

Monday 7th September

Morning Challenge

Questions



1. What is the name of the person who invented the term **electricus**?



2. What do you think the word **prestigious** means?



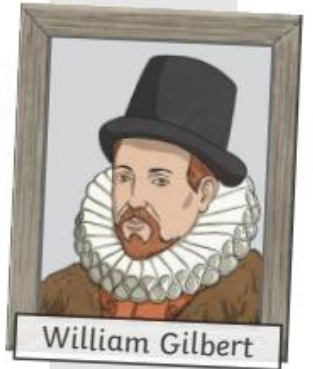
3. Look at the third paragraph. What does this section of the text focus on?



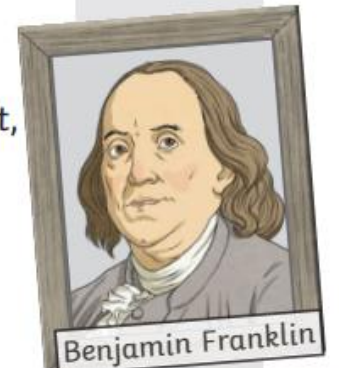
4. Thomas Edison invented the first lightbulb. Is this statement true or false? Explain your answer using evidence from the text.

Electrical Pioneers

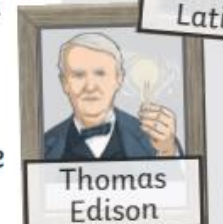
6 The history of electricity stretches back
12 to ancient times. However, humans did
20 not begin to harness its power until over
26 2000 years later. In the 1600s,
30 an Englishman (William Gilbert)
36 invented the term 'electricus', which has
42 evolved into the familiar, modern word
43 'electricity'.



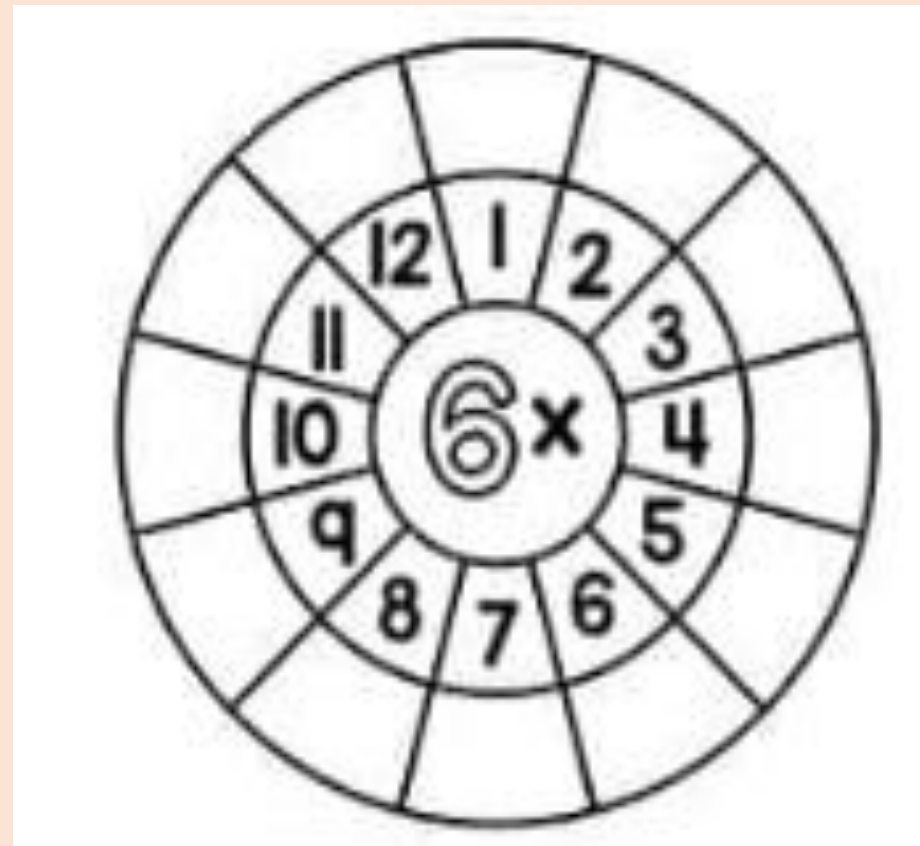
49 While carrying out his famous — and
53 incredibly dangerous — kite experiment,
59 Benjamin Franklin aimed to show the
63 connection between electricity and
69 lightning. He did this successfully. In
75 1753, he won a prestigious award
80 for his 'curious experiments and
83 observations on electricity'.



88 Improving on existing designs, Thomas
94 Edison invented the modern lightbulb in
99 1880. Lewis Latimer worked alongside
104 Edison — inventing a carbon filament
112 (the wire inside a bulb) that enabled the
118 lightbulb to stay alight for longer.



Times tables



07.09.26

TBAT: read, write and compare 6-digit numbers.

3 in 3

1. $12 \times 5 =$

2. $2/5 + 1/5 =$

3. $898 + 34 =$

Tickets for a cricket match cost £10.50 for children and £15.40 for adults.

How much will it cost for 4 children and 1 adult?

07.09.26

TBAT: read, write and compare 6-digit numbers.

B/G discussion – order these numbers in descending order.

405,699

M	HTh	TTh	Th	H	T	O
● ●		● ● ● ●	●	● ●	● ● ●	●

1,000,000 + 900,000 + 40,000 +
7,000 + 80 + 3

10,296,571

One million, four hundred
and twenty thousand,
seven hundred and ten

07.09.26

TBAT: read, write and compare 6-digit numbers.



