Haseltine Science

List of scientists for each unit

(diverse representation listed in blue)

Everyday Materials

John Boyd Dunlop - (pneumatic rubber tyres)

Charles Mcintosh – chemist who invented waterproof fabric

John McAdam – civil engineer who invented macadam road surface.

Garrett Morgan – inventor who discovered a chemical solution which reduced friction and straightened hair plus a breathing device which became a prototype of gas masks in WW1.

Marion Donovan – paved the way for the disposable nappy with her patent for a new kind of nappy with an envelope-like plastic cover and absorbent insert.

Mildred Dresselhaus – engineer who studied semi-metals and graphite. Her work improved thermoelectric energy.

Roberta C Lawson – invented a “tea leaf holder”, a precursor of the modern tea bag.

Sara Boone – African American dressmaker who invented a better design for a padded, collapsible ironing board, made of wood.

Bettye Washington Greene – African American chemist who developed polymers and latex-based adhesives.

Walter Lincoln Hawkins – African American chemist who developed a cable sheath from new compounds which helped telecommunication lines from deteriorating due to heat and water.

Mary Elliott Hill – African American chemist famous for her work with plastics.

Stephanie Louise Kwolek – chemist who invented Kevlar.

Plants

Queen Hatshepsut – one of the most successful pharaohs of ancient Egypt, she was also a keen botanist responsible for the first recorded expedition to collect live plants.

Edith Holden – The Country Diary of an Edwardian Lady (useful botanical reference book)

Barbara McClintock – botanist famous for research into plant genetics.

Joseph Banks – naturalist and botanist

Gregor Mendel – scientist who laid the scientific foundation for genetics through his research and breeding of garden peas.

Carl Linneaus – botanist who is known as the “father of modern taxonomy”

George Forrest – botanist and plant collector who introduced hundreds of species to the west.

Mary Clark Taylor – first African American woman to gain a PhD in botany, famous for her research into the influence of light on plant growth.

George Washington Carver – The first African American to gain a BSc degree, he was an agricultural scientist famous for his work on soil chemistry.

Alice Ball – African American chemist who helped isolate the active ingredients in a plant which helped cure leprosy.

Lloyd Noel Ferguson – first African American to gain a PhD from University of California, a chemist who invented a moth repellent and spot remover.

Beatrix Potter – naturalist with a passion for fungi.

Janaki Ammal – Indian botanist who studied plant chromosones.

Living Things & Habitats

Hildegard of Bingen – German abbess and scholar who wrote a series of 9 books detailing the scientific and medicinal properties of plants, animals and stones.

Gilbert White – pioneering naturalist and regarded as Britain's first 'ecologist'. Some have argued Darwin may not have propounded his theory of evolution without White's pioneering fieldwork, establishing the importance of close observation.

Chris Packham – naturalist and wildlife expert.

David Attenborough – natural historian

Evelyn Cheeseman – British entomologist who collected around 70,000 specimens of insects, plants and other animals for the Natural History Museum.

Maria Sibylla Merian – one of the first European naturalists to observe insects directly.

Eva Crane – one of the greatest writers on bees and beekeeping.

Vernard Lewis – African American entomologist.

Rachel Carson – marine biologist and conservationist.

Wangari Maathai – biologist and environmental activist and first African woman to receive a Nobel Prize.

Quannah Chasinghorse – First Nation Alaskan environmentalist seeking to protect the Arctic National Wildlife Refuge (largest national wildlife reserve in US and contains the greatest biodiversity of any protected area north of the Arctic Circle) which the Trump administration has opened to oil drilling.

Animals including Humans

Diane France – forensic anthropologist

Charles Sutherland Elton – zoologist and animal ecologist.

Professor Robert Winston – Professor of Fertility Studies/human reproduction

William Harvey – physician famous for discovering circulation system and properties of blood.

Rosalind Franklin – chemist who made a crucial contribution to the discovery of the double helix structure of DNA.

Elizabeth Hazen and Rachel Brown – patented an antifungal antibiotic.

Charlotte Armah – British Ghanaian nutritional biochemist researching the effect of diet on human health.

Dr Birute Galdikas – primatologist, conservationist and anthropologist.

David Wilcots – African American geologist and palaeontologist.

Marie Maynard Daly – African American biochemist who conducted important studies on cholesterol, sugars and proteins.

Dr Charles Drew – African American surgeon and medical researcher who pioneered methods of storing blood plasma for transfusion and organised the first large-scale blood bank in the US.

Ernest Everett Just – African American zoologist best known for his contributions to marine biology.

Forces and magnets

Archimedes – famous for discovering the law of hydrostatics plus levers, pulleys and hydraulic screws for raising water etc

William Gilbert – physicist and natural philosopher credited as the “father of electricity and magnetism”.

Hans Christian Oersted – Danish physicist who discovered that electric currents create magnetic fields.

Sir Isaac Newton – mathematician, physicist and astronomer who developed three laws of motion which form the basis of modern physics.

Sir Christopher Cockerell – engineer who invented the hovercraft.

Bertha Benz – invented brake pads. A technical innovator, she was a key figure in early car design.

Light

James Clerk Maxwell – famous for his theory of electromagnetism, which showed that light was electromagnetic radiation.

Thomas Young – physicist who developed wave theory of light.

Sir David Brewster – physicist who specialised in research on optics (invented dioptric system for lighthouses) and invented the kaleidoscope.

Jean-Bernard-Leon Foucault – physicist who invented a device for demonstrating the Earth's rotation and one of the earliest scientists to measure the speed of light.

George Robert Carruthers – African American physicist and engineer who invented the ultraviolet camera/spectrograph for NASA to use.

Lene Vestergaard Hau – the first scientist to stop light, which moves at 186, 282 miles per second in a vacuum, using a cloud of sodium atoms cooled to a few billionths of a degree above absolute zero.

Rocks

Adriana Ocampo – Colombian geologist who studies impact craters/asteroids.

Friedrich Mohs – German geologist and mineralogist who created a system for identifying minerals.

Inge Lehmann – Danish seismologist and geophysicist. She discovered that the Earth had a solid inner core inside a molten outer core.

Alfred Wegener – geophysicist and meteorologist who came up with the theory of continental drift.

John Tuzo Wilson – Canadian geophysicist who achieved worldwide acclaim for his contributions to the theory of plate tectonics.

Marie Tharp – American geologist and oceanographic cartographer who created the first scientific map of the Atlantic Ocean floor.

Professor Christopher Jackson – geologist who works in geoscience using 3D seismic data.

Electricity

Benjamin Franklin – invented the lightning rod.

Thomas Edison – invented amongst other things the incandescent light bulb, the electric lamp and the phonograph.

Charles-Augustin de Coulomb – physicist who invented a device that allowed him to measure very small charges, and estimate the force of attraction or repulsion between two charged bodies.

Alessandra Volta – Italian physicist and pioneer of electricity who is credited as the inventor of the electric battery.

Andre-Marie Ampere – French physicist who formulated the law of electromagnetism.

Lewis Howard Latimer – African American inventor famous for improving the incandescent light bulb.

Hedy Lamarr – actress, inventor and film producer who helped invent wi-fi.

Edith Clarke – first American woman employed as an electrical engineer and inventor of the Clarke Calculator – which calculated current, voltage and impedence in power lines ten times faster than previous methods.

Maria Telkes – biophysicist who was one of the founders of solar thermal storage systems.

Alice H Parker – African American inventor famous for her system of central heating using natural gas.

Edmond Berger – invented the spark plug.

Gladys West – African American mathematician whose work was instrumental in developing the mathematics behind GPS.

States of Matter

Alfred Nobel – Swedish chemist famous for inventing dynamite amongst other things.

Antoine-Laurent de Lavoisier – French chemist who determined that combustion and respiration are caused by chemical reactions with what he named “oxygen”. Known as the “father of modern chemistry”.

Dmitri Mendeleev – Russian chemist who developed periodic table.

Sir Humphrey Davy – Cornish chemist who discovered several chemical elements (inc sodium and potassium) and invented the miner’s safety lamp.

John Dalton – chemist who introduced atomic theory i.e. all matter was composed of atoms.

Robert Boyle – physicist and chemist who defined chemical elements and developed Boyle’s Law concerning pressure of gases.

Marie Curie – Polish physicist who discovered radium and conducted pioneering research into radioactivity.

Ahmed Hassan Zewail – Egyptian chemist who developed a rapid laser technique that enabled scientists to study the actions of atoms during chemical reactions.

Earth and Space

Aristarchus – Greek astronomer who came up with revolutionary astronomical hypothesis: claiming the Sun, not the Earth, was the fixed

centre of the universe and the Earth and other planets revolved around the Sun.

Nicolaus Copernicus – Polish astronomer who placed the Sun at the centre of the universe and the Earth revolved around it.

Galileo Galilei – Italian astronomer who discovered the four largest moons of Jupiter, the phases of Venus, the observation of Saturn's rings and sunspots.

Edwin Hubble – American astronomer who discovered the existence of countless galaxies beyond out Milky Way.

Cecilia Helena Payne-Gaposchkin – astronomer who proposed that stars were comprised primarily of hydrogen and helium.

Sir Arthur Eddington – astronomer who was first person to investigate the motion, internal structure and evolution of stars.

Dame Maggie Aderin-Pocock – space scientist and presenter of BBC's Sky at Night.

Katherine Johnson – African American mathematician whose calculations of orbital mechanics were critical to the success of the first crewed US spaceflights.

Maria Cunitz – Silesian astronomer who simplified and corrected Kepler's algorithms on planetary movement.

Yvonne Brill – engineer who was a propulsion pioneer and invented the fuel efficient rocket thruster that keeps satellites in orbit.

Mae Jemison – engineer and astronaut - first African American woman to travel into space.

Williamina Fleming – astronomer who classified stars into categories.

Robert Henry Lawrence – first African American astronaut.

Benjamin Banneker – African American known for his Astronomical Almanac.

Sound

Ernest Mach – Austrian physicist who studied shock waves and the ratio of speed to sound.

Heinrich Hertz – German physicist who proved the existence of electromagnetic waves. This unit of frequency was named “hertz” in his honour.

James West – African American acoustician who invented the electret microphone.

Marion Downs – audiometrist who invented tests used to measure hearing both in newly born babies and foetuses.

Bridget Shield – professor of acoustics whose research in our understanding of the effects of noise on children has influenced many government initiatives. First female president of the Institute of Acoustics.

Megan Watts-Hughes – inventor of the Eidophone, an early instrument for visualising the sounds made by a voice.

Evolution and Inheritance

Charles Darwin – naturalist known for his theory of evolution.

Alfred Russell Wallace – naturalist who also independently conceived the theory of evolution through natural selection.

Sir Richard Owen – naturalist remembered for his contribution to the study of fossil animals, especially dinosaurs.

Mary Anning – palaeontologist famous for her discoveries.

Mary Leakey – paleoanthropologist who discovered hominids millions of years old, linked to human evolution.

Rosalind Franklin – discovered the structure of DNA and helped lay the groundwork for how DNA and evolution are linked.

Jane Goodall – famous for her research into chimpanzees. Her work with primates along with Mary Leakey's discoveries helped piece together how early hominids may have lived.

Barbara McClintock – her research into chromosomes contributed a large piece to the evolutionary puzzle and explained how some adaptations may occur when changes in the environment turn the traits on/off.

Seasonal Change

Gabriel Fahrenheit – invented the thermometer and temperature scale.

June Esther Bacon-Bercey – the first African American woman to earn a degree in meteorology. She was a weather analyst and forecaster.

Charles E Anderson – first African American man to receive a PhD in Meteorology.

Cicely Mary Barker – flower fairies of the summer/autumn etc. Lovely illustrations of seasonal flowers.

George James Symons – invented the rain gauge.

Robert McFarlane – ‘The Lost Words’ book