Week (8.6.20 – 12.6.20) overview – Forces Part 2

Hello Year 5!
We hope you are all still keeping well and safe at home. As we have welcomed back the Year 6s this week, we are still thinking of you all and missing you in school. Here is an overview for this week which carries on our learning around Forces.
Again we've tried to create some learning here that requires less / no screens. Nearly all the sheets enclosed can be done without using a screen. That said, the use of the internet here will teach more or clarify. The Education City online task before any sheets here will, most likely, be beneficial. If/when using Education city online, the tasks are also in the "My Classwork" folder ready and waiting to be used.

Remember to let us know how you are getting on and please do email us with any questions or queries or to show us the work that you have done. We love hearing from you.

Many thanks and best wishes, The Year 5 team

Day	Subject	Name of Activity	What are we learning? Description of what to do (only if needed – most of this is obvious from the sheet but look here if stuck)
1	Reading	Newton and Gravity Fact Sheet	**Can I summarise what I have read?** Read through the fact sheet carefully. Underline and clarify any words that you do not know the meaning of. Write a summary of what you have read in under 100 words.
1	Writing	Stig on Tour Ed City (TF☺)	**Can I use the correct subject and verb agreement when using singular and plural words?**
1	Maths	Baker's Dozen Part 1 Ed City (TF☺)	**Can I identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers?** Read the reminder first to help you know what a factor is and a common factor.
1	Science	Bounce Factor	**Can I explore the effect of different surfaces on a bouncing ball?** An investigation into how different surfaces effects how high different balls will bounce.
2	Writing	What a trip Ed City (TF ☺)	**Can I Identify the use of incorrect verbs within a text and edit these to make the text grammatically accurate?**
2	Reading	Newton and Gravity Fact Sheet Questions	**Can I answer retrieval and inference questions?** Answer the questions based on the reading from yesterday.
2	Science	Who's got the Fastest Car?	**Can I explore the effects of friction on different surfaces?** Pushing a toy car along different surfaces to see which is the smoothest.
2	Maths	Baker's Dozen Part 2 Ed City(TF☺)	**Can I identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers?** Read the reminder first to help you know what a factor is and a common factor.
3	Reading	An Audience with Isaac Newton Ed City (TF ☺)	**Can I keep a positive attitudes to reading and understand what I have read?** Try the activity online if you can, and then read through and learn to perform the poem or play about Isaac Newton. You will be performing this tomorrow so make sure you understand all of the words ready to perform.
3	Writing	Gravity	**Can I gather ideas for writing a diary?** Looking at a picture to get ready to write a diary on Friday. Draw a similar picture of a classroom.
3	Maths	Number Cruncher Ed City (TF ☺)	**Can I solve problems using my knowledge of factors and multiples, squares and cubes?**

			This activity will get you using cube and square numbers. Read the reminder first to help you know what a square and a cube number is.
3	Music		**Can I explore how music makes me feel?** Listening to "Mars" by Gustav Holst and responding in your own way.
4	Reading	An Audience with Isaac Newton.	**Can I read and perform a poem and / or a play?** From your reading yesterday, prepare a performance for your family of either the poem or the play, or both! Can you learn some of it off by heart? Do you need to make any props or resources to add to your performance?
4	Writing	Gravity	**Can I plan my ideas for writing a diary?** Planning and preparing for writing a diary entry based on the picture called Gravity
4	Maths	Opti-Maths Prime Ed City (TF ☺)	**Can I establish whether a number up to 100 is prime and recall prime numbers up to 19?** Read the reminder first to help you know what a prime number is.
4	Science	How to make a parachute	**Can I explore the effects of air resistance?** How to make a parachute and explore how to make fall it different speeds.
	Reading	Teddy time reading	Take some time to read your reading book or whatever you are reading at present to your teddy bear / pet / relative over an online chat / someone at home.
5	Writing	Gravity	**Can I write a diary entry?** Writing the diary, based on the picture Gravity, that you have planned for yesterday.
5	Maths	Multiplication Skills catch up	The Master and Master Master question sheets have been included in this pack – can you do them each correctly? Can you do them in less than 5 minutes? Then use Mathletics or Education city (see below) **Can I practice an area of learning I am finding hard?** **USE MATHLETICS FOR THIS – NOTHING IN THE PACK TO GO WITH THIS** Use Mathletics to work on an area of learning you find challenging – fractions perhaps or converting measures – two areas that many of you find a challenge.
5	Science	Egg Drop Challenge	**Can I use what I know about forces to design a system to protect an egg?** Use whatever materials you might have at home to create a system for dropping an egg from a height without it breaking or cracking. Make sure you talk to an adult about your plans before you start!

Useful Websites to accompany the learning for this week

Description	**Link –** easy to click on an onscreen copy, but if working from a paper copy the TinyURL will take you to the same place and is less complicated to type in	**Tiny URL** – shorter link, easier to type in if working from a paper copy
BBC website to help with maths learning this week: Factors and common factors	https://www.bbc.co.uk/bitesize/topics/zfq7hyc/articles/zp6wfcw https://www.bbc.co.uk/bitesize/topics/z6j2tfr/articles/z72r97h	http://tinyurl.com/y6gwlshd http://tinyurl.com/y78voot5
Square and cubed numbers – bbc website	https://www.bbc.co.uk/bitesize/topics/zyhs7p3/articles/z2ndsrd	http://tinyurl.com/y6cn3kgl
Prime Numbers – bbc website	https://www.bbc.co.uk/bitesize/topics/zfq7hyc/articles/z2q26fr	http://tinyurl.com/y7owg9v9

Holst's Planets Music link	https://www.bbc.co.uk/programmes/p02fls7d	http://tinyurl.com/y7myzfkd
Introduction to Gravity, links to other vocabulary	https://www.bbc.co.uk/bitesize/topics/zf66fg8	https://tinyurl.com/ydxdy88l
Explanations of different forces	https://www.dkfindout.com/uk/science/forces-and-motion/what-is-force/	https://tinyurl.com/y83xduqg

Maths reminders for this week

Square numbers

A square number is a number multiplied by itself. This can also be called 'a number squared'. The symbol for squared is ².

$2^2 = 2 \times 2 = 4$

$3^2 = 3 \times 3 = 9$

$4^2 = 4 \times 4 = 16$

$5^2 = 5 \times 5 = 25$

The square numbers up to 100 are: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100

Cube numbers

A cube number is a number multiplied by itself 3 times. This can also be called 'a number cubed'. The symbol for cubed is ³.

$2^3 = 2 \times 2 \times 2 = 8$

$3^3 = 3 \times 3 \times 3 = 27$

$4^3 = 4 \times 4 \times 4 = 64$

$5^3 = 5 \times 5 \times 5 = 125$

The cube numbers up to 100 are: 1, 8, 27, 64

Prime numbers

Prime numbers are special numbers that can only be divided by **themselves** and **1**.

19 is a prime number. It can only be divided by 1 and 19.

9 is not a prime number. It can be divided by 3 as well as 1 and 9.

The prime numbers below 20 are: 2, 3, 5, 7, 11, 13, 17, 19.

Don't forget: the number 1 is not thought of as a prime number.

Factors

Factors are numbers that divide exactly into another number.

For example, the factors of 8 are:

1, 2, 4, 8

Factors can be shown in pairs. Each pair multiplies to make 8.

The factor pairs of 8 can be shown:

1 x 8 = 8

2 x 4 = 8

A **common factor** is a number that can be divided into two different numbers, without leaving a remainder.

Often numbers can share more than one common factor.

It is possible to find the common factors of more than two numbers.

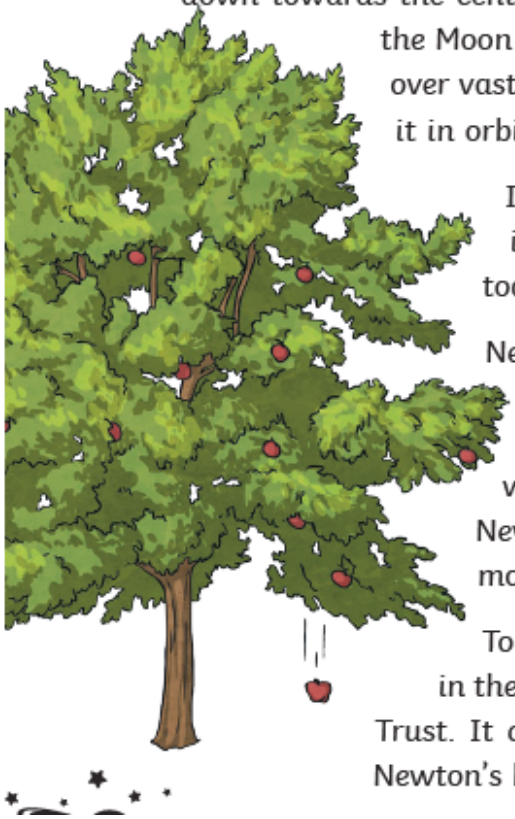
Newton and Gravity Fact Sheet

Isaac Newton was an English scientist and mathematician. He made many discoveries in his lifetime. One of the most important and influential discoveries that he made was the law of gravity.

Newton was born in 1643 at Woolsthorpe Manor in Lincolnshire. He worked hard at school, and was accepted to study at Cambridge University. He worked there for many years, but in 1665, the plague broke out and he was forced to move back to Woolsthorpe Manor.

While Newton was in the garden at Woolsthorpe Manor one day, he saw an apple fall from a tree. Some say it fell on his head but there is no evidence that this definitely happened. The sight of the apple falling down from the branch to the ground inspired Newton to think about the way it fell. Years later, he told his friend William Stukeley that he wondered why the apple fell down rather than sideways or upwards. He concluded there must be a 'drawing power' in the Earth and that 'the sum of the drawing power must be in the Earth's centre, not in any side of the Earth.'

Newton spent a lot of time thinking hard about the force of gravity, and how it pulls objects down towards the centre of the Earth. He was particularly interested in the way the Moon orbits the Earth, and he reasoned that gravity must extend over vast distances, pulling the Moon towards the Earth and keeping it in orbit.



In 1687, Newton published his discoveries about gravity in his famous book, The Principia. His findings are known today as Newton's Law of Universal Attraction.

Newton died in 1727, but his legacy lives on. All forces are measured in newtons (N), using a newton meter – both of which are named after Isaac Newton. Even Albert Einstein, writing in 1927, 200 years after Newton's death, described Newton as a 'shining spirit', and claimed he had one of the most brilliant minds of anybody who had ever lived.

Today, the apple tree that inspired Newton's ideas still grows in the gardens at Woolsthorpe Manor, now owned by the National Trust. It can be seen from the window of the room that was Isaac Newton's bedroom.

Can I summarise what I have read?

Read through the fact sheet (see previous page) carefully. Underline and clarify any words that you do not know the meaning of. Write a summary of what you have read. Remember a summary tells someone the main ideas. It doesn't need to include all of the facts.

You could use these sentence starters to help you…

Isaac Newton was….

His most famous discovery was…

Today he is remembered as…

Stig on Tour
Activity Sheet

EducationCity

Name: _____ Class: _____

Read the facts below. Cross out the verb that does not agree with the subject.

1. Romans [**were** / **was**] remarkable engineers and architects. They built amphitheatres and roads that we can still see evidence of today.

2. Egyptian kings, such as Tutankhamun, [**was** / **were**] buried in tombs inside giant pyramids.

3. When stars collapse in on themselves, their gravitational pull increases. This creates a dense space where nothing, not even light, can escape. These areas in space [**is** / **are**] called black holes.

4. Queen Elizabeth II [**are** / **is**] Britain's longest reigning monarch. Interestingly, she [**are** / **is**] the only person in the UK who is legally allowed to drive without a driving licence.