Use these digit cards to make the number with the greatest value.

Use these digit cards to make the number with the smallest value.

Write this number in numerals.

Three hundred and sixty eight thousand, two hundred and one

07.09.26

TBAT: read, write and compare 6-digit numbers.

Write these numbers in **words**.

345,678

783,283

892,419

183,653

Mark is reading the number 604,406.

He says,

Six hundred and forty
thousand, four
hundred and sixty.



Mark

Is he correct? Explain your answer.

07.09.26

TBAT: read, write and compare 6-digit numbers.

Fill in the missing digits.

$$\underline{}08,946 > 808,946$$

$$511,518 > 51\underline{},518$$

$$610,116 > 6\underline{}0,116$$

Challenge - Which of these statements gives the smallest answer?

$$8,597,807 - 390,000$$

$$8,207,807 + 390,000$$

07.09.26

TBAT: read, write and compare 6-digit numbers.

Complete the statements using <, > or =.

6,362,938

6,475,521

5,294,284

5,296,143

2,295,727

2,295,719

4,193,386

4,193,386

Put the numbers in ascending order.

4,396,205

3,291,386

4,309,625

4,903,025

<

<

<

832,392

1,792,184

1,572,149

729,892

<

<

<

Challenge -

B is half way between A and C. C is half way between B and D. What is the value of C and D?

A	B	C	D
3,750,000	4,250,000	?	?

Mastery Challenge -

George thinks that the largest possible missing number is 210.

705,847 + 200,000 > 904,637 + ?

Do you agree? Explain why.

Mastery with Greater Depth -

Scientists are researching the number of insects in a forest. Use the clues and the digit cards to work out how many of each type of insect there could be.

Explore the possible solutions and order them from greatest to smallest.

Insects	Total Clues (all are 6-digit numbers)
 Woodlouse	There are more woodlice than beetles. The last two digits show a prime number.
 Ant	This is the largest number and is a multiple of 10.
 Beetle	When rounded to the nearest 10,000, this number rounds to 200,000.
 Greenfly	This number is more than 300,000. The first and last digits are both multiples of three.
 Housefly	This is the second smallest amount. It is an odd number.

0

1

2

3

7

9

Challenge -

B is half way between A and C. C is half way between B and D. What is the value of C and D?

A	B	C	D
3,750,000	4,250,000	?	?

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Monday 7th September

TBAT: explain the meaning of words in context.

3 in 3

For centuries, mankind has found it useful to divide up the world using the ideas of longitude and latitude.

These are imaginary lines that circle the world in an east-west direction for latitude and a north-south direction for longitude. The most well-known lines of latitude are the equator, which marks a line of equal distance between the two poles, and the tropic of Cancer and the tropic of Capricorn, which are 23.5° north and 23.5° south respectively. These were easy to establish by noting the position of the sun at midday. Longitude was more difficult to measure, yet extremely important because ships needed to know exactly where they were. Even small mistakes could lead to shipwrecks.

- 1. Find and copy one word from the first sentence that means ‘split’.**
- 2. According to the text, which lines of latitude are the most well-known?**
- 3. Which tropic is 23.5° south?**

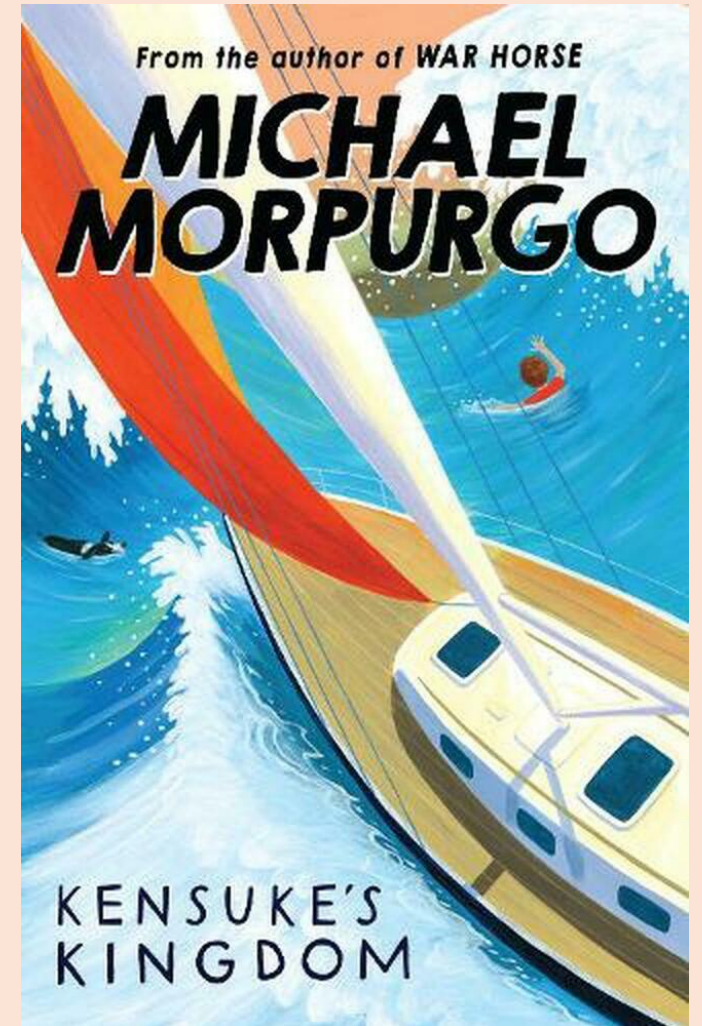
Monday 7th September

TBAT: explain the meaning of words in context.

Partner discussion -

Who is the main character of the story?

Can you predict what is going to happen in the story?



Monday 7th September

TBAT: explain the meaning of words in context.

Words we will find in the text:

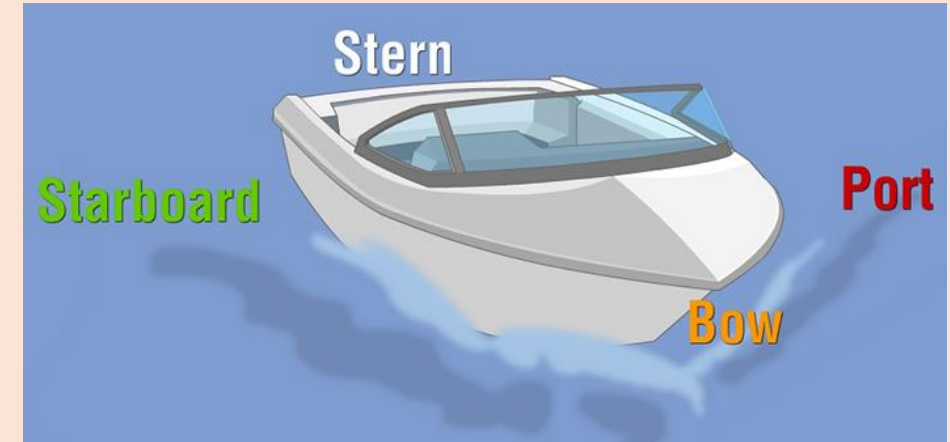
Bow - the forward part of the hull of a ship or boat, the point that is most forward when the vessel is underway.

Stern - the back part of a ship. It is exactly opposite the front part of the boat, called the bow.

Porpoises - a small toothed whale with a low triangular dorsal fin and a blunt rounded snout.

Sextant - an instrument with a graduated arc of 60° and a sighting mechanism, used for measuring the angular distances between objects.

Skipper - captain of a ship or boat.



Monday 7th September

TBAT: explain the meaning of words in context.

Multiple Choice

1. Which word would you use to describe below the deck of their boat?

cosy

damp

ship

dark

2. At school, which subject was Michael not good at?

writing

maths

history

science

Retrieval

1. What was the name of Michael's boat?

2. How old was Michael when they set sail on their trip around the world?

3. Identify three things Michael's mum taught him.

Monday 7th September

TBAT: explain the meaning of words in context.

Words in Context

1. On page 19, find and copy a word meaning **inactive**.
2. What does the phrase **mountainous seas** suggest about the water?
3. What is a synonym for **talisman**?
4. What does the phrase '*He just shrugged and said, "Mom's the skipper."*' suggest about Michael's parents?

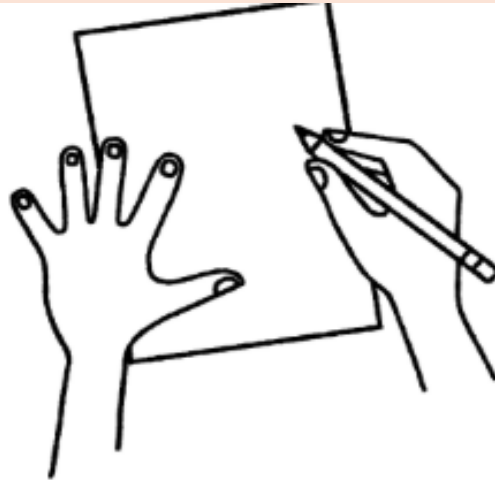
Challenge – How does Michael feel about being on Peggy Sue? Use evidence from the text to support your answer. (3 marks)

Monday 7th September

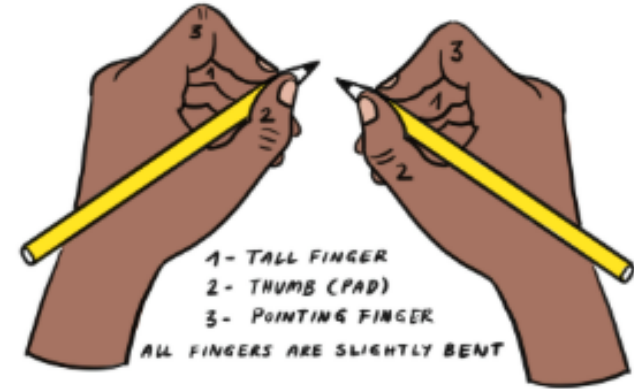
TBAT: write quickly and legibly, using cursive handwriting.



- sit on a chair at a table
- feet flat on the floor
- back against the chair



- angle your paper correctly
- non-writing hand supports



- hold your pencil in the tripod grip



Monday 7th September

TBAT: write quickly and legibly, using cursive handwriting.

Handwriting warm-up



Practising writing patterns helps us to prepare for writing and **joining** letters.



Practising writing patterns can help to strengthen our hands, making it easier to write faster and for longer.



