Weight & Mass

Master The Curriculum

1

Fluency & Reasoning Teaching Slides

Introduce Weight & Mass

1

Fluency & Reasoning Teaching Slides

www.masterthecurriculum.co.uk

Introduce Weight & Mass

What are these?
What are they used for?

Introduce Weight & Mass

If a balance scale is down, what does this mean?

Introduce Weight & Mass

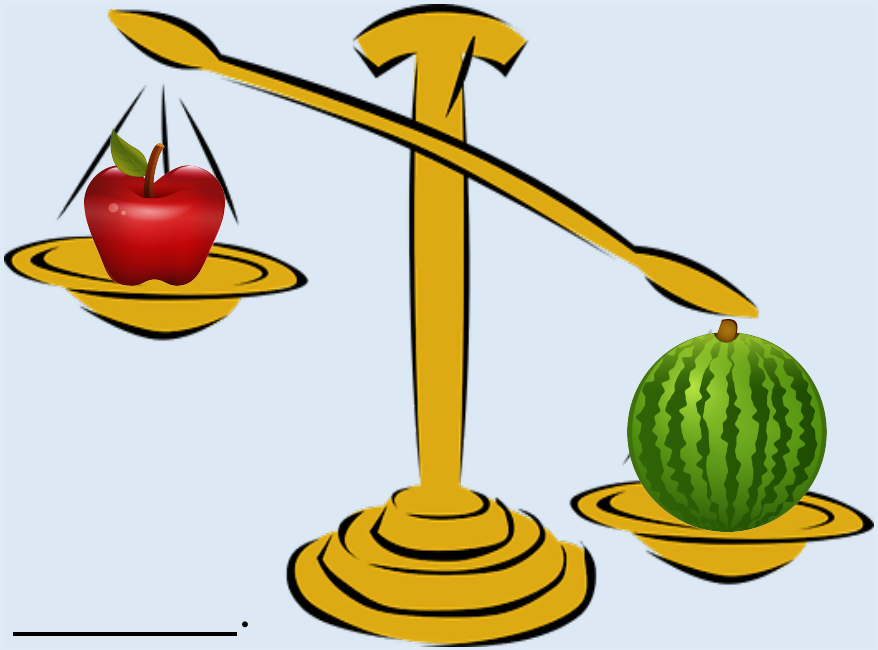
If a balance scale is up, what does this mean?

Introduce Weight & Mass

If a balance scale is level, what does this mean?

Activity 1 Introduce Weight & Mass

Look at the objects.



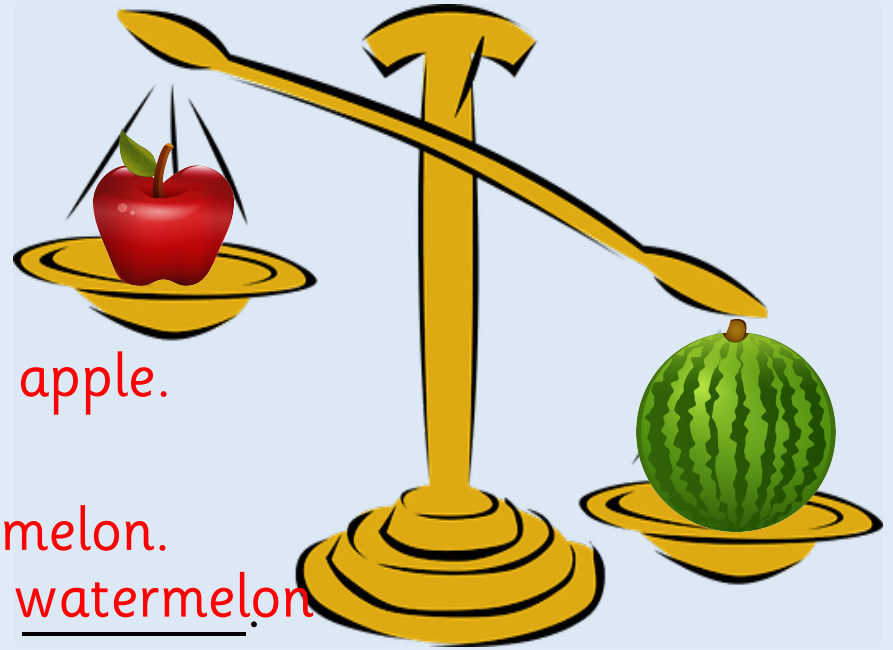
Which object is heavier?

Which object is lighter?

The _____ is heavier/lighter than the _____.

Activity 1 Introduce Weight & Mass

Look at the objects.



Which object is heavier?

The watermelon is heavier than the apple.

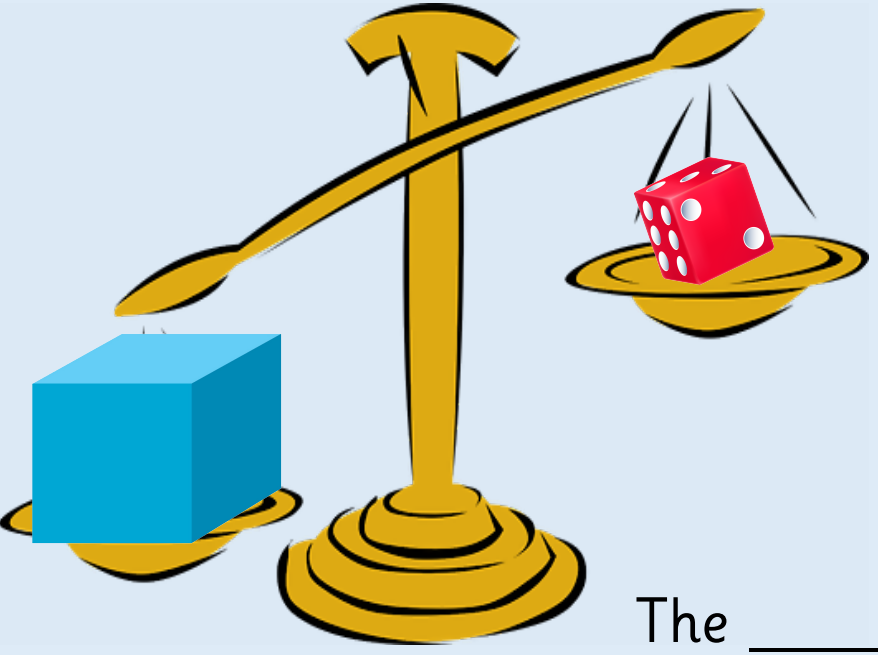
Which object is lighter?

The apple is lighter than the watermelon.

The apple is heavier/lighter than the watermelon.

Activity 1 Introduce Weight & Mass

Look at the objects.



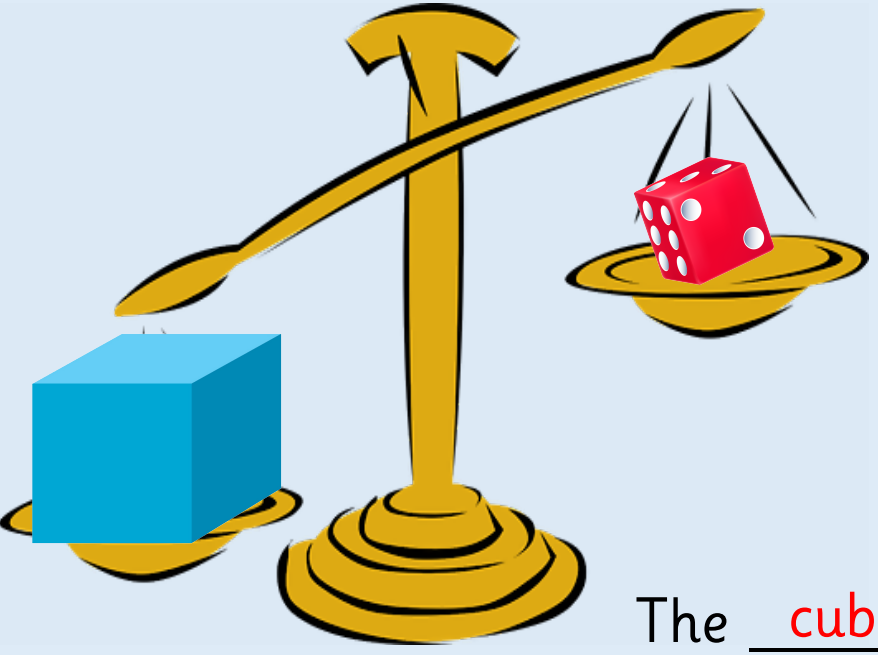
Which object is heavier?

