Mission

## Suggested Brainstorm:

Think of a fairy tale or short story that you have recently read. What plot points and settings do you remember and how can you re-enact the story using LEGO® bricks?

## Suggested Task and Activities at LEGOLAND® Discovery Centre:

Write a Story -

- Pick your favourite Space person to use as your main characters!
- Use a narrative or storyboard template to map out the story





# SCHOOL WORKSHOPS



## Did You Know?

LEGOLAND® Discovery Centre and LEGO® Education work in partnership to deliver high quality educational experiences. Our lessons are designed to bring maths, science, engineering and language to life and encourage skills in communication, collaboration, critical-thinking and problem solving.

## OUR WORKSHOPS

### Storytales

Aims: Develop children's language and literacy skills, such as expressing thoughts, ideas, and opinions, having conversations with others, and understanding narrative structure and elements.

Suitability: Early Years learning

### Spinning Tops

Aims: To apply the science of energy, fair testing, measuring and movement. This also links in vocabulary and elements of design & technology as students create a spinning LEGO machine.

Suitability: Key Stage 1

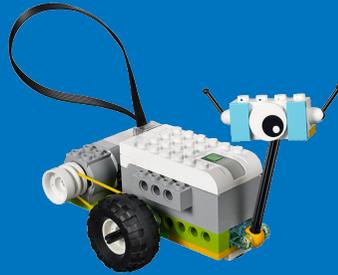
### Seesaw

Aims: To teach the scientific principles of balancing forces, energy, levers and pivots. Design & technology learnings include the assembly of LEGO components.

Suitability: Key Stage 1

## Discover More

Why not book a workshop for a future visit? You can add a workshop to your visit for just £2 extra per pupil on top of the visit admission cost (advance booking required).



### Catapult

Aims: Focusing on engineering and technology, students apply knowledge and skills related to structures, engineering design, weight and counterweight, and fair testing.

Suitability: Key Stage 2

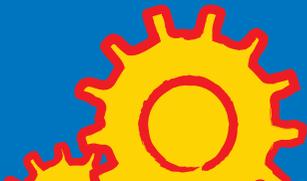
### Robotics: Design & Control

Using the Fantastic LEGO® Education WeDo, pupils will work together to build amazing robotic creations which they will then program - bringing them to life! Key computing aspects: write and debug programs; add repetition; work with various forms of input and output; problem solving.

Suitability: Key Stage 2 & 3

## BOOK HERE:

[www.legolanddiscoverycentre.com/manchester/groups-schools](http://www.legolanddiscoverycentre.com/manchester/groups-schools)



# ASK A MASTER MODEL BUILDER

## Meet James!

James joined us back in September 2018 when he beat off over 1000 other applicants for the job as our second Master Model Builder! James has loved LEGO® since the age of 5 when he received his very first LEGO® set for Christmas. With a degree in Fashion design, he has even made a LEGO® themed shirt!

Favourite LEGO® Character: Shark Guy & Poison Ivy

Favourite Brick Colour: Bright Green



## Got Questions?

Our Master Model Builder James is responsible for building a lot of the cool creations you see around the attraction, including some of the amazing scenes in MINILAND. Our team of Playmakers who work with James also have lots of LEGO Facts and info to share with you too! The team are on hand 7 days a week to answer any of your burning LEGO® questions and to help you with your LEGO® builds! Your class can get in touch with their questions anytime by emailing [contactus@legolanddiscoverycentre.co.uk](mailto:contactus@legolanddiscoverycentre.co.uk)



# CONTACT US

## HOW TO BOOK YOUR VISIT:

- Call our Group Booking Line on 0161 629 2058
- Submit a booking inquiry through our website [legolanddiscoverycentre.com/manchester/groups-schools](https://legolanddiscoverycentre.com/manchester/groups-schools)

## QUESTIONS?

Email us at

[contactus@legolanddiscoverycentre.co.uk](mailto:contactus@legolanddiscoverycentre.co.uk)

[LEGOLANDDiscoveryCentre.com/Manchester](https://LEGOLANDDiscoveryCentre.com/Manchester)