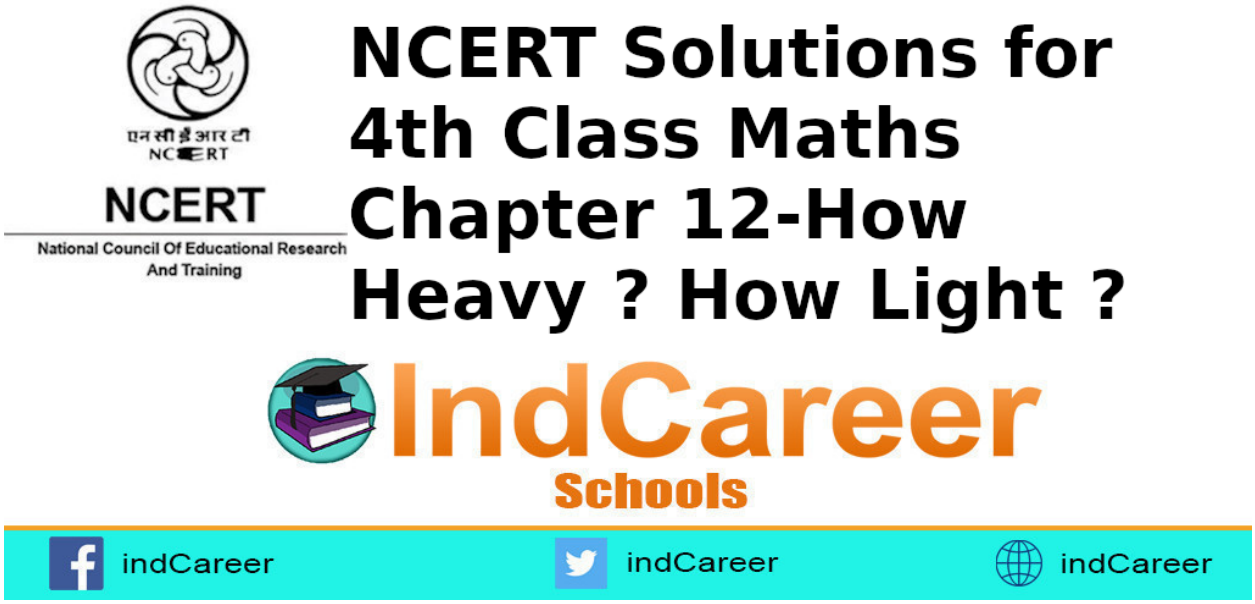

NCERT Solutions for 4th Class Maths Chapter 12-How Heavy ? How Light ?

Class 4: Maths Chapter 12 solutions. Complete Class 4 Maths Chapter 12 Notes.

NCERT Solutions for 4th Class Maths Chapter 12-How Heavy ? How Light ?

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Jaiju and Mannu were shifting house. They loaded all their things on a horse- cart. There were many things like-a water tank, five sacks of wheat, three tables, an almirah, four chairs, two mattresses, three sacks of rice, a bamboo ladder, pots and pans.

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

Things loaded	*Weight*
A sack of wheat	100 kg
A sack of rice	35 kg
Water tank	50 kg
Almirah	70 kg
A table	10 kg
A chair	5 kg
A mattress	20 kg
Bamboo ladder	10 kg
Pots and pans	10 kg

Ans. Weights of things-

Things loaded	*Weight*	*No. of items*	*Their total weights*
A sack of wheat	100 kg	5	5 × 100 = 500 kg
A sack of rice	35 kg	3	3 × 35 = 105 kg
Water tank	50 kg	1	1 × 50 = 50 kg
Almirah	70 kg	1	1 × 70 = 70 kg
A table	10 kg	3	3 × 10 = 30 kg
A chair	5 kg	4	4 × 5 = 20 kg
A mattress	20 kg	2	2 × 20 = 40 kg
Bamboo ladder	10 kg	1	1 × 10 = 10 kg
Pots and pans	10 kg		10 kg

Total weight

= 500 kg + 105 kg + 50 kg + 70 kg + 30 kg

+ 20 kg + 40 kg + 10 kg + 10 kg = 835 kg

2. Which things should be removed so that the weight of the load is not more than 700 kg?

Ans. The weight should be removed to make the weight equals to 700 kg

= 835 – 700 = 135 kg.

