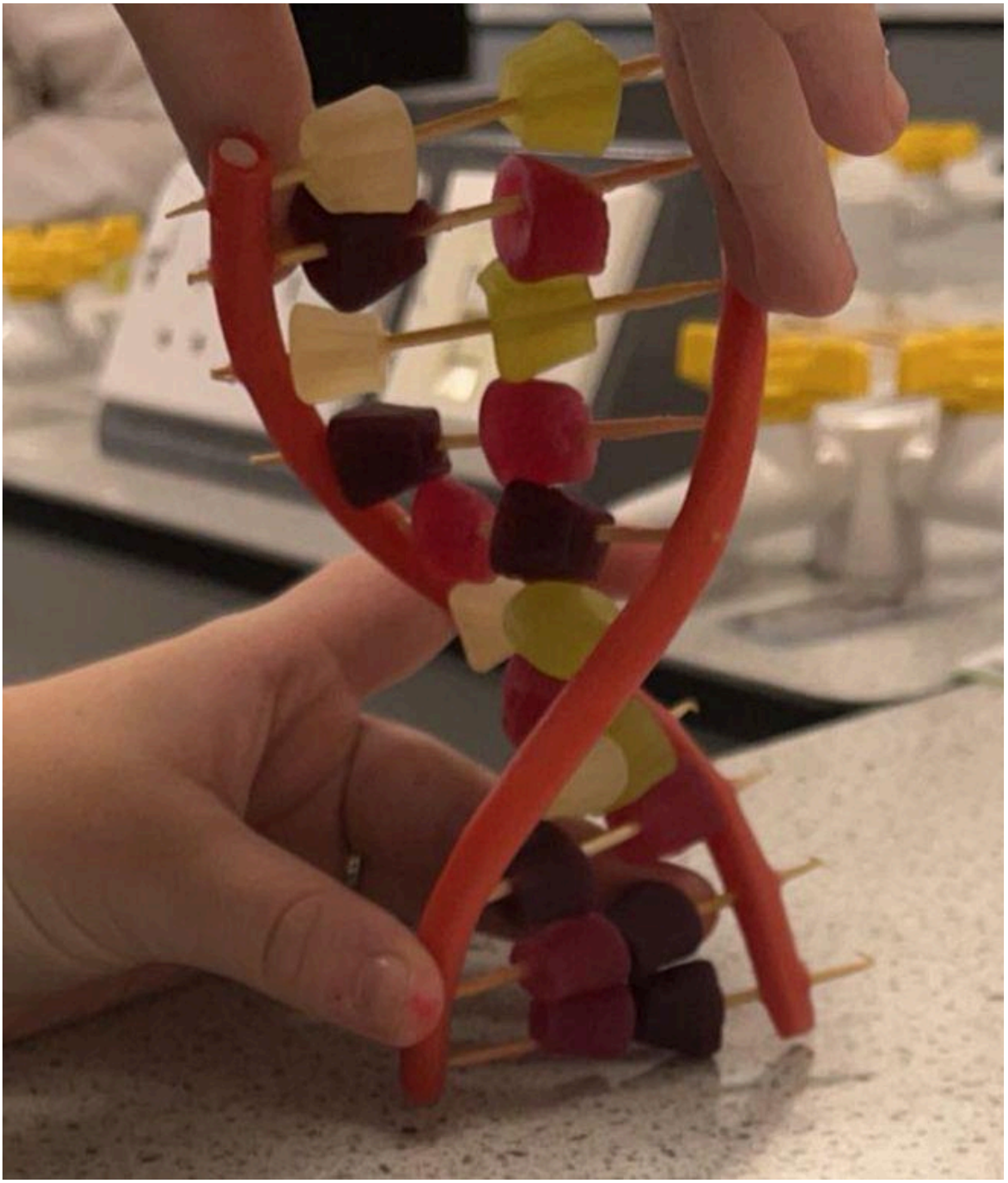


Solar power

Who created Solar power: Charles Fritts, Russell Ohl, Gearld pearson, Calver Souther Fuller, Daryl Chapin.

What is it?

It works by Converting energy from the Sun into power. There are two forms of the energy generated from the Sun for us to use it gets into our house from the Solar panels ontop of our house Stretching across the land.

Renewable:

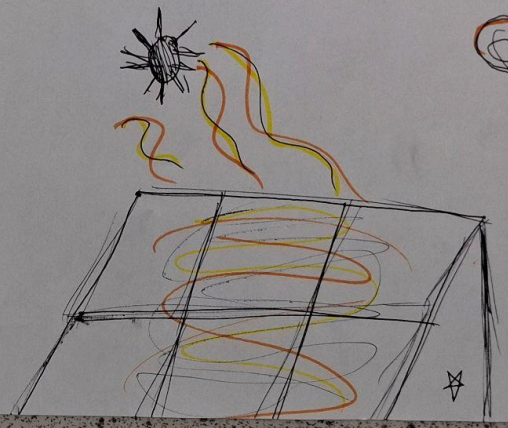
Solar power is renewable and infinite energy Source that creates no harmful greenhouse gas emissions. as long as the Sun continues to Shine, energy will be realeased.

but do they work in winter?

Yes! they actually work in all of the seasons, even rain or Shine aswell as hail or Snow! but, they do produce LeSS in winter from lack of Sun that shines on the panels.

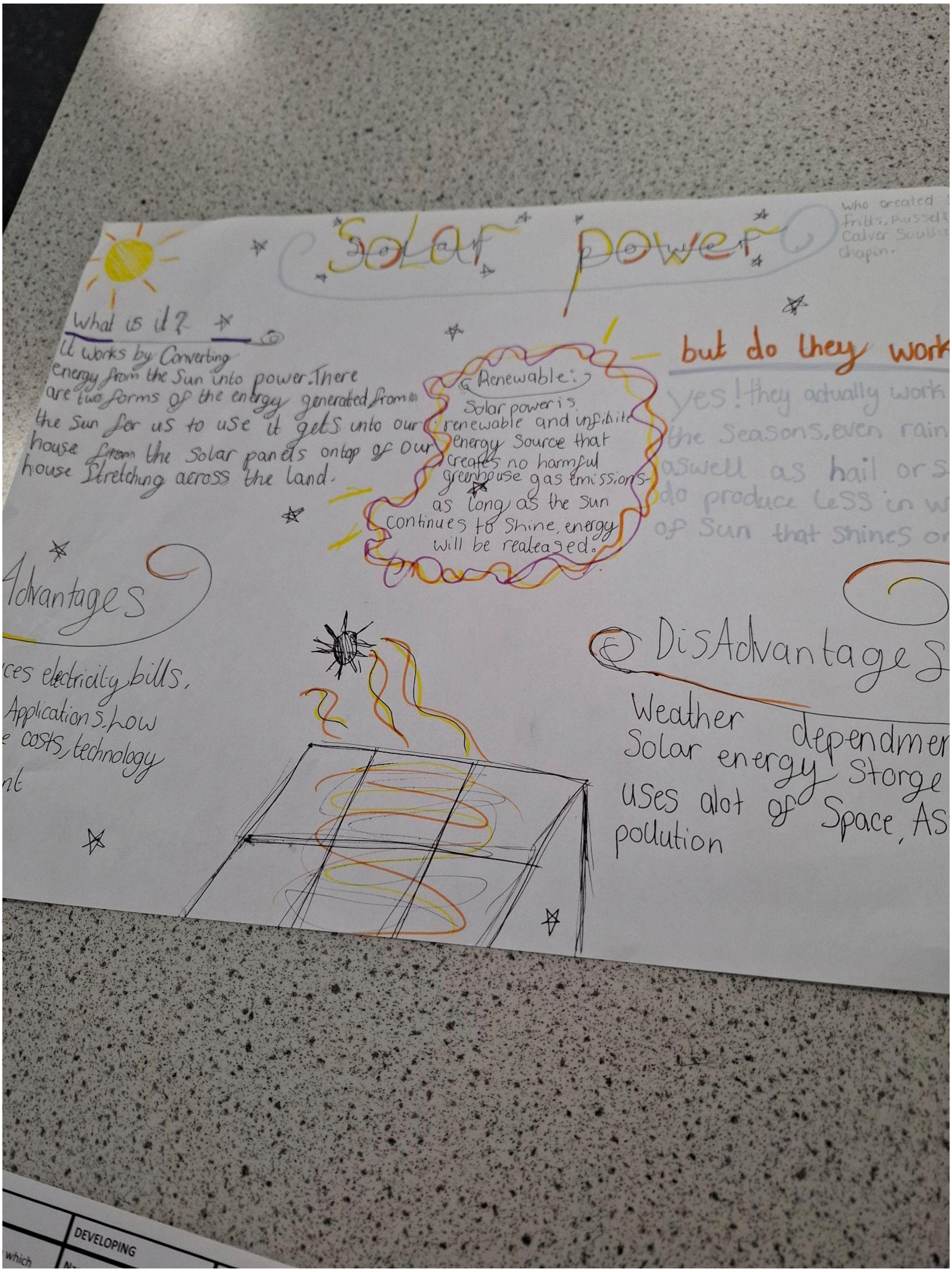
Advantages

Reduces electricity bills, Diverse Applications, low maintence costs, technology Development



DisAdvantages

Weather dependment, Solar energy Storge is expensive, uses alot of Space, ASSociated with pollution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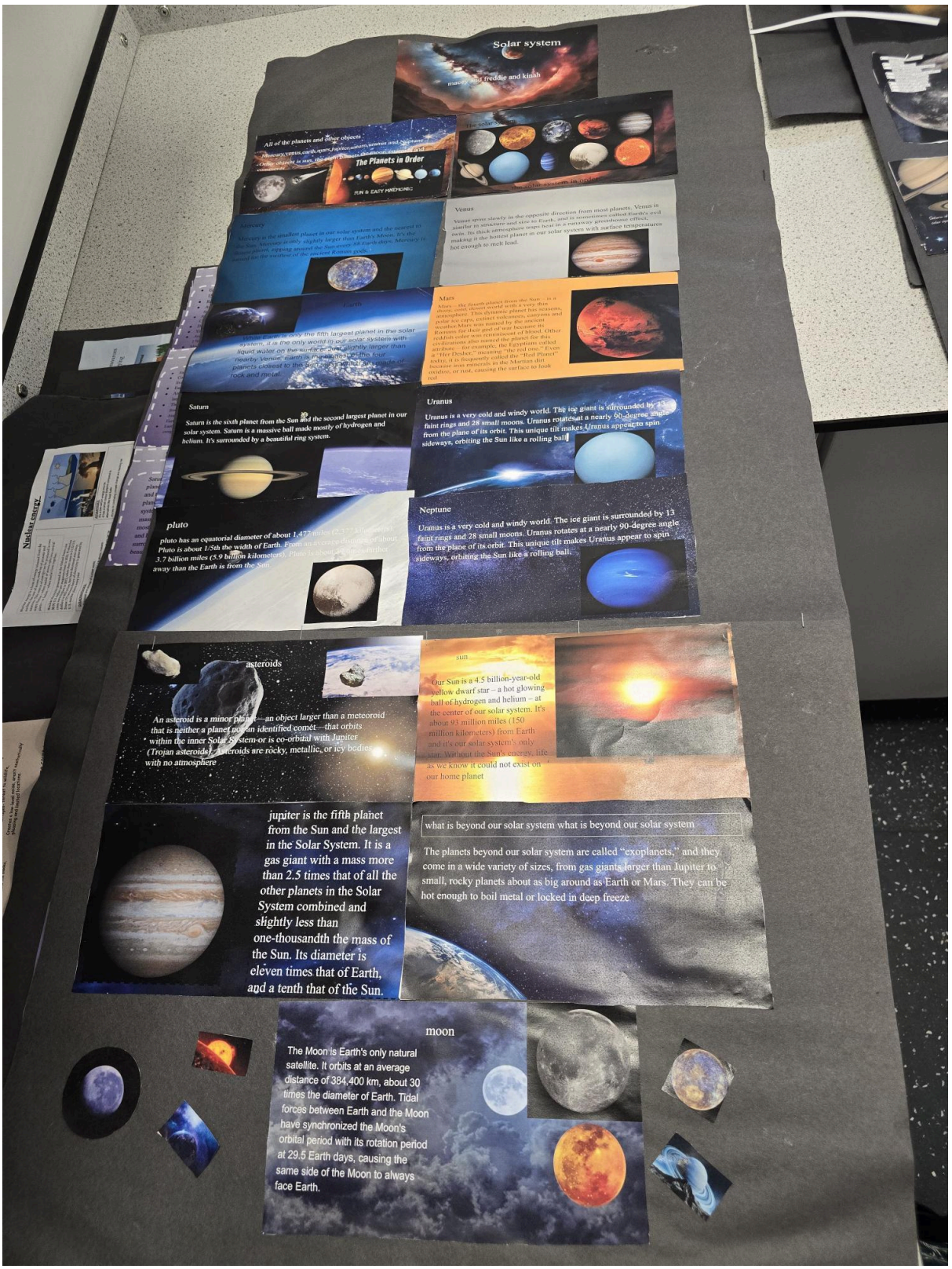
which


pluto
MERCURY
OUR SOLAR SYSTEM BY
CHARLOTTE G., KAITLYN H.,
AMELIA G & KACEY W
mars
Moon
JUPITER
Saturn
Neptune
EARTH


Solar system
The Planets in Order
FUN & EASY MNEMONIC
Venus
Venus spins slowly in the opposite direction from most planets. Venus is similar in structure and size to Earth, and is sometimes called Earth's evil twin. Its thick atmosphere traps heat in a runaway greenhouse effect, making it the hottest planet in our solar system with surface temperatures hot enough to melt lead.
Mars
Mars – the fourth planet from the Sun – is a dusty, cold, desert world with a very thin atmosphere. This dynamic planet has seasons, polar ice caps, extinct volcanoes, canyons and weather. Mars was named by the ancient Romans for their god of war because its reddish color was reminiscent of blood. Other civilizations also named the planet for this attribute – for example, the Egyptians called it "Her Desher," meaning "the red one." Even today, it is frequently called the "Red Planet" because iron minerals in the Martian dirt oxidize, or rust, causing the surface to look red.
Saturn
Saturn is the sixth planet from the Sun and the second largest planet in our solar system. Saturn is a massive ball made mostly of hydrogen and helium. It's surrounded by a beautiful ring system.
Uranus
Uranus is a very cold and windy world. The ice giant is surrounded by 13 faint rings and 28 small moons. Uranus rotates at a nearly 90-degree angle from the plane of its orbit. This unique tilt makes Uranus appear to spin sideways, orbiting the Sun like a rolling ball.
Neptune
Uranus is a very cold and windy world. The ice giant is surrounded by 13 faint rings and 28 small moons. Uranus rotates at a nearly 90-degree angle from the plane of its orbit. This unique tilt makes Uranus appear to spin sideways, orbiting the Sun like a rolling ball.
pluto
pluto has an equatorial diameter of about 1,477 miles (2,377 kilometers). Pluto is about 1/5th the width of Earth. From an average distance of about 3.7 billion miles (5.9 billion kilometers), Pluto is about 39 times farther away than the Earth is from the Sun.
asteroids
An asteroid is a minor planet – an object larger than a meteoroid that is neither a planet nor an identified comet—that orbits within the inner Solar System or is co-orbital with Jupiter (Trojan asteroids). Asteroids are rocky, metallic, or icy bodies with no atmosphere
sun
Our Sun is a 4.5 billion-year-old yellow dwarf star – a hot glowing ball of hydrogen and helium – at the center of our solar system. It's about 93 million miles (150 million kilometers) from Earth and it's our solar system's only star. Without the Sun's energy, life as we know it could not exist on our home planet
jupiter is the fifth planet from the Sun and the largest in the Solar System. It is a gas giant with a mass more than 2.5 times that of all the other planets in the Solar System combined and slightly less than one-thousandth the mass of the Sun. Its diameter is eleven times that of Earth, and a tenth that of the Sun.
what is beyond our solar system what is beyond our solar system
The planets beyond our solar system are called "exoplanets," and they come in a wide variety of sizes, from gas giants larger than Jupiter to small, rocky planets about as big around as Earth or Mars. They can be hot enough to boil metal or locked in deep freeze
moon
The Moon is Earth's only natural satellite. It orbits at an average distance of 384,400 km, about 30 times the diameter of Earth. Tidal forces between Earth and the Moon have synchronized the Moon's orbital period with its rotation period at 29.5 Earth days, causing the same side of the Moon to always face Earth.

Mercury

- Equator circumference: 15,329 km.
- Radius: 2,440 km.
- Average distance from Sun: 58 million km.
- Surface temperature: -180° C to 430°C.
- Day length: 59 Earth days.
- Year length: 88 Earth days.
- Average orbital speed: 170,500km/h (47 km/s)

- Mercury does not have any moons or rings.
- Mercury is the smallest planet.
- Mercury is the closest planet to the Sun.
- Your weight on Mercury would be 38% of your weight on Earth.
- A solar day on the surface of Mercury lasts 176 Earth days.
- A year on Mercury takes 88 Earth days.

Mercury has little atmosphere, but what it does have is made up mostly of oxygen, sodium, hydrogen, helium, and potassium.

venus

Venus spins slowly in the opposite direction from most planets. Venus is similar in structure and size to Earth, and is sometimes called Earth's evil twin. Its thick atmosphere traps heat in a runaway greenhouse effect, making it the hottest planet in our solar system with surface temperatures hot enough to melt lead.

- Venus is the hottest planet in our solar system.
- Venus is a terrestrial planet. It is small and rocky.
- Venus has a thick atmosphere. It traps heat and makes Venus very hot.
- Venus has an active surface, including volcanoes!
- Venus spins the opposite direction of Earth and most other planets

earth

- Earth isn't actually round.
- Coral reefs are Earth's largest living structure.
- Earth has a squishy interior.
- Antarctica is home to the largest ice sheet on Earth.
- The Moon is drifting away from Earth.
- Aircraft is the driest place on Earth.
- Earth's magnetic pole is creeping westward.

Earth is the only planet in the solar system whose English name does not come from Greek or Roman mythology. The name was taken from Old English and Germanic. It simply means "the ground."

- Australia is wider than the moon.
- Venus is the only planet to spin clockwise.
- Allodoxaphobia is the fear of other people's opinions.
- A fear of long words is called Hippopotomonstrosesquippedal iophobia.
- The quickest commercial flight in the world is in Scotland.

mars

- Named after the Roman God of war, Mars is the fourth planet from the sun in our solar system.
- Mars is also known as the 'Red Planet' because, well, it's red!
- Mars is the second smallest planet in the solar system after Mercury.

Mars – the fourth planet from the Sun – is a dusty, cold, desert world with a very thin atmosphere. This dynamic planet has seasons, polar ice caps, extinct volcanoes, canyons and weather.

Mars is the fourth planet from the sun, about 141 million miles away. It takes approximately 300 days (8 months) to travel there from Earth. A Martian year is 687 days long, or 1.9 Earth years. Mars' axial tilt is 25 degrees, resulting in seasons similar to Earth's.

jupiter

Being farther from the Sun, Jupiter is much colder. On average, the temperature on Jupiter's "surface" is -110°C (-160°F). The interior of Jupiter, however, is very hot. The temperature gradually increases as you dive deeper and deeper into the atmosphere.

Saturn

Saturn is the sixth planet from the Sun and the second largest planet in our solar system. Saturn is a massive ball made mostly of hydrogen and helium. It's surrounded by a beautiful ring system.

uranus

The ice giant is surrounded by 13 faint rings and 28 small moons. Uranus rotates at a nearly 90-degree angle from the plane of its orbit. This unique tilt makes Uranus appear to spin sideways.

Later, when telescopes were used, other planets were discovered. Astronomers decided to continue naming the planets after Roman Gods with one

Solar system

Neptune

Neptune has six rings and 13 confirmed moons. One of these moons, Triton, has geysers that spray icy material more than five miles (eight kilometers) high into the frigid atmosphere. Neptune's magnetic field is 27 times mightier than Earth's.

Solar system (planets)

A planet is a celestial body that (a) is in orbit around the Sun, (b) has sufficient mass for itself-gravity to overcome rigid body forces so that it assumes a hydrostatic equilibrium (nearly round) shape, and (c) has cleared the neighborhood around its orbit.

What is the purpose of planets.

The other planets in our solar system exert a gravitational pull that helps stabilize the earths distance from the sun. This keeps the Earth from approaching too close or moving too far from the sun. Planets were created by God to keep Earth in both a stable and safe orbit.

What are the functions of planets?

The planets in the solar system revolve around the sun in their own orbit. They have their own satellites. The planets are placed at equal distances in the system. Some planets are extremely hot and some are cold.

Solar system (sun,moon,stars)

Facts about the sun

Equator circumference: 4,379,000km.

Radius: 695,700km.

Temperature: 5,973°C to 15,000,000°C.

Facts about the moon

Equator circumference: 10,917 km.

Radius: 1,737 km.

Average distance from Earth: 384,400 kilometres

Facts about stars

There are 9,096 stars visible to the naked eye in the entire sky.

You can only see about 2,000 stars on a very dark night with the naked eye from any given place on Earth.

asteroids

Facts

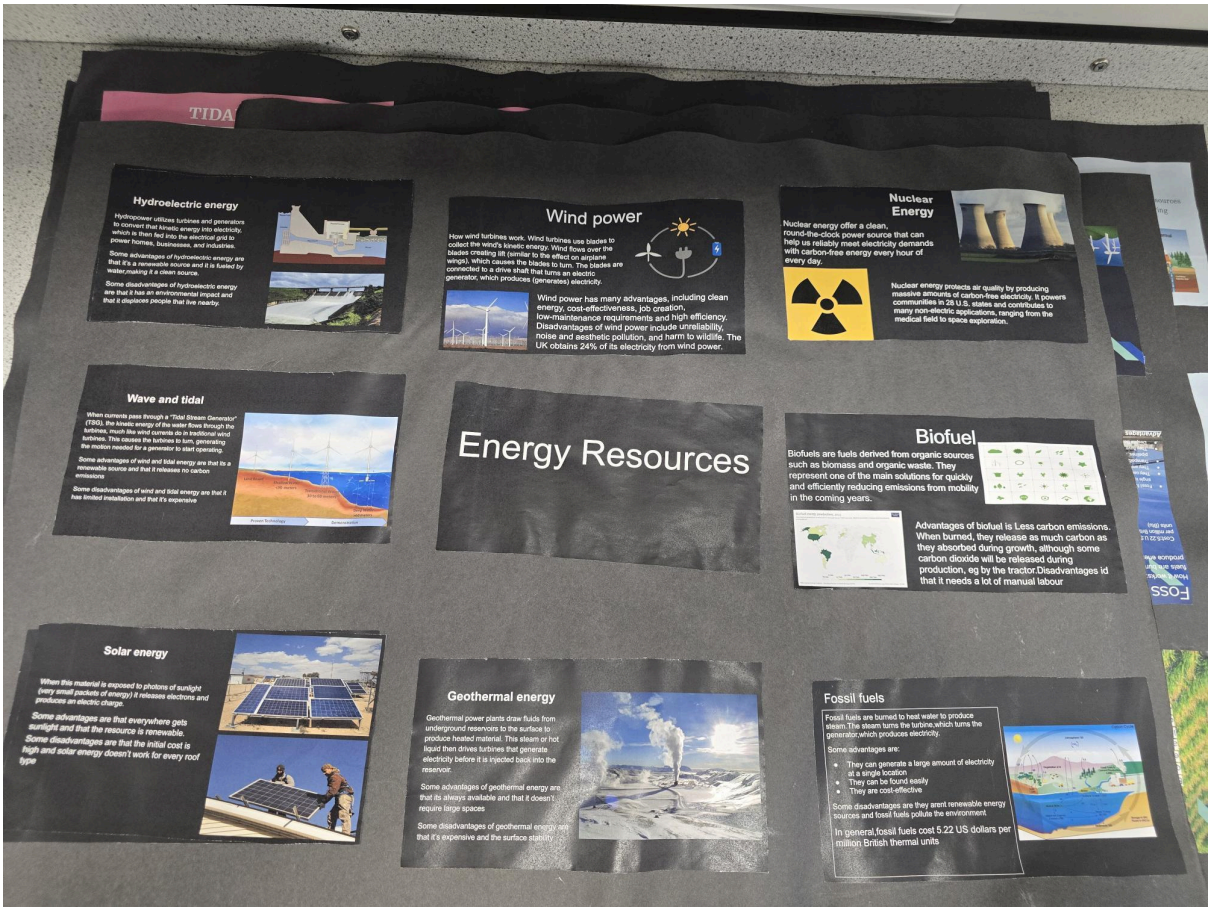
Asteroids are typically composed of rocky, dusty, and metallic materials. Most orbit within the main asteroid belt, between the orbits of Mars and Jupiter, but some follow paths that circulate into the inner solar system (including near-Earth asteroids).

Astronomers are tracking an asteroid that could hit Earth in 2032. Feeling lucky? Astronomers say that a newly identified space rock, potentially as big as a football field, has a better than 1% chance of crashing into Earth on Dec. 22, 2032.

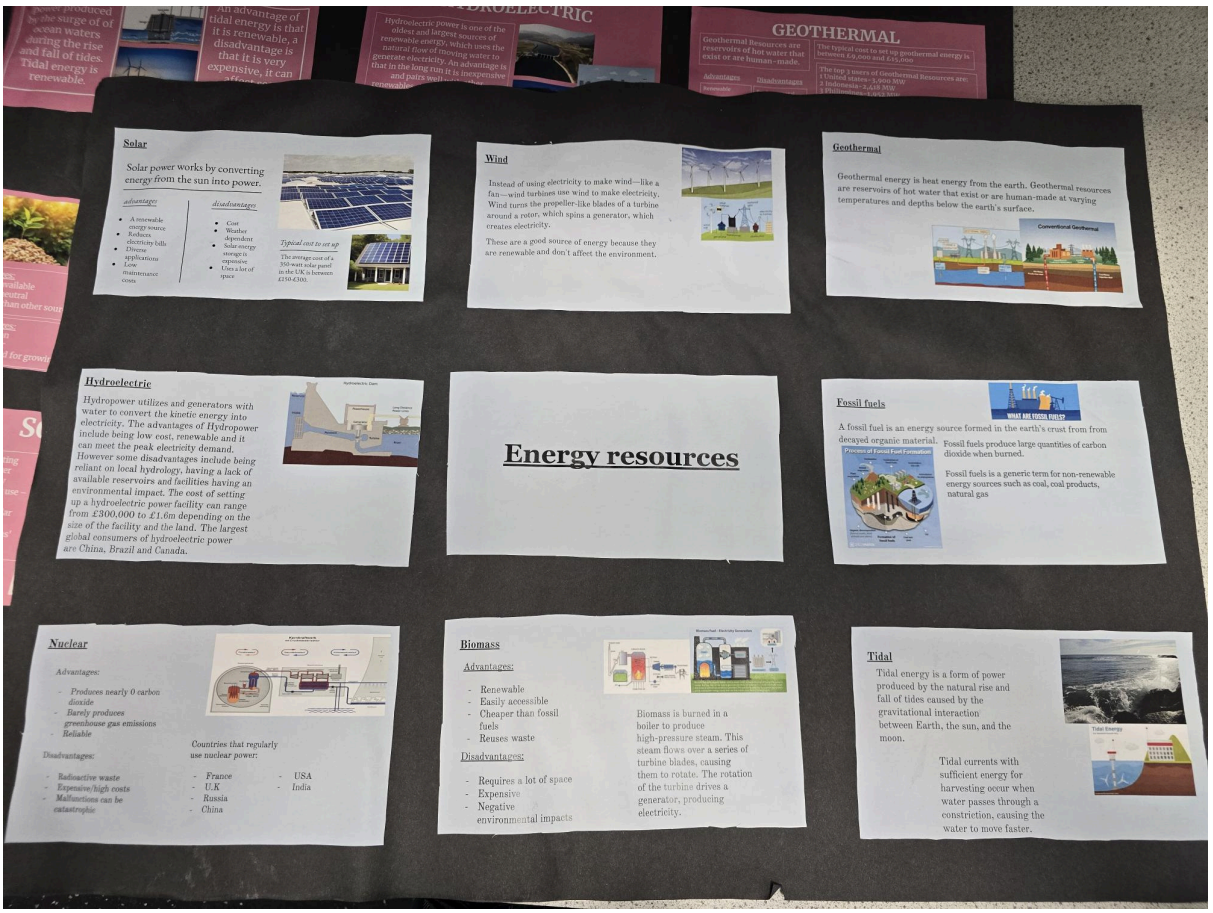
Solar system (galaxy)

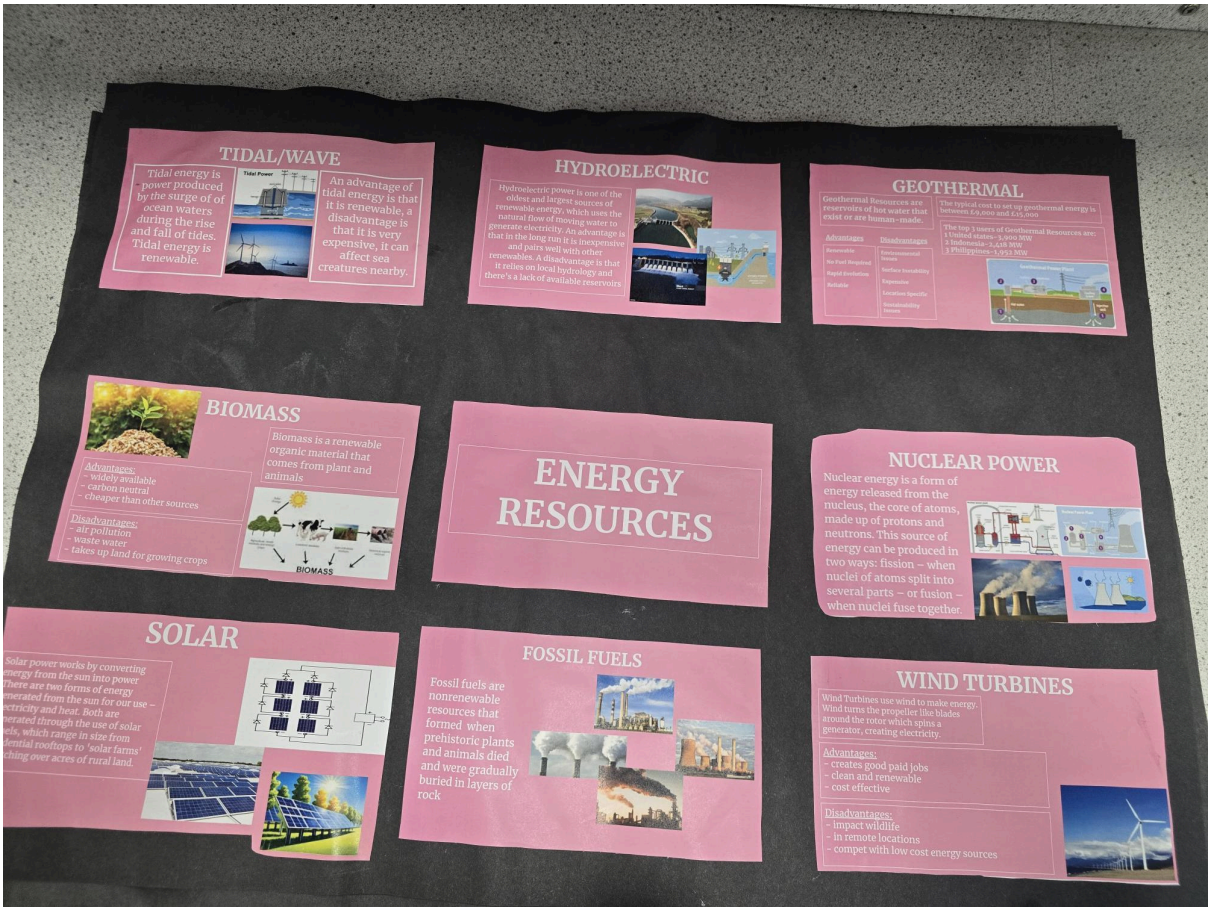
- 10 Facts about the Milky Way.
- Emalee Couture.
- It's warped.
- It has an invisible halo.
- It has over 200 billion stars.
- It's really dusty and gassy.
- It was made from other galaxies.
- We can't take pictures of it.

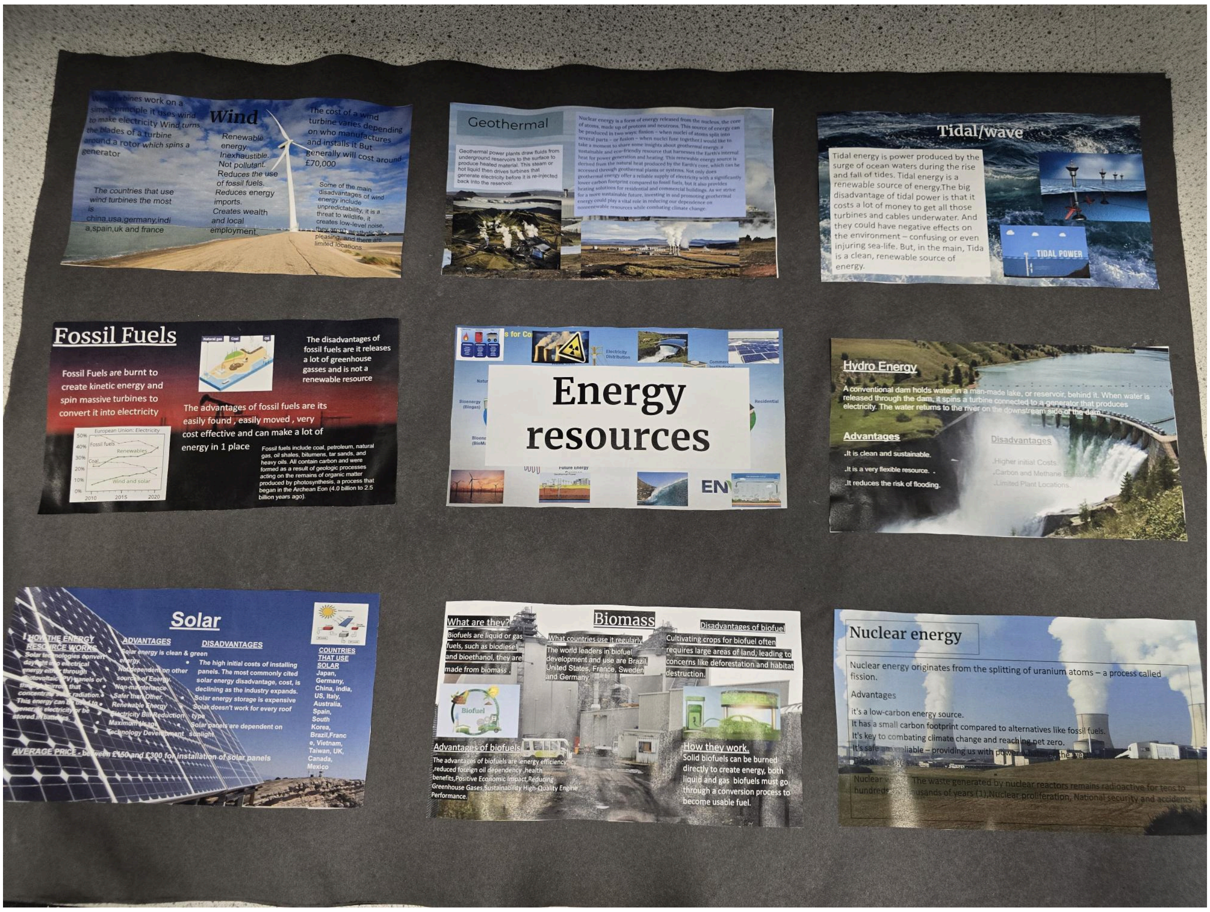
Facts. Our home galaxy is called the Milky Way. It's a spiral galaxy with a disk of stars spanning more than 100,000 light-years. Earth is located along one of the galaxy's spiral arms, about halfway from the center. Our solar system takes about 240 million years to orbit the Milky Way just once.


Hydroelectric energy
Hydropower utilizes turbines and generators to convert that kinetic energy into electricity, which is then fed into the electrical grid to power homes, businesses, and industries.
Some advantages of hydroelectric energy are that it's a renewable source and it is fueled by water,making it a clean source.
Some disadvantages of hydroelectric energy are that it has an environmental impact and that it displaces people that live nearby.
Wind power
How wind turbines work. Wind turbines use blades to collect the wind's kinetic energy. Wind flows over the blades creating lift (similar to the effect on airplane wings), which causes the blades to turn. The blades are connected to a drive shaft that turns an electric generator, which produces (generates) electricity.
Wind power has many advantages, including clean energy, cost-effectiveness, job creation, low-maintenance requirements and high efficiency. Disadvantages of wind power include unreliability, noise and aesthetic pollution, and harm to wildlife. The UK obtains 24% of its electricity from wind power.
Nuclear Energy
Nuclear energy offer a clean, round-the-clock power source that can help us reliably meet electricity demands with carbon-free energy every hour of every day.
Nuclear energy protects air quality by producing massive amounts of carbon-free electricity. It powers communities in 28 U.S. states and contributes to many non-electric applications, ranging from the medical field to space exploration.
Wave and tidal
When currents pass through a "Tidal Stream Generator" (TSG), the kinetic energy of the water flows through the turbines, much like wind currents do in traditional wind turbines. This causes the turbines to turn, generating the motion needed for a generator to start operating.
Some advantages of wind and tidal energy are that its a renewable source and that it releases no carbon emissions
Some disadvantages of wind and tidal energy are that it has limited installation and that it's expensive
Energy Resources
Biofuel
Biofuels are fuels derived from organic sources such as biomass and organic waste. They represent one of the main solutions for quickly and efficiently reducing emissions from mobility in the coming years.
Advantages of biofuel is Less carbon emissions. When burned, they release as much carbon as they absorbed during growth, although some carbon dioxide will be released during production, eg by the tractor.Disadvantages id that it needs a lot of manual labour
Solar energy
When this material is exposed to photons of sunlight (very small packets of energy) it releases electrons and produces an electric charge.
Some advantages are that everywhere gets sunlight and that the resource is renewable.
Some disadvantages are that the inital cost is high and solar energy doesn't work for every roof type
Geothermal energy
Geothermal power plants draw fluids from underground reservoirs to the surface to produce heated material. This steam or hot liquid then drives turbines that generate electricity before it is injected back into the reservoir.
Some advantages of geothermal energy are that its always available and that it doesn't require large spaces
Some disadvantages of geothermal energy are that it's expensive and the surface stability
Fossil fuels
Fossil fuels are burned to heat water to produce steam.The steam turns the turbine,which turns the generator,which produces electricity.
Some advantages are:
They can generate a large amount of electricity at a single location
They can be found easily
They are cost-effective
Some disadvantages are they arent renewable energy sources and fossil fuels pollute the environment.
In general,fossil fuels cost 5.22 US dollars per million British thermal units


TIDAL/WAVE
HYDROELECTRIC
Geothermal
Biofuels
Biofuels are fuels derived from organic sources such as biomass and organic waste. They represent one of the main solutions for quickly and efficiently reducing emissions from mobility in the coming years. They're already part of our daily lives.The United States, Brazil, Europe and Indonesia remain the dominant markets, accounting for 85% of total demand. Nearly 60% of biofuel demand is in advanced economies and 40% in emerging economies
Nuclear energy- Shane
Nuclear energy is a highly efficient source of power that is produced by nuclear fission. Atoms split during this process and release energy. It has the potential to supply energy demands while reducing dependence on fossil fuels and lowering carbon emissions.
One of the primary benefits of nuclear energy is its capacity to generate enormous volumes of electricity with low greenhouse gas emissions. Nuclear reactors do not emit CO2, unlike coal and petroleum, which helps in the fight against climate change. Furthermore, nuclear power plants have a high energy density, which is extremely beneficial during times of increased energy demand.
Hydroelectric - lauren\
Fossil fuels
How it works:Fossil fuels are burned to produce energy.
Countries that regularly use it:China and the U.S.
Cost:5.22 U.S. dollars per million British thermal units (btu)
Advantages
Disadvantages
Energy sources
tidal/waves
Eve brotherton
Tidal energy is power produced by the surge of ocean waters during the rise and fall of tides. Tidal energy is a renewable source of energy.Some of these technologies include turbines and paddles.During the 20th century, engineers developed ways to use tidal movement to generate electricity in areas where there is a significant tidal range—the difference in area between high tide and low tide. All methods use special generators to convert tidal energy into electricity.During the 20th century, engineers developed ways to use tidal movement to generate electricity in areas where there is a significant tidal range
WIND POWER
Cost: each turbine costs around £70000
Advantages
Renewable
Does not add to global warming
Low operating cost
Creates new jobs
Takes up a small amount of space
Disadvantages
Only works in windy areas
Harms wildlife
Makes low level noise
How it works
Wind pushes the propeller-making a shaft spin.A magnet in a generator which makes electricity
The top five countries that use wind energy is: China ,USA, Germany, India, Spain
GEOTHERMAL
Advantages
Environment friendly
Renewable
No fuel required
Disadvantages
Location restricted
Risk of triggering earthquakes
High costs
How it works
Heat from the earth evaporates water making steam which turns a turbine and powers a generator.
The top five countries that use geothermal are: USA , Indonesia , Philippines , Turkey , New Zealand
Cost: Between £1.7 million and £6.1 million for each geothermal power plant
Solar Energy
Solar Energy is a resource acquired from turning the sun's UV Rays into power and electricity through a complex form of complication and wires. It costs alot of money to get even one single Solar Panel put in. But, in the long run, it is an easy way to save a ton of money through electricity bills.

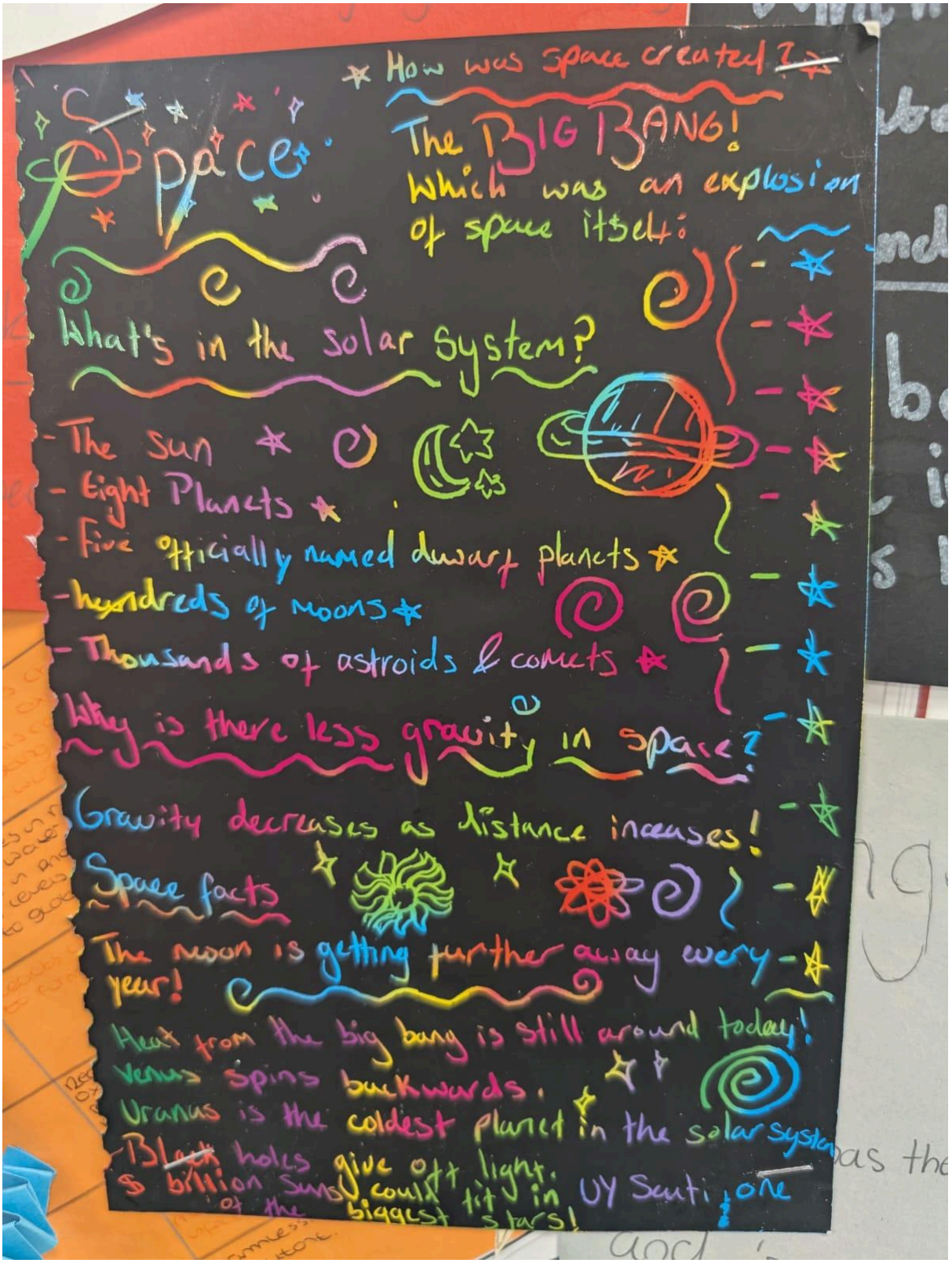

GEOTHERMAL
Solar
Solar power works by converting energy from the sun into power.
advantages:
disadvantages:
Wind
Instead of using electricity to make wind—like a fan—wind turbines use wind to make electricity. Wind turns the propeller-like blades of a turbine around a rotor, which spins a generator, which creates electricity.
These are a good source of energy because they are renewable and don't affect the environment.
Geothermal
Geothermal energy is heat energy from the earth. Geothermal resources are reservoirs of hot water that exist or are human-made at varying temperatures and depths below the earth's surface.
Hydroelectric
Hydropower utilizes and generators with water to convert the kinetic energy into electricity. The advantages of Hydropower include being low cost, renewable and it can meet the peak electricity demand. However some disadvantages include being reliant on local hydrology, having a lack of available reservoirs and facilities having an environmental impact. The cost of setting up a hydroelectric power facility can range from £300,000 to £1.6m depending on the size of the facility and the land. The largest global consumers of hydroelectric power are China, Brazil and Canada.
Energy resources
Fossil fuels
A fossil fuel is an energy source formed in the earth's crust from from decayed organic material.
Fossil fuels produce large quantities of carbon dioxide when burned.
Fossil fuels is a generic term for non-renewable energy sources such as coal, coal products, natural gas
Nuclear
Advantages:
Produces nearly 0 carbon dioxide
Barely produces greenhouse gas emissions
Reliable
Disadvantages:
Radioactive waste
Expensive/high costs
Malfunctions can be catastrophic
Countries that regularly use nuclear power:
France
U.K
Russia
China
USA
India
Biomass
Advantages:
Renewable
Easily accessible
Cheaper than fossil fuels
Reuses waste
Disadvantages:
Requires a lot of space
Expensive
Negative environmental impacts
Biomass is burned in a boiler to produce high-pressure steam. This steam flows over a series of turbine blades, causing them to rotate. The rotation of the turbine drives a generator, producing electricity.
Tidal
Tidal energy is a form of power produced by the natural rise and fall of tides caused by the gravitational interaction between Earth, the sun, and the moon.
Tidal currents with sufficient energy for harvesting occur when water passes through a constriction, causing the water to move faster.

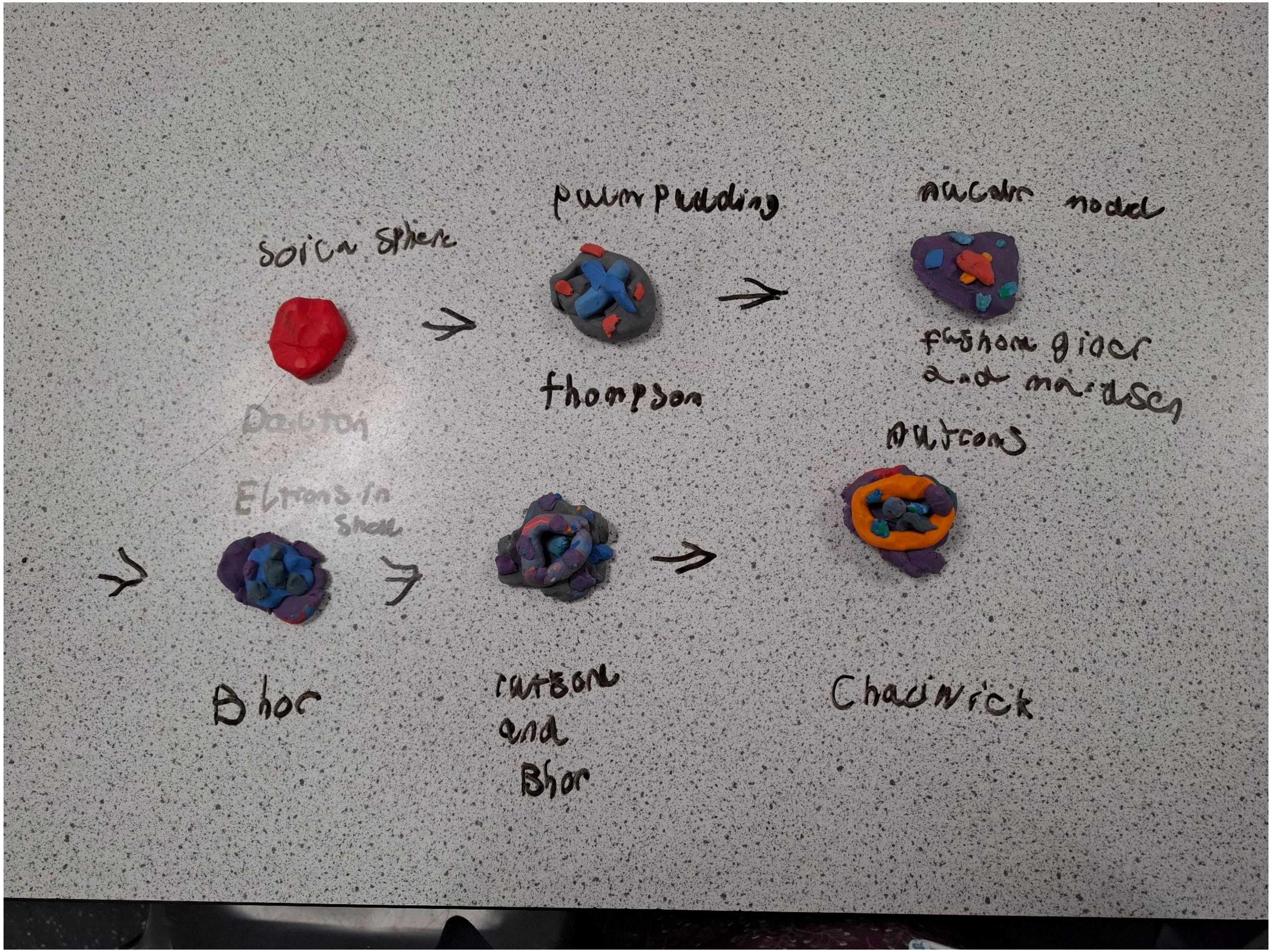

TIDAL/WAVE
Tidal energy is power produced by the surge of of ocean waters during the rise and fall of tides. Tidal energy is renewable.
An advantage of tidal energy is that it is renewable, a disadvantage is that it is very expensive, it can affect sea creatures nearby.
HYDROELECTRIC
Hydroelectric power is one of the oldest and largest sources of renewable energy, which uses the natural flow of moving water to generate electricity. An advantage is that in the long run it is inexpensive and pairs well with other renewables. A disadvantage is that it relies on local hydrology and there's a lack of available reservoirs
GEOTHERMAL
Geothermal Resources are reservoirs of hot water that exist or are human-made.
The typical cost to set up geothermal energy is between £9,000 and £15,000
The top 3 users of Geothermal Resources are:
1 United states- 3,900 MW
2 Indonesia- 2,418 MW
3 Philippines- 1,951 MW
Advantages
Renewable
No Fuel Required
Rapid Evolution
Reliable
Disadvantages
Environmental Issues
Surface Instability
Expensive
Location Specific
Sustainability Issues
BIOMASS
Biomass is a renewable organic material that comes from plant and animals
Advantages:
- widely available
- carbon neutral
- Cheaper than other sources
Disadvantages:
- air pollution
- waste water
- takes up land for growing crops
BIOMASS
ENERGY RESOURCES
NUCLEAR POWER
Nuclear energy is a form of energy released from the nucleus, the core of atoms, made up of protons and neutrons. This source of energy can be produced in two ways: fission – when nuclei of atoms split into several parts – or fusion – when nuclei fuse together.
SOLAR
Solar power works by converting energy from the sun into power
There are two forms of energy
nerated from the sun for our use –
ectricity and heat. Both are
nerated through the use of solar
els, which range in size from
idential rooftops to 'solar farms'
ching over acres of rural land.
FOSSIL FUELS
Fossil fuels are nonrenewable resources that formed when prehistoric plants and animals died and were gradually buried in layers of rock
WIND TURBINES
Wind Turbines use wind to make energy. Wind turns the propeller like blades around the rotor which spins a generator, creating electricity.
Advantages:
- creates good paid jobs
- clean and renewable
- cost effective
Disadvantages:
- impact wildlife
- in remote locations
- compet with low cost energy sources

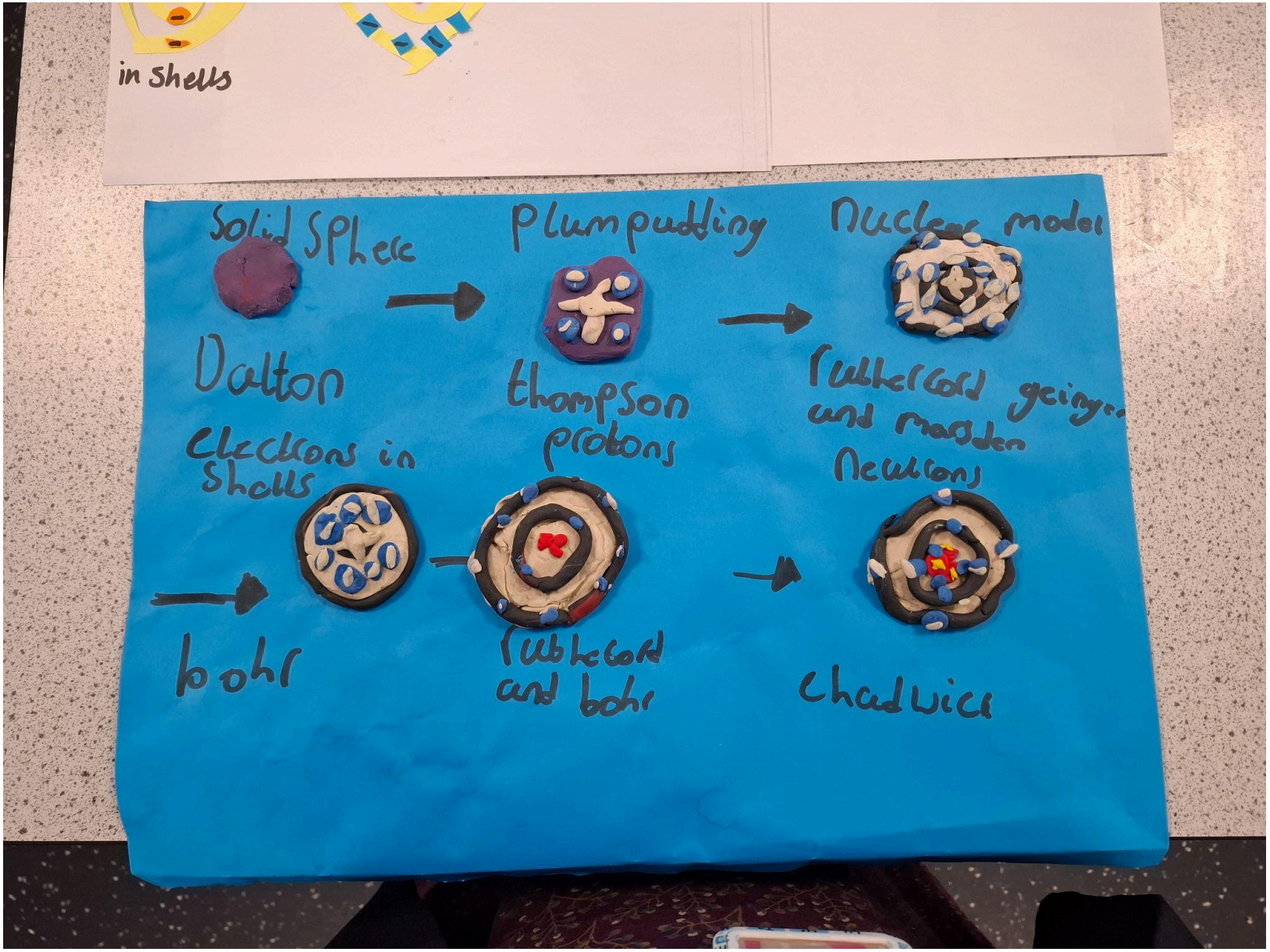

Wind
Renewable energy
Inexhaustible
Not pollutant
Reduces the use of fossil fuels.
Reduces energy imports.
Creates wealth and local employment.
The countries that use wind turbines the most is china,usa,germany,india,spain,uk and france
Geothermal
Tidal/wave
Tidal energy is power produced by the surge of ocean waters during the rise and fall of tides. Tidal energy is a renewable source of energy.The big disadvantage of tidal power is that it costs a lot of money to get all those turbines and cables underwater. And they could have negative effects on the environment – confusing or even injuring sea-life. But, in the main, Tida is a clean, renewable source of energy.
TIDAL POWER
Fossil Fuels
Fossil Fuels are burnt to create kinetic energy and spin massive turbines to convert it into electricity
The disadvantages of fossil fuels are it releases a lot of greenhouse gasses and is not a renewable resource
The advantages of fossil fuels are its easily found , easily moved , very cost effective and can make a lot of energy in 1 place
Energy resources
Hydro Energy
Advantages
It is clean and sustainable.
It is a very flexible resource.
It reduces the risk of flooding.
Disadvantages
Solar
ADVANTAGES
DISADVANTAGES
COUNTRIES THAT USE SOLAR
Biomass
What are they?
Disadvantages of biofuel
Advantages of biofuels
How they work.
Nuclear energy
Nuclear energy originates from the splitting of uranium atoms – a process called fission.
Advantages
It's a low-carbon energy source.
It has a small carbon footprint compared to alternatives like fossil fuels.


wave & tidal
what is it ?
tidal and wave energy is created by the natural movement of the waves in the sea... the water passes through turbines , spinning them which then creates electricity
Wind power
How does it work?
Wind turbine works by turning wind energy into electricity by using the force from the blades like an aeroplane wing
Geothermal
HYDROELECTRIC
Cost to set up:
Energy resources.
Nuclear
Fossil fuels
Fossil fuels are nonrenewable source of energy they are made from dead plants these things are found from the earth's crust
Fossil fuels are bad for the environment and can release harmful gases into the air
Fossil fuels are easy to use at one single location
biofuel
ADVANTAGES
DISADVANTAGES
Solar
What is it?
Solar energy is any type of energy generated by the sun.
What is solar power useful for ?
capture the sun's energy and convert it into electricity to use in your home.
Advantages of solar power
An energy source that is renewable and every where gets sunlight.
Disadvantages of solar power
expensive, depends on the weather.


Thermal
Metal
cloth
Properties: Breathability, Durability, heat conductivity.
glass
Properties: recycle, strength, insulation, viscosity.
sand
Properties: flowability, density, chemical conductivity.
cloth
Properties: breathability, durability, heat conductivity.
Plastic
properties: light weight, easily moulded, daily use, good insulation.
wood
properties: strength, hardness
cotton
wood
ceramic
cloth
metal
glass
properties: recyclable, strength, insulation, viscosity.
Sand
Properties:


Space
How was space created?
The BIG BANG!
Which was an explosion of space itself!
What's in the solar System?
- The sun
- Eight Planets
- Five officially named dwarf planets
- hundreds of moons
- Thousands of astroids & comets
Why is there less gravity in space?
Gravity decreases as distance increases!
Space facts
The moon is getting further away every year!
Heat from the big bang is still around today!
Venus spins backwards.
Uranus is the coldest planet in the solar system
Black holes give off light.
5 billion Suns could fit in UY Scuti, one of the biggest stars!


plum pudding
Dalton
thompson
Bhor
and
Bhor
Chadwick


in shells
Solid Sphere
Plumpudding
Nuclear model
Dalton
thompson
protons
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and marsden
Neutrons
Electrons in
shells
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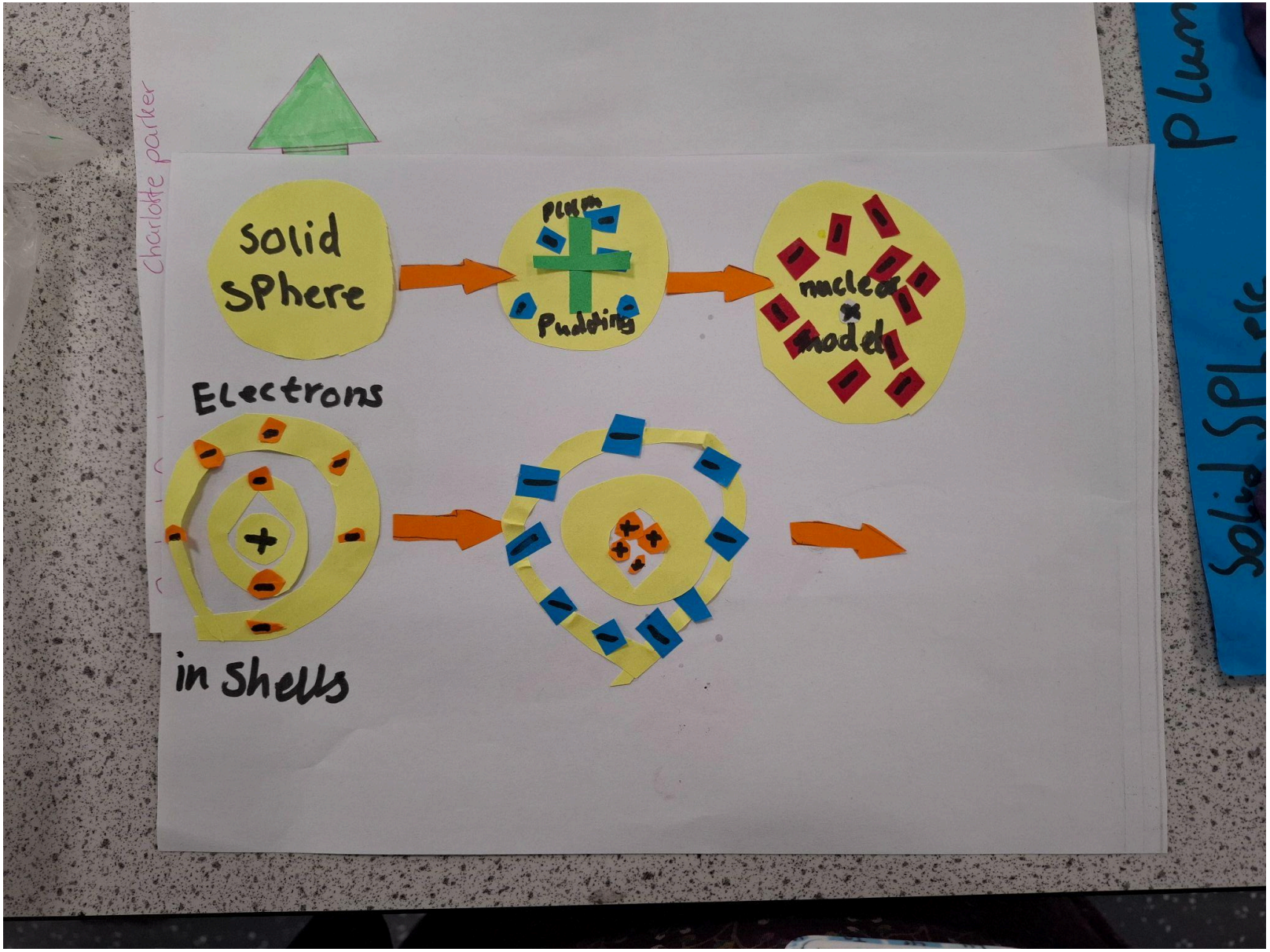
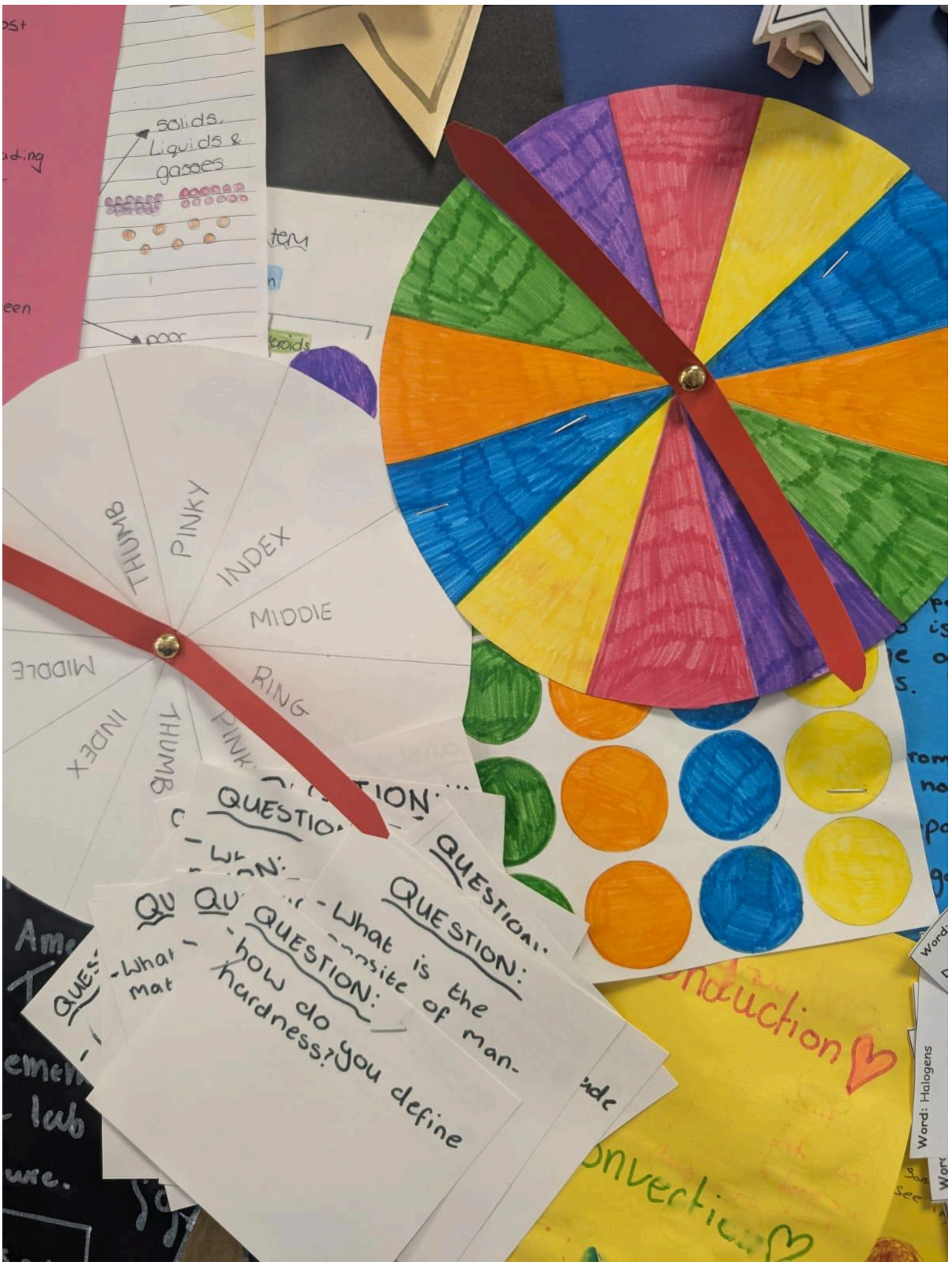
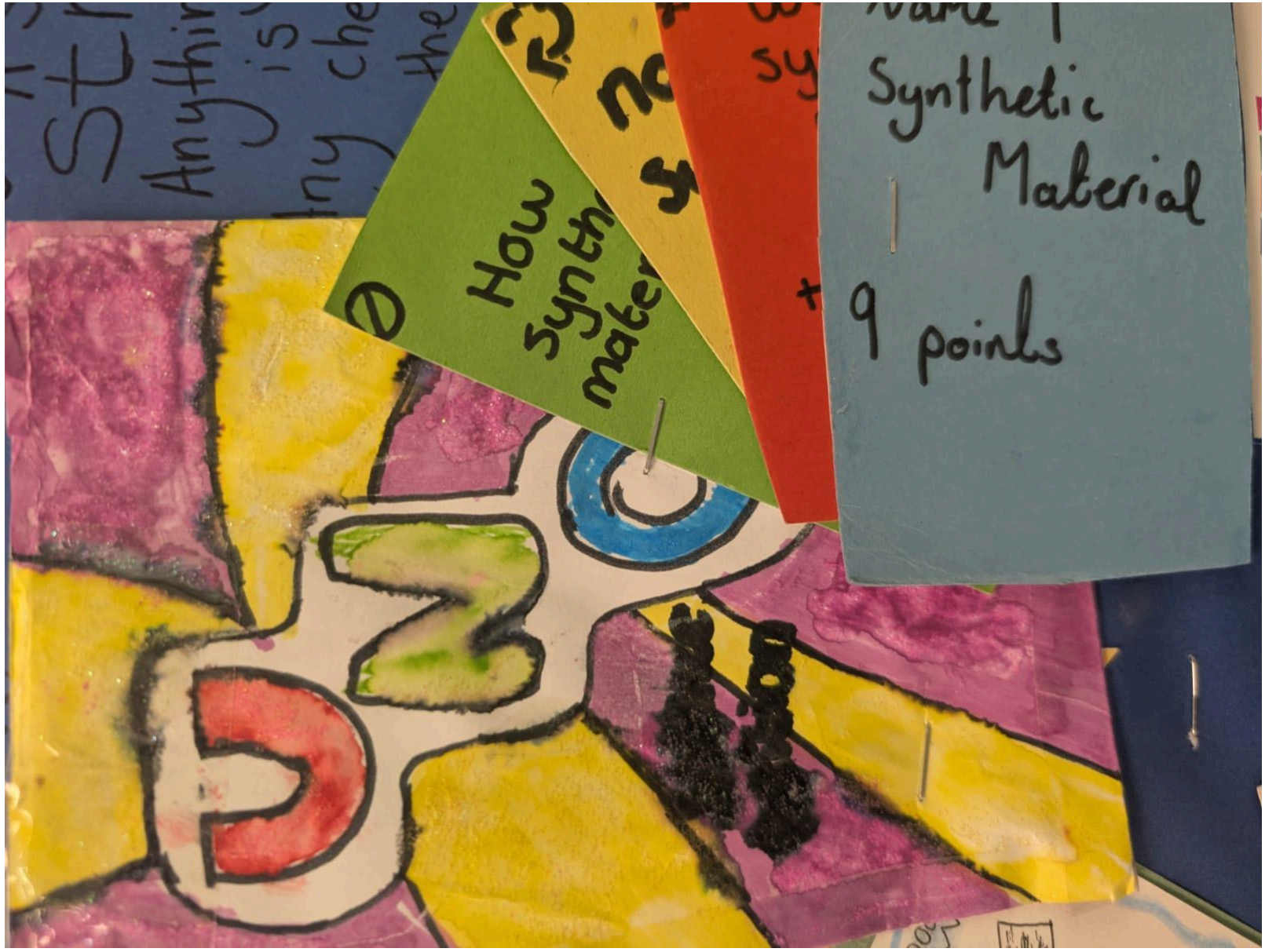
Rutherford
and bohr
Chadwick


Charlotte parker
Solid SPhere
Plum
Pudding
nucleur
model
Electrons
in Shells
Plum
Solid Sphere


solids, Liquids & gasses
THUMB
PINKY
INDEX
MIDDLE
RING
QUESTION:
What is the
how do you define
hardness?
Word: Halogens

Word: Displace
Don't say:
Reactive
Word: Metal Chloride
Don't say:
Salt
Word: Reactive Series
Word: Magnesium
Don't say:
Metal
Silver
Burns
Reaction
Word: Halogens
Don't say:
Chlorine
Bromine
Group
Word: heat energy
Don't say:
Word: Reactivity
Don't say:
Series
Higher
Order
Chemical
Word: Spectator
Word: Solubility
Word: Double Displacement


Synthetic
Material
9 points