

British Science Week 2023

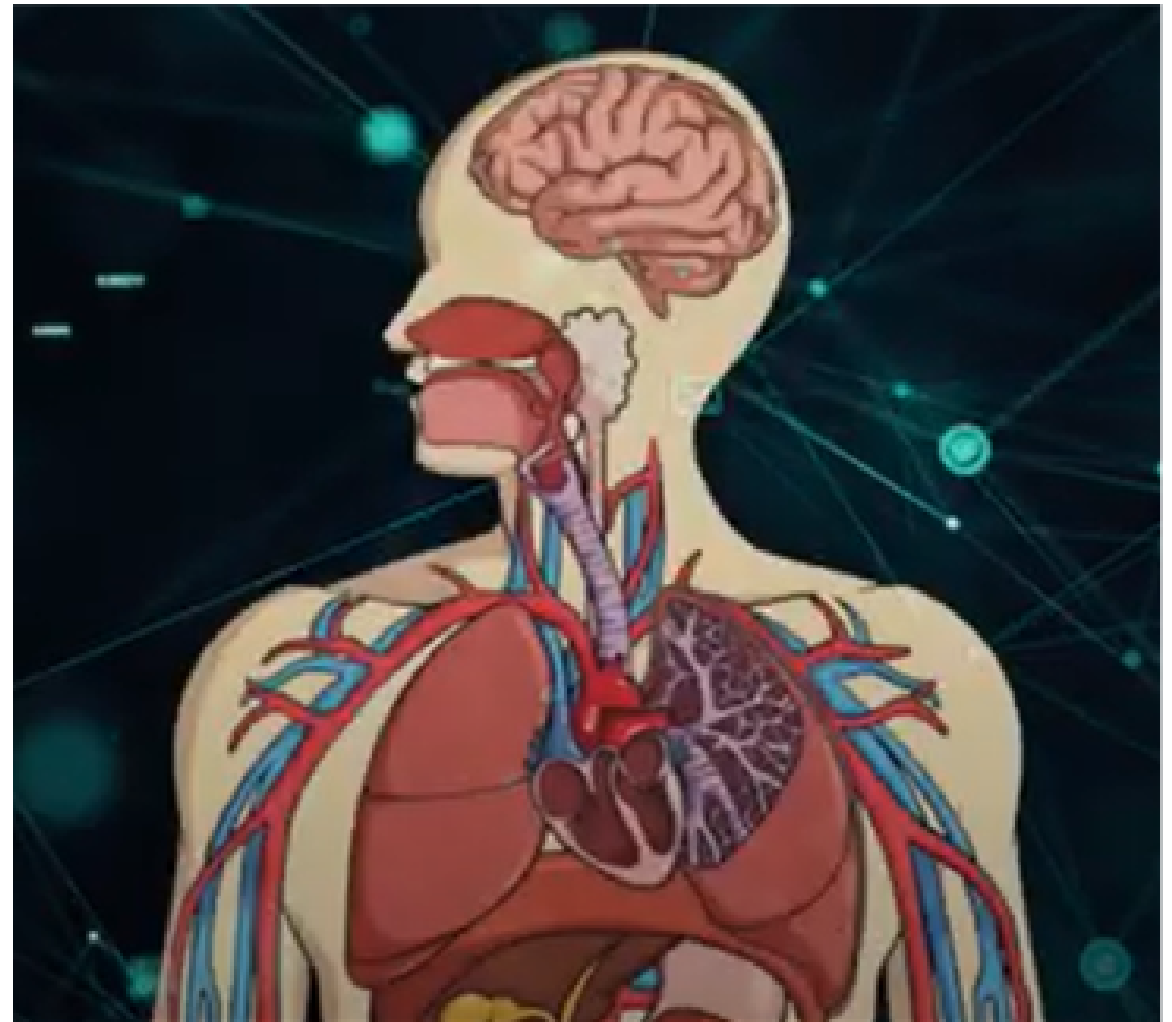


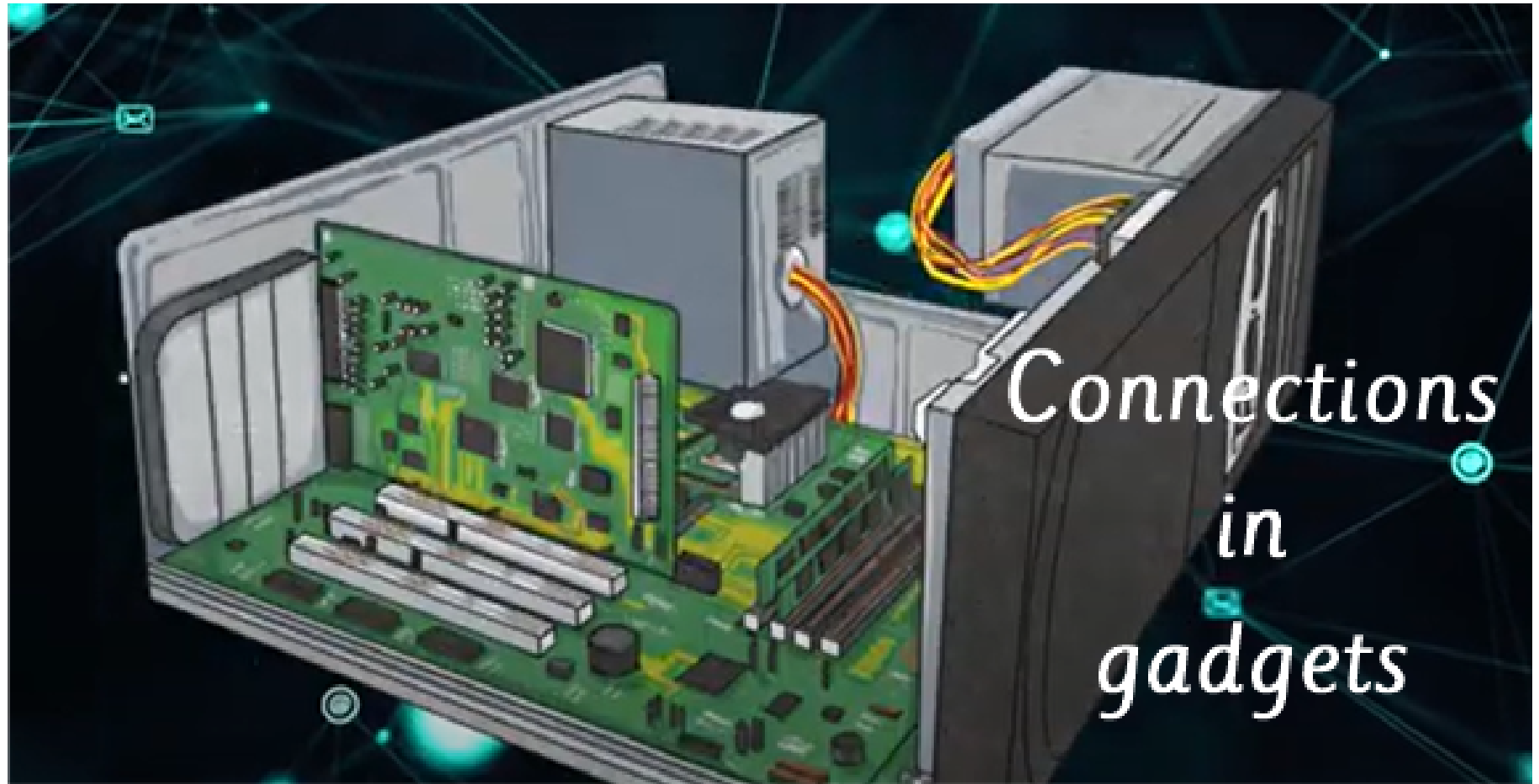
British Science Week is a ten-day celebration of science, technology, engineering and maths. This year's theme - connections!



