

Once Upon a...

series by James Carter



EDUCATIONAL RESOURCE PACK

Suitable for: Ages 5+

Themes: Explore the world of STEM through captivating poetry in this delightful series of children's books.

The Wonders of the Universe:

Discover the fascinating story of how the universe and our solar system came to be. Learn about the importance of the Sun in providing light and heat to Earth.

The Journey of Water:

Dive into the amazing journey of water, from its sources to its essential role on our planet. Understand how water shapes our world, from rivers and oceans to rain and clouds.

Inventive Minds:

Embark on a journey through history to uncover incredible inventions that have changed our lives. Discover how ideas turned into inventions, from ancient tools to modern technology.

Scientific Inquiry and Understanding:

Ask big questions and find meaningful answers about the scientific world. Celebrate the joy of discovery and the thrill of learning through science, inspiring a lifelong love of exploration.

Subjects:

• Science • Technology • Engineering • Mathematics • English • History



About the books

Once Upon a Star: The Story of Our Sun,
written by James Carter and illustrated by Mar Hernández

*Once upon a star
there were no stars to shine
no Sun to rise
no Sun to set
no day no night
nor any time*

Discover the origins of the universe and how our solar system was formed. The narrative verse takes the reader on an immersive journey through space and time, illuminated by striking, dynamic illustrations. The worlds of poetry and non-fiction collide to create a beautiful, unique picture book about our Sun.

Once Upon a Raindrop: The Story of Water,
written by James Carter and illustrated by Nomoco

Do you know why the Moon's so dry and yet our world is wet?

Immerse yourself in the wonderful world of water and discover the story of H₂O from its very beginning. Engaging, informative poetry flows over the pages, and stunning illustrations bring this story to rushing, gushing life.

Once Upon a Big Idea: The Story of Inventions,
written by James Carter and illustrated by Margaux Carpentier

Telescopes and clocks and trains - all big ideas from human brains!

From bridges and boats to medicines and mobile phones, this book takes readers on a journey of discovery through all the amazing inventions human beings have come up with. Learn how rocks and stones helped create the pyramids and how modern materials such as concrete and nylon have changed our lives.

Once Upon an Atom: Questions of Science,
written by James Carter and illustrated by Willian Santiago

*From BIG BANGS to tiny atoms
SCIENCE tells us why things happen.*

Explore the whys, whats and hows of science and answer all the really BIG questions that curious kids are keen to ask. This playful rhyming book bubbles and bursts with all things scientific, from technology and space to experiments, inventions and the natural world.



About the author

JAMES CARTER

James Carter is an award-winning poet, non-fiction writer and ambassador for National Poetry Day. James travels all over the UK with his melodica (that's Steve) to give lively performances and workshops. In the last twenty years he has visited over 1400 schools and performed at various prestigious literary festivals. He lives with his family in Oxfordshire and offers global virtual poetry sessions.

About the illustrator of 'Once Upon a Star'

MAR HERNÁNDEZ

Mar Hernández is a professional illustrator with a PhD in Fine Arts from the Polytechnic University of Valencia. With more than 15 years of experience, this senior illustrator works from Spain for clients all over the world. She enjoys developing projects in different contexts such as press illustration, product illustration, illustrated books, advertising, animation, etc.

About the illustrator of 'Once Upon a Raindrop'

NOMOCO

Nomoco is a London-based Japanese Illustrator whose natural style brings a delicate and captivating feeling to her work. Nomoco holds a design mastery that blends poetically with a flow and organic movement that manifest into pure and heartwarming visuals. She has exhibited her work in solo and group exhibitions in London, Milan, Tokyo, Singapore and New York.

About the illustrator of 'Once Upon a Big Idea'

MARGAUX CARPENTIER

Margaux Carpentier is an illustrator and printmaker based in Stoke Newington. She studied in both Paris and Surrey and spent her early twenties playing poker, playing with pens and various media until she developed her unique graphic style. She now adapts her illustrations in 3D as well as large-scale murals. Earthy and folk-inspired, her work also draws on fantastical elements and wild imagination.

About the illustrator of 'Once Upon an Atom'

WILLIAN SANTIAGO

Willian Santiago was a Brazilian illustrator, graphic designer and professor, known internationally for his works full of vibrant colours and digital reproduction of brushstrokes and natural textures. He illustrated several books, in Brazil and abroad, in addition to magazines and advertising campaigns of famous brands.



Contents

BOOK 1 - ONCE UPON A STAR: THE STORY OF OUR SUN

Written by James Carter and illustrated by Mar Hernández

COVER AND DISCUSSION QUESTIONS

ONCE UPON A STAR ACTIVITIES

ACTIVITY SHEET: MAKE UP A MNEMONIC

Objectives: Explore the formation of the universe and our solar system, including the Big Bang theory, through art; learn the order of the planets in our Solar System and discover their unique characteristics; discover how stars produce elements crucial for life, like those found in our bodies.

