

SESI PENGKAYAAN ILMU 'WORK FROM HOME' SIRI 3

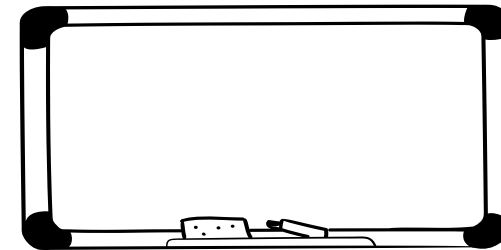
SAYA SUKA MEMBACA

SEKSYEN PEMBANGUNAN SUMBER & KATALOG,
PERPUSTAKAAN SULTANAH ZANARIAH,
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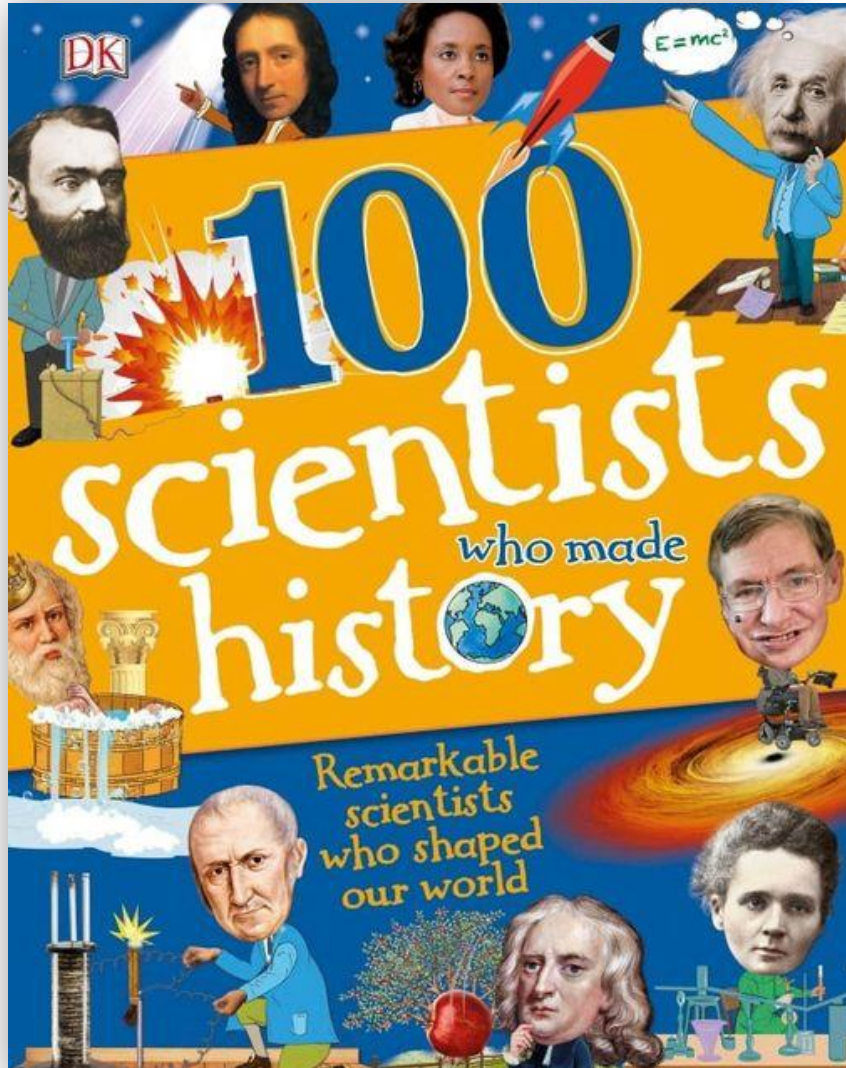
2022

ULASAN BUKU 1

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SESI ULASAN BUKU



JUDUL : 100 SCIENTISTS WHO MADE HISTORY: REMARKABLE SCIENTISTS WHO SHAPED OUR WORLD

PENULIS : ANDREA MILLS AND STELLA CALDWELL

ISBN : 978-0-2413-0432-7

PENERBIT : DORLING KINDERSLEY LIMITED

TAHUN TERBIT : 2018

HARGA : RM73.81

BAHASA : INGGERIS

MUKASURAT : 128 MUKASURAT ; HARDBACK

BIL. BAB : 5

PUBLICATION CITY/COUNTRY : LONDON / UNITED KINGDOM

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SINOPSIS

100 SCIENTISTS WHO MADE HISTORY: REMARKABLE SCIENTISTS WHO SHAPED OUR WORLD

From brainy biologists and clever chemists, to magnificent mathematicians and phenomenal physicists. Discover 100 remarkable scientists who shaped our world.

Containing a universe of knowledge, this amazing kids' educational book tells the story of the extraordinary people who revolutionised our understanding of the world. A stunning way for children to meet science's most important people.

Read through information-packed mini-biographies of 100 brilliant scientists and innovators who have shaped our society and how we see the world around us. A perfect "everything you want to know in one place" about the history of science for children aged 8-12.

Readers learn about discoveries that laid the groundwork for some of the most impressive innovations in history. Biologists, chemists, physicists, doctors, coders and astronauts are all featured including Hippocrates, Da Vinci, Alan Turing, Stephen Hawking, Neil deGrasse Tyson, and more.

An attractive and engaging kids book that may inspire the next Einstein or Curie! Made for those always curious children and those who need encouragement to aspire to greatness and see the marvels of science.

SINOPSIS

100 SCIENTISTS WHO MADE HISTORY: REMARKABLE SCIENTISTS WHO SHAPED OUR WORLD

Put children inside the minds of scientific heroes through clever speech bubbles alongside portraits with first-person fun facts about their lives. It's a cool way to personalise these incredible people and engage children while giving them a solid base in science.

Did you know that Marie Curie's notebooks are still radioactive? They're too dangerous to touch and even glow! And Louis Pasteur, who furthered the development of vaccinations and more, liked to paint in his spare time? Who knew!

Learn About The Minds Who Shaped The World!

Dive into the world of theories and experiments, reactions and equations, as we meet the figures who have helped us understand our universe and our place in it. Find out why Copernicus shook the world, what elements Marie Curie discovered, and how Franklin, Crick and Watson unlocked the secrets of our DNA.

SINOPSIS

100 SCIENTISTS WHO MADE HISTORY: REMARKABLE SCIENTISTS WHO SHAPED OUR WORLD

It's divided into Pioneers, Biologists, Chemists, Physicists, and Innovators, whose innovations have changed the world and continue to change it now. Discover amazing facts about the world and the people behind some of humanity's most impressive advancements.

Some of the amazing trailblazers you'll meet:

- Alan Turing
- Marie Curie
- Barbara McClintock
- Leonardo da Vinci
- And so many more!

This fabulous title is one of five children's books in the 100 In History series. Add 100 Women Who Made History, 100 People Who Made History, 100 Events That Made History, and 100 Inventions That Made History to your bookshelf and learn more about the significant people, events and inventions that shaped the world we live in today.

1: Perceptive pioneers

: The story of science begins in ancient times when religion and superstition were commonly held beliefs. Trailblazing thinkers challenged convention, breaking ground with theories based on observation, logic, and reason. As centuries passed, new pioneers wrote their own chapters in the history of scientific progress, bringing us a greater understanding of the natural world.

Al-Khwārizmī
The MATHEMATICS MARVEL with all the answers in algebra and algorithms

This Persian mathematician from the Middle Ages played a huge role in developing the most widely used number system in the world today.

Did you know?
The word algebra comes from the Arabic word "al-jabr". It was used in the title of al-Khwārizmī's first book.

House of Wisdom
Born in 780 CE in Baghdad, now Iraq, al-Khwārizmī was raised in a Persian family. He was summoned to Baghdad's new *Bayt al-Hikma*, meaning House of Wisdom, and soon became its director. This CENTRE of learning translated important scientific works from around the world.

Arrival of algebra
Writing in Arabic, al-Khwārizmī compiled the world's first book about ALGEBRA, in which he explained practical symbols used to express

Scholars from all over the world studied at the House of Wisdom.

Al-Khwārizmī invented the first quadrant for measuring time by observing the Sun and stars.

By the way...
I played a key part in measuring Earth's circumference for the first time.

Understanding algorithms
In his second book, al-Khwārizmī used the *Hindu-Arabic numerals of 0 and 1-9*. This book was so popular that the Hindu-Arabic number system became the **standard across the Middle East and Europe**. Al-Khwārizmī's work also gave rise to the word **ALGORITHM**, which describes mathematical rules for calculation and computing.

Making his mark
Al-Khwārizmī did not stop at mathematics. A **geography genius** as well, he created a revised compilation of more than **2,000 coordinates for cities and landmarks** throughout Asia and Africa. In about 830 CE, he also helped to create a **WORLD MAP**.

The course of the River Nile was mapped by al-Khwārizmī.

Al-Khwārizmī helped popularize the Hindu-Arabic numerals, which are the basis of those we use today.

How he changed the world
Al-Khwārizmī's contribution to mathematics is remembered through the world's most common number system, as well

1 2 3 4 5
6 7 8 9 0

2: Brilliant biologists

Life on Earth is incredibly diverse and biologists attempt to explore and understand the organisms that call our planet home. This branch of science covers a spectrum of studies - from anatomy to zoology - that helps us examine all kinds of plants and creatures. From early ideas of evolution to modern theories of genetics, biology has transformed the way we see ourselves and other life forms today.

The image shows a presentation slide about Charles Darwin, divided into several sections. The top left section is titled "Charles Darwin" and describes him as a "PIONEER of evolutionary thinking" whose theory that all living things have evolved from simple life forms made him one of the greatest biologists of all time. The top right section, "Voyage of discovery", states that in 1831, Darwin joined a five-year scientific expedition as a naturalist on the HMS Beagle, where he made notes and drew sketches of plants and animals, particularly on the Galápagos Islands. The middle section, "Love of nature", mentions that Darwin began studying medicine but hated it, and his real passion was for the natural world. It also includes a "Did you know?" fact that Darwin's 25th birthday was the day the Beagle was named after him. The bottom left section, "Who came before...", mentions French naturalist Jean-Baptiste Lamarck and British biologist Alfred Russel Wallace, both of whom had similar theories of evolution. The bottom right section, "Survival of the fittest", states that Darwin proposed his theory of evolution by natural selection in 1858. The slide features illustrations of Darwin, the HMS Beagle, and various animals like finches and lizards.

Charles Darwin
PIONEER of evolutionary thinking
Darwin's theory that all living things have evolved from simple life forms made him one of the greatest biologists of all time.

Voyage of discovery
In 1831, Darwin joined a five-year scientific expedition as a naturalist on a ship called the HMS Beagle. He made notes and drew sketches of many of the plants and animals he came across. On the GALÁPAGOS ISLANDS in the Pacific, he was struck by how the beaks of the finches varied according to their diet.

Love of nature
Born in 1809 in Shrewsbury, England, Charles Darwin began studying medicine, but he hated the sight of blood. He soon realized his real passion was for the NATURAL WORLD around him.

Who came before...
French naturalist **JEAN-BAPTISTE LAMARCK** noticed the similarities in the animals he studied. This led him to publish his theory in 1801, in which he stated that the gradual change of species occurs over time.
British biologist **ALFRED RUSSEL WALLACE** came up with a similar theory of evolution and shared it with Darwin in 1858, prompting Darwin to rush ahead and publish his ideas first.

Survival of the fittest
After years of research, Darwin proposed his theory of evolution by natural selection in 1858. He

3: Clever chemists

Chemists are in their element when experimentation leads to new discoveries and developments. They start small by breaking down simple substances to understand the chemical composition before throwing different things into the mix. This has triggered a chain reaction of monumental milestones over centuries of chemical research

The image shows a presentation slide about Michael Faraday, divided into two main sections. The left section is titled "Michael Faraday" and describes him as a "POWERHOUSE pioneer who electrified the world." It states that Faraday was an electricity expert who brought power to the people, becoming one of the biggest names in scientific history. It also mentions that despite leaving school at age 13 and working as a bookbinder, he became one of the most important scientists ever. He spent his free time reading books, and after attending a lecture by leading chemist Humphry Davy in 1812, Faraday became interested in science. He carried out his own experiments at the back of the bookshop, and eventually became "Set for science." The right section is titled "Electromagnetic inventions" and describes Faraday's experiments. It states that current is passed through a metal wire, and a bar of magnet in a bowl filled with mercury is used. This setup is used to run a motor, which is Faraday's first electric motor. It explains that when a magnet is moved through a wire coil, it produces an electric current. This current can be used to power machines, such as those powered by horses, steam, and water. The slide also includes a diagram of Faraday's transformer, a portrait of Faraday, and a speech bubble that says "By the way... I loved to share my knowledge of science with everyone and gave Christmas Day lectures at the Royal Institution, a tradition that has continued with other scientists." Another speech bubble says "How he changed the world" and notes that Faraday's research can be seen all around us, as every piece of electrical equipment features a motor, while transformers and generators provide power for us.

Michael Faraday
POWERHOUSE pioneer who electrified the world

Faraday was an electricity expert who brought power to the people, becoming one of the biggest names in scientific history.

Set for science
Despite leaving school at the age of 13 and working as a bookbinder, **Michael Faraday** became one of the most important scientists ever. He spent his free time reading books, and after attending a lecture by leading chemist Humphry Davy in 1812, **Faraday became interested in science.** He carried out his own experiments at the back of the bookshop, and eventually became

Electromagnetic inventions
Years of experimentation led to **two more inventions.** The **TRANSFORMER** was an iron ring designed to reduce electric voltages for safe use in electrical equipment. The **DYNAMO** was the first electric generator, using **magnets to convert movement into electricity.** In Faraday's design, a copper disc is rotated manually to pass between the poles of a magnet, producing an electric current in the copper.

Current is passed through the metal wire.
Bar of magnet in a bowl filled with mercury.

Motor running
Faraday's experiments specialized in combining electricity and magnetism, called **electromagnetism.** This was how he came to make history in 1821 by inventing the **FIRST ELECTRIC MOTOR.** When a magnet is moved through a wire coil, it produces an electric current. The ability to harness electromagnetic energy had the **potential to replace machines powered by horses, steam, and water.**

Faraday's transformer

By the way... I loved to share my knowledge of science with everyone and gave Christmas Day lectures at the Royal Institution, a tradition that has continued with other scientists.

How he changed the world
Faraday's research can be seen all around us. Every piece of electrical equipment features a motor, while transformers and generators provide power for us.

4: Phenomenal physicists

Physics is a scientific powerhouse, uniting matter and energy to explain how the Universe works. Its full force pushes boundaries to answer mindboggling questions about space and time. Bright sparks behind the scenes observe and experiment with everything from motion to magnetism, catapulting physics into the future

Leonardo da Vinci
The GENIUS whose ideas were way ahead of his time

The great observer
Born in Italy in 1452, Leonardo worked as a **painter and engineer**. Although he is mainly remembered as an **EXTRAORDINARY ARTIST**, his surviving notebooks show that he was fascinated by **science, mathematics, and anatomy**. He believed that the world could be explained by observation, and used this approach for his brilliant ideas and inventions.

Inventing the future
Leonardo dissected human bodies, producing **highly accurate anatomical drawings**. He also **studied the properties of light**. His sketchbooks contain detailed designs for futuristic machines, such as a **HELICOPTER** - 500 years ahead of its time. However, few knew of his scientific pursuits at the time and his notebooks went undiscovered for centuries.

By the way...
I produced more than 10,000 pages of notes and sketches about my ideas and observations.

This was Leonardo's design for a helicopter, known as an aerial screw.

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This was Leonardo's design for a helicopter, known as an aerial screw.

How he changed... the world
Leonardo was one of the world's greatest thinkers and his ideas continue to inspire scientists


100 Scientists Who Made History x

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Stephen Hawking

The most famous **ASTROPHYSICIST** in the Universe
Exemplifying the triumph of mind over matter, this scientist redefined black holes.



Overcoming obstacles
 Born in Oxford, England, growing up Hawking *enjoyed science and stargazing*. He graduated in Natural Science from the University of Oxford in 1962, and went to Cambridge for his PhD in Cosmology. In 1963, he was **diagnosed with motor neurone disease**, which affected his nerve cells. Given just two years to live, Hawking would go on to **DEFY THE ODDS**.

By the way...
 I guest-starred in many popular television shows such as *The Simpsons* and *The Big Bang Theory*.

Hawking radiation
 Many physicists, including Einstein, suggested the idea of the existence of a **black hole** – a small point with high density created by the collapse of a heavy star. When Hawking researched black holes, he found that they could produce

Stephen Hawking

Type here to search

28°C

100 Scientists Who Made History x

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102 of 128




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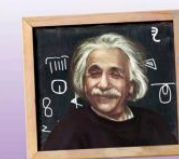
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Hawking radiation
 Many physicists, including Einstein, suggested the idea of the existence of a **black hole** – a small point with high density created by the collapse of a heavy star. When Hawking researched black holes, he found that they could produce radiation in the form of tiny particles. Called **HAWKING RADIATION**, it disproved the scientific belief that nothing can escape the pull of a black hole's gravity. He theorized that if a black hole gives off this radiation without taking in other matter, it *will eventually fade away*.

Who came before...



England's **JOHN MICHELL** and France's **PIERRE-SIMON LAPLACE** were the first to theorize the black hole as an invisible star during the late 1700s.



The work of German theoretical physicist **ALBERT EINSTEIN** – especially the relationship between space, time, and gravity – was the biggest influence on Stephen Hawking.

102

Type here to search

28°C

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19/5/2022

5: Incredible inventors

Everyday essentials began with individual brainwaves. A flash of inspiration turns into a tried-and-tested idea before the results become a mass-produced reality. From basic appliances to advanced technologies, masters of invention see their ideas and innovations revolutionize society. Not only have these gadgets and gizmos saved time and energy, but marvels in medicine also save lives every single day.

The screenshot shows a presentation slide about Rachel Carson, divided into two panels. The left panel features a yellow circle titled "How she changed... the world" with text about her scientific writing. A purple speech bubble contains the text: "Rachel Carson A crusading CONSERVATIONIST who used the power of the written word to make the world a better place". Below this, it identifies her as a "Water writer" born in 1907 in rural Pennsylvania, USA, who worked as a marine biologist and chief editor at the US Fish and Wildlife Service. It mentions her award-winning scientific study "The Sea Around Us" (1951), translated into 28 languages. An illustration shows her holding a jar of seaweed, with a caption: "Carson researched marine ecology, including seawater and seaweed." The right panel shows her holding a book, with a caption: "Carson researched marine ecology, including seawater and seaweed." Below this, it discusses her book "Silent Spring" (1962), which was inspired by birds dying from eating contaminated food. It notes that "Pesticide problem" was a concern as harmful chemicals destroyed ecosystems. It concludes that she called for new policies to "PROTECT" the environment, despite initial skepticism. A small Penguin Books logo and the number "121" are visible in the bottom right corner of the slide.

ULASAN ISI KANDUNGAN BAHAN

- **Jenis penulisan yang baca :**
 - Pengetahuan umum
- **Sasaran pembaca :**
 - Dari kanak-kanak ke warga tua
- **Penyampaian penulis :**
 - Mudah difahami + sangat menarik
- **Pengajaran / kebaikan penulisan :**
 - Mengenalinya mereka yang memulakan
 - Menarik zaman dulu hingga kini dan perubahan

KELEBIHAN & KEKURANGAN

- **Font yang digunakan**
 - Sesuai dengan pembacaan
 - Pelbagai jenis format font
 - Penggunaan warna font yang pelbagai dan warna
- **Gaya penulisan**
 - Mudah dan santai, sangat menarik
- **Bahasa yang digunakan**
 - Mudah difahami
 - Menarik perhatian untuk terus membaca!
- **Fizikal bahan**
 - Kulit Keras
 - 128 mukasurat
 - Gaya persembahan isi kandungan yang menarik – gambar yang menarik dan ayat yang ringkas



TERIMA KASIH

The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the right side of the frame, creating a modern, layered effect against the white background.