Which object is lighter?

The _____ is heavier/lighter than the _____.

Activity 1 Introduce Weight & Mass

Look at the objects.



Which object is heavier?

The cube is heavier.

Which object is lighter?

The die is lighter.

The cube is heavier/lighter than the die.

Activity 1 Introduce Weight & Mass

**Choose two objects. Which is heavier?
Which is lighter? Can you be a human weighing scale?
Now use the weighing scale to check.**

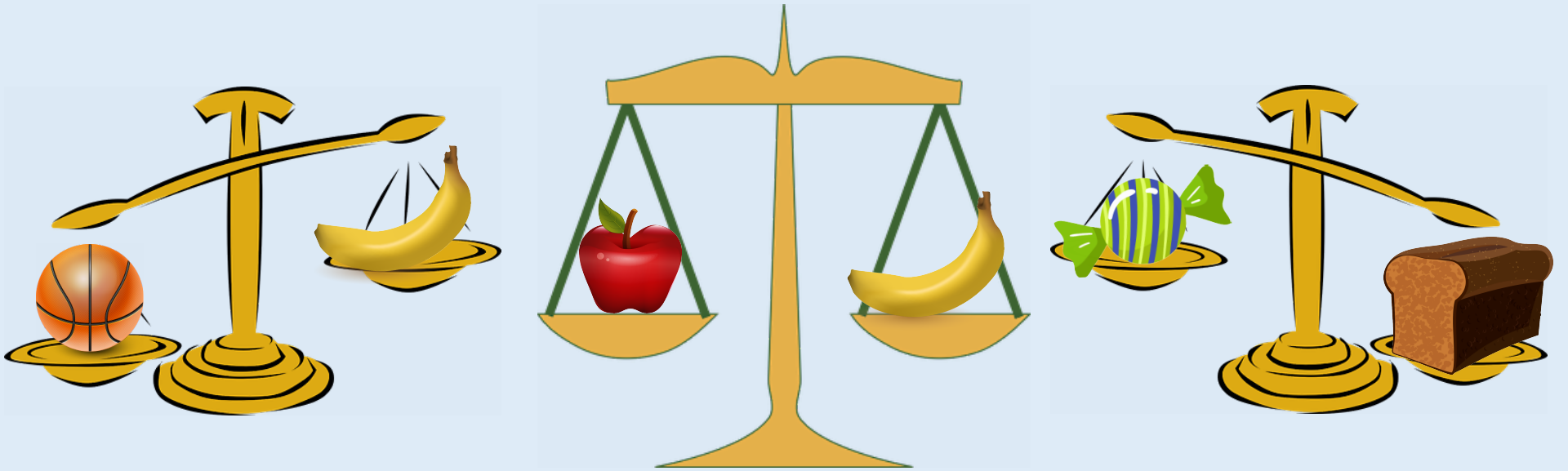
Which object is heavier? Which object is lighter?

The _____ is heavier/lighter than the _____.

Hold two objects, which is heavier/lighter?

Activity 2 Introduce Weight & Mass

Fill in the missing gaps to make the sentences correct.



The _____ is heavier than the _____.

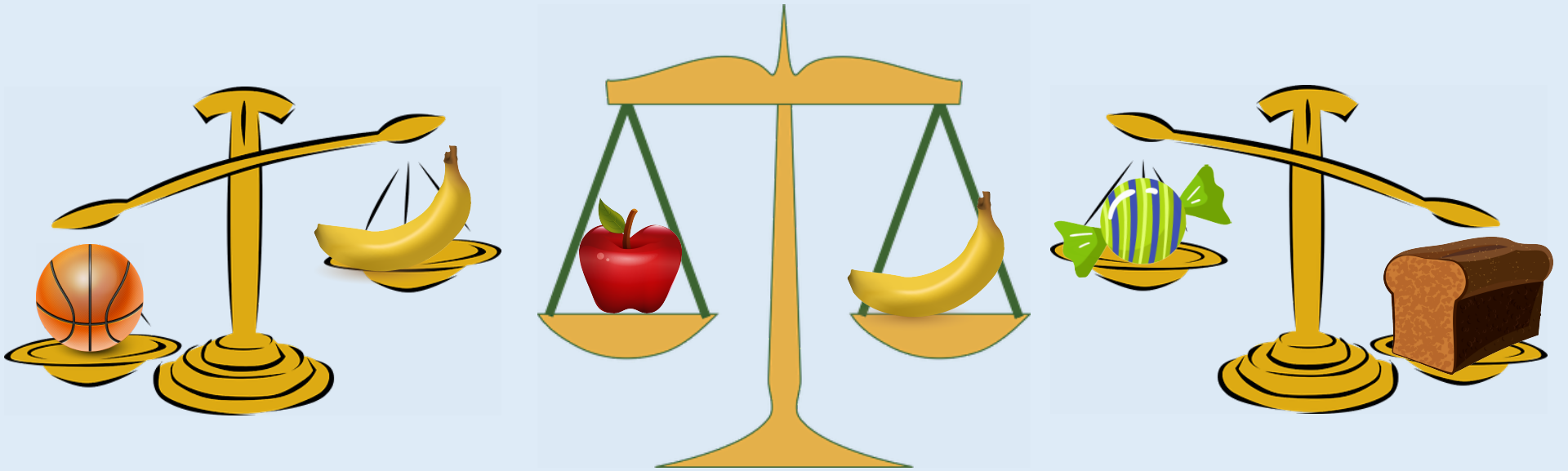
The _____ is lighter than the _____.

The _____ is equal to the _____.

Are larger objects always heavier than smaller objects?

Activity 2 Introduce Weight & Mass

Fill in the missing gaps to make the sentences correct.



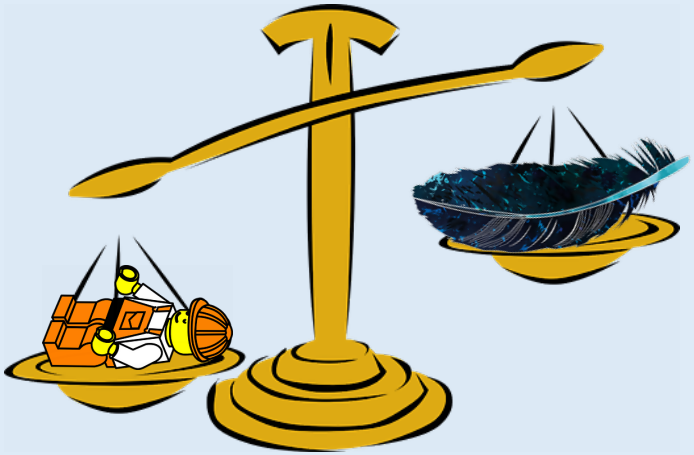
The ball is heavier than the banana.

The sweet is lighter than the bread.

The apple is equal to the banana.

Activity 2 Introduce Weight & Mass

Fill in the missing gaps to make the sentences correct.



