

January 2024

**Dear Parents and Carers** 

We would like to wish you a happy New Year and welcome you to the start of 2024.

### **Our Topic**

### Term 3: How the Law has Changed.

Children will explore how and why Crime and Punishment have changed over time. They will look at some case studies in more depth to understand triggers for change, including the Bloody

Code of 1815, the founding of the first police force, transportation of prisoners and the activism of the suffragettes. Local police will visit the children and will talk about their role in society today.

In Science lessons, children will be learning about electricity and which devices are mains or battery powered. They will find out about how electrical circuits can create lights, sound, heat and movement. They will make circuits using a range of components and will make their own switches to turn their circuits on and off.

### **Maths and English**

In maths lessons, children will be learning about: the four basic operations; angle; and bar charts. In order to support your child, you could talk to them about the maths they are learning, identifying the types and names of angles they turn on their way to and from school, and data they see presented in bar charts. It would really support your child if they were confident with their times tables. This would help them in all areas of maths. This term your child needs to learn up to the 9x table.

### x2 x10 x5 x4 x3 x8 x6 x9 x7 x11 x12 p1

In English, we will be learning about scientific reports, instructions and stories. In order to support your child, you could look at stories and discuss how the authors develop settings, plots and characters. You could also look at instructions and identify common features that appear in nearly every one.

The spellings your child will be learning this term can be accessed through our school website; it would be really useful if you could help your child to learn these spellings.

Please encourage your child to read at home every day and ask them questions about what they are reading at every opportunity. We aim to change books regularly. Your child may bring a water bottle to school. Please ensure the bottle is clearly named and only contains water.

### PΕ

Please ensure that your child has the appropriate PE kit in school every day. For outdoor games, the children need plain black/navy tracksuit bottoms, a plain white t-shirt, a plain sweatshirt and trainers. For indoor PE, the children need plain black/navy shorts and a plain white t-shirt. Every item needs to be clearly labelled and in a bag that will remain in school every day. Kits will be taken home to be washed at the end of each term. No items should be taken home during the term.

### Homework

Homework is set on a Thursday and will continue to support your child's education. It will include weekly maths and English activities as well as reading, some spelling investigations and multiplication facts. If there are ever any problems about the homework, please come and see us as soon as possible.

### **Important Dates**

03.01.24 – First day of term 3

06.02.24 - Parents' Evening face-to-face

07.02.24 - Parents' Evening via telephone

09.02.24 - Last day of term 3

19.02.24 - First day of term 4

Please note: after school clubs for Term 3 will start from Monday 8<sup>th</sup> January.

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Yours sincerely

Mr Batterham Mr Saw Year 4 Class Teachers

### **HOW YOU CAN SUPPORT YOUR CHILD'S LEARNING THIS TERM:**

Key things parents can do to support their child this term related to things they will be learning about are:

- suggesting your child reads instructions that come with toys and games, and recipes to any meals you are cooking to identify similarities between them all
- identifying whether electrical items in the home are battery powered or are using mains electricity
- using the instructions below to create your own circuits to use in these wonderful projects. Photos or videos of these would be worth MANY house points! Bringing them into show the teachers would be even better!
- helping your child to make juggling balls to practise with instructions are included!
- learning to juggle with your child! This website will really help! https://www.youtube.com/watch?v=dCYDZDlcO6g





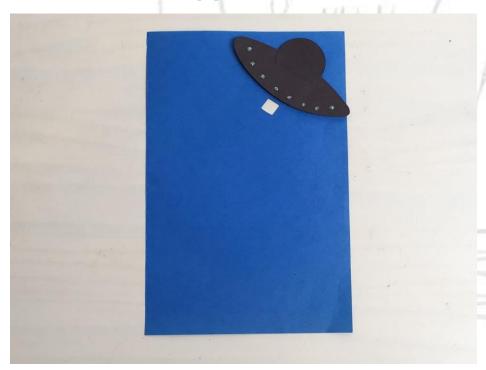


### **Incredible Card Circuits**

Decide how you want to decorate the front of your card and cut out paper shapes.



Plan where you will place the LEDs. In this example, we will have an LED shine from the bottom of the UFO so we cut a hole in the paper there.



