NCERT SOLUTIONS

CLASS - 4th

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Class : 4th
Subject : Maths
Chapter : 12
Chapter Name : How Heavy? How Light?

Q1 Find out the total weight they had loaded on the cart.

Answer. Thing Loaded Weight
5 sacks of wheat = 5 x 100 kg = 500 kg
3 sacks of rice =3 35 kg = 105 kg
A water tank = 50 kg
An almirah = 70 kg
3 tables = 3 x 10 kg = 30 kg
4 chairs =4 x 5 kg = 20 kg
2 mattresses =2 x 20kg = 40 kg
Bamboo ladder = 10 kg
Pots and pans = 10 kg
Total weight = 853 kg

Total weight= 500+105+50+70+30+20+40+10+10=835 KG.
Thus, the total weight loaded on the cart is 835 kg.

Page : 134 , Block Name : How Heavy? How Light?

Q2 Which things should be removed so that the weight of the load is not more than 700 kgs?

Answer. 3 sacks of rice and three table should be removed. so that the weight of the load is not more than 700 kgs.
Weight of 3 sack of rice and three table is = 105 + 30 = 135
835-135= 700.
So, if we remove 3 sacks of rice and three table, then the weight will become 700kg.

Page : 134 , Block Name : How Heavy? How Light?

Q3 Now you also make your own balance. Write down how you made it. Also draw a picture of your balance in the box below.

Answer. To make a balance we need a uniform stick of suitable length, two pans, and a strong thread. Pans are tied on the both the end of the stick. A hole is made in the middle of stick. The balance is ready.

Page : 134 , Block Name : How Heavy? How Light?

Q1 Mannu and Jaiju put a pencil and a geometry box in the two pans of the balance. Which pan will go down? Why? Draw a picture to show it.

Answer. The geometry box will go down because pencil is lighter than geometry box.

Page : 135 , Block Name : Activity

Q1 Make pairs of different things and use the balance to decide which is heavier. First guess which thing will take the pan down and then check with your balance.

Answer. The pairs of different things are:
Iron nail and blog of wood, blog of wood is heavier
Pen and pencil, pencil is lighter
Glass and spoon, glass is heavier

Page : 135 , Block Name : What Is Heavier

Q1 Make groups of three things. For example — eraser, ball and paper. Use the balance to arrange them in order of weight – the lightest, the one with in-between weight, the heaviest.
Complete the table with at least five examples.

Answer. Lightest , In between weight , Heaviest
Paper, eraser, Ball
spoon, glass, glass
notebook, dictionary, dictionary
nail, wood, Wood
paper, ball, Ball

Page : 135 , Block Name : What Is Heaviest

Q2 Can you find your own weight using this balance?

Answer. no, I cannot weight myself by using this balance.

Page : 135 , Block Name : What is Heaviest

Q1 Get a new cake of soap. The packet will have the weight written on it. You can use this soap to make your own different weights.
The soap weighs _____ grams (g).

Answer. 200g.

Page : 136 , Block Name : Making Weights

Q2 Put it in one pan of the balance. Put the soap in the other pan.

Slowly add sand to the packet till the pans are balanced.

Close the packet with a rubber band or string. Now stick a strip of paper and write '___ g' on it.

Answer. 240 g

Page : 136 , Block Name : Making Weights

Q3 If you put the soap and the weight you just made together in a pan, how many grams will both these weigh? _____

Answer. 440g

Page : 136 , Block Name : Making Weights

Q1 Which pan of the balance will go down? Show by drawing an arrow.

Answer. DIY

Page : 137 , Block Name : Practice Time

Q2 Is the weight on any of the pans equal to 1 kilogram? Mark it.

Answer. The left pan of the right one balance in the middle balances is equal to 1 kilogram. This is marked as / in the figure.

Page : 137 , Block Name : Practice Time

Q3 How many grams are there in 1 kg?

Answer. 1 kg contain 1000g,

Page : 137 , Block Name : Practice Time

Q1 Name 5 things that we usually buy —

In grams	In kilograms
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

Answer. DIY

Page : 138 , Block Name : Grams And Kilograms

Q1 Which is heavier? One-kilogram cotton or one-kilogram iron.

Answer. Both are equal in weight.

Page : 138 , Block Name : Which Is Heavier

Q1 Dinesan went to a shop and bought some things. His younger brother cut the end of the bill where the weights were written. Guess and write the weight of each thing he bought — in g or kg.

Answer.
Item Weight
Rice 5 kg
Grams 4 kg
Sugar 8 kg
Wheat 20 kg
Tea 1 kg

Page : 139 , Block Name : Dinesan Went Shopping

Q1 Ritu is weighing her toys. She wants to know if her tractor is heavier than her car. How would you help her to find out quickly?

Answer. Simply by balancing of both things, we can help her to find out which is heavier.

Page : 139 , Block Name : Car And Tractor

Q2 Guess which is the heaviest — a real car, a bus or a tractor?

Answer. A bus is the heaviest in all of these.

Page : 139 , Block Name : Car And Tractor

Q3 Which is the heaviest thing you have seen?

Answer. I have seen the heaviest thing the aeroplane.

Page : 139 , Block Name : Car And Tractor

Q1 Now imagine what happened next and complete the story. Discuss with your friends how Vaidika daughter found the weight of the elephant.