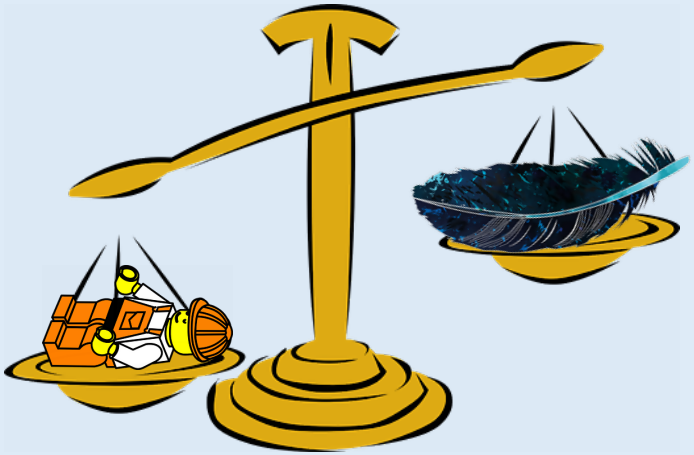
The _____ is heavier than the _____.

The _____ is lighter than the _____.

The _____ is equal to the _____.

Activity 2 Introduce Weight & Mass

Fill in the missing gaps to make the sentences correct.



The grapes is heavier than the cherry.

The feather is lighter than the toy.

The book is equal to the shoe.

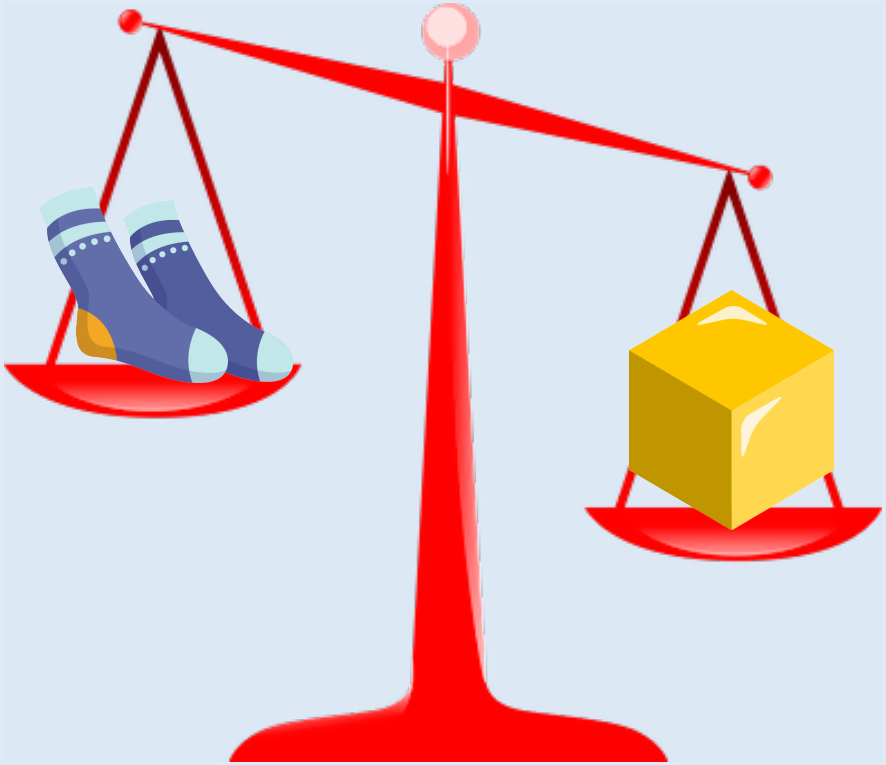
Activity 3 Introduce Weight & Mass

Collect different objects from around your classroom.
Use a balance scale to find the heaviest object.
Can you find 2 objects that are equal in mass?

Which of these objects is heavier?

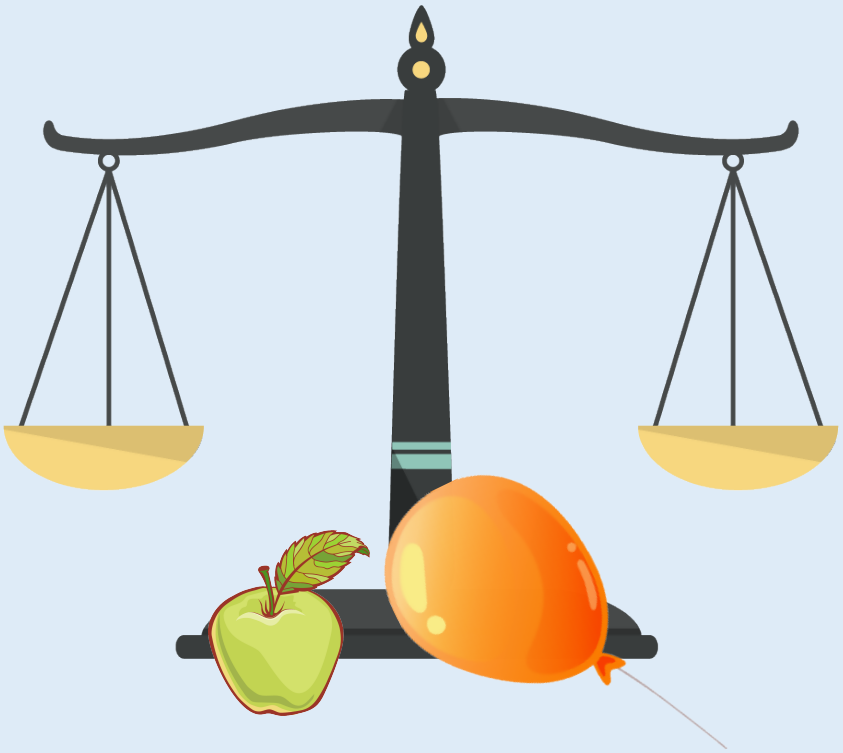
Activity 3 Introduce Weight & Mass

Collect different objects from around your classroom.
Use a balance scale to find the heaviest object.
Can you find 2 objects that are equal in mass?



Reasoning - 1 Introduce Weight & Mass

The class are seeing whether the apple or balloon will weigh more.



Reasoning - 1

Introduce Weight & Mass

Esin

The balloon will go up because it is lighter.

The balloon will be heavier because it is bigger than the apple.

Malachi

Leanna

The apple will go down because it is lighter.

The balance will be level because they are both round.

Zach

Who is correct?

Reasoning - 1 Introduce Weight & Mass

Esin 

The balloon will go up because it is lighter.

Esin is correct. However her explanation needs to be clearer.
She should say the balloon will go up because it is lighter than the apple.

Children should practice using vocabulary such as heavier than and lighter than when comparing objects alongside talking about the movement of the scale.

Children should be encouraged to explain why the others are incorrect.

Reasoning - 2 Introduce Weight & Mass

I'm thinking of an object. It is heavier than a crayon, but lighter than a dictionary.

What object could Rosie be thinking of? Prove it.
How many objects can you think of?

Reasoning - 2 Introduce Weight & Mass

I'm thinking of an object. It is heavier than a crayon, but lighter than a dictionary.

Children will use a balance scale to find objects that are heavier than a crayon, then check that their chosen objects are lighter than the dictionary.

Discussion

Introduce Weight & Mass

Hold two objects, which is heavier/lighter?
How do you know? How can we prove this?

Are larger objects always heavier than smaller objects?

If the balance scale is down, what does that tell us?
If the balance scale is up, what does that tell us?
If the balance is level, what does that tell us?

Which of these objects is heavier? How do you know?
How will this be shown on the weighing scale?