The weight of 3 sacks of rice = 105 kg

The weight of three tables = 30 kg

Total weight of these things = 105 + 30 = 135 kg

So, if they remove 3 sacks of rice and three tables, then the weight will become 700 kg.

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

Ans. To make a balance, I took a strong stick of suitable length, two pans, and strong thread. Pans are tied on both the end of the stick. A hole is made in the middle of the stick and it is tied with a thread. Now my balance is ready.

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Activity

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

Ans. The pan that has geometry box will go down. Because it is heavier than pencil.

2. 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.

Ans. The pairs are :

Socks and trouser Trouser is heavier

Toothbrush and toothpaste toothpaste is heavier

Glass and spoon Glass is heavier

Dictionary and notebook Dictionary is heavier

What is the heaviest?

1. 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

Lightest	*In-between weight*	*Heaviest*
Paper	Eraser	Ball

Ans.

Lightest	*In-between weight*	*Heaviest*
Paper	Eraser	Ball
Notebook	Book	Dictionary
Toothbrush	Toothpaste	Laptop
Orange	Coconut	Pumpkin
Napkin	Handkerchief	Shirt

2. Can you find your own weight using this balance?

Ans. No.

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1. 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).

Ans. The soap weighs 100 grams.

2. Take a small plastic packet.

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.

Ans. 100 g is written on the packet.

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

Ans. Both will weigh = lOOg + lOOg = 200 gm.

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Practice Time

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

Ans. Attempt yourself.

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

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

3. How many grams are there in 1 kg?

Ans. There are 1000 grams in 1 kg.

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1. Name 5 things that we usually buy-

	In grams
1	
2	
3	
4	
5	

	In kilograms
1	
2	
3	
4	
5	

Ans.

	In grams
1	Chilli powder
2	Turmeric powder
3	Cloves
4	Cardamom
5	Alum

	In kilograms
1	Potato
2	Rice
3	Wheat
4	Apple
5	Sugar

2. Which is heavier? One kilogram cotton or one kilogram iron?

Ans. Both have equal weight, and both are equal.

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Dinesan Went Shopping

1. 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.

Items	*Weight*
Rice	5
Sugar	1
Mustard seeds	10
Wheat	3
Dal	500
Tea	250
Pepper	25

Ans. The weights of items are given as follows:

Items	*Weight*
Rice	5 kg
Sugar	1 kg
Mustard seeds	10 kg
Wheat	3 kg
Dal	500 g
Tea	250 g
Pepper	25 g

Car and Tractor

1. 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?

Ans. This can be done by keeping one of the toys in a pan and the other toy in another pan of the balance.

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2. Guess which is the heaviest-a real car, a bus or a tractor?

Ans. Abus.

3. Which is the heaviest thing you have seen?

Ans. A rail engine.

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Elephant's Weight

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

Ans. The elephant was removed out from the boat after marking the water level on the boat. Vaidika's daughter then requested the King to, put the gold on the

boat till the water level touched the raised water level mark when elephant was on the boat.

Now king was not left with any alternative. He had to give the gold as the weight of elephant to the Vaidika.

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How much the Chair Weighs

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

Ans. Anamika should put a flat wooden slab on the weighing machine, oh which chair can be kept easily, and record its weight. Then she should put the chair on the slab kept on the weighing machine.

The difference in the weight of the chair with wooden slab and weight of the wooden slab will give the weight of chair.

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Broken Stones

1. Now you show how Abdu will use these stone pieces to weigh—

(a) 4 kg of firewood

Ans. Abdu can weigh 4 kg of wood by keeping broken stone of 6 kg on the left pan and broken stone of 2 kg on the right pan with firewoods.

