Table of constants declared

n1 is the number of nuzzles in truck 1
p2 is the number of prittles in truck 2
s3 is the number of skipples in truck 3
c4 is the number of crottles in truck 4
d5 is the number of dupples in truck 5
d6 is the number of dupples in truck 6
And so on for all the options.

p is the maximum number of Prittles we can transport.

1. Declaring all the variables.

2. (<= (+ (* 800 n1) (* 1300 p1) (* 1000 s1) (* 1500 c1) (* 400 d1)) 8000)

This line makes sure that the weight is less that 8000kg for truck 1.
I do this line 6 times in total for the 6 trucks.

3. (<= (+ n1 p1 s1 c1 d1) 8)

This line makes sure that the number of pallets per truck is less than or equal to 8.
Again I do this line 6 times for the 6 trucks.

4.(= (+ n1 n2 n3 n4 n5 n6) 4)
(= (+ s1 s2 s3 s4 s5 s6) 8)
(= (+ c1 c2 c3 c4 c5 c6) 8)
(= (+ d1 d2 d3 d4 d5 d6) 12)

These lines makes sure the total number of pallets per item is respected.
Nuzzles need 4, skipples need 8, crottles need 8 and dupples need 12.

5. (>= n1 0)
(>= n2 0)
(>= n3 0)
(>= n4 0)
(>= n5 0)
(>= n6 0)

These lines make sure that the number of pallets of nuzzles per truck is at least 0.
I repeat these lines for prittles (p), skipples (s), crottles (c) and dupples (d)

6. (= c3 0)
(= c4 0)
(= c5 0)
(= c6 0)

These lines is for the 2 cooled trucks.

7. (<= n1 1)
(<= n2 1)
(<= n3 1)
(<= n4 1)
(<= n5 1)

(<= n6 1)

These lines are to make sure that there are not more that one nuzzle per truck.

8. (or (= p1 0 ) (= n1 0))
(or (= p2 0 ) (= n2 0))
(or (= p3 0 ) (= n3 0))
(or (= p4 0 ) (= n4 0))
(or (= p5 0 ) (= n5 0))
(or (= p6 0 ) (= n6 0))

These lines make sure that none of the prittles and nuzzles are on the same truck as it would create an explosion.

9. (= p (+ p1 p2 p3 p4 p5 p6))

This line adds all the number of prittles per truck.

10. (maximize p)

Gives the maximum number of pallets of prittles that can be transported.