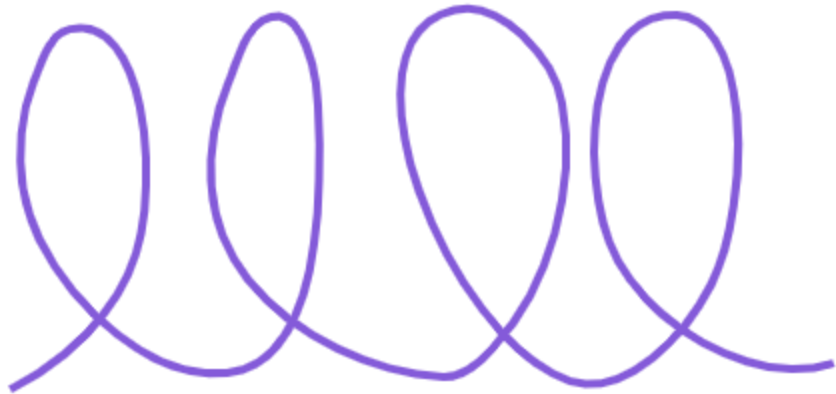
Monday 7th September

TBAT: write quickly and legibly, using cursive handwriting.

Handwriting warm-up



I do the writing pattern in the air
with my finger.



You do the writing pattern in the air
with your finger.



Monday 7th September

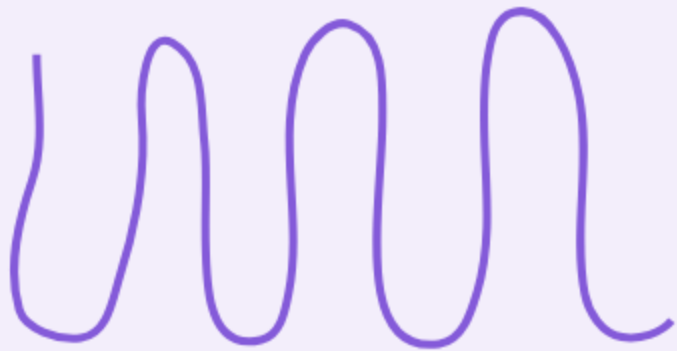
TBAT: write quickly and legibly, using cursive handwriting.

Task A Handwriting warm-up



Feedback

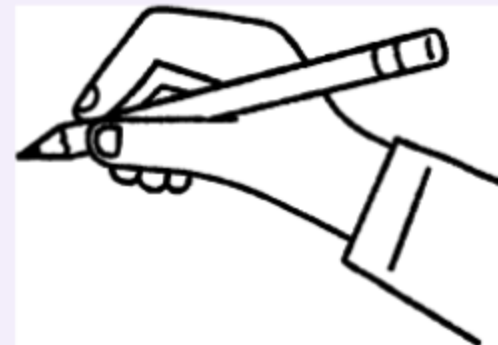
Copy and continue these patterns using your tripod grip.



Did you use your tripod grip?

Did you keep your pencil on the page?

Was your movement smooth?



Monday 7th September

TBAT: write quickly and legibly, using cursive handwriting.

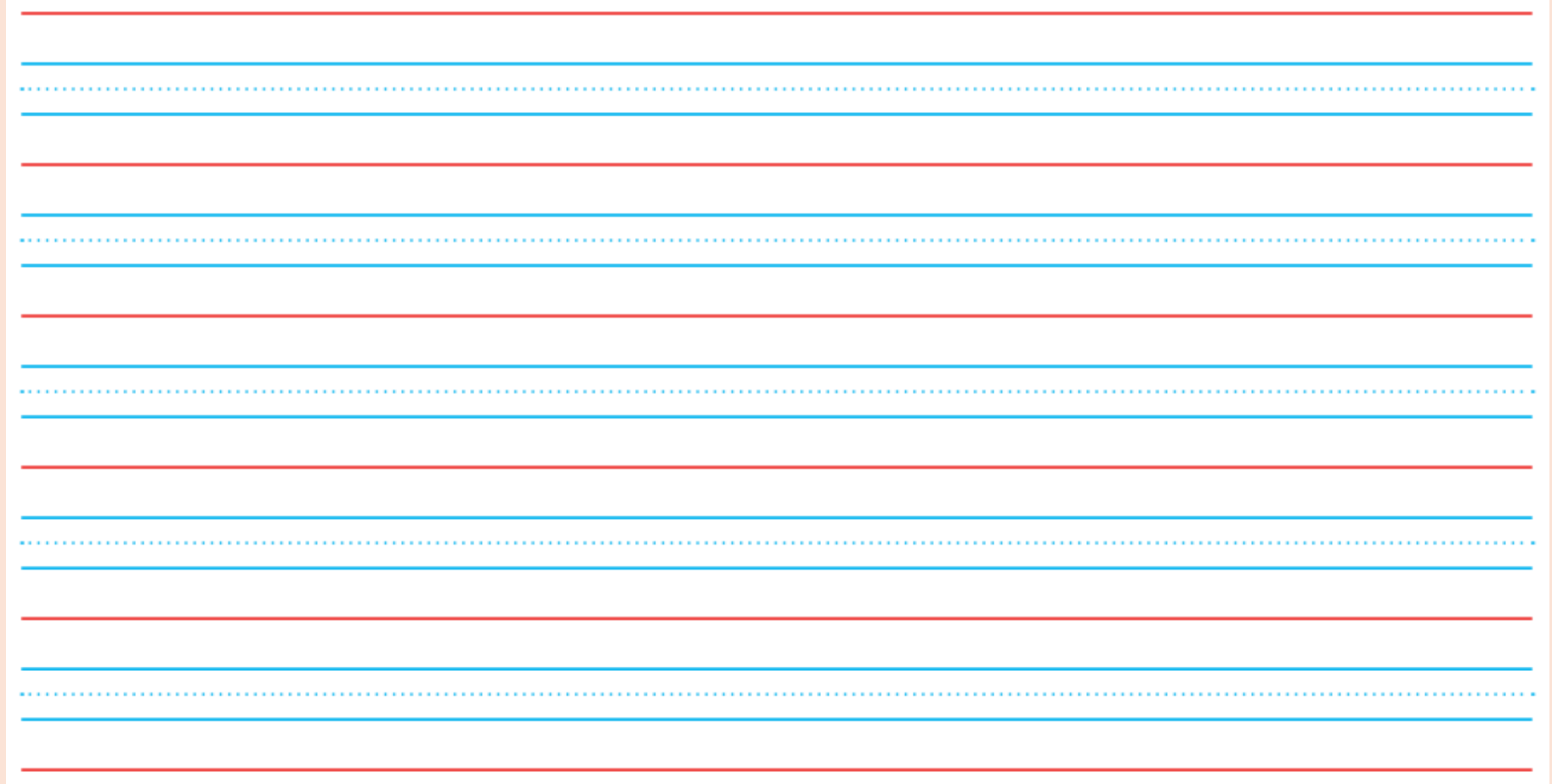
aggressive

hostile

awkward

obstinate

desperate

A series of ten sets of horizontal lines for handwriting practice. Each set consists of a solid red top line, a solid blue middle line, a dotted blue line just below the middle line, and a solid red bottom line. These lines are intended to guide the height and placement of letters in cursive handwriting.

Challenge – Use each word in a sentence containing brackets.

Monday 7th September

TBAT: explain the importance of internet addresses.

1 Which of these is an example of a website?

- ☐ www.thenewsclub.co.uk
- ☐ "Monday"
- ☐ 12345
- ☐ a computer mouse

2 What do you type into a browser to visit a web page?

- ☐ a song
- ☐ a URL or web address
- ☐ a password
- ☐ a drawing

3 Which of these is a webpage?

- ☐ a single screen of information on a website
- ☐ a type of computer code
- ☐ a printer
- ☐ a keyboard

Knowledge Quiz

4 What does "www" mean in a web address?

5 Put these in order for visiting a website:

☐	press Enter
☐	type the URL
☐	view the webpage
☐	open a web browser

6 Arrange these from smallest to largest:

☐	webpage
☐	internet
☐	website

Keywords

Internet Protocol (IP)
address

an identifier, such as 192.168.4.8, that is assigned to a networked device

Domain Name System
(DNS)

a system that matches website names to IP addresses

communication

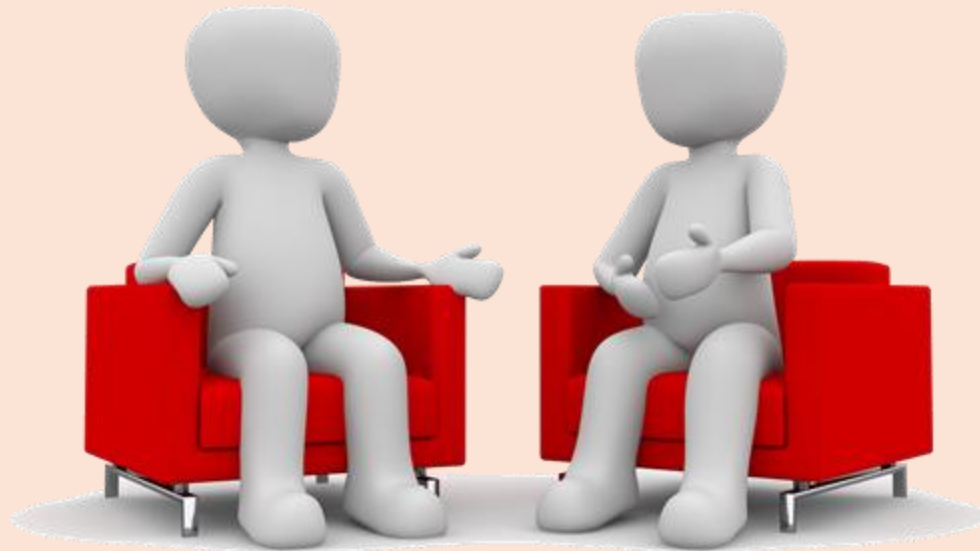
the exchange of information between devices or people

Every time you access a website, send a message, or watch a video online, data is transferred over the internet.

How do you use the internet?



How do you **communicate** with someone in real life?



One person speaks and the other listens. They have a shared language. There is clear turn-taking.

Recognise that devices have IP addresses

Computers also need to **communicate** with each other.



Digital **communication** is like a conversation that follows strict rules.

A protocol is an agreed way of doing something.

Just like we have rules for speaking politely, computers have **communication** rules too.

Can you think of a protocol or rule you follow at school?

Some protocols or rules that are followed at school:

- walking on one side of the corridor
- putting hands up to speak
- taking turns in games

Devices need specific rules too.