5. Virtual reality [**are** / **is**] a computerised environment made up of three-dimensional images.

6. Turtles [**has** / **have**] an extremely long life span, often living past one hundred.

7. Black bears [**is** / **are**] found in many countries, including Canada.

8. Hong Kong [**has** / **have**] over 300 skyscrapers, more than any other city in the world.

Stig on Tour

Activity Sheet

Name: _____ Class: _____

Now write your own facts about something you have been studying.
Underline the subject and verb agreement in each fact.

1. _____
2. _____
3. _____
4. _____
5. _____

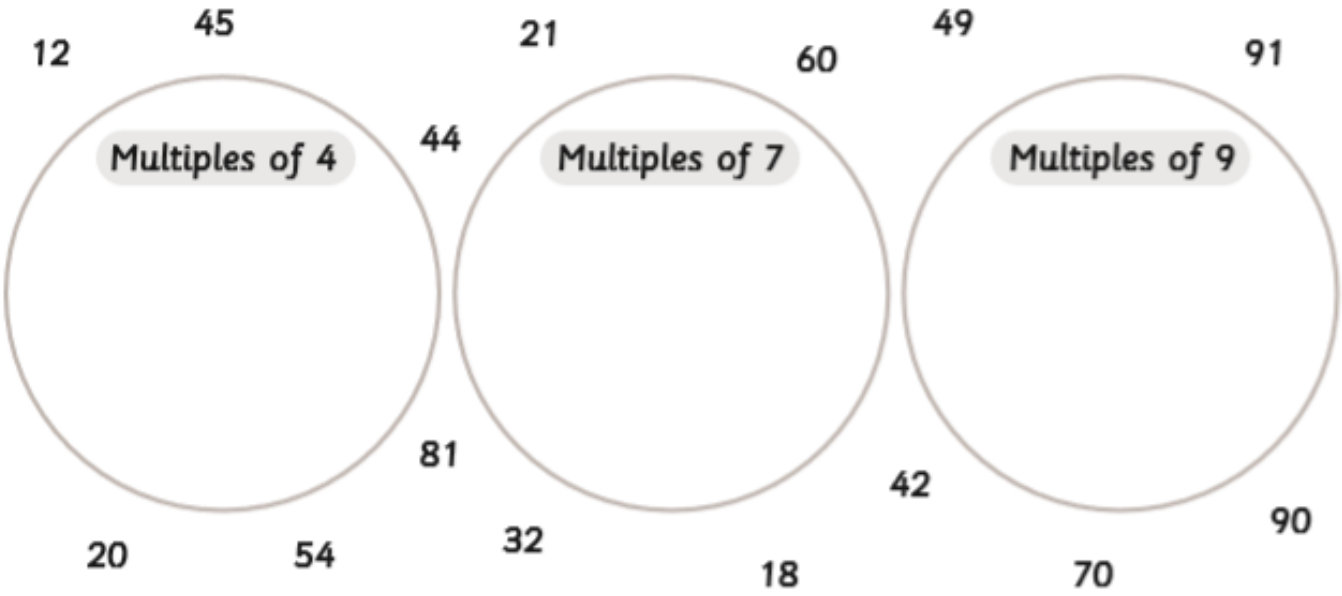
Bakers Dozen Part 1

Activity Sheet

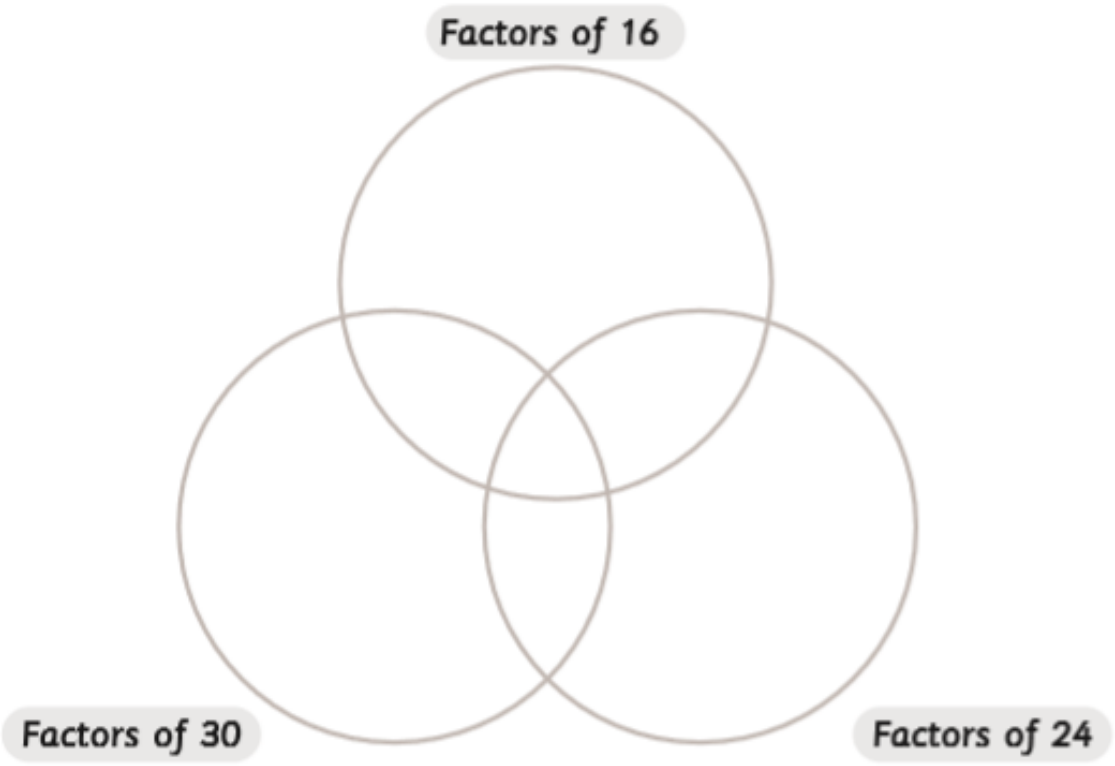
EducationCity

Name: _____ Class: _____

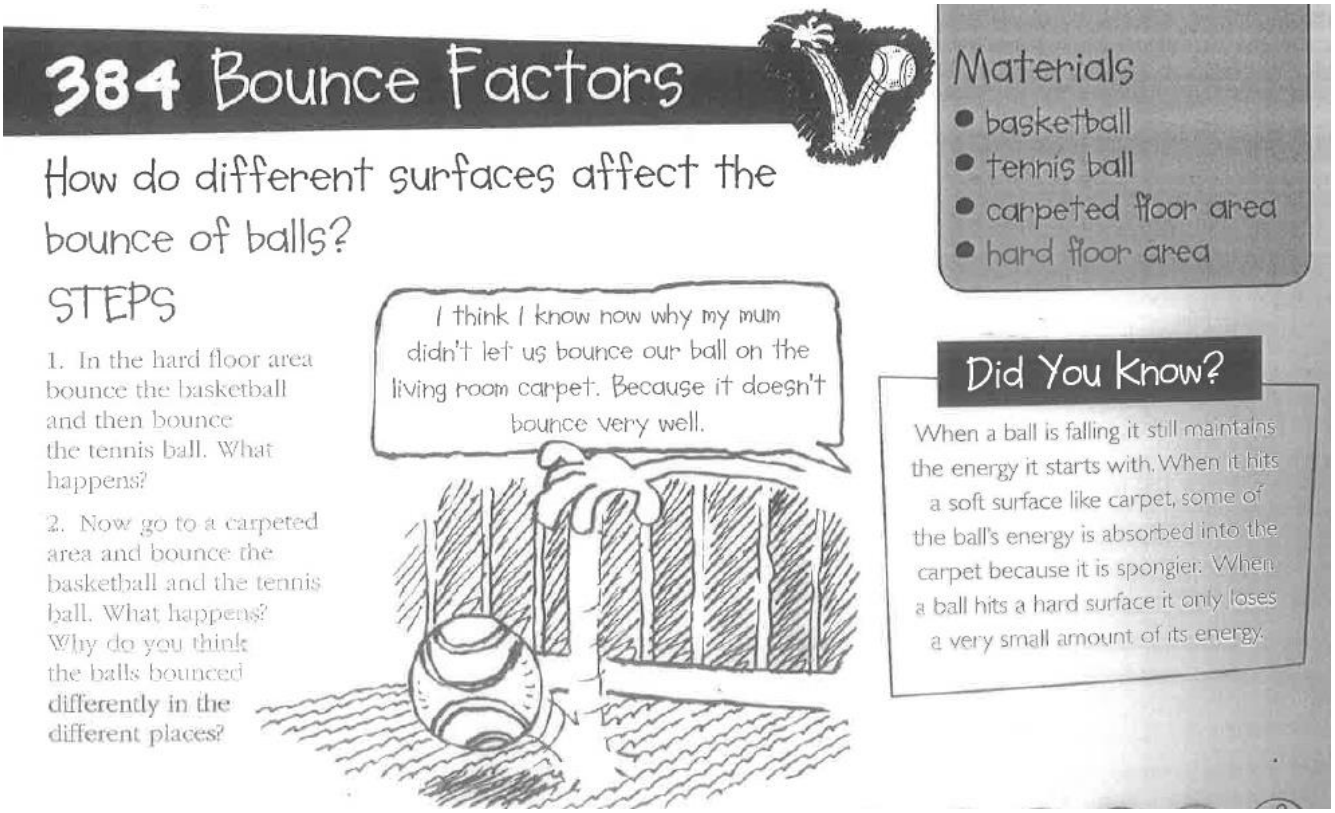
Sort the multiples into the correct circles.



Complete the Venn diagram below with the factors of 16, 30 and 24.



Can I explore the effect of different surfaces on a bouncing ball?



384 Bounce Factors

How do different surfaces affect the bounce of balls?

STEPS

1. In the hard floor area bounce the basketball and then bounce the tennis ball. What happens?
2. Now go to a carpeted area and bounce the basketball and the tennis ball. What happens? Why do you think the balls bounced **differently in the** different places?

I think I know now why my mum didn't let us bounce our ball on the living room carpet. Because it doesn't bounce very well.

Materials

- basketball
- tennis ball
- carpeted floor area
- hard floor area

Did You Know?

When a ball is falling it still maintains the energy it starts with. When it hits a soft surface like carpet, some of the ball's energy is absorbed into the carpet because it is spongier. When a ball hits a hard surface it only loses a very small amount of its energy.

Try this investigation using any ball you can find and try bouncing on different surfaces. Can you find a way of recording the height that the ball bounces to? Perhaps you could see how far up your body it bounces to, such as up to your knee or use a tape measure or ruler if you have one. You can use the table below to record your measurements. What do you notice?

Type of ball *e.g. tennis ball*	Surface 1 e.g. hard floor _____		Surface 2 e.g. hard floor _____	Surface 3 e.g. hard floor _____	Surface 4 e.g. hard floor _____

