ORLEANS PRIMARY SCHOOL

Year 4 | **Spring 2 Curriculum Overview** | **2024**

SCIENCE States of Matter

By investigating the properties of solids, liquids and gases, children learn about the different states of matter. They explore changes of state using relatable examples and use this to explain changes to water through the water cycle. Pupils investigate the relationship between temperature and rate of evaporation while broadening their experience of working scientifically.

DT Mechanical Systems: Making a Slingshot Car

The children will start off by making a car chassis – showing a greater understanding and skill in how to make a strong and stable frame. After adding a launch mechanism, they go on to design a vehicle body that considers aerodynamic qualities. Once it is fully assembled, we will test the cars in a class time trial and assess our finished models.

HISTORY British History: How hard was it to invade and settle in Britain?

This unit focuses on the arrival of Anglo-Saxon people in Britain. No sooner had the Romans left than the Anglo-Saxons arrived. We will look into many different aspects of this period of history such as: were they invited or were they invaders? The children will learn the names of the different invading/ settling groups, where they came from and where they made homes in Britain. We will will look at the changes and continuities that appear, in particular the arrival of Christianity and finally the next set of invaders – the Vikings!

PSHE Safety and the Changing Body

Children learn about cyberbullying and how to be good digital citizens; first aid, bites and stings and how to be safe near roads. Pupils also think about choices and influence, recognising who and what can influence our decisions.

P.E.

Our two sports for this term are **gymnastics** (4B), **swimming** (4H) and **netball** (both classes).

FRENCH Weather and the Water Cycle

Children will be learning the vocabulary for weather, points of the compass and the weather forecast. The unit will be completed with a science lesson in French about the water cycle.

Computing

HTML

Children will learn how to edit the HTML of a web page to change the layout of a website and the text and images.

RE

Who was Jesus?

We will be exploring questions such as What do we know about Jesus? Who was around at the time of Jesus? What is a prophecy?

MUSIC

PETER & THE WOLF
Programme music: timbre, pitch, tempo and melody.

Key Instant Recall Facts

To help develop children's fluency in mathematics, we ask them to learn Key Instant Recall Facts (KIRFs) each half term. Spring term's KIRFs are:

I know the x and ÷ facts for the 9x & 11x and **I know the x and ÷ facts for the 7x.** Please refer to the KIRF letter and activities on Google Classroom for more information and activities to support this learning.
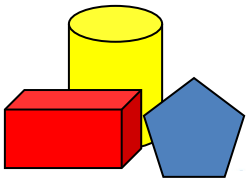
MATHS

FRACTIONS

We continue with fractions this term, before moving on to time and then decimals.

Key Learning:
- To recognise and write mixed numbers
- To recognise and write improper fractions
- To convert mixed numbers to improper fractions
- To add fractions which are equal to less than one
- To subtract fractions less than one whole
- To add fractions to equal an answer greater than one
- To subtract fractions including fractions greater than one

TIME

Key learning: To read, write and convert time between analogue and digital 12-hour clocks

Key vocabulary: a.m. = ante meridiem = before noon and p.m. = post meridiem = after noon therefore 12 o'clock noon and 12 o'clock midnight are neither p.m. or a.m.

- **Convert between analogue and digital 12-hour clocks**

MATHS

- **Convert between 12-hour analogue time, 12-hour digital time and 24-hour digital. time.**
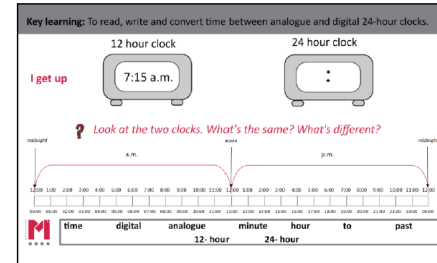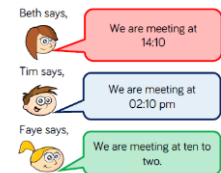
- **Converting hours, minutes and seconds**

First model example of a number line, using knowledge that 60 seconds = 1 minute.
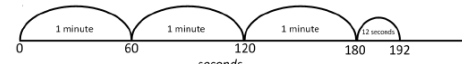
Then model how a quicker way to do this would be to used derived facts: I know that there are 3 x 60 = 180, which is 12 less than 192:
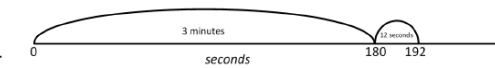
1 hour 17 minutes in minutes

Then model converting 1 hour 17 minutes into minutes:

- *I know that there are 60 minutes in one hour, so 60 + 17 = 77 minutes*

- **Converting years and months, weeks and days.**

Demonstrate how this can be converted into months by going in jumps of 1 year (12 months):

? **Is there a quicker way I can work this out?**

*I know 3 x 12 is equal to 36, which is 3 less than 39*

7 weeks and 4 days in days

- *I know there are 7 days in one week, so in 7 weeks there must be 7 times as many days. 7 × 7 = 49 days*

- *49 + 4 = 53 days*

45 days in weeks

Demonstrate the conversion using a number line first in jumps of 1 week (7 days), then describing that by using knowledge of multiplication tables, this can be completed quicker, in fewer jumps.
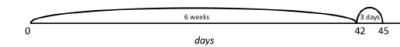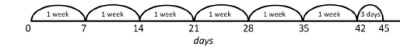
- **Solve word problems involving time, using the 12-hour clock, 24-hour clock and converting measurements.**

The flight to Madrid takes 7 hours and 15 minutes. If a plane departs at 13.38, what time does it arrive in Madrid?
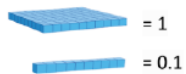
The flight for Washington leaves at 15.20. Maria and her baby are the first to get on the plane, boarding 45 minutes before the plane takes off. What time did
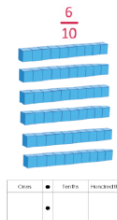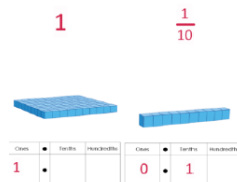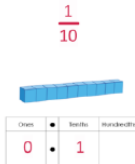
DECIMALS

During this unit, children will repurpose Dienes in order to represent decimal numbers, with the 100 slab being assigned the value of one. This may potentially
cause confusion and therefore children will have the opportunity to play with the representation in order to securely represent decimal numbers. Alongside the pictorial representations of Dienes, modelling also includes concrete Dienes equipment.

Key learning: Recognise decimal equivalents to any number of tenths, using Dienes to represent their value.

How would I represent the fraction $2\frac{5}{10}$ as a decimal and using Dienes?

Ones	•	Tenths	Hundredths
2	•	5	

= 1
= 0.1

1

$\frac{1}{10}$

1

$\frac{1}{10}$

$\frac{6}{10}$

Ones	•	Tenths	Hundredths
1	•		

Ones	•	Tenths	Hundredths
0	•	1	

Ones	•	Tenths	Hundredths
1	•		

Ones	•	Tenths	Hundredths
0	•	1	

Ones	•	Tenths	Hundredths
	•		

For each container, write the amount of each colour of sand as a decimal and as a fraction.

a) blue sand = 0.4 or $\frac{4}{10}$

yellow sand = 0.1 or $\frac{1}{10}$

black sand = 0.3 or $\frac{3}{10}$

white sand = 0.2 or $\frac{2}{10}$

1 —
0.9 —
0.8 —
0.7 —
0.6 —
0.5 —
0.4 —
0.3 —
0.2 —
0.1 —
0 —
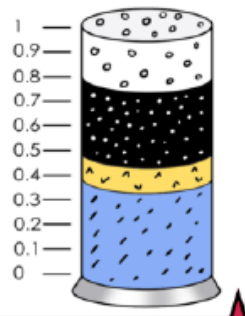
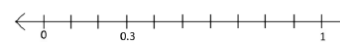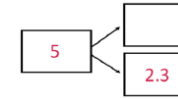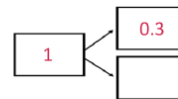- **To compare numbers with one decimal place.**

Let's Explore

Prove it!

What inequalities can you find using the following decimals?:

0.7   0.1   1.0   1.7   0.4

- **Round decimals with one decimal place to the nearest whole number.**
- **Find number bonds using numbers with one decimal place.**

1   0.3

5   2.3

0   0.3   1

- **Mentally add and subtract decimals using known number facts.**

2.7 + 0.8

2.7 + 0.8

Model adding together the decimal numbers, partitioning the ones and the tenths. Add the ones and then add the tenths.

I know 7 ones plus 8 ones is equal to 15 ones, therefore 0.7 add 0.8 is equal to 1.5.

2 plus 1.5 is equal to 3.5.

Model subtracting a decimal by partitioning the number being subtracted, subtracting the tenths, and then subtracting the ones.

Model subtracting a decimal by partitioning the number being subtracted, subtracting the tenths, and then subtracting the ones.