Which of these is a protocol?

a

shouting all at once

b

taking turns to speak



c

guessing what others want

d

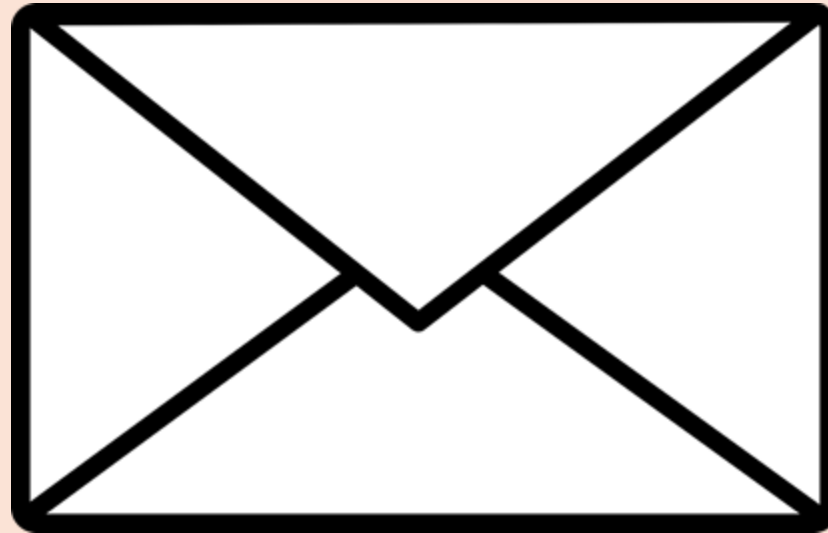
all speaking different languages

Recognise that devices have IP addresses



Explanation

To send a letter, what do you need?

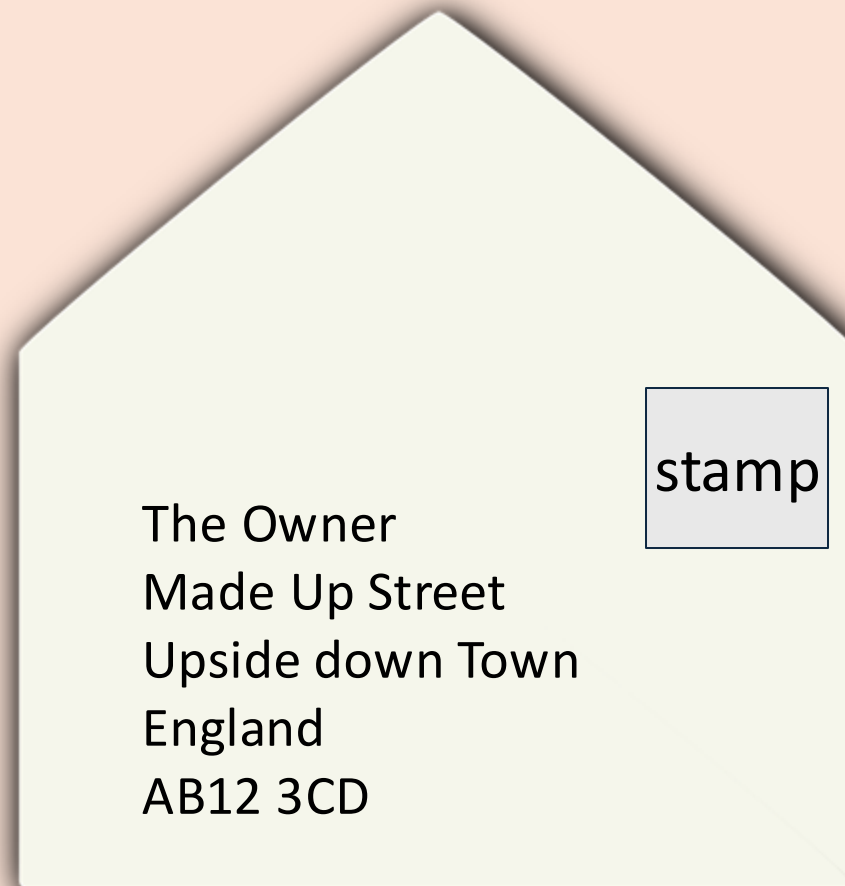


Recognise that devices have IP addresses



Explanation

To send a letter, what do you need?



To send a letter you need an address.

Recognise that devices have IP addresses

Which address will work best?

J Smith
256 High
Bigton

☐

256 High Street
BI6 1ON

☐

J Smith
BI6 1ON

☐

J Smith
256 High Street

☐

J Smith
256 High Street
Bigton
BI6 1ON

☐

J Smith
High Street
Bigton
BI6 1ON

☐

Recognise that devices have IP addresses

Which address will work best?

J Smith
256 High
Bigton

256 High Street
BI6 1ON

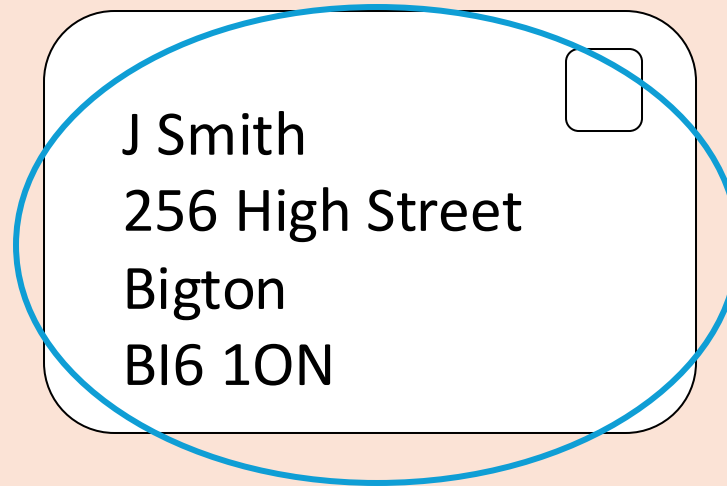
J Smith
BI6 1ON

J Smith
256 High Street

J Smith
256 High Street
Bigton
BI6 1ON

J Smith
High Street
Bigton
BI6 1ON

Which address will work best?



This is a full address (name, house number, street, town and postcode). The other addresses were each missing parts of the address. Without a full address the letter might get lost.



Izzy

What is an **IP address**?

An **IP address** is a numbered address given to a networked computer.

It might look a bit like this: 192.168.1.1

IP address stands for **Internet Protocol**.



Izzy

Why do devices need an **IP address**?

Each device needs its own **IP address** to send and receive data.



True or false?

Each device on a network needs a unique **IP address** so that data can be sent to and from the right place.

T True ✓

F False

Which devices can **communicate**?

Some of these devices can send and receive data. One of them is missing something important?



192.34.76.2



194.74.16.8

Which devices can **communicate**?

1. Which device won't be able to send or receive data?
2. Why can't it **communicate**?
3. Explain why each device on a network needs an **IP address**.

Which devices can **communicate**?

1. Which device won't be able to send or receive data?

The tablet cannot send or receive data.

2. Why can't it **communicate**?

This device can't send or receive data because it does not have an **IP address**.

3. Explain why each device on a network needs an **IP address**.

An **IP address** is important because it identifies the device and enables it to send and receive data.



Can you remember these numbers?

193.25.61.10

192.34.68.4

192.168.1.1

194.24.84.12

Which would be easier?

192.43.23.1

or

www.thenewsclub.co.uk

It is easier to remember **thenewsclub** because people remember names better than numbers.



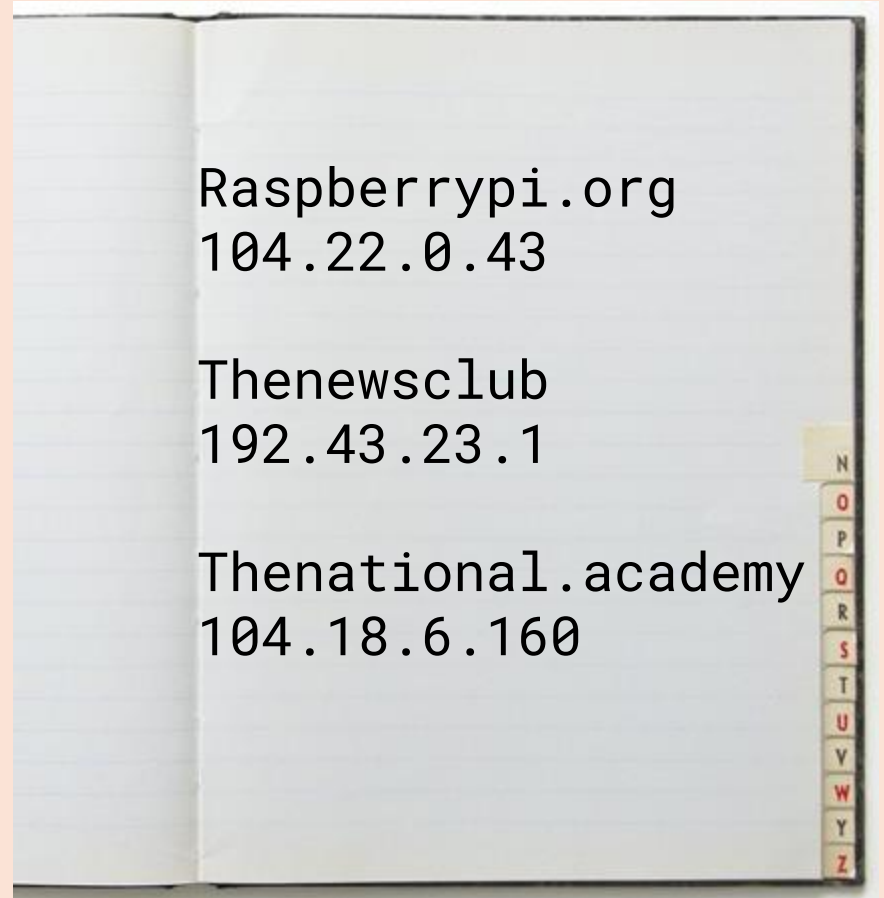
Izzy

Why are names easier for people?

People prefer to use names because they are easier to remember and can be more meaningful. Computers still need the numbers (**IP addresses**).

- A website address is known as its domain name.
- Each website is hosted on a web server .
- Each web server has an **IP address**.

A **Domain Name System Server** is a special type of computer that works like an address book: it matches **IP addresses** to the domains.



Raspberrypi.org
104.22.0.43

Thenewscub
192.43.23.1

Thenational.academy
104.18.6.160



Izzy

How does **DNS** work?

1. Type a domain name (website name).
2. The **DNS** finds the matching **IP address**.
3. The device uses that **IP address** to find the website.



True or false?

The **DNS** helps your computer find the **IP address** for a website.



True



False



Jun

Why don't we just type the **IP address**?

We don't need to remember the **IP address**. The **DNS** does it in the background.



Izzy



Jun

I am glad I don't have to type 192.168.42.17 every time I want to read the reviews!



A **DNS** matches a website name to its...

a

email

b

server

c

IP address



d

homepage

Task B

Understand how the DNS links names to addresses



Fill in the blanks using the word bank.

People usually find it easier to remember _____ than numbers.