BOOK 2 - ONCE UPON A RAINDROP: THE STORY OF WATER

Written by James Carter and illustrated by Nomoco

COVER AND DISCUSSION QUESTIONS

ONCE UPON A RAINDROP ACTIVITIES

ACTIVITY SHEET: JOURNEY OF A RAINDROP

Objectives: Develop critical thinking skills by considering water's journey through the water cycle; apply poetic devices to express thoughts and feelings about water; communicate effectively through visually appealing posters and engaging slogans that convey messages about water conservation.

BOOK 3 - ONCE UPON A BIG IDEA: THE STORY OF INVENTIONS

Written by James Carter and illustrated by Margaux Carpentier

COVER AND DISCUSSION QUESTIONS

ONCE UPON A BIG IDEA ACTIVITIES

ACTIVITY SHEET: TIMELINE OF INVENTIONS THROUGHOUT HISTORY

Objectives: Enhance understanding of historical timelines by creating visual representations of the evolution of inventions over time; research the lives of both well-known and lesser-known inventors from diverse backgrounds; brainstorm and design inventions to address real-world problems.

BOOK 4 - ONCE UPON AN ATOM: QUESTIONS OF SCIENCE

Written by James Carter and illustrated by Willian Santiago

COVER AND DISCUSSION QUESTIONS

ONCE UPON AN ATOM ACTIVITIES

ACTIVITY SHEET: SCIENTIST JOURNAL

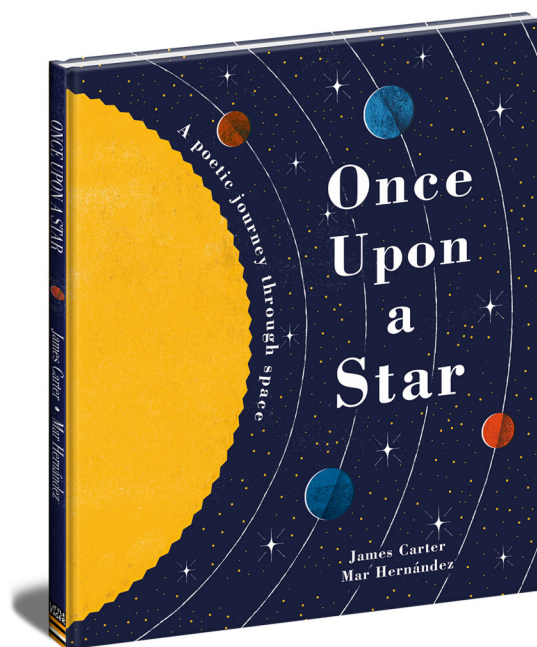
Objectives: Learn more about atoms and create tactile representations to reinforce understanding; recognise the presence of science in various aspects of daily life; cultivate curiosity and observation skills by imagining themselves as scientists.



BOOK 1

ONCE UPON A STAR: The Story of Our Sun

Written by James Carter and illustrated by Mar Hernández



DISCUSSION QUESTIONS:

1. Look closely at the cover. What do you notice first?
2. What do you think the Sun is made of? Why do you think it's so bright and hot?
3. How does the Sun help us here on Earth? What do we use the Sun's light and heat for?
4. Have you ever felt the warmth of the Sun on your skin? What does it feel like?
5. Count how many planets there are. Do you know any of the names of planets in our solar system? What might it be like to live on one of them?
6. See how the planets are going around the Sun. Why do you think they're moving like that? Do you know what it's called when a planet goes around the Sun? (Orbiting)
7. What do you think the title "Once Upon A Star" means? Why do you think the Sun is called a "star"?
8. Let's explore the size of the Sun. How big do you think the Sun might be?
9. Imagine a day without the Sun. What do you think might happen if it suddenly disappeared?
10. What questions do you have about the Sun after looking at the cover?
Is there anything you're curious to learn more about?



ONCE UPON A STAR Activities

- Begin by displaying the book cover and asking the class what they think the book might be about.
- Introduce the concept of the Sun as the star at the centre of our solar system and its importance in providing light and heat to Earth.

Activity 1: Journey Through Space and Time

- Read the book “Once Upon a Star: The Story of Our Sun” to the class, allowing children time to enjoy the beautiful illustrations and poetic language.
- Pause at important moments to ask questions and spark discussions about how the universe and our solar system formed.
- Encourage children to use their imaginations as they journey through the pages of the book, imagining what life might have been like billions of years ago when our Solar System was just beginning to form.
- Explore the Big Bang, the explosive event that started everything. Use the book’s vivid imagery and descriptive and onomatopoeic language to inspire children to create their own interpretations of this cosmic event through art, reminiscent of the book’s illustrations or pop art style.

