



Title	Take the Supply Chain Challenge
Key Stage(s)	KS2 and KS3
Subject(s)	Literacy, Numeracy, Enterprise learning,
Objectives	To develop and apply logical thinking skills to a real business context To introduce business terms and concepts To understand how supply chains work To experience working in a small team
Duration	30+ minutes depending on tasks selected and quality of discussion.
In brief	A logic / problem solving exercise that challenges learners to identify logical steps supply chains

PREPARATION:

Consider using the video clip, ["Love Logistics"](#), to introduce the importance of transport and logistics to making items available in shops for all of us to buy.

Go to the hyperlink on the 'Activities' section of our 'Learning Zone'.

Explore too the [DHL corporate website](#) for an insight into this global business and possible ideas for follow-up work.

Go through the powerpoint around which these notes are based as it provides the various 'challenges' to your learners.

Be sure to ENABLE the macros in order that the powerpoint responds to answers.

There is NO RESET FUNCTIONALITY for the powerpoint. This means you must use a fresh copy of the powerpoint every time. To minimise any inconvenience we recommend making the copy you first download from our Learning Zone your "master" copy. Never use it as such. Instead copy the master to create the copies you use. This will avoid having to download the powerpoint more than once.

Assuming pupils work in small teams of 2 or 3, you may wish to print off sufficient copies of:-

- the pdf of the Word Search pdf revealed during Slide 9
- the pdf of the two 'Spot the Difference' photos revealed during slide 24



INTRODUCTION:

There is the option to make use of the video clip, [“Love Logistics”](#), to explain the importance of transport and logistics and how “invisible” so much of the work is that goes on behind the scenes to make items available in shops for all of us to buy.

Slides 1-2 introduce ‘DHL Supply Chain’

Slide 2 shows a variety of things that can be delivered to customers. Ask the group which they think DHL do deliver and any they think they don't. DHL actually delivers all but it may not be as we automatically think about delivery:

- Tesco frozen food – DHL store and deliver to store
- British Airways – DHL have chefs who have developed meals – DHL pick and pack onto planes and then clear
- Prison officer uniforms – DHL purchase / store and dispatch across the UK
- O2 phones – you order a phone and DHL store / pick / pack and deliver
- Virgin meals on trains – DHL get the food trolleys ready, get it on the trains, wash all the crockery and cutlery and wrap cutlery in a napkin!
- Petrol – DHL use petrol tankers to deliver petrol to garages
- Prisoner – canteen. DHL run workshops within prisons where prisoners are employed to pick the items prisoners can order such as toothpaste, biscuits, we then pack and despatch both within local prisons and also to be delivered out to other prisons across the UK
- NHS Supplies – DHL purchase, store, pick, pack and deliver to hospitals across the UK – from cornflakes to medical equipment

Slide 3 highlights the significance of DHL as a global player in supply chains.

Slide 4 defines more formally what a supply chain as the entire network / system involved in delivering items from the supplier to the customer.

Slide 5 builds on this to define the ‘cold supply chain’. Before revealing this slide, you could ask learners to ‘list as many items that they can think of in 2 minutes that are kept in a fridge or freezer’. How does this mean for logistics/transport companies such as DHL? Bring out that such items have to be chilled or frozen while they are being delivered to maintain or lengthen their shelf life.



Whatever the type of supply chain, it is made up of different 'steps' or stages which becomes the focus of the first task.

TASKS

1. Slide 6 shows 8 steps in the supply chain. Learners must select each step in the right sequential order by clicking on each in turn. A successful 'click' will turn the rectangle from blue to green. An incorrect 'click' should trigger a message to say 'wrong selection'. The 8 steps in the right order are:-
 - The supplier manufactures the item
 - The supplier packs the item and ships the product to a warehouse
 - The item is stored in the warehouse
 - A retailer places an order for the item
 - The item is picked and packed
 - The item is delivered to the retailer
 - The retailer puts the item on their shelf
 - You buy it.
2. Slide 7 summarises the steps in supply chains
3. Slide 8 invites learners to put various food items into the correct box, ready to go on a pallet. Pupils must simply click on the box of their choice.
4. Slide 9 introduces the other aspect of 'Step 2', transporting goods to the warehouse.
5. Using the 'word search' shown in slide 10, learners have to spot as many different types of transport as they can, clicking letter by letter. There are 10 words ~ car, van, helicopter, tram, bike, lorry, airplane, boat, taxi and bus ~ with a maximum score of 44 (each letter only counts once).



6. Slides 11 – 15 explore 'Step 3', storing the item in the warehouse:

- Slide 11 highlights the importance of the 'lorry' to DHL.
- Slide 12 shows the different types of lorries, or trucks, DHL uses
- Slide 13 explains the importance of drivers keeping to time and of checking deliveries against orders as part of the process of storing goods in the warehouse.
- Slide 14 involves learners choosing the right type of warehouse (= the one with the right temperature) for these items:
 - i. Clothes (Answer = Ambient)
 - ii. Fruit / Vegetables(Answer = Chilled)
 - iii. Various 'ready meals' (Answer = Frozen)
 - iv. Shoes (Answer = Ambient)
 - v. Ice cream (Answer = Frozen)
 - vi. Sweets (Answer = Ambient)
- Slide 15 explains the differences between ambient, chilled and frozen warehouses:-
 - Ambient ~ at room temperature with no artificial heat nor cooling
 - Chilled ~ quite cold, mostly below 4°C but anywhere between 0°C and 14°C, ideal for milk and dairy products, for instance.
 - Frozen ~ very cold, between 0°C and -25°C, for items such as ice cream, meat and seafood.

7. Slides 16 – 23 focus on 'Steps 4 - 5', triggered by the warehouse receiving an order from a retailer for ice cream. 'Accuracy' is highly important during these steps in particular. Challenge learners to achieve 6 correct answers to the 6 questions posed in slides, 17 – 22:



- Slide 17: The clock shows 8.30
 - Slide 18: One pallet has 60 cases, so 15 pallets x 60 = 900 cases.
 - Slide 19: The pallet has 7 layers of 8 boxes = 56 boxes.
 - Slide 20: Pallet with 60 boxes (of 2 kg each) weighs most, 120 kg.
 - Slide 21: There are 335 cages altogether.
 - Slide 22: The correct numbers of tins are “1,440 / 2,880 / 7,680”
 - Slide 23 congratulates successful learners!
8. ‘Loading’ is the theme of Slide 24 as a central part of ‘Step 6’, delivering items to the retailer. Slide 25 provides the related challenge, “Spot the Difference”.
- The score will increase as the learners clicks on every difference spotted (up to 10)
 - 10 differences = plane, birds, Tesco, manufacturer of truck, number plate, items on roadside (x2), front lights (x 2), & ‘Supply Chain’ under logo.
9. The two slides, slides 26 – 27 relate to ‘Step 7’ when the retailer puts the item/ ice cream on the shelf. Slide 27 challenges to learners to find 10 hidden items on the shelf. Each item is ticked on screen as it is found.
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|---------|-----------|-----------|--------|--------|
| DHL box | Ice cream | Chocolate | Jacket | Banana |
| Pepper | Trainer | Burger | Fish | Steak |
10. The final slide, 28, signals the success of the supply chain in enabling the customer to buy the ice cream.



EXTENSION ACTIVITIES

1. Visit the [DHL corporate website](#) and find out 3 interesting things about DHL. For instance, you could look under 'About Us' and 'Trends in Logistics' for some ideas.
2. Create 3 lists each naming 10 items most suitable to store in a warehouse with a temperature that is (a) ambient (b) chilled and (c) frozen.