

What is Waste?



BACKGROUND & INSTRUCTIONS

Squawk Point Models

Background

- This is a simple game designed to introduce people to two ideas:
 1. Waste, what it is and how to remove it
 2. That systems have a bigger impact on performance than individuals
- The game takes approximately 1 hour to complete and requires 1 facilitator plus teams of 6 players. There is no limit to the number of teams involved though in practice for every 5 or 6 teams you will require an extra facilitator
- Each team builds Lego models for a customer
- There are five parts to the game:
 1. Introduction
 2. An initial production round to create a baseline
 3. An opportunity to redesign the process and remove waste
 4. A second production round using the redesigned process
 5. Lessons learnt
- The initial design of the operation makes “horse” production very stressful. The role of “Construction 1. Animals” should be given to a senior or dissenting member of the audience

Facilities and Materials List

For each team playing the game you will need:

- Lego:

	Red	Blue
2 block	14	14
4 block	24	24
8 block	30	30
- Stop watch
- Pencils
- 2 paper plates for the construction departments
- 1 set of print outs:
 - Inboxes
 - Waste hand-outs
 - Customer orders
 - Detailed instructions
- Spare Lego to produce templates (if requested) during round 2

You will need a projector, flip chart, pens and a large room with a table for each group

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Instructions

Part 1: Introduction – 13 mins

- Slide 1. Welcome the audience
- Slide 2. Introduce the objectives of the session and explain that it will take approximately 1 hour
- Slide 3. Explain that they will be working for a company called Squawk Point Models making Lego models and this is their first day and “on-boarding” process
- Slide 4. Introduce the products they will be making
- Slide 5. Discuss the organisational structure, explaining that you are a quality lead organisation
- Slide 6. Explain the different roles in each team re-emphasising the importance of the customer. Allocate people to roles, remember that the “Construction 1 - Animals” role should be awarded to senior / dissenting voices
- Slide 7. Explain the structure of the next hour
- Slide 8. Talk through the standard operating procedure, explain how having rigorous standards ensures consistent performance. Share the individual role profiles with the audience. Emphasise that models that are late or incorrect will not be paid for by the customer
- Slide 9. Explain the need to capture data to improve performance

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Instructions

Part 2: An initial production round to create a baseline – 13 mins

- Slide 10. Explain that the first shift is put in place to capture a background level of performance. Consequently the standard procedures should be followed
 - Start the game, allow it to run for 13 minutes
 - On completion collect up all Lego to break up and use again

Part 3: An opportunity to redesign the process and remove waste – 14 mins

- Slide 11. Get feed back on how the first round went
 - Ask the customers what there levels of satisfaction were. Make sure they are clear about the levels of quality and timeliness of delivery. Ask how may items they wanted a refund on
 - Ask the production staff to critique their own performance. How did it feel to work in the different departments (draw out comments about horse production)
 - Be clear about what worked well and what they think could be done better
- Slide 12. Introduce the concept of waste and the 8 wastes
 - Explain that waste is any activity that a customer wouldn't be prepared to pay for
 - Pass round the waste hand out and ask where the waste was in the process they have just run
 - Explain that taking waste out of a process improves the process
 - For more information on waste Google "what is waste" "lean thinking"
- For the remainder of the time ask the teams to redesign their process

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Instructions

Part 4: Second production round using the redesigned process – 13 mins

- Slide 13. Explain that the next stage is to see how well their redesigned process runs
 - Start the game, allow it to run for 13 minutes

Part 5: Lessons learnt – 10 mins

- Slide 14. Get feed back on how the second round went
 - Once again seek out feedback on how the changes have gone. What worked well, what didn't? If they were to run the game again would they have done anything else?
 - Highlight the waste that was removed from the process
 - N.B. Some teams may build to stock in order to complete the second round. If so draw out a conversation about stock as a waste. What would have happened if the company had discontinued a product?
- Slide 15. Conversation about people versus process
 - The two quotes focus on the need to build systems and tools to do a job better rather than design reward and recognition to promote doing the wrong job faster
 - Debate how much time is spent motivating and rewarding people rather than focusing on improving the system
 - Ask “If there had been an *individual* incentive scheme in round 1 how much would that have helped to improve performance?”
- Slide 16. Close highlighting the 2 points:
 - Focus on removing waste
 - Performance is driven far more by the design of the system than individuals performance

PRESENTATION

What is Waste?



Objectives:

At the end of the session you will:

- Understand how to identify sources of waste
- Have improved a process by removing waste
- Understand how much performance is driven by the system and how much by the individual

Welcome!

Squawk Point Models On-boarding

- Welcome to your new job at Squawk Point Models
- We have been building and distributing high quality models for 2 months and 3 days
- It is a rapidly growing industry. We have very demanding customers who expect high quality products, delivered on time, at the right cost
- Our ambition is to be at the leading edge and set the bench mark in our industry for model building

Product Range

2 Market Leading Products Available in Red and Blue:

Animal Range



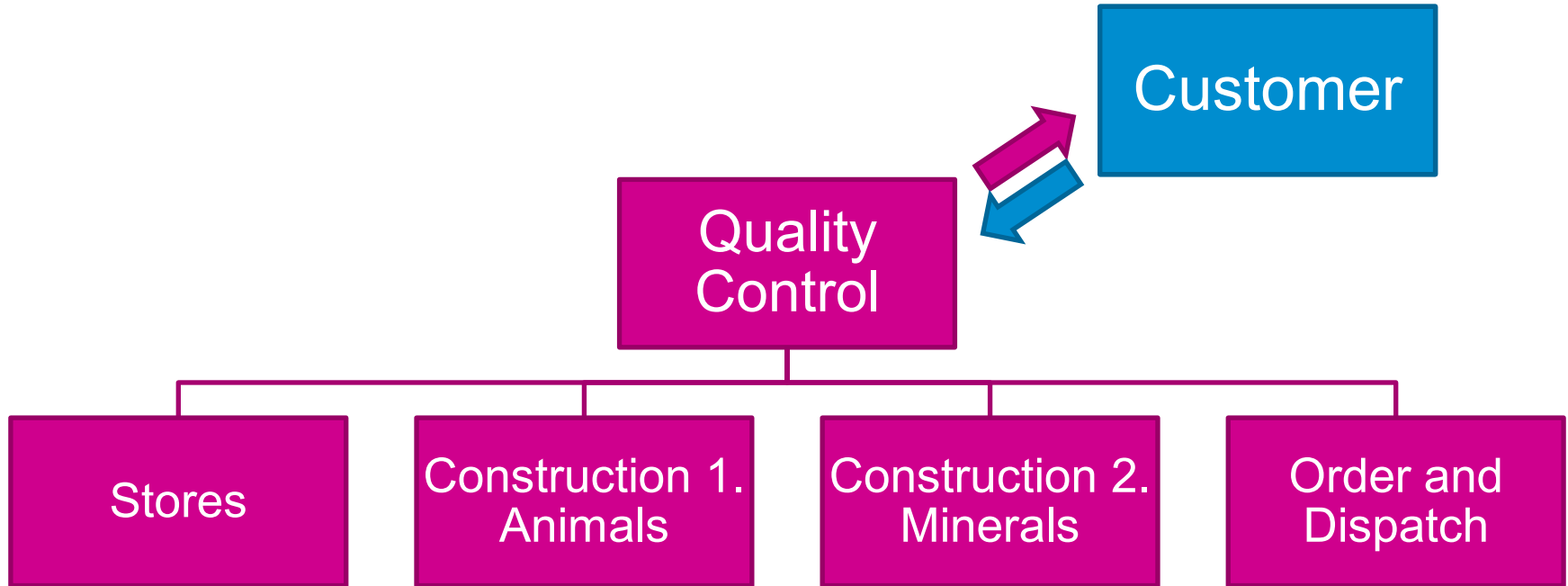
Mineral Range



We plan to expand into the lucrative market for Vegetable models shortly

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Organisational Structure



We are a Quality lead Company

Delivering On Time Quality to our Customers is our Priority

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Roles and Responsibilities

There are 5 organisational roles:

- Quality Control
- Stores
- Construction 1 – Animals
- Construction 2 – Minerals
- Order and Dispatch

And 1 Customer

Remember – the Customer is King

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The Working Day

Session	Timings
On - boarding	10 minutes
Construction Shift 1	13 minutes
Feedback and Improvements	14 minutes
Construction Shift 2	13 minutes
Evaluation and lessons learnt	10 minutes

A day without learning is a day wasted!

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Standard Operating Procedure

1. The Customer details his requirements on an order form
2. The Customer gives their order form to Order and Dispatch
3. The SLA for order delivery is 3 minutes
4. The order is passed to the relevant Construction Department
5. Construction collects components from Stores
6. The Construction Department builds the model
7. Construction pass the model and order to Quality Control
8. Quality Control checks the quality of the completed model
9. If satisfactory the model is passed to Order and Dispatch
10. Order and Dispatch deliver the model to the Customer
11. Throughout the process critical M.I. is captured

We have a no quibble guarantee

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Order Form

If you are a **customer**
fill in these bits

Customer Section

Model Required

Colour



Time Order Submitted

Time Order Completed

Within 3 minute SLA?
Yes / No

Internal Use Only

Time
Parts supplied from stores
Construction Completed
Quality Control Completed
Pass Quality Control
Yes / No



If you are a **worker**
fill in these bits

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Construction Shift 1

- The objective of the first shift is to establish baseline level of performance
- The Customer will submit 10 orders, 1 every minute
- The shift lasts 13 minutes (10 + 3 minutes SLA)
- Note down relevant times on the order form
- The standard operating procedure must be followed
- Read and follow your job description
- You are here to **work not think**, follow the procedures

Do as you are told – Do not even think of changing anything

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End of Shift 1 Feedback

- Did the customer get what they wanted?
- Did they get it when they wanted it?
- How productive was your shift?
- How did it feel to be in the different departments?
- What didn't work so well?

What improvements would you like to make?

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The 8 wastes

- T** - Transport
- I** - Intellect
- M** - Motion
- W** - Waiting
- O** - Over-processing
- O** - Over-production
- D** - Defects
- S** - Stock



See handout for further details

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Construction Shift 2

- The objective of the second shift is to try out your improvements
- The only rules that remain are:
 - The Customer will still submit 10 orders, 1 every minute
 - The shift lasts 13 minutes
 - The quality standards remain the same
 - The 3 minute SLA remains the same
- You can not change your process once the shift has started

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End of Shift 2 Feedback

- How successful were your changes?
- Was the customer happy?
- Were the employees happy?
- Was there less waste?

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2 Quotes

Eighty-five percent of an employee's ability to perform successfully on the job depends upon the system

~ W. Edwards Deming

Give us the tools, and we will finish the job

~ Winston Churchill

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1 Question

Is a manager's time better spent:

- a) Improving the system, removing waste?
- b) Motivating the people, rewarding the individual?

PRINT OUTS

Order and Dispatch In-Box

Construction
Dept 1: Animals
In-Box

Construction
Dept 2: Minerals
In-Box

Quality Control In-Box

Customer In-Box

Squawk Point Models

Waste and TIM WOODS

T. Transport

- Description: unnecessary movement of materials
 - Example: sending information packs rather than using e-mail
 - Costs include: labour, fuel and increased risk of delay
-

I. Intellect

- Description: failing to utilise the talents of your colleagues
 - Example: not empowering individuals at work
 - Costs include: frustration, boredom, stress and staff turnover
-

M. Motion

- Description: unnecessary movement of people
 - Example: double keying onto multiple databases
 - Costs include: time and cost to complete the activity, risk of error
-

W. Waiting

- Description: delays between one work step another
 - Example: waiting for approvals and clarification
 - Costs include: lost time and customer attrition
-

O. Over-processing

- Description: adding more to a service than a customer wants
 - Example: multiple repeat quality checking
 - Costs include: lost capacity that could have been used elsewhere
-

O. Over-production

- Description: providing more than is immediately needed
 - Example: producing MI that nobody is likely to read
 - Costs include: increased processing time
-

D. Defects

- Description: errors caused by the process
 - Example: issuing checks to correct mispayments
 - Costs include: rework and testing
-

S. Stock

- Description: items in excess of customer need
 - Example: excess IT capacity
 - Costs include: write offs and complexity
-



Squawk Point Models

Waste and TIM WOODS

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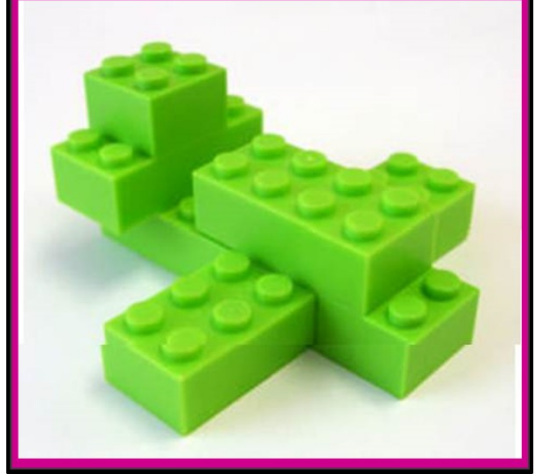
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Instructions for Customers

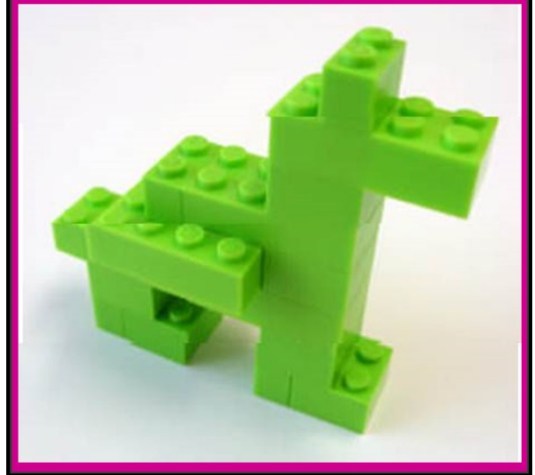
- You have been given 10 pre-populated order forms to enable you to order LEGO models
- You can choose the order in which you submit your order forms. However please do not simply alternate between the 2 models available
- Orders should be placed 1 every minute
- Please write on the order form, the time you submit your order
- Please place your order in the Order and Dispatch “In-Box”
- When both the completed model and order form are returned to your “Customer In-Box” note the time your order was fulfilled then accept or decline the model based on the following quality measures
 - The model built is correct, either Plane or Horse
 - The model is constructed correctly (see picture)
 - The model colour is correct

Note: You will only be charged if the model is both correct and delivered on time

Plane



Horse



Squawk Point Models

Order Form

Customer Section

Model Required
Horse

Colour
Red

Time Order Submitted

Time Order Completed

Within 3 minute SLA?
Yes / No

Internal Use Only

	Time
Parts supplied from stores	
Construction Completed	
Quality Control Completed	
Pass Quality Control	Yes / No

Squawk Point Models

Order Form

Customer Section

Model Required
Horse

Colour
Red

Time Order Submitted

Time Order Completed

Within 3 minute SLA?
Yes / No

Internal Use Only

	Time
Parts supplied from stores	
Construction Completed	
Quality Control Completed	
Pass Quality Control	Yes / No

Squawk Point Models

Order Form

Customer Section

Model Required
Horse

Colour
Blue

Time Order Submitted

Time Order Completed

Within 3 minute SLA?
Yes / No

Internal Use Only

	Time
Parts supplied from stores	
Construction Completed	
Quality Control Completed	
Pass Quality Control	Yes / No

Squawk Point Models

Order Form

Customer Section

Model Required
Horse

Colour
Blue

Time Order Submitted

Time Order Completed

Within 3 minute SLA?
Yes / No

Internal Use Only

	Time
Parts supplied from stores	
Construction Completed	
Quality Control Completed	
Pass Quality Control	Yes / No

Squawk Point Models

Order Form

Customer Section

Model Required
Horse

Colour
Blue

Time Order Submitted

Time Order Completed

Within 3 minute SLA?
Yes / No

Internal Use Only

	Time
Parts supplied from stores	
Construction Completed	
Quality Control Completed	
Pass Quality Control	Yes / No

Squawk Point Models

Order Form

Customer Section

Model Required
Plane

Colour
Blue

Time Order Submitted

Time Order Completed

Within 3 minute SLA?
Yes / No

Internal Use Only

	Time
Parts supplied from stores	
Construction Completed	
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Pass Quality Control	Yes / No

Squawk Point Models

Order Form

Customer Section

Model Required
Plane

Colour
Blue

Time Order Submitted

Time Order Completed

Within 3 minute SLA?
Yes / No

Internal Use Only

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Squawk Point Models

Order Form

Customer Section

Model Required
Plane

Colour
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Squawk Point Models

Order Form

Customer Section

Model Required
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Colour
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Squawk Point Models

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Customer Section

Model Required
Plane

Colour
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Yes / No

Internal Use Only

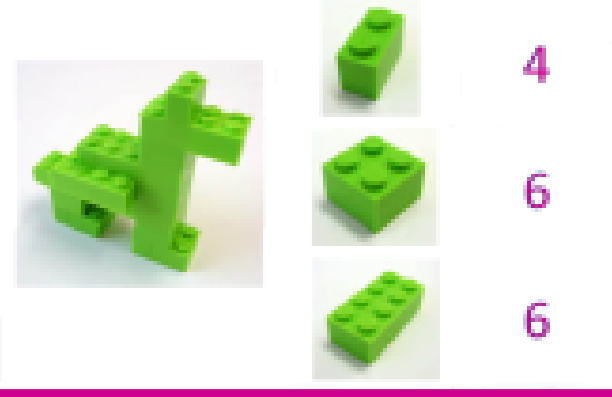
	Time
Parts supplied from stores	
Construction Completed	
Quality Control Completed	
Pass Quality Control	Yes / No

Squawk Point Models

Instructions for Construction Dept 1: Animals

- Your role is to build only Animal Models from Lego bricks
- You will receive the customer order into the “Construction Department 1 In-Box”
- When you receive your order you will need to visit the Stores, where you should give them the order form and collect the correct amount of bricks
- You then need to return to your Department (seat) and build the model to the specifications shown
- Once the model is built, the time should be noted on the order form
- The completed models and order form must be placed in the “Quality Control Department In-Box” for quality control prior to dispatch to the customer
- If your model fails quality control it will be returned to you. You should note on the order form the time when the model has been rebuilt to the correct specification

Horse

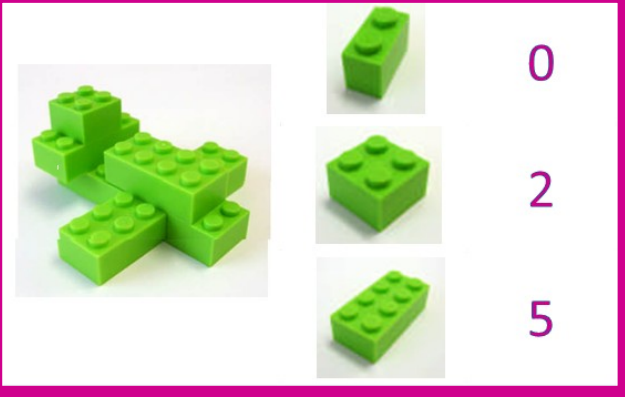


Squawk Point Models

Instructions for Construction Dept 2: Minerals

- Your role is to build only Mineral Models from Lego bricks
- You will receive the customer order into the “Construction Department 2 In-Box”
- When you receive your order you will need to visit the Stores, where you should give them the order form and collect the correct amount of bricks
- You then need to return to your Department (seat) and build the model to the specifications shown
- Once the model is built, the time should be noted on the order form
- The completed models and order form must be placed in the “Quality Control Department In-Box” for quality control prior to dispatch to the customer
- If your model fails quality control it will be returned to you. You should note on the order form the time when the model has been rebuilt to the correct specification

Plane

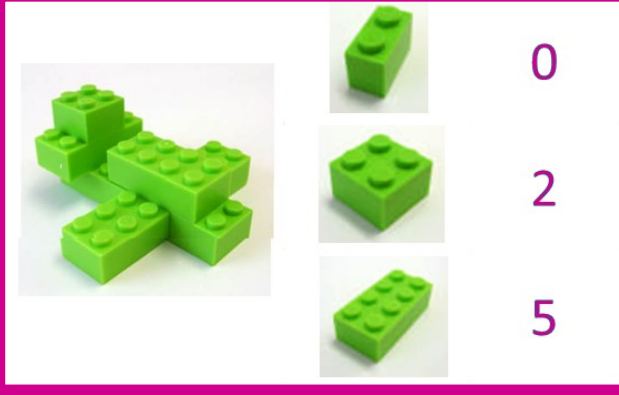


Squawk Point Models

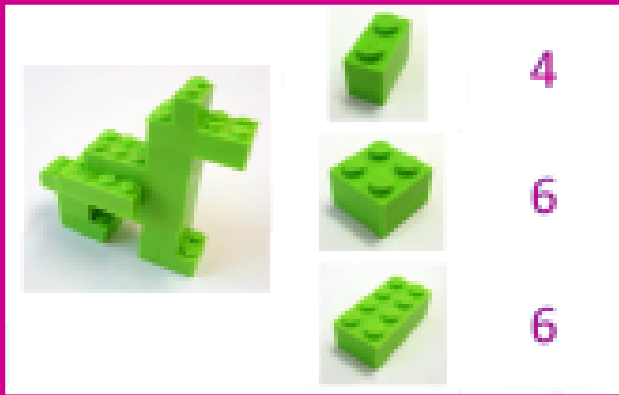
Instructions for Quality Control

- The Construction Department will place the built model and order form in the “Quality Control In-Box”
- You should complete a quality control inspection of the built model, using the appropriate template.
- **If you are unhappy** with the quality, the model and order form should be returned to the Construction Department for re-work
 - “Construction Department 1 In-Box – Animals”
 - “Construction Department 2 In-Box – Minerals”
- If you are happy with the quality:
 - Note the time the order passed quality control
 - the model and order form should be placed in “Order and Dispatch In-Box” ready for dispatch to the Customer

Plane



Horse



Squawk Point Models

Instructions for Order and Dispatch

- Orders for Lego brick models, from the Customer, will be placed in the “Order and Dispatch In-Box”. You need to check the in-box frequently for customer orders
- You will need to review the order and pass it onto the appropriate Construction Department
 - “Construction Department 1 In-Box – Animals”
 - “Construction Department 2 In-Box – Minerals”
- Once the quality of the completed models has been approved by the Quality Control Department, they will place the Model and order form in the “Order and Dispatch In-Box”
- You will then return deliver the Model and order form to the Customer by placing them in the “Customer In-Box”

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Instructions for Stores

- Your task is to supply the requested Lego bricks to the Construction Department
- Your store consists of hundreds of Lego bricks in different colours
- When a Construction Department receives a customer order they will come to you and ask you to supply them with the required bricks
- Put the bricks they ask for on one of the paper plates (supplied) and give them to the construction team
- Note on the order form the time when you supplied the Lego brick components to the Construction Department