Activity 2: Create Your Own Solar System Mnemonic (using the Activity Sheet)

- Next, use the double-page spread in the book to show our Solar System and its eight planets.
- Tell the children about the planets in our Solar System: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. Discuss the characteristics of each planet and their unique features. Also, explain how Pluto was once classified as the ninth planet but has since been reclassified as a dwarf planet.
- Teach them the importance of the order of the planets and introduce a helpful mnemonic to remember it easily, such as My (Mercury) Very (Venus) Easy (Earth) Method (Mars) Just (Jupiter) Speeds (Saturn) Up (Uranus) Naming (Neptune).
- Ask children to devise their own mnemonics using the activity sheet to come up with words or phrases that start with the same letters as each planet. After, share their creations as a class and determine which ones are the most memorable.



Activity 3: Our Cosmic Connections

- Using the last double-page spread of the book, explain to the children the concept of stardust. Help them understand that the elements that make up their bodies, such as carbon, oxygen, and nitrogen, were created in the cores of stars billions of years ago.
- Guide a discussion about how these elements were formed in stars and eventually from birth to death gradually, over the course of their life cycles. Explore how stars are born from clouds of gas and dust, go through different phases of life and eventually end their existence in various ways such as becoming super novae or white dwarfs.
- Discuss how elements produced during the life cycles of stars are dispersed into space and contribute to the formation of new stars, planets and even life.
- Provide opportunities for them to demonstrate their understanding through artwork, writing or discussions about the life cycles of stars and our interconnectedness with them.



ACTIVITY SHEET

MAKE UP A MNEMONIC

Instructions: Today, we're going to create fun and memorable mnemonics for remembering the order of the planets in our solar system! Use the activity sheet below to brainstorm words or phrases that start with the same letters as each planet. Get creative and have fun coming up with your own unique mnemonics.

Planet: Mercury

Word beginning with M: _____

Planet: Venus

Word beginning with V: _____

Planet: Earth

Word beginning with E: _____

Planet: Mars

Word beginning with M: _____

Planet: Jupiter

Word beginning with J: _____

Planet: Saturn

Word beginning with S: _____

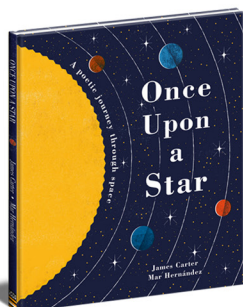
Planet: Uranus

Word beginning with U: _____

Planet: Neptune

Word beginning with N: _____

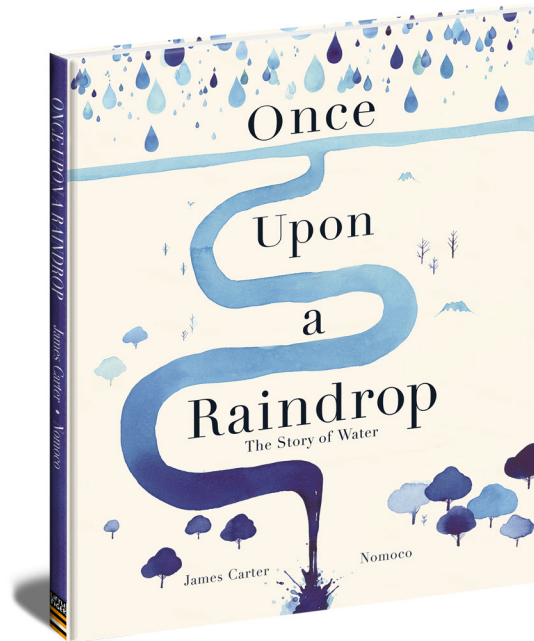
After completing your mnemonics, share them with the class and listen to each other's creative ideas!



BOOK 2

ONCE UPON A RAINDROP: The Story of Water

Written by James Carter and illustrated by Nomoco



DISCUSSION QUESTIONS:

1. Why do you think water is so important for life on Earth?
2. Do you know what percentage of our planet is covered in water?
3. What are some ways we use water, besides drinking it?
4. If there were no water on Earth, how would plants, animals and people survive? What challenges might they face?
5. Did you know that water can be solid, liquid or gas? What does each word mean?
6. How do you think clouds form? How does water get up into the sky and then down to the ground? Can you describe this water cycle or a raindrop's journey in your own words?
7. On the book cover, there are raindrops and a river. What do you think the connection is between them?
8. What happens to water when it gets very cold or very hot? Have you ever seen ice, steam or snow? How do you think they're related to water?
9. Do you know any stories or songs about water? Can you share one with us?
10. We all know how important water is for us, but how can we protect this precious resource?