Measure Mass

1

Fluency & Reasoning Teaching Slides

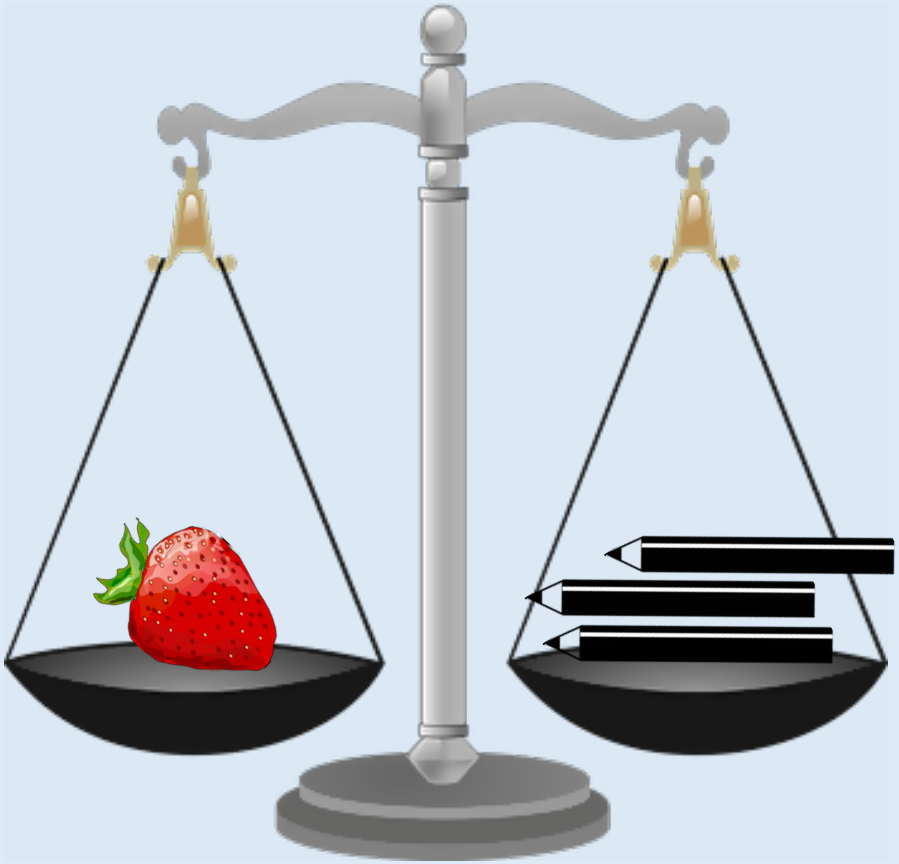
www.masterthecurriculum.co.uk

Measure Mass

What other objects could we use to weigh and compare the mass of an object?

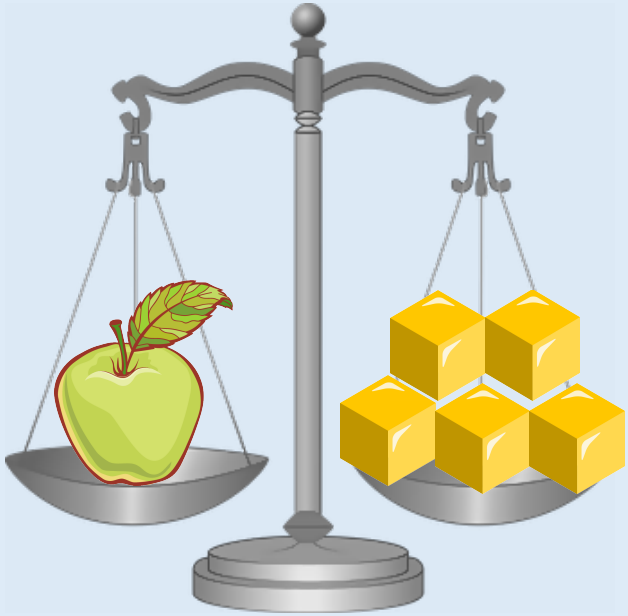
Measure Mass

1 strawberry weighs the same as 3 pencils



Activity 1 Measure Mass

How many cubes does the apple weigh?

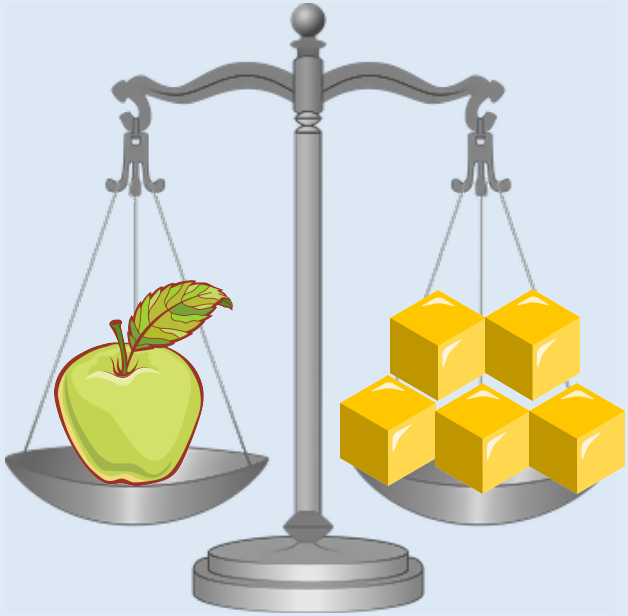


The _____ weighs the same as _____ cubes.

When the scales are balanced, what does this mean?

Activity 1 Measure Mass

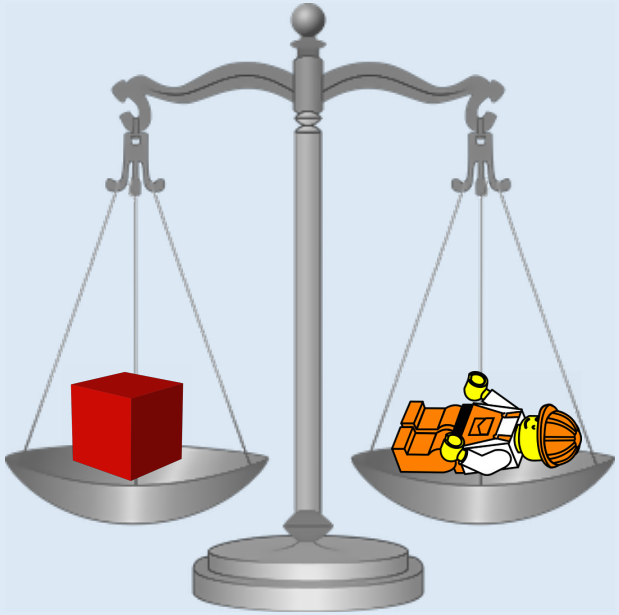
How many cubes does the apple weigh?



The apple weighs the same as five cubes.

Activity 1 Measure Mass

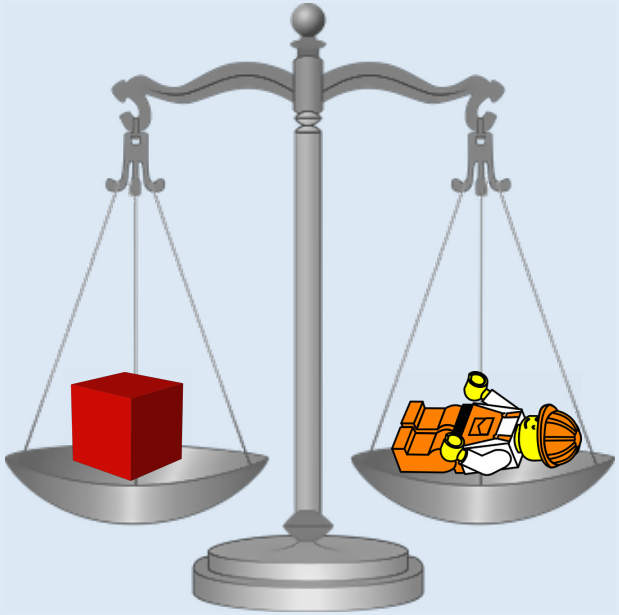
How many cubes does the toy weigh?



The _____ weighs the same as _____ cube.