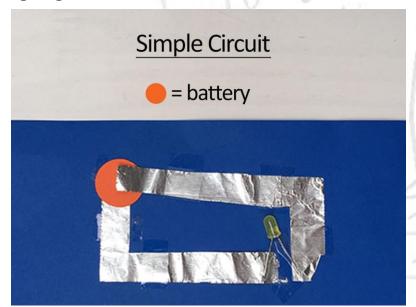


### YEAR 4



Lay out your paper shapes and stick them down with a glue stick. We also used double sided sticky foam squares under some of the stars and the UFO for a 3D look. Feel free to decorate more with glitter, markers, and more!

We covered the hole with a piece of tissue paper. This is optional, but we wanted to go for a different lighting effect.



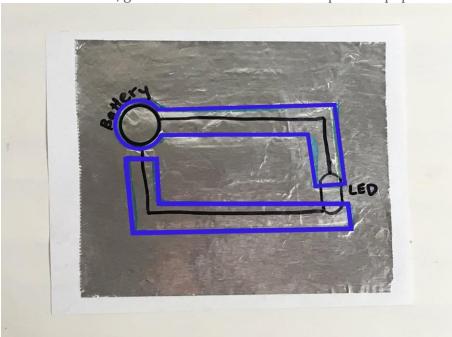
Note: In this step we used regular LEDs (they have the two wires!) and sew-able LEDs (look like an oval!). Any kind of LEDs work - just be sure the LED, as well as the battery, have good contact with the foil and that there is no tape in between the parts and the foil.



### YEAR 4



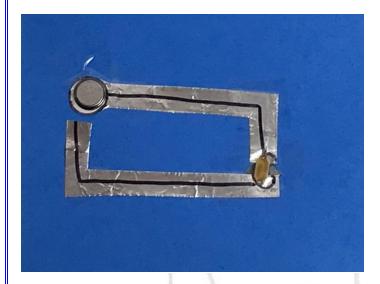
To build a circuit, glue some aluminium foil to a piece of paper.



Draw out a circuit with a coloured sharpie. In our example, we used a blue marker to draw our circuit. Cut out a piece of foil to practice drawing a circuit!

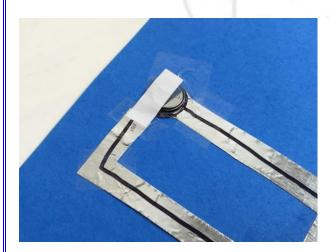


Trace your battery, and LED onto the foil with a black marker. It might be helpful to also draw a black line to visualise the path of the current.



Cut out the foil paths by following the coloured lines. Use clear tape to tape the foil paths to the back of your card.

Next, tape your LED and battery to the foil. Make sure the LED shines through a hole you've made. Notice the LED bridges a 1 mm gap in the foil paths and that the battery is only sitting on one of the foil paths.



Cut a small piece of rectangular foil with paper backing (from step 5)

This flap of foil is used to connect the second foil path to the top of the battery to complete the circuit.







Once the connections are made, your LED should light up. If it doesn't, make sure the connections are secure or try flipping the battery over.

### What's going on?

You made a circuit! Electricity flows through circuits as charged particles move from the battery through the LED and back to the other side of the battery forming a closed loop. This flow of electrons is called current. Certain materials like aluminium foil allow electricity to flow whereas other materials like wood and rubber do not.



### YEAR 4

### **Electrostatic Toothpick**



How strong is static electricity? Can it move through a cup? Can we actually see it working? We are going to find out!

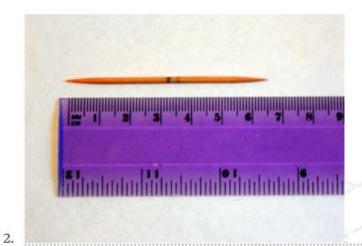


1.

We love playing with static electricity! This one is fun because it works at somewhat long range.



### YEAR 4



First, measure the toothpick and mark the middle point.



Next, get a coin upright.



When your coin is balanced, take the toothpick and lay it crosswise over the top of the coin.

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### YEAR 4



Then, carefully put the see-through cup over the coin and toothpick.



Then, pick up the balloon and rub-da-rub-rub it across the back of your hair. This negatively charges the

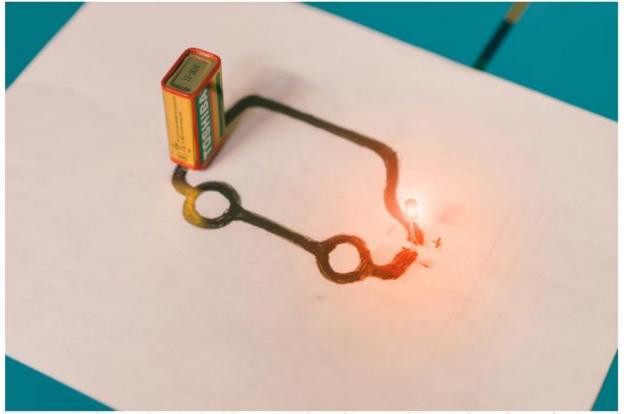


...and bring the statically charged balloon closer to the cup. The toothpick should move! The positively centred toothpick is attracted to the negatively charged balloon which makes the toothpick rotate and swing atop the coin!