5.3 - 2.4 =

Subtracting the tenths: 5.3 - 0.4

I know 4 tenths is greater than 3 tenths therefore I need to regroup one for ten tenths. 1.3 subtract 0.4 is equal to 0.9.
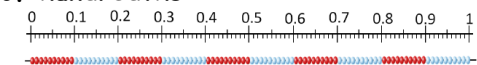
5.3 - 2.4

Subtracting the ones 4.9 - 2 = 2.9

- **Recognise decimal equivalents of hundredths**

Make each decimal using Dienes. Draw the Dienes and then write the decimal and the fraction.

e.g.   = 0.27 = $\frac{27}{100}$

0.82   0.23   0.6   0.03

0   0.1   0.2   0.3   0.4   0.5   0.6   0.7   0.8   0.9   1

? *How could we represent 0.3?*

0.3 is the same as three tenths. There are one hundred beads so one tenth of the beads will be 10 beads. Three tenths of the beads will be thirty beads.

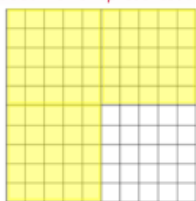## Recognise decimal halves and quarters

? What fraction is represented? ? How else could the same fraction or decimal be represented?
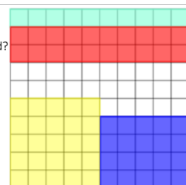? What decimal is represented?

Plenary
What fraction is shaded?   What decimal is shaded?

0.14   0.04   0.41   0.4

[ ] < [ ] > [ ] > [ ]

Multiply and divide by ten including decimals to two decimal places

300 x 10 =
30 x 10 =
3 x 10 =
0.3 x 10 =
0.03 x 10 =

When you multiply by ten each part is ten times bigger. In 300, each hundred will become ten times bigger, to make three thousand.

Demonstrate this on the place value chart:

Thousands	Hundreds	Tens	Ones	Tenths	Hundredths
		3	0	0	

Thousands	Hundreds	Tens	Ones	Tenths	Hundredths
3	0	0	0		

1800 ÷ 10 = 180   180 x 10 = 1800

180 ÷ 10 = 18   18 x 10 = 180

18 ÷ 10 = 1.8   1.8 x 10 = 18

1.8 ÷ 10 = 0.18   0.18 x 10 = 1.8

5000 ÷ 100 = 50   50 x 100 = 5000

500 ÷ 100 = 5   5 x 100 = 500

50 ÷ 100 = 0.5   0.5 x 100 = 50

5 ÷ 100 = 0.05   0.05 x 100 = 5

Write the equation 5000 ÷ 100. Discuss with pupils the answer and how they know it.

🐞 I know when I divide by one hundred the number becomes one hundred times smaller. I know ten is one hundred times smaller than one thousand. Therefore fifty is one hundred times smaller than five thousand.

🐞 When I divide by one hundred, I can think about each part becoming one hundred times smaller. 5000 ÷ 100 = 50.

What could the functions be? How many different solutions can you find?

0.3 ⇒ [ ] ⇒ [ ] ⇒ 0.05

ENGLISH

We are continuing with Ice Palace for another 2 weeks and then move on to:

Charlotte's Web by E.B White

This classic novel for children, first published in 1952, retains its appeal for modern children. It is the story of Fern, a little girl who saves a pig on the family farm from being killed, and the pig's friendship with a spider who lives alongside him in a barn with the other farm animals. Their lives are woven into the cycle of the seasons and farm life. We hear, as Fern does, their conversations, and see how life and death are a natural part of things.

Overall aims of this teaching sequence.

• Discussing writing similar to that which they are planning to write in order to understand and learn from its structure, vocabulary and grammar;
• Progressively building a varied and rich vocabulary and an increasing range of sentence structures;
• Assessing the effectiveness of their own and others' writing and suggesting improvements.

The book supports learning about character development, though changes in feelings and emotions, and emotional response in narrative fiction, exploring the themes of friendship, the passing of time, and the circles of life through the complex web of relationships portrayed in the text. The narrative structure offers young readers and writers a good model for their own story planning and descriptive writing.

Writing Outcomes

- Poetry
- Diary entry
- Story maps
- Note taking
- Fact files
- Writing in role
- Character descriptions
- Narrative descriptions

FULL COLOUR EDITION
Charlotte's Web
WINNER OF THE NEWBERY HONOR
by E.B WHITE
Author of STUART LITTLE
Pictures by GARTH WILLIAMS