Activity 1 Measure Mass

How many cubes does the toy weigh?



The _____toy_____ weighs the same as _____one_____ cube.

Activity 2 Measure Mass

Weigh an object using cubes and then weigh the same object using different non-standard units. Record your findings.

What do you notice?
Which non-standard unit was the best to use? Why?
Which non-standard unit was not good to use? Why?

? *How many _____ weigh the same as one _____?*

Activity 2 Measure Mass

Weigh an object using cubes and then weigh the same object using different non-standard units. Record your findings.

The three cubes and the box weighs the same.

Activity 3 Measure Mass

Which non-standard units would be the best to measure the mass of a heavy book? Why?

Counters

Wooden blocks

Pencils

How do you know?

Activity 3 Measure Mass

Which non-standard units would be the best to measure the mass of a heavy book? Why?

Counters

Wooden blocks

Pencils

The wooden blocks would best measure the mass of a heavy book.

Activity 4 Measure Mass

How many cubes does the gingerbread man weigh?
How do you know?

What would happen if I took away one of the cubes?
What would happen if I added an extra cube?

Activity 4 Measure Mass

How many cubes does the gingerbread man weigh?
How do you know?

The mass of the gingerbread man = 5 cubes

What would happen if I took away one of the cubes?

The cubes will go up because it is now lighter than the gingerbread man.

What would happen if I added an extra cube?

The cubes will go down because it is now heavier.

Activity 5

Measure Mass

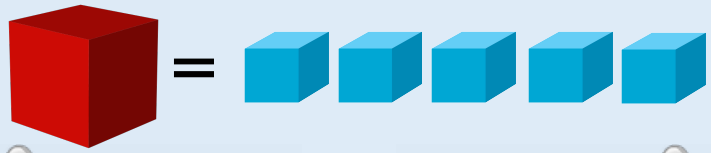
Do we need more or less cubes to make the scale balance?

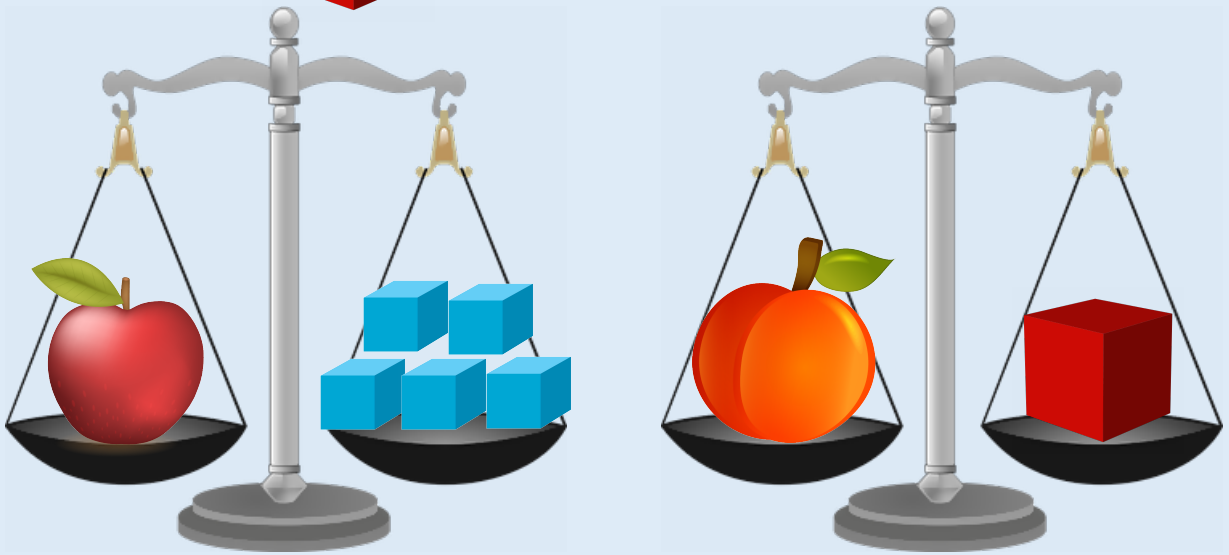
Activity 5 Measure Mass

Do we need more or less cubes to make the scale balance?

We need less cubes to make the scale balance.

Reasoning - 1 Measure Mass





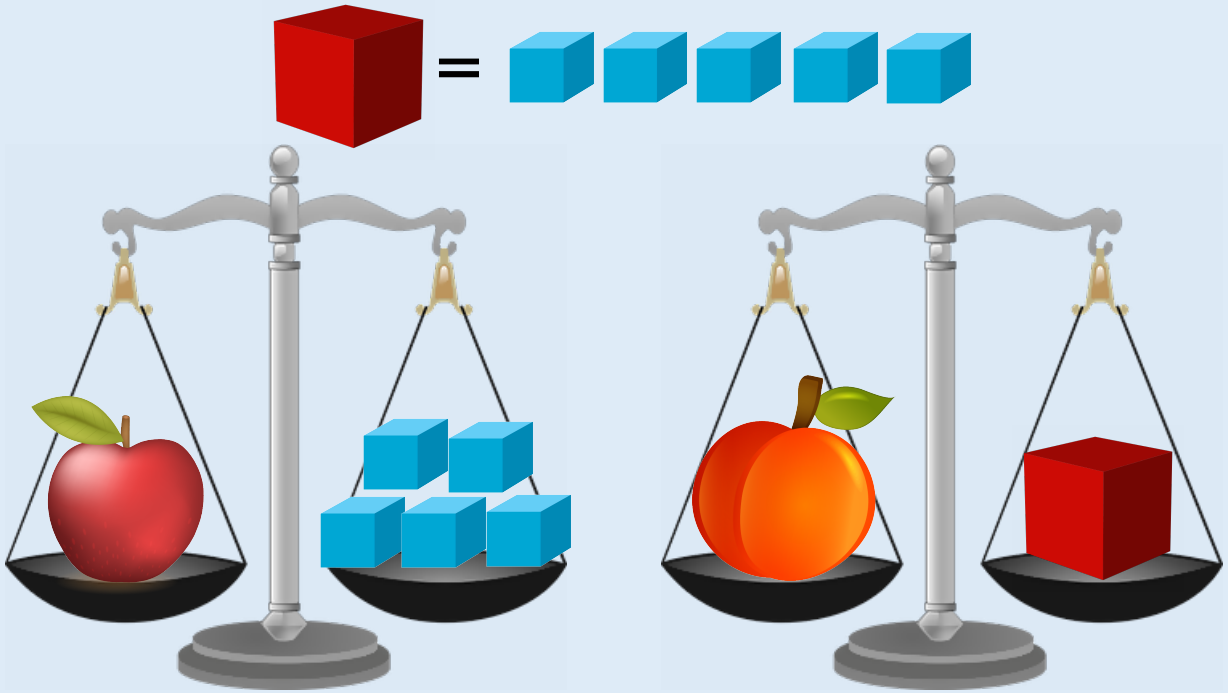
Zach

The apple and the peach weigh the same.

The apple is heavier than the peach, because it weighs 5 cubes.

Malachi

Reasoning - 1 Measure Mass



Possible answer:

I agree with Zach, because 1 big red cube weighs the same as 5 cubes so the apple and the peach weigh the same.

Reasoning - 2 Measure Mass

How many cubes does the teddy bear weigh?
Explain how you know.

Reasoning - 2 Measure Mass

The teddy bear weighs 5 cubes. I can take 2 cubes off of each side of the scale and it will still balance.

Discussion

Measure Mass

When the scales are balanced, what does this mean?
How many _____ weigh the same as one _____?

If I add one more cube to this side, what will happen?
How do you know? What if I take a cube away?

Which classroom objects are the best units to measure with?
Why?