CONNECTIONS

*Connections
in
the body*





Connections
in
gadgets

*Connections
in
the world
around us*

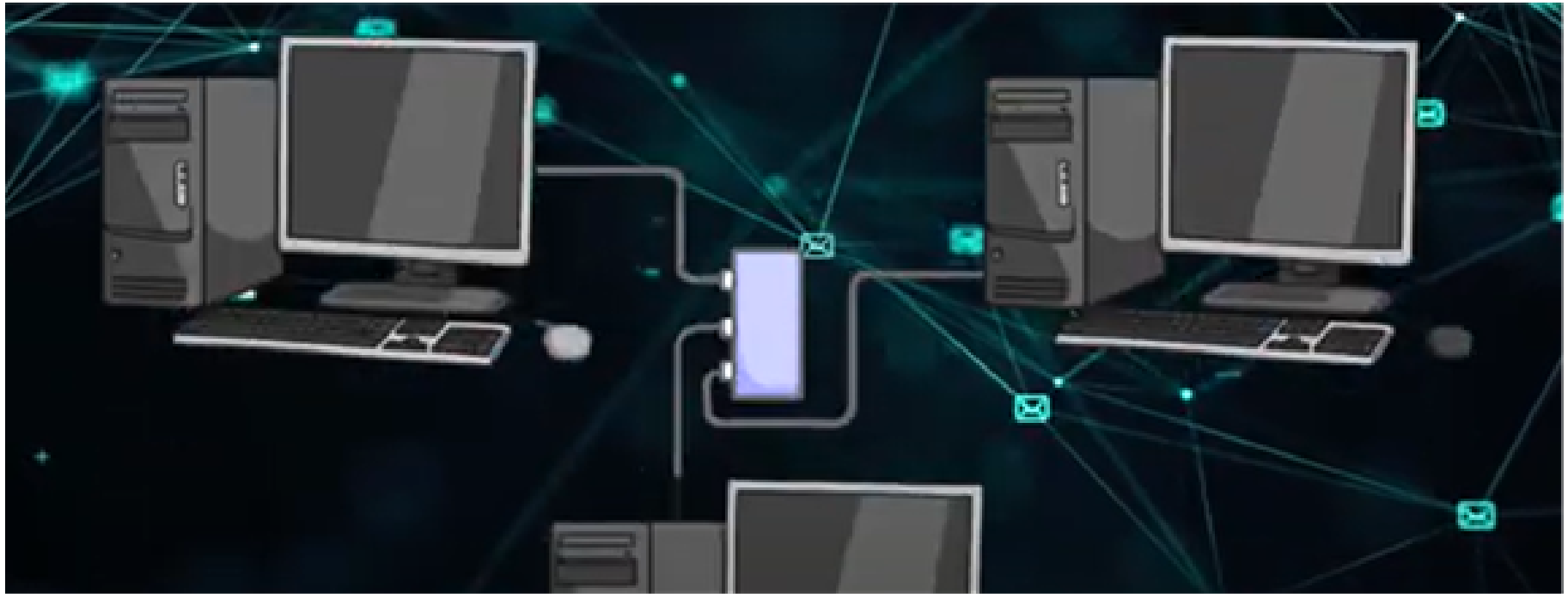




Connections in the planets



*Connections
in
animals and
their
habitats*



Connections in electricals



Connections in
technology

Poster Competition

ATOMS MAKE UP EVERYTHING IN THE UNIVERSE - HUMANS, ANIMALS, OBJECTS, BASICALLY EVERYTHING BUT, HOW DID HUMANS COME TO DISCOVER THE ATOM? WELL, IT ALL STARTED AROUND 400 B.C...

JOHN DALTON

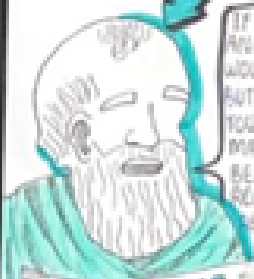
1803

WELL, DEMOCRITUS YOU DO SEEM TO BE QUITE RIGHT - ATOMS ARE INDIVISIBLE. I BELIEVE THAT ATOMS ARE SOLID SPHERES, AND DIFFERENT SPHERES MAKE UP DIFFERENT ELEMENTS. ALSO ALL ATOMS OF A PARTICULAR ELEMENT HAVE IDENTICAL PROPERTIES, INCLUDING WEIGHT.