Answer. The story is completed as :
After the marking of the raise water level on the boat, the elephant was taken out of the boat. Now she requested to put stones into the boat till the water level touched the raised water level mark. Further she asked to weigh the stones. The total weight of these stones gave the weight of the elephant. King was not left with any alternative but to reward Dr. Vaidika.

Page : 142 , Block Name : Elephant`s Weight

Q1 Anamika wants to weigh this chair using the weight machine. Can you suggest a way for doing this?

Answer. She can use something like stone same as weight as chair and she can put both things in pan In both sides. She weight both things using weight machine.

Page : 143 , Block Name : How Much The Chair Weighs

Q2 Now you show how Abdul will see these stones pieces to weigh-
(a) 4 kg of firewood?
(b) 3 kg of firewood?
(c) 7 kg of firewood?

Answer. He saw different weighted stones - 1 kg, 4kg, 2kg
(a)by placing a bundle of wood and a stone weighing 2 kg in one and by placing a stone of 2 Kg in the other pan.
(b) by placing a bundle of wood and a stone weighing 2 kg in one and by placing a stone of 5 Kg in the other pan.
(c) by placing a bundle of wood and a stone weighing 2 kg in one and by placing a stone of 5 Kg in the other pan.

Page : 144 , Block Name : How Much The Chair Weighs

Q1 (a) Have you ever been to a post office?
(b) What different things do people go there for?
(c) How much a postcard cost?
(d) How much an inland letter cost?

Answer. (a)yes, I have seen post office.
(b) people go there to buy stamps, send parcels and banking.
(c) A postcard cost is Rs.1.
(d) An inland letter cost is Rs.2.50

Page : 145 , Block Name : Post Office

Q2 How much will you have to pay for stamps on a letter weighing 50 grams?

Answer. Charges for first 20 g or less = Rs.5
Charges for next 20 g =Rs.2
Charges for next 10 g = Rs.2
Total charges = Rs.9

Page : 145 , Block Name : Post Office

Q3 Akash wants to send a parcel of the Math Magic textbook to his friend Rani in Chennai. The book weighs 200 g. See the chart to find the cost of posting the book.

Answer. Charges for 50 g parcels = Rs.5
Charges for 150 g parcels= Rs.3
Charges for 50 g parcels = Rs. 9
Total charges = Rs.17

Page : 145 , Block Name : Post Office

Q4 Read the weight shown in the picture. Find the cost of sending a parcel of that weight.

Answer. Parcel weight = 225 grams
Cost of stamps = Rs. 17.00
Clearly, the parcel weigh 225 grams.
Parcel Charges:
For first 50 gm = Rs. 5.00
For next 150 gm = Rs. 9.00
For next 25 gm = Rs. 3.00
Total Charge = Rs.14.00

Page : 146 , Block Name : Post Office

Q1 Rahul needs a stamp of Rs. 25 for his parcel. He went to the post office. Only stamps of Re.1, Rs. 2, Rs. 5 and Rs. 10 were there at that time. Using those stamps, in how different stamps, in how many different ways can he made Rs. 25? Can you show five different ways? What is the heaviest parcel he can see using stamps of Rs. 25?

Answer. There are various ways to make Rs.25 stamps using stamps of Rs.1, Rs.2, Rs.5, Rs.10. Some some of these are as:
1) Rs. 5 x 5
2) Rs. 10 x 2 + 5
3) Rs.10 x 2 + 5 x 1
4) Rs. 5 x 3 + 5 x 2
5) Rs. 10 x 2 + 2 x 2 +1

Page : 146 , Block Name : How Many Stamps

Q1 What happened after that? So what was the answer the crow wanted to give?

Answer. The moment the crow opened his beak, the frog escaped. The crow wanted to give answer (650 + 145)= 795g.

Page : 146 , Block Name : Our Weight Together

Q1 Now, you also fill the table by finding out the age, height and weight of any five friends.

Answer. DIY

Page : 147 , Block Name : Am I Fit Or Fat

Q1 All oranges have equal weight. The two papayas have the same weight. The weight in the first and second balances are equal. How many oranges balance the weight in the third?

Answer. Let a, and c represents mango, orange, and papaya respectively.
In first case: $a + b = b + b + b$
or $a + b - b = b + b + b - b$
or $a = b + b$
in second case: $c + c = b + b + a$
$2c = 2b + a$
$C = 2b$
In the third balance
$a + c = 2b + 2b$
$a + c = 4b$
Thus, 4 oranges will balance the weight in the third balance.

Page : 148 , Block Name : How Many Oranges

Q1 There are 3 marbles of the same size but one marble is slightly heavier or lighter than the other two. Can you find which is that marble and if it is heavier or lighter?
You can use a balance only two times.

Answer. Let be three marbles such that one of them is slightly heavier or lighter than the other

two. Put marbles in different pans. Two situations arise:
Case I: If the two pans balance each other, the marble is either heavier or lighter. This completes first weighing. In order to check whether is heavier or lighter, take the marble and. The position of pan containing gives the required result. It his pan goes down, then is lighter than and. Otherwise, is lighter than and. Thus, the result is known in the second weighing.

Case II: If the two balances do not balance each other. Let. Take and. On comparing their weights by balance, either.
(i) , then is heavier than.
(ii) then and is lighter than.
Result: (i) and (ii) can be judged in the second weighing.

Page : 148 , Block Name : Find That Marble