The difference = 6-2 = 4 kg, which will give the weight of firewood.

(b) 3 kg of firewood.

Ans. By keeping broken stone of 5 kg on left pan and broken stone of 2 kg on right pan with firewood.

The difference of weight = 5-2 = 3 kg, which will balance the two pan of balance by firewood.

(c) 7 kg of firewood.

Ans. By putting broken stone of 5 kg and 2 kg on left pan. And firewood on right pan.

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Post Office

Postal Rates	
Postal Items	*Postal Rates (in ₹)*
Single Post Card	0.50
Printed Post Card	6.00
Inland Letter	2.50
Letter weighing	
(*i*) 20 grams or less	5.00
(*ii*) For every additional 20 gms	2.00
Parcel weighing	
(*i*) 50 grams or less	5.00
(*ii*) For every additional 50 grams	3.00

1. Have you ever been to a post office?

Ans. Yes I have been to a post office.

2. What different things do people go there for?

Ans. People go there to post the letters, to send money orders, to parcels, for banking and to purchase the post cards, inland, envelop or stamps etc.

3. How much does a postcard cost?

Ans. A postcard costs Rs 0.50.

4. How much does an inland letter cost?

Ans. An inland letter costs Rs 2.50.

Look at the postal rates given in the chart.

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

Ans. Upto 20 grams the stamps required = Rs 5.00

For next 20 grams = Rs 2.00

For next 10 grams = Rs 2.00

Total stamps of cost = Rs 5.00 + Rs 2.00 + Rs 2.00

= Rs 9.00

So, I have to pay Rs 9.00 for stamps to send the letter weighing 50 grams.

6. 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.

Ans. To send the book Akash has to parcel it. He has to pay the costs for parcel as follows:

The weight of book is 200 grams

The cost of parcel upto 50 grams = Rs 5.00

The cost of additional 150 grams = Rs 3.00 x3 = Rs 9.00

Total cost = Rs 5.00 + Rs 9.00 = Rs 14.

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

Ans. The weighing machine showing the weight of parcel = 225 gram

Postal charges for 50 grams = Rs 5.00

For additional 50 grams = Rs 3.00

For next 50 grams = Rs 3.00

For next 50 grams = Rs 3.00

For next 50 grams = Rs 3.00

Total postal charges=Rs 5.00 + Rs 3.00 + 3.00 + Rs 3.00 + Rs 3.00

= Rs17.00

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How Many Stamps?

1. Rahul needs stamps of Rupees 25 for his parcel. He went to the post office. Only stamps of Rs 1,Rs 2,Rs 5 and Rs 10 were there at that time. Using those stamps in how many different ways can he make Rs 25?

Ans. The ways he can make Rs 25 using those available stamps –

(a) Rs l Rs 25 = Rs25

(b) Rs 2 Rs 12 + Rs 1 = Rs24 + Rs1 =Rs 25

(c) Rs 5 Rs 5 = Rs 25

(d) Rs 10 Rs 2 + Rs 5 = Rs 20 + Rs 5 = Rs 25

(e) Rs 10 + Rs 5 Rs 3 = Rs 10 + Rs 15 = Rs 25

Our Weight Together

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A frog was struggling to escape from the mouth of a crow. How can I escape? The frog thought. Suddenly a trick came to his mind. He asked the crow-Are you good at arithmetic? If yes, then I will ask you a problem.

Your weight is 650 g and I am only 145 g. How much do we weigh together? The crow was good at mathematics, so he happily opened his beak to answer.

1. What happened after that? So what was the ahswer the crow wanted to give?

Ans. To say the answer as crow opened his mouth, frog escaped out from his mouth, Crow gave the answer as-together our weight was 795 gm.

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Am I Fit or Fat?

The chart shows the height and weight of children between 6 and 10 years old.