What a Trip

Activity Sheet

Name: _____ Class: _____

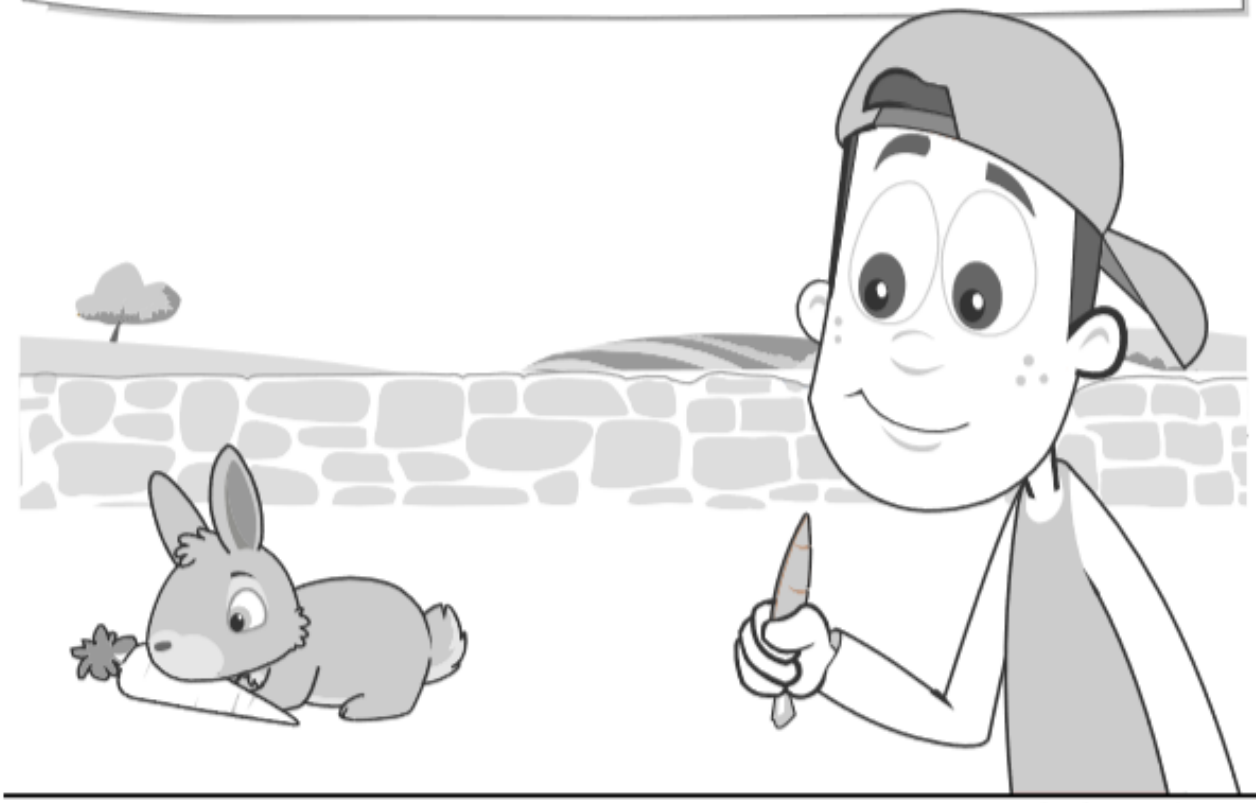
Underline the incorrect verbs in the text.

It was a warm and sunny Saturday, perfect for a visited to the local farm park. Stig and Granny thought it would be a fun way to spending the day together. Stig loved the animals, and Granny enjoying visiting the tea rooms.

When they arrive, they were just in time for the tractor ride, which taked them all round the farm. The tractor bumped and bounced over the rough farm paths, and they clung onto the straw bales they were sitting on. The noise of the engine caused the sheep to gambled across the fields, and the goats to run into their shelters. After the ride, picking straw from their clothes, Granny and Stig headed off to see the Shetland ponies in their paddocks.

After they finishing stroking the ponies, Granny was ready for her afternoon tea. Stig didn't want to miss out on something delicious to eaten, so went with her to the café. They ate scones and jam and drunk homemade lemonade.

Before they left, they goes to saw the animals in the barn. Stig holded the rabbits and hamsters. Granny couldn't be persuaded to buy him one though!



Newton and Gravity

1. When was Isaac Newton born?

2. Why do you think the outbreak of plague forced Newton to move from Cambridge back to Woolsthorpe Manor?

3. What inspired Newton to explore the force of gravity?

4. How did Newton describe the way gravity pulls objects?

5. What did Newton discover about the way gravity affects the Moon?

6. Why do you think forces are measured in newtons with a newton metre?

7. Look at this phrase: *Even Albert Einstein, writing in 1927, 200 years after Newton's death, described Newton as a 'shining spirit'*. What does the word 'Even' make you think about Albert Einstein?

8. Why do you think the National Trust have kept and looked after the apple tree in the gardens of Woolsthorpe Manor?

Can I explore the effects of friction on different surfaces?

364 Who's got the Fastest Car?

See the effects of friction on different surfaces.

Materials

- long strip of sandpaper
- long, smooth piece of wood
- long stretch of smooth carpet
- small toy car

STEPS

1. Take the toy car and push it along the surface of the wood.
2. Now push the toy car along the strip of sandpaper.
3. Now push the toy car along the carpet. On which surface does your car run the smoothest?

Did You Know?

Cars skid on wet roads because the water on the surface creates less friction between the wheels and the road. The treads on your car's tyres help solve this problem. The water is forced into the spaces between the treads and the tyre surface stays on the road. 'Bald' tyres are not safe. Inspect your family car's tyres and see how the water is moved out of the way.

Try different materials for your car to drive along. Don't worry if you don't have the exact materials listed above, you could try different fabrics or different floors. Can you make a ramp with different materials and explore how far your car will travel across the different materials?

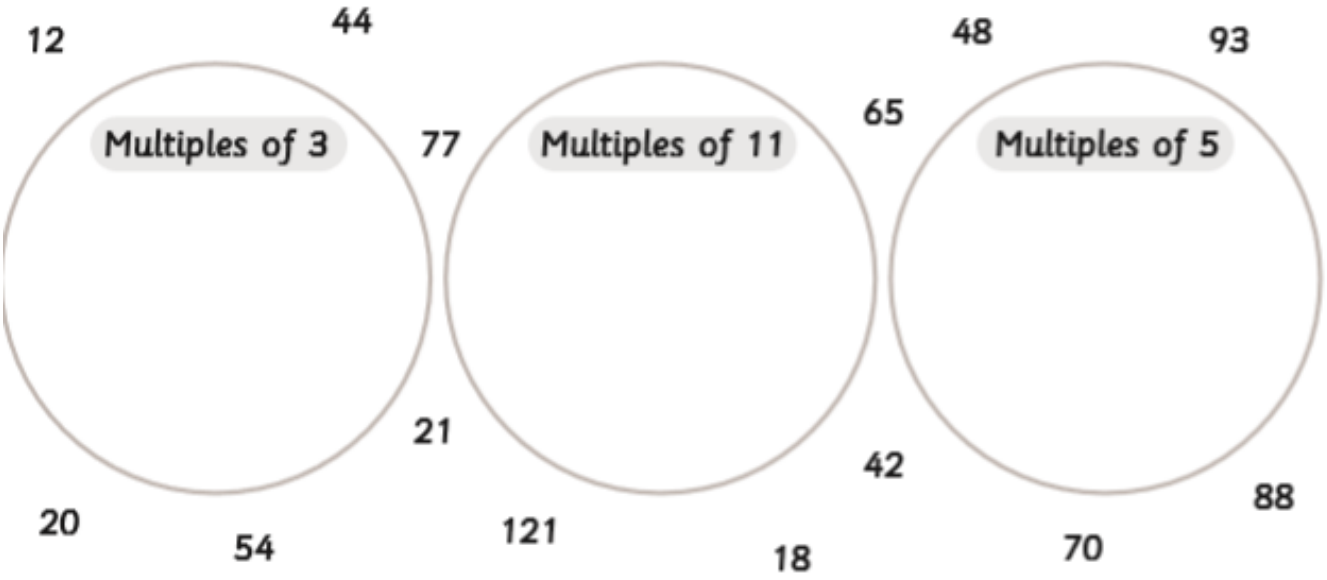
Bakers Dozen Part 2

Activity Sheet

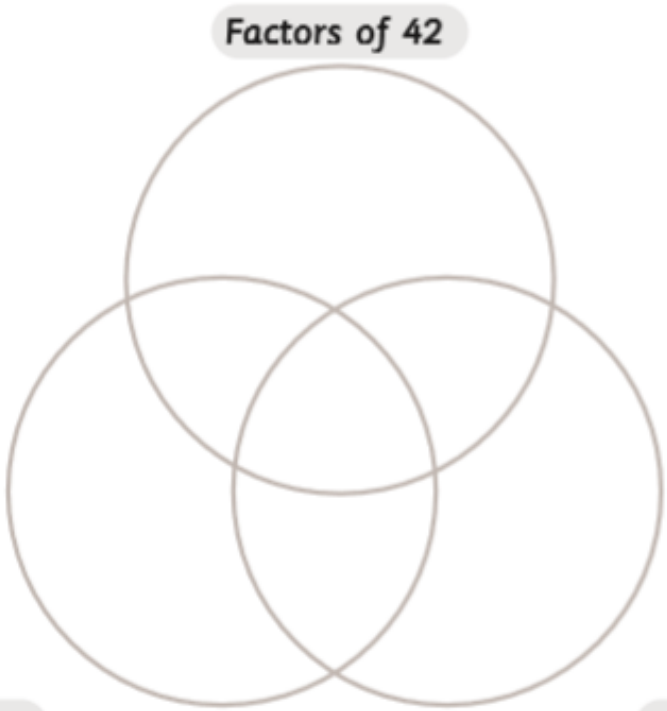
EducationCity

Name: _____ Class: _____

Sort the multiples into the correct circles.



Complete the Venn diagram below with the factors of 42, 66 and 36.



An Audience with Sir Isaac Newton

Activity Sheet

EducationCity

Name: _____ Class: _____

An Audience with Sir Isaac Newton Play Script

An Audience with Sir Isaac Newton

Scene 1:

Lights up.

Narrator: *The year is 1705, and Sir Isaac Newton is visiting a university to talk about one of his amazing discoveries, the Theory of Gravity. He is standing on a podium in front of an audience of students.*

Professor: Welcome to our school, Mr Newton.

Sir Isaac Newton: *(crossly)* It's Sir Isaac Newton, actually. I was recently knighted by the Queen.

Professor: *(embarrassedly)* I'm so sorry, Sir. Umm, I mean Sir Newton.

Sir Isaac Newton: *(haughtily)* Proceed with your questions.

Professor coughs slightly to clear his throat.

Professor: *(admiringly)* I have heard of your work on the law of motion and calculus, but could you tell us about your theory of gravity and how you discovered it?

Sir Isaac Newton: *(slightly pompously)* I was having a quiet moment, sitting beneath the apple tree in my mother's garden, pondering the workings of the universe, when suddenly, an apple fell perpendicularly from the tree. Not only did it fall from the tree, but it fell on to my head; quite a shock it was too.

Professor: *(underwhelmed)* Really? You discovered that apples fall from trees? I think we already knew that.

Audience: *(sniggering)*

Sir Isaac Newton: *(voice getting louder as he speaks)* But why did the apple fall from the tree and land on the ground? Why did it not go upwards from the tree, or for that matter, why did it not go sideways?

Professor: *(interestingly)* Please enlighten us, Sir.

An Audience with Sir Isaac Newton

Activity Sheet

EducationCity

Name: _____ Class: _____

Sir Isaac Newton: That's when I formulated my hypothesis. The Earth must have a force in the centre that pulls it there: it pulls it straight down. So, the apple attracts the Earth and the Earth attracts the apple.

There is some movement from the back of the stage, and someone enters stage left.

Student: *(shouting)* What is this force you talk of?

Sir Isaac Newton: *(dramatically)* Gravity, my dear boy, gravity! Without gravity, people would float off into space. Life would not be sustainable without gravity!

Narrator: *Sir Isaac Newton moves away from the podium to the front of the stage to deliver his poem. He reads his poem with passion by using intonation and increases in volume as the poem proceeds.*

Sir Isaac Newton:

An object in motion wants to stay in motion,
An object in rest wants to stay in rest,
The theory of gravity is my notion,
With a brilliant mind I have been blessed.

Gravity affects the currents of the ocean,
Its tides that ebb and flow,
From stars in the sky and the Moon's motion,
To the bouncing ball you throw.

If I have seen further, I'd say,
It is by standing on the shoulders of giants,
Previous scientists of their day,
Kepler and Galileo, great Masters of Science.

I am only a child playing on the beach,
Vast oceans of truth lie undiscovered before me,
Limitless knowledge the world must teach,
Of the law of motion and the force of gravity.

Lights down.

Can I gather ideas for writing a diary?

Over the next few days, you are going to prepare to write a diary entry as if you lived in this place. Today is about gathering ideas for your writing.

Question Time – you could talk to someone about your ideas or write them down if you wish.

If you lived here how would life be different?

It is thought that one day it may be possible to live in on another planet. What do you think about this?

Is it a good idea?

Why do you think humans are looking for ways to live in space or on another planet?

How does gravity work?

How do we overcome gravity?

If living in space, how would you manage to do everyday things like brushing your teeth?

TASK 2:

Can you draw what a classroom in space would look like?

You could include this in your diary entry as well

Number Cruncher

Activity Sheet

EducationCity

Name: _____ Class: _____

Circle all the square and cube numbers.

1

25	35	54	64	81	121	135	144	162

2

8	46	64	125	175	216	277	512	1,000

Complete the following calculations.

3 I am a 2 digit square number. One of my factors is a cube number.
The product of my digits is 8.
What number am I?

4 I am a two-digit square number, greater than 20.
The product of my two digits is 36.
What number am I?

5 I am a three-digit cube number.
Divide me by 5 to get a square number.
What number am I?

6 I am a 3-digit cube number with a factor of 6.
What number am I?

7 I am a 2-digit square number.
If you multiply me by 4, you get a 2-digit cube number.
What number am I?

8 I am a 2-digit square number.
Multiply me by 8 to get a 3-digit cube number.
What number am I?

9 I am a 2-digit square number, more than 50.
I am also a multiple of a cube number.
What number am I?

10 I am a 4-digit cube number.
I am a product of 10 and a 3-digit square number.
What number am I?

Can I listen and respond to music?

Watch the Ten Pieces film at https://www.bbc.co.uk/programmes/p02fls7d or https://tinyurl.com/y7myzfkd

Take a look at the music page on our school website for ideas from Mrs Malone on what you could do to respond to this music.

https://www.st-marys-jun.hants.sch.uk/page/?title=Year+5+Music+Learning+at+home&pid=336 or **https://tinyurl.com/y8svz227**

Can I plan for writing a diary?

Month: June

Year: 3015

Dear diary,

It has now been 2 years since we moved here.

Leaving Earth was tough, but we are beginning to feel more at home with every single week that passes.

When we came to our new home, we were allowed to bring everything with us from our Earth homes.

It still feels a bit strange though.

Life without gravity really takes some getting used to!

Your task tomorrow will be write the rest of this diary. Today, make some notes about what you might write about.

Paragraph 1: *Where do you now live?* *Why is there no gravity?*	
Paragraph 2: Life without gravity – *what sort of activities are difficult to do without gravity?* *What is easier without having gravity?* *include descriptions of what it is like to live without gravity*	
Paragraph 3: *How do you spend your time?* *What is your classroom / school like?* *What do you miss most about life on Earth?*	
Paragraph 4: *Your hopes for the future – would you want to go back to Earth or stay?*	

Opti-maths Prime

Activity Sheet

Name: _____ Class: _____

Help the Carbots to find Stig and his friends by plotting their path through the numbers. Be careful though, the Carbots can only travel on prime numbers and cannot travel diagonally.

3	7	23	75	38	72	2	5
4	6	83	81	41	47	97	49
32	45	61	11	13	77	80	51

6	12	15	21	16	20	85	91
31	11	37	41	27	35	72	48
18	22	57	19	71	7	11	19

79	61	12	78	81	7	19	31
80	97	15	18	13	17	100	45
8	67	73	5	3	27	98	99

Use the space below to work out which numbers are prime numbers.

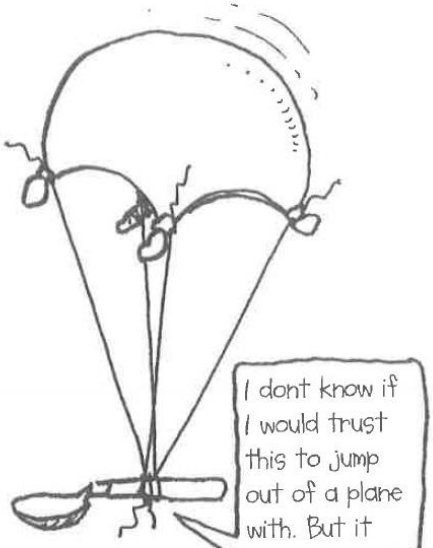
Can I explore the effects of air resistance?

385 How to Make a Parachute

See the way pressure affects falling objects.

STEPS

1. Take the plastic bag and cut it into a 30 cm (12 in) square.
2. Tie the string to each corner of the square.
3. Tie the other ends of the string to the spoon.
4. Stand on a chair and drop the parachute. What happens?



I dont know if I would trust this to jump out of a plane with. But it seems to work!

Materials

- plastic bag
- 4 pieces of string, each 35 cm (14 in) long
- spoon
- scissors

Did You Know?

To make parachutes easier to control, a hole is made in the top. This hole lessens the air resistance.

Try out this investigation. *Please be careful as you stand on a chair, or ask someone taller than you to help you!*

What questions could you ask to explore how to change the parachute to make it fall at different speeds. Write your ideas below…

e.g. what would happen if I tried a lighter spoon.

Can I write a diary entry?

Today you will use your planning to continue the diary entry. Think about describing things as much as you can to show what life is like without gravity.

Month: June

Year: 3015

Dear diary, It has now been 2 years since we moved here. Leaving Earth was tough, but we are beginning to feel more at home with every single week that passes.

When we came to our new home, we were allowed to bring everything with us from our Earth homes. It still feels a bit strange though. Life without gravity really takes some getting used to!

MASTERS CHALLENGE 2 x 2 =	**24 ÷ 6=**	**10 x 9 =**
8 x 7 =	**44 ÷ 4 =**	**8 x 12 =**
3 x 3 =	**3 x 4 =**	**8 x 8 =**
5 x 4 =	**4 x 4 =**	**54 ÷ 9 =**
1 x 1 =	**5 x 3 =**	**40 ÷ 8 =**
48 ÷ 6 =	**3 x 8 =**	**6 x 3 =**
28 ÷ 4 =	**60 ÷ 12 =**	**6 x 12 =**
3 x 6 =	**36 ÷ 3 =**	**3 x 6 =**
4 x 7 =	**4 x 11 =**	**4 x 12 =**
4 x 5 =	**3 x 5 =**	**9 x 5 =**
9 x 7 =	**9 x 11 =**	**9 x 12 =**
42 ÷ 7 =	**4 x 8 =**	**8 x 9 =**
45 ÷ 5 =	**12 x 11 =**	**12 x 12 =**
5 x 6 =	**9 ÷ 1 =**	**10 ÷ 5 =**
3 x 7 =	**10 x 3 =**	**6 x 6 =**
2 x 9 =	**9 x 9 =**	**90 ÷ 10 =**
36 ÷ 9 =	**8 x 3 =**	**10 x 10 =**
121 ÷ 11	**72 ÷ 9 =**	**10 x 3 =**
1 x 7 =	**66 ÷ 6 =**	**48 ÷ 4 =**
8 x 4 =	**1 x 10 =**	**54 ÷ 6 =**
99 ÷ 9=	**6 x 5 =**	**108 ÷ 9 =**
5 x 7 =	**5 x 11 =**	**5 x 12 =**
9 x 2 =	**2 x 8 =**	**8 x 10 =**
7 x 7 =	**7 x 11 =**	**7 x 12 =**
11 x 7 =	**11 x 11 =**	**11 x 12 =**
6 x 10 =	**63 ÷ 7 =**	**3 x 9 =**
3 x 7 =	**3 x 11 =**	**3 x 12 =**
8 x 5 =	**4 x 10 =**	**18 ÷ 2 =**
2 x 11 =	**6 x 9 =**	**10 x 10 =**
8 x 7 =	**60 ÷ 5 =**	**12 ÷ 1 =**
4 x 7 =	**84 ÷ 7 =**	**9 x 7 =**
88 ÷ 8=	**10 x 11 =**	**72 ÷ 6 =**
10 x 7 =	**10 x 11 =**	**10 x 12 =**
3 x 12 =	**120 ÷ 12 =**	**36 ÷ 3 =**

Master Master Challenge

72 ÷ 8 =	6 ÷ 1 =	56 ÷ 7 =	18 ÷ 2 =
64 ÷ 8 =	18 ÷ 3 =	24 ÷ 3 =	40 ÷ 8 =
28 ÷ 7 =	30 ÷ 6 =	8 ÷ 8 =	56 ÷ 7 =
9 ÷ 9 =	32 ÷ 8 =	12 ÷ 4 =	24 ÷ 6 =
54 ÷ 9 =	12 ÷ 4 =	35 ÷ 7 =	12 ÷ 2 =
40 ÷ 8 =	18 ÷ 6 =	15 ÷ 3 =	9 ÷ 1 =
1 ÷ 1 =	16 ÷ 8 =	56 ÷ 8 =	35 ÷ 7 =
63 ÷ 9 =	2 ÷ 2 =	36 ÷ 4 =	42 ÷ 6 =
27 ÷ 9 =	36 ÷ 4 =	9 ÷ 1 =	15 ÷ 5 =
16 ÷ 2 =	54 ÷ 6 =	12 ÷ 6 =	6 ÷ 1 =
7 ÷ 1 =	72 ÷ 9 =	36 ÷ 9 =	9 ÷ 9 =
12 ÷ 3 =	14 ÷ 2 =	30 ÷ 5 =	24 ÷ 6 =
27 ÷ 3 =	24 ÷ 4 =	6 ÷ 1 =	45 ÷ 5 =
10 ÷ 2 =	30 ÷ 6 =	48 ÷ 6 =	8 ÷ 4 =
16 ÷ 4 =	45 ÷ 9 =	2 ÷ 2 =	7 ÷ 1 =
3 ÷ 3 =	16 ÷ 4 =	21 ÷ 7 =	9 ÷ 9 =
18 ÷ 3 =	21 ÷ 7 =	9 ÷ 3 =	30 ÷ 5 =
40 ÷ 5 =	81 ÷ 9 =	30 ÷ 6 =	32 ÷ 4 =
32 ÷ 4 =	16 ÷ 2 =	14 ÷ 2 =	12 ÷ 3 =
24 ÷ 4 =	35 ÷ 5 =	56 ÷ 8 =	63 ÷ 9 =
45 ÷ 5 =	49 ÷ 7 =	36 ÷ 4 =	24 ÷ 8 =
40 ÷ 5 =	54 ÷ 9 =	18 ÷ 9 =	25 ÷ 5 =
20 ÷ 4 =	15 ÷ 3 =	20 ÷ 5 =	32 ÷ 4 =
48 ÷ 6 =	20 ÷ 5 =	24 ÷ 8 =	36 ÷ 9 =
54 ÷ 6 =	28 ÷ 7 =	24 ÷ 4 =	48 ÷ 8 =

Can I use what I know about forces to design a system to protect an egg?

This could get messy, so make sure you talk to an adult about your ideas before starting! You will need a raw egg and to design a parachute or system to allow you to drop the egg from a height (preferably outside – maybe out of an upstairs window) and stop the egg from breaking or smashing. You can use any materials you might have around the house. Be sure to get someone to ake some photographs – we would love to see your designs!

Egg Drop Challenge

Objective: Design a system to protect an egg from cracking or breaking from a high fall.

Materials: Use anything you'd like! Some ideas include: paper towels, straws, tape, cardboard tubes, paper, popsicle sticks, baggies or old boxes.

Illustrate your design in the box.

Explain why you think your design will protect an egg from breaking from a fall:

_____

_____

_____