DALTON'S MODEL



1897

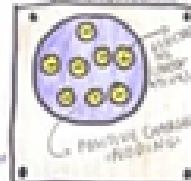


DEMOCRITUS

IF YOU TOOK A MATERIAL AND DIVIDED IT IN HALF YOU WOULD HAVE A SMALLER, BUT IDENTICAL CHUNK. IF YOU KEEP DIVIDING YOUR MATERIAL, THERE SHOULD BE A POINT WHEN YOU'VE REACHED THE SMALLEST REPRESENTATIVE ELEMENT OF YOUR MATERIAL - THAT IS THE ATOM. I BELIEVE THAT ATOMS ARE UNIFORM, SOLID, INCOMPRESSIBLE, HARD, AND INDESTRUCTIBLE.

How did the Atomic Model Evolve Over Time?

WOW... ATOMS BEING SOLID SPHERES? I THINK NOT, MR DALTON. FROM MY EXPERIMENTS, IT SEEMED THAT AN ATOM MUST CONTAIN EVEN SMALLER, NEGATIVELY CHARGED PARTICLES - ELECTRONS. I PRESENT TO YOU, THE 'PLUM PUDDING MODEL'.



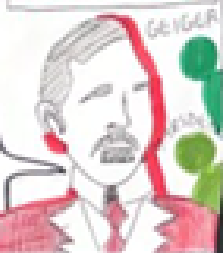
'PLUM PUDDING MODEL'



J.J THOMSON

1911

AH! I SEE, THOMSON! BUT I HAD CONDUCTED AN EXPERIMENT WITH AN ALPHA PARTICLES - THE GOLDEN FOIL EXPERIMENT. MOST OF THE PARTICLES WENT THROUGH BUT SOME DEFLECTED. I BELIEVE THERE IS A TINY POSITIVELY CHARGED NUCLEUS, SURROUNDED BY A 'CLOUD' OF ELECTRONS.



RUTHERFORD

NEILS BOHR

1913

GOOD ONE, RUTHERFORD BUT IF ELECTRONS WERE IN A 'CLOUD' AROUND THE NUCLEUS, IT WOULD CAUSE THE ATOM TO COLLAPSE.



I THUS CONCLUDED THAT ELECTRONS EXIST IN FIXED ORBITS OR SHELLS.



MOST WENT THROUGH BUT SOME REFLECTED.

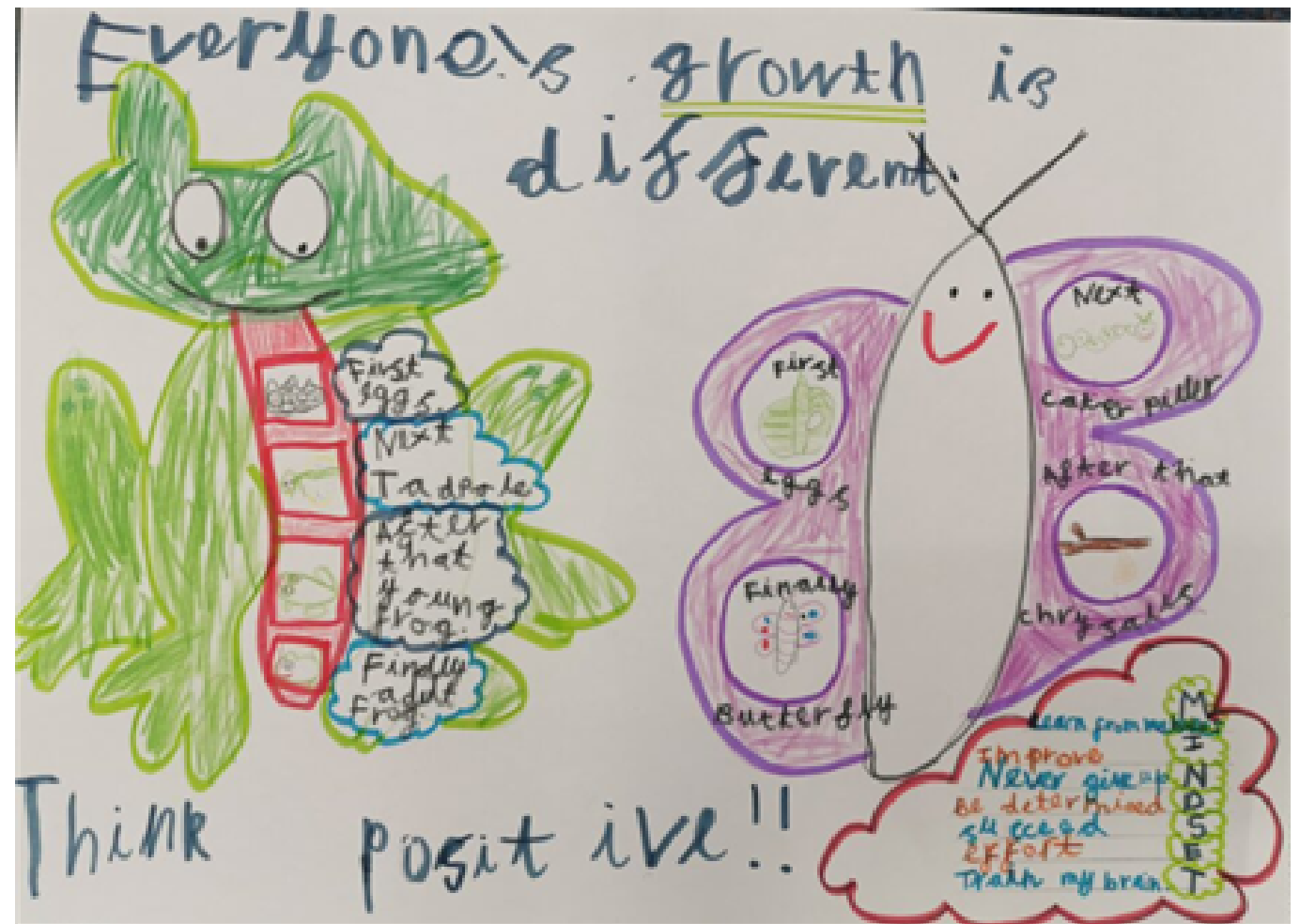
British Science Week Poster Competition

- Your entry must be on one page of **A4 or A3 white paper** only.
- It must be handed in and given to your **Class Teacher** no later than **Monday 27th March 2023** morning.
- Child's First Name on the front
- Child's age on the front
- Class Teachers will then hand these over to me that afternoon.
- I will then take a photo or scan it and upload onto the British Science Week website.
- There will be a **Coleham Winner** and a **British Science Week Winner**.
- The Coleham Winner will be announced **Monday 17th April**.

EYFS Winner 2022



KS1
Winner
2022



KS2
Winner
2022

How to make them

1. Place two marshmallows on a microwaveable plate and put them in the microwave.
2. Set the timer for 1 minute (60 seconds).
3. Stand back and watch the marshmallows expand.
4. When you take it out it will shrink back down as it cools but you can mould it into any shape you like and it will harden like that.

Why Do Marshmallows GROW in the Microwave?

Did You Know That Marshmallows GROW In The Microwave?

What's Going On?

Marshmallows are basically just sugar and water wrapped around loads of tiny air bubbles. Its walls being made of sugar make it very soft and squishy.

As the microwave heats up, the water molecules vibrate VERY quickly. This makes the water hot and the hot water starts to push the sugar and air bubbles.

As the air bubbles warm up, the air molecules start to push hard against the bubble walls and bounce around faster and faster.

Because the outer walls of the marshmallow are super soft, when the air bubbles come they push against the walls and the marshmallow grows!

But, if the marshmallow grows too much the air bubbles will pop and the marshmallow will collapse like a deflated balloon.

How will the posters be judged?

- *Creativity in approach – Innovative angle on the content or creative interpretation of the theme*
- *Content – Clear, accurate and informative about a STEM topic*
- *Effective communication – presented and communicated in an engaging way*

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