Name	*Age*	*Height*	*Weight*
Temshula	6	3 feet, 7 inches	16 kg
Sreekunth	10	4 feet, 3 inches	23 kg
Rabiya	6	3 feet, 10 inches	17 kg
Vineet	8	3 feet, 11 inches	19.5 kg
Kavita	9	3 feet, 10 inches	20 kg

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

Ans. The name, age, height and weight of some of my friend is as follows;

Name	*Age*	*Height*	*Weight*
Anmol	8	4 feet, 5 inches	25 kg
Swarnim	6	4 feet, 3 inches	20 kg
Pankhuri	10	5 feet, 3 inches	35 kg
Shreya	8	4 feet, 1 inches	20 kg
Rahul	9	4 feet, 9 inches	22 kg

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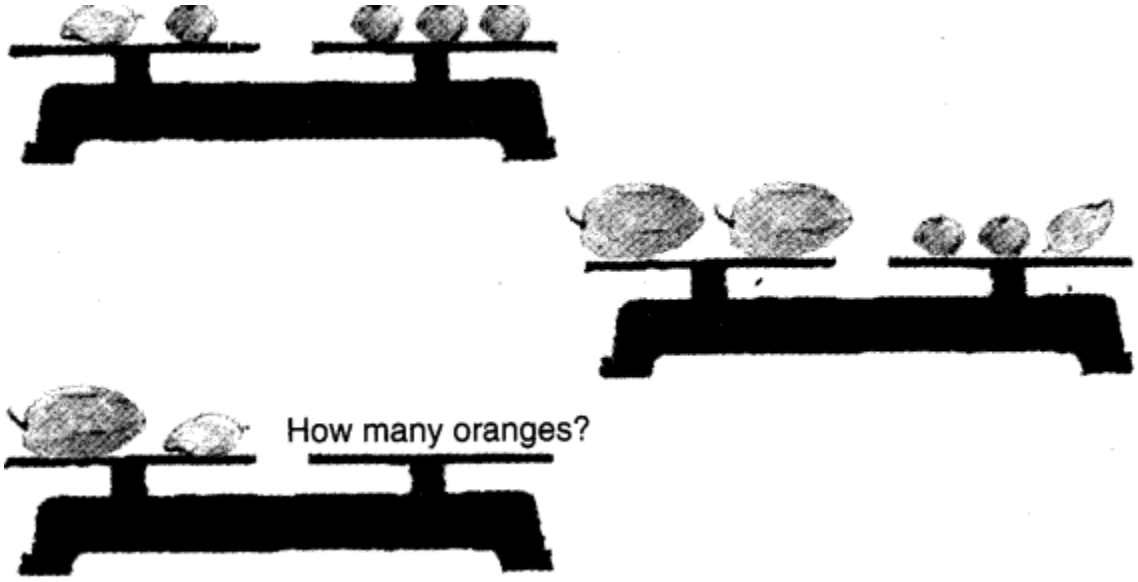
How Many Oranges?

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



Ans. In first balance-

1 Mango + 1 orange = 3 orange

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Therefore, 1 mango = 3 orange – 1 orange

= 2 orange

In second balance,

2 papaya = 2 orange + 1 mango

= 2 orange + 2 orange (Because 1 mango = 2 orange)

= 4 orange

Therefore, 1 papaya = 2

orange In third balance,

1 papaya + 1 mango = 2 orange + 2 orange (Because 1 papaya = 2 orange and 1 mango = 2 orange)

= 4 orange.

Hence, 4 oranges will balance the one papaya and together with one mango in third balance.

Find that Marble

1. 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.

Ans.

Let Ml, M2 and M3 be the three marbles. One of them is heavier or lighter than the others.

Put marbles Ml and M2 in different pans.

Case-I-If both will be equal, then M3 is heavier or lighter than these marbles.

Case-II-Put Ml and M3 in different pan,

(i) if they are equal then M2 is heavier or lighter.

(ii) Ml < M3, then M2 = M3 and Ml is lighter than Ml and M3.

Chapterwise NCERT Solutions for Class 4 Maths :

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