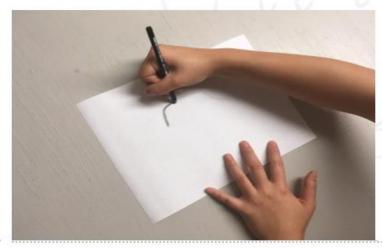


### YEAR 4

### Graphite Circuit



Can you complete an LED circuit using a normal graphite pencil? Learn about the conductive properties of graphite and draw your own design to see it light up!



1.

Use your normal graphite pencil and draw any design on your paper.

Tip: Draw a simple image where all the lines are connected and make sure to create thick, bold lines with your pencil.

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2.

In your drawing, leave at least a 1 cm gap on opposite ends of your drawing. Mark your positive and negative lines.

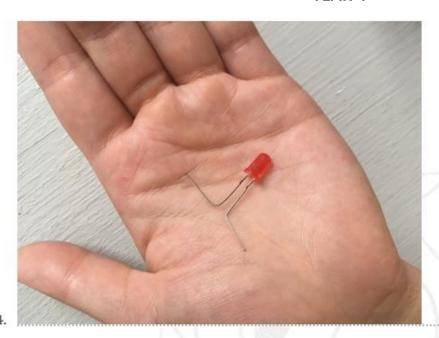


3.

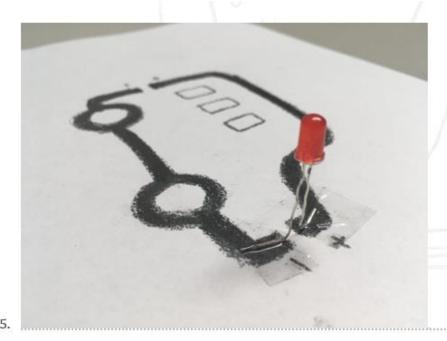
Once you're done with your design, place the battery on one of the gaps. Align the positive and negative ends with the graphite lines.



### YEAR 4



Take an LED and bend the bottom ends of the wires.

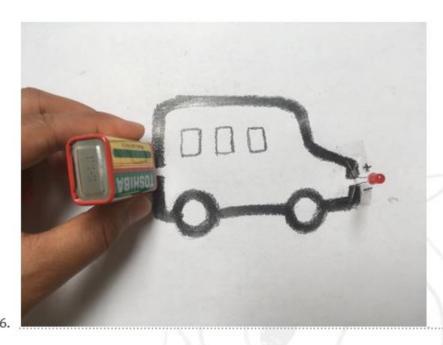


Tape the wire at the end of the lines across the other gap, aligning positive and negative wires. Make sure your LED stands upright. The wires should be in contact with the graphite lines.

Tip: The longer side of the LED is the positive side.



### YEAR 4



What's going on?

Graphite is an electrical conductor which is perfect for learning about circuits and electricity! Because graphite is low in conductivity, the success of a circuit will depend on the length, thickness, and amount of graphite on the paper. For example, the longer the graphite path is, the dimmer your light will be.

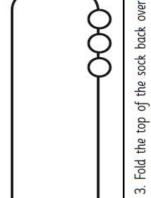
It's time to experiment! Try drawing lines of different lengths. Does it make a difference to the LED? Try drawing lines of different thicknesses. Does that make a difference to the LED?

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### YEAR 4

# Quick and Easy Juggling Balls



You will need:

1. Start with the first sock, two bands

and the filling.

· 3 old/odd children's socks

· 6 elastic bands or bobbles

A choice of filling such as rice, sand, lentils, marbles, dried beans and dried peas.

to about one third full and fasten a band around the top. A paper funnel might be 2. Next, use your filling to fill your sock useful if you are using sand or rice.

your filling



6. There! You have a quick and easy juggling ball.

5. Finally, fold the top of the sock one last time over the ball of filling which

Repeat for the other two socks until









4. Fasten a band securely around the



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