A **DNS** helps by matching a website name to its _____
address.

This lets your computer send a _____ to the right place and get the website you asked for.

names

message

IP

Task B

Understand how the DNS links names to addresses



Feedback

Fill in the blanks using the word bank.

People usually find it easier to remember names than numbers.

A **DNS** helps by matching a website name to its **IP address**. _____

This lets your computer send a message to the right place and get the website you asked for.

Explain how addresses are used to access websites?



Explanation



To find the news, I am going to type `www.dailybyte.org` into a browser.

What happens next?

Explain how addresses are used to access websites?



Explanation

Accessing a website:

1. The domain name is typed in.
2. The **DNS** gets the matching **IP address**.
3. The computer sends a message to that **IP address**.
4. The website server sends back the data.

Explain how addresses are used to access websites?



When I open a website, my computer is really sending a request to a specific **IP address**.

Yes, then the website server replies with data so I can see the page.



Izzy



True or false?

When you type a domain name, your computer uses an **IP address** to open and find it.



True



False

Explain how addresses are used to access websites?



Explanation



Izzy

Why is it important?

The internet wouldn't work without **IP addresses**. Computers need to know exactly where to send requests.

Explain how addresses are used to access websites?



Check

What happens after your device gets the **IP address** from the **DNS**?

a

It shuts down.

b

It deletes the **IP address**.

c

It sends a request to that **IP address**.



d

It opens a video game.

Put the steps for accessing a website in the correct order.

steps for accessing a website	number order
Your device sends a request to the IP address .	
The DNS finds the IP address for the website.	
You type in a domain name .	
The website sends the data back to your device.	

Put the steps for accessing a website in the correct order.

steps for accessing a website	number order
Your device sends a request to the IP address .	3
The DNS finds the IP address for the website.	2
You type in a domain name .	1
The website sends the data back to your device.	4

A protocol is a fixed way of doing something.

An **IP address** is a numbered address given to a networked computer.

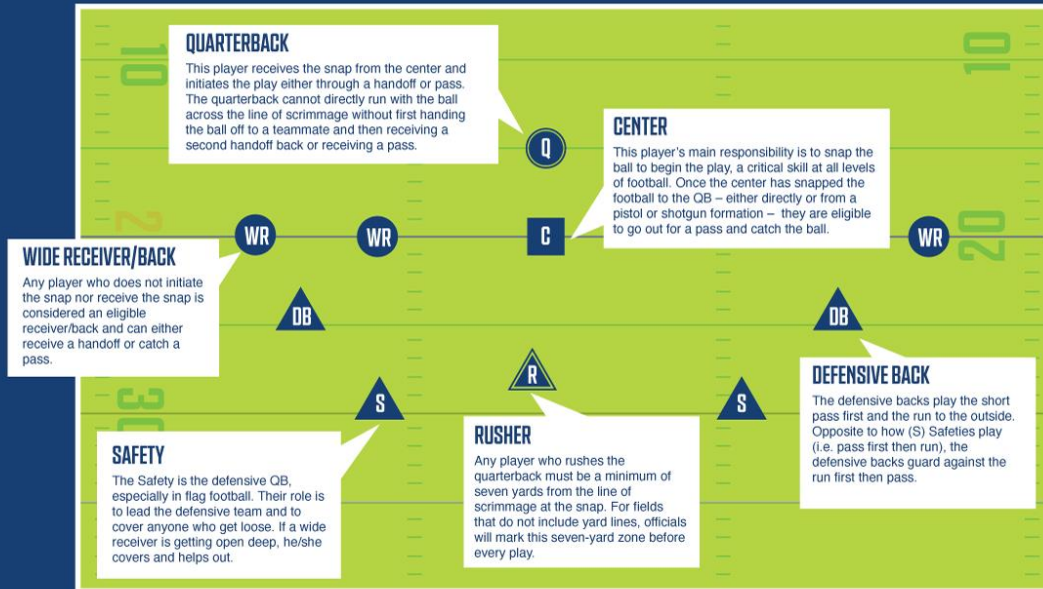
A website address is known as its domain name. Each website is hosted on a web server. Each web server has an **IP address**.

A **Domain Name System Server** is a special type of computer that works like an address book: it matches **IP addresses** to the domains.

Monday 7th September

TBAT: identify the key features in throwing a football

OFFENSE vs DEFENSE



FLAG PLAY BOOK

SCORING:

- Touchdown = 6 points
- One (1) point after touchdown (PAT) from the 5-yard line. Must be a passing attempt. = 1 Point
- Two (2) points after touchdown (2PAT) from the 12 yard. Can be either a running or passing attempt. = 2 Points
- If a defender intercepts a PAT or 2PAT pass and returns it to the opposition endzone. (PAT return) = 2 points.
- A safety occurs when the ball carrier is ruled down within their own endzone. A ball carrier is ruled down by being tackled, a flag falling out, stepping out of bounds or fumbling the ball.

DEFENDING:

- A legal flag pull takes place when the ball carrier is in full possession of the ball.
- Defenders can leave the floor and dive to pull the ball carriers flag but cannot impede, hold or hit the ball carrier.
- It is illegal to attempt to strip or hit the ball out of the ball carrier's possession at any time.
- Interceptions are returnable for touchdowns and for 2 points on both PAT and 2PAT attempts.
- Once the quarterback has lowered their hands (simulating a handoff) the defence are able to cross the line of scrimmage and tackle offensive players. This is the only time a quarterback can be sacked.