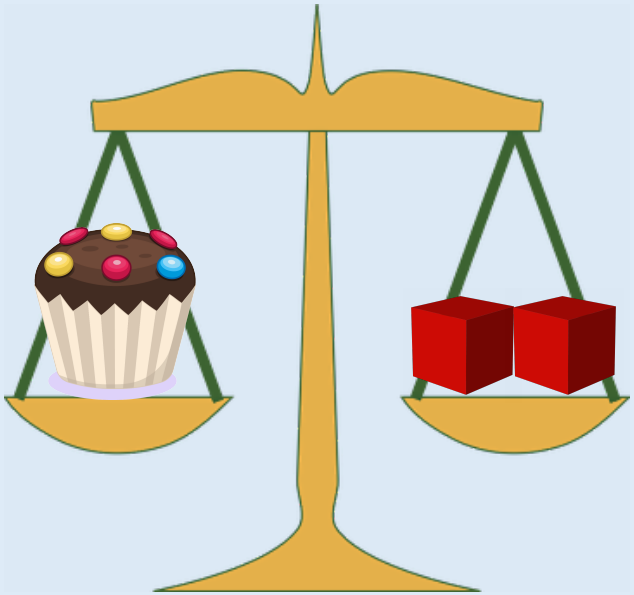
Compare Mass

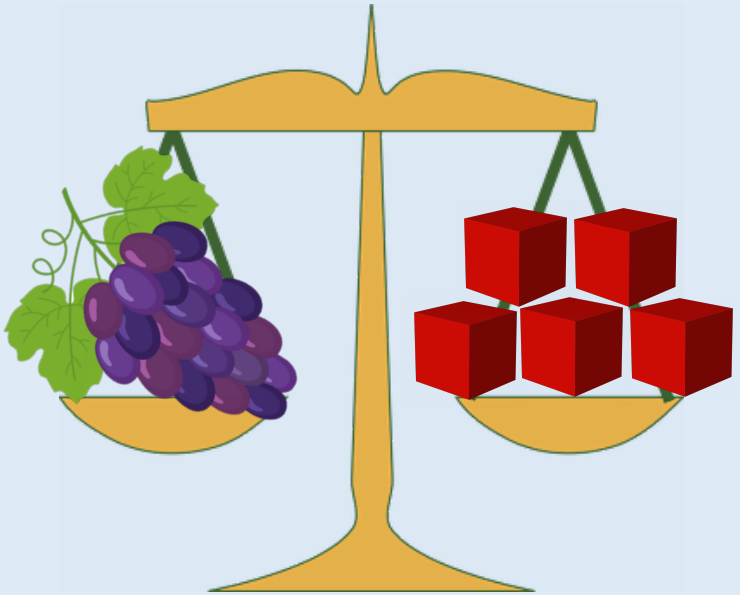
1

Fluency & Reasoning Teaching Slides

Activity 1 Compare Mass

Complete the sentences below.





The cupcake weighs _____ cubes.

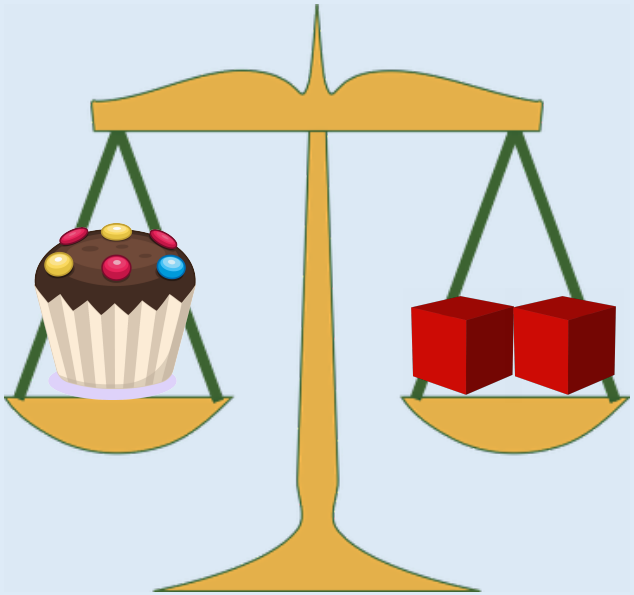
The grapes weigh _____ cubes.

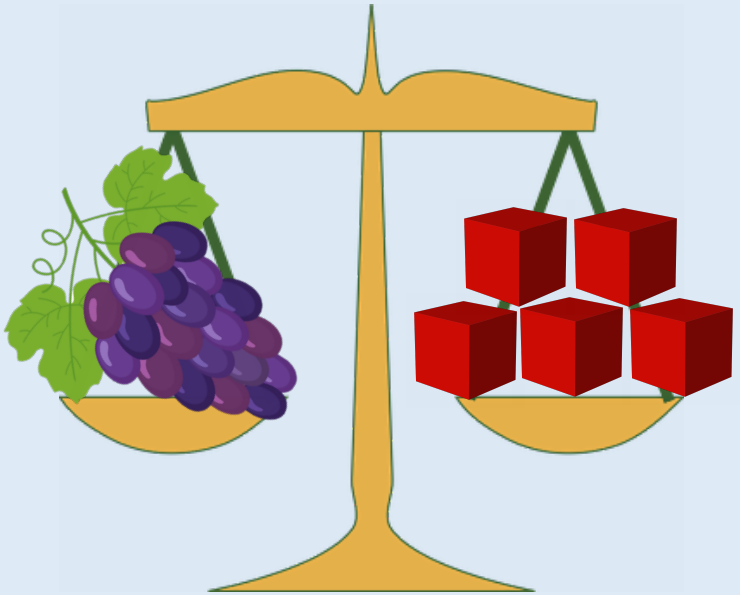
The cupcake is _____ than the grapes. (*heavier/lighter*)

How many cubes weigh the same as _____?

Activity 1 Compare Mass

Complete the sentences below.





The cupcake weighs 2 cubes.

The grapes weigh 5 cubes.

The cupcake is lighter than the grapes. (*heavier/lighter*)

Activity 1 Compare Mass

Complete the sentences below.

The banana weighs _____ cubes.

The teddy weighs _____ cubes.

The banana is _____ than the teddy. (*heavier/lighter*)

The mass of the banana is _____ than the mass of the teddy.

Activity 1 Compare Mass

Complete the sentences below.

The banana weighs 7 cubes.

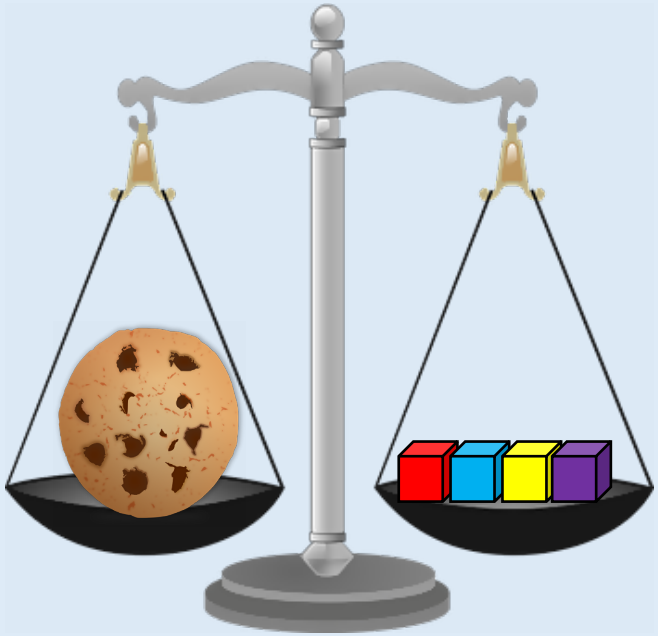
The teddy weighs 10 cubes.

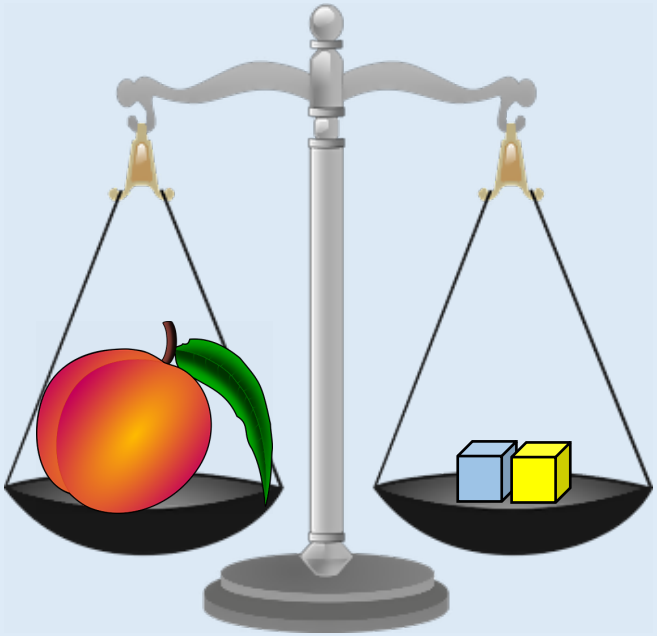
The banana is lighter than the teddy. (*heavier/lighter*)

The mass of the banana is less than the mass of the teddy.

Activity 1 Compare Mass

Complete the sentences below.





The cookie weighs _____ cubes.

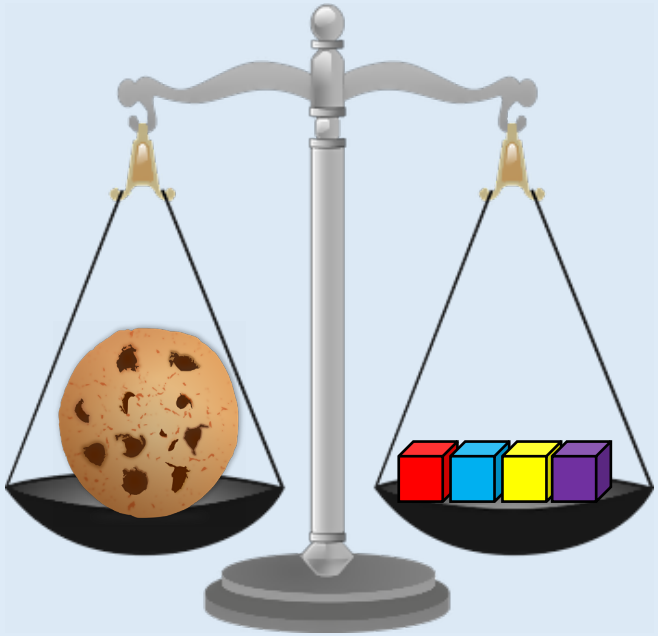
The peach weighs _____ cubes.

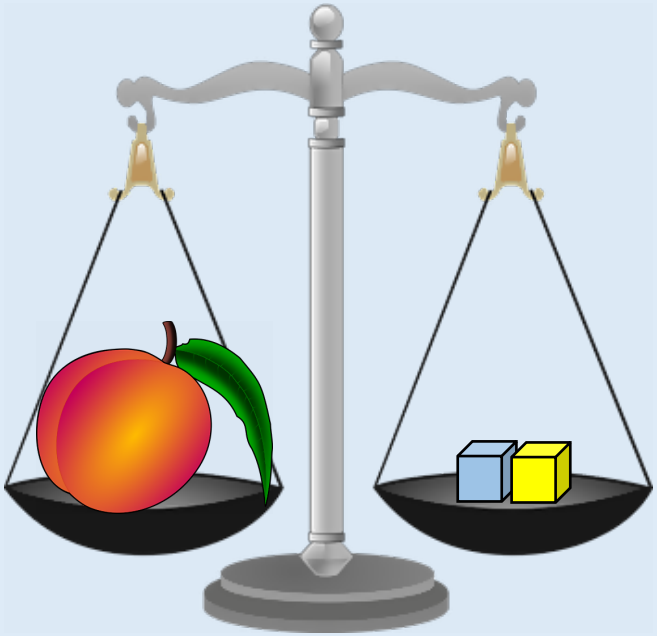
The cookie is _____ than the peach. (*heavier/lighter*)

The mass of the cookie is _____ the mass of the peach.

Activity 1 Compare Mass

Complete the sentences below.





The cookie weighs 4 cubes.

The peach weighs 2 cubes.

The cookie is heavier than the peach. (*heavier/lighter*)

The mass of the cookie is half the mass of the peach.

Activity 2 Compare Mass

Can you order the objects from heaviest to lightest?

= 3 pencils

ball

= 4 pencils

sock

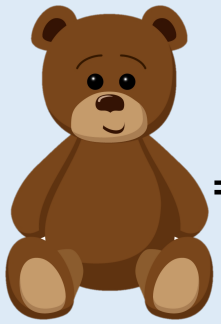
= 8 pencils

Teddy Bear

Can we order the objects from heaviest to largest?

Activity 2 Compare Mass

Can you order the objects from heaviest to lightest?



= 8 pencils

Teddy Bear

= 4 pencils

sock

= 3 pencils

ball

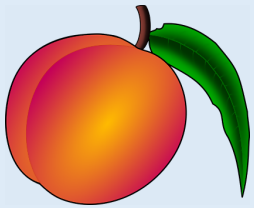
Order from heaviest to lightest.

Activity 2 Compare Mass

Can you order the objects from heaviest to lightest?

= 5 cubes

cookie



= 8 cubes

peach

= 11 cubes

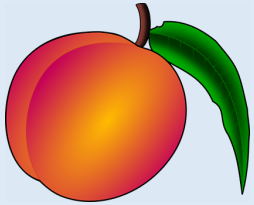
fidget spinner

Activity 2 Compare Mass

Can you order the objects from heaviest to lightest?

= 11 cubes

fidget spinner



= 8 cubes

peach

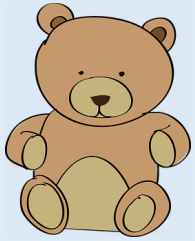
= 5 cubes

cookie

Order from heaviest to lightest.

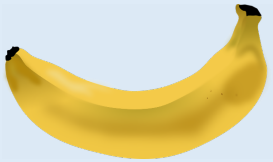
Activity 2 Compare Mass

Can you order the objects from lightest to heaviest?



= 2 pencils

teddy



= 4 pencils

banana

= 1 pencil

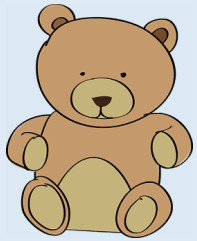
hat

Activity 2 Compare Mass

Can you order the objects from lightest to heaviest?

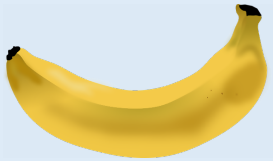
= 1 pencil

hat



= 2 pencils

teddy



= 4 pencils

banana

Activity 2 Compare Mass

Can you order the objects from lightest to heaviest?

= 5 sharpeners

pear

= 2 sharpeners

rose

= 3 sharpeners

ball

Activity 2 Compare Mass

Can you order the objects from lightest to heaviest?

= 2 sharpeners

rose

= 3 sharpeners

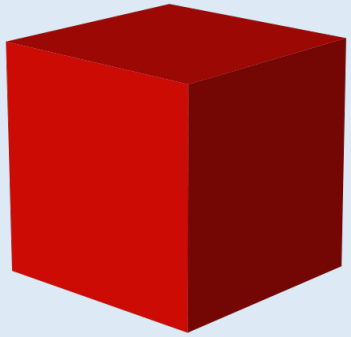
ball

= 5 sharpeners

pear

Activity 3 Compare Mass

Using cubes, find the mass of 4 objects.
Order from lightest to heaviest.



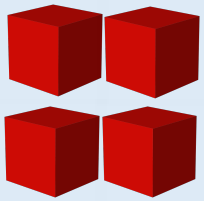
Which object is heavier? Which object is lighter?

Activity 3 Compare Mass

Using cubes, find the mass of 4 objects. Order from lightest to heaviest.

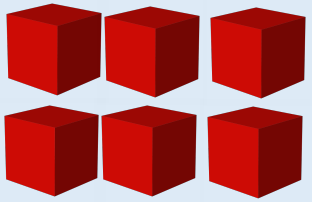
3rd

=



4th

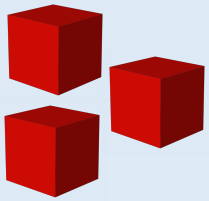
=



Example

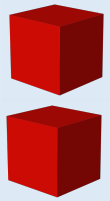
2nd

=



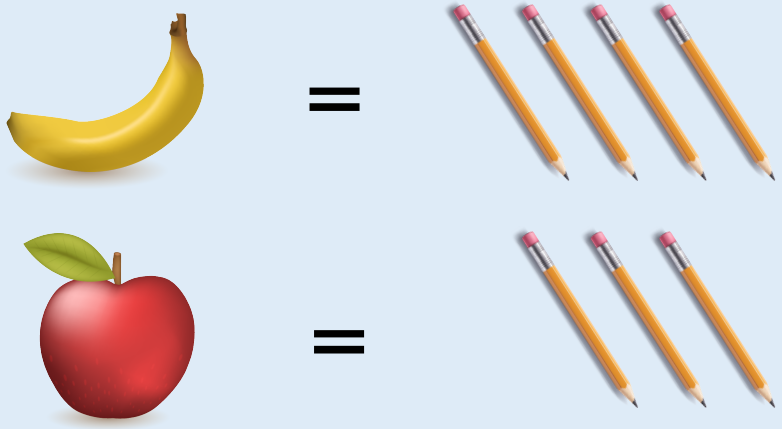
1st

=



Reasoning - 1 Compare Mass

Complete the sentences below:



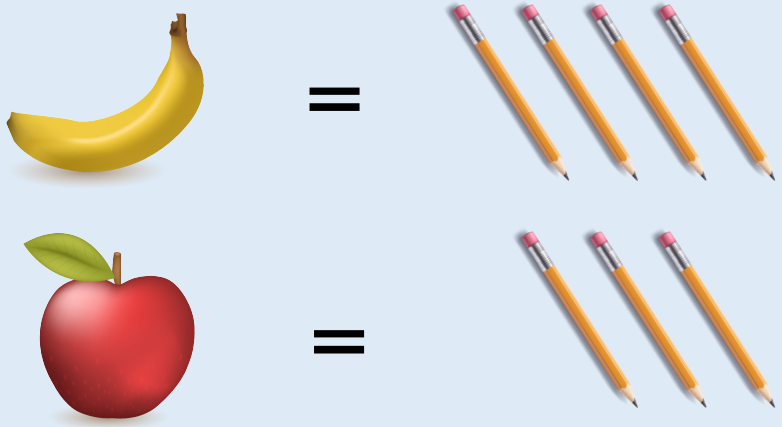
The _____ is heavier than the _____.

The _____ is lighter than the _____.

The _____ weighs _____ pencils.

Reasoning - 1 Compare Mass

Complete the sentences below:



The banana is heavier than the apple.

The apple is lighter than the banana.

The banana weighs four pencils.

Reasoning - 2 Compare Mass

Can you match the clue to the images?

- My object weighs more than the van.
- My object is less than 4 cubes.
- My object is not the heaviest or the lightest.

Reasoning - 2 Compare Mass

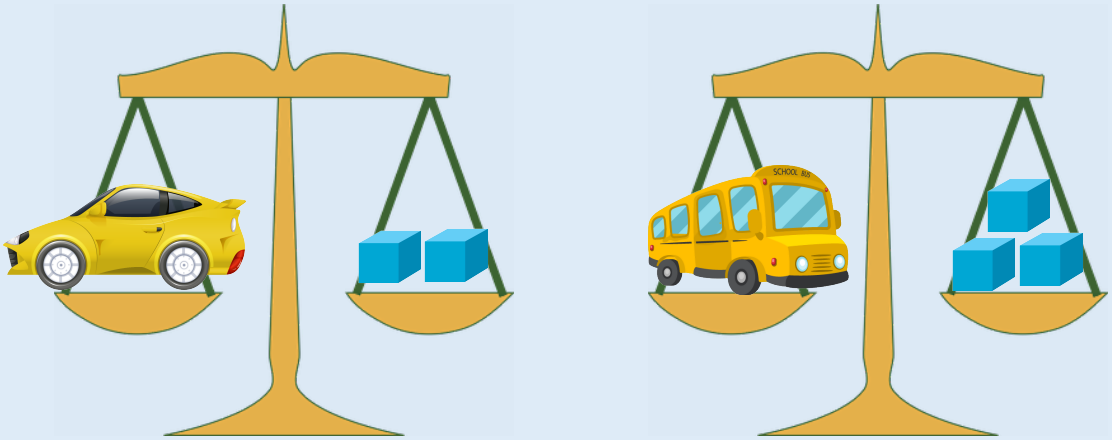
Can you match the clue to the images?

- My object weighs more than the van.
- My object is less than 4 cubes.
- My object is not the heaviest or the lightest.

- Bus
- Teddy / Van
- Van

Reasoning - 3 Compare Mass

Look at the balance scales below.



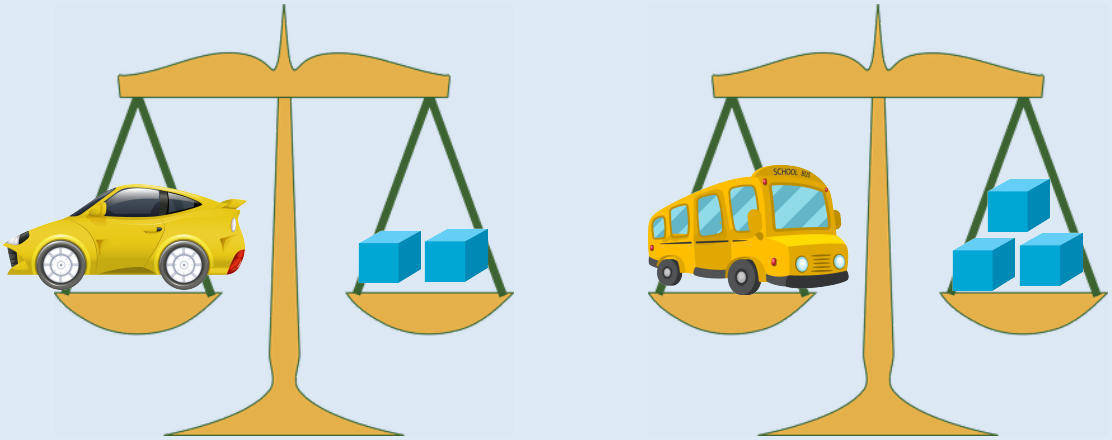
Which statements are true?

- The car is heavier than the bus.
- The bus is heavier than the car.
- The car is lighter than the bus.
- The bus is lighter than the car.
- The car and bus weigh the same amount.

Can you make a problem like this for your partner?

Reasoning - 3 Compare Mass

Look at the balance scales below.



Which statements are true?

F • The car is heavier than the bus.

T • The bus is heavier than the car.

T • The car is lighter than the bus.

F • The bus is lighter than the car.

F • The car and bus weigh the same amount.

Discussion

Compare Mass

How many cubes weigh the same as _____?

Which objects is heavier? Which object is lighter?

Can we order the objects from heaviest to largest?

Explain why it is important to use the same non-standard unit if we want to compare the mass of two objects.