ONCE UPON A RAINDROP Activities

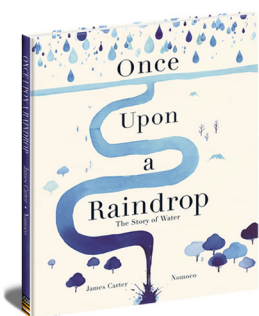
- Begin by asking the class if they know where water comes from and why it's essential for life. Record their range of responses on the board.
- Introduce the book "Once Upon a Raindrop: The Story of Water" and explain that it will take them on a journey to explore the origin and importance of water.

Activity 1: The Water Cycle (using the Activity Sheet)

- Divide the class into small groups and provide each group with small containers of water. Ask them to consider the journey of water by asking questions like, "Where does water come from?" and "What happens to water when it disappears?" This will engage their curiosity and encourage critical thinking about the water cycle.
- Next, teach children about the distinct stages of the water cycle, including evaporation, condensation and precipitation, by discussing each stage and its significance in sustaining life on Earth.
- Have each group draw and label the water cycle on a large piece of paper, using markers and crayons, while explaining the process of each stage to each other.
- To further explore this concept, encourage children to write a diary entry imagining themselves as a raindrop, using the activity sheet to detail their journey through the water cycle.

Activity 2: Poetry Corner

- Read aloud extracts from the book "Once Upon a Raindrop" that highlight the beauty and importance of water, prompting children to reflect on their own experiences with water.
- After reading, guide children to begin planning their own water-themed poems. Ask them to jot down words or phrases that come to mind and provide examples of poetic devices such as similes, metaphors and personification to inspire their creativity.
- Provide dedicated time for children to write and illustrate their poems, allowing them to express their thoughts and feelings about water in a personal and artistic way. Offer writing prompts or sentence starters to help those who may feel stuck. Encourage them to experiment with different poetic forms, such as haikus, free verse, or rhyming couplets.
- Create a "Poetry Corner" in the classroom where children can proudly display their completed poems for others to read and enjoy.



Activity 3: Water Conservation Campaign

- Discuss with children the importance of conserving water and protecting water sources, prompting them to consider the impact of their actions on the environment.
- Brainstorm as a class different ways they can conserve water at home and at school, such as turning off the tap while brushing teeth, taking shorter showers and being aware of water usage at school.
- Ask children to design posters or slogans that champion ways of conserving water, incorporating elements of persuasive writing to inspire action.
- Display the children's creations in the classroom or around the school to amplify awareness of water conservation, motivating others to join in efforts towards positive environmental change.



ACTIVITY SHEET

JOURNEY OF A RAINDROP

Instructions: Imagine you are a raindrop on a journey through the water cycle. Use the activity sheet below to write a diary entry describing your adventure. Consider the different stages of the water cycle as you narrate your journey.

Date: _____

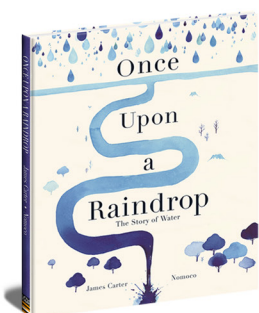
Dear Diary,

Today was an exciting day as I set off on my journey through the water cycle. Follow along as I describe each stage of my adventure...

Evaporation: (Describe the warmth of the sun as it turns me from a puddle into vapour and the feeling of rising higher and higher into the sky.)

Condensation: (Explain how I gather with other water droplets to form clouds and wait to fall to the ground.)

Precipitation: (Share the feeling of falling from the sky as rain and reflect on the different paths I take, whether into rivers, lakes or underground.)



BOOK 3

ONCE UPON A BIG IDEA: The Story of Inventions

Written by James Carter and illustrated by Margaux Carpentier



DISCUSSION QUESTIONS:

1. What catches your eye about the title “Once Upon a Big Idea”? What do you think this book might tell us?
2. Take a look at the picture on the cover. Can you describe what you see around the person’s head?
3. How does the cover make you feel? Does it make you curious or excited?
4. Have you ever had a big idea like the ones shown on the cover? What was it?
5. Why do you think inventions are important? How do they help solve problems?
6. Can you name some inventions you use every day? How do they help you?
7. How do you think people come up with new ideas for inventions?
8. Why do you think it’s important to learn about the history of inventions?
9. Do you think anyone can be an inventor? Why or why not?
10. If you could invent something to make the world a better place, what would it be and why?



ONCE UPON A BIG IDEA Activities

- Engage children by asking them to name some inventions they use in their daily lives. Discuss the importance of inventions and how they have changed the way we live and interact with the world.
- Introduce the book “Once Upon a Big Idea: The Story of Inventions” and its cover, highlighting the exciting journey it takes readers on through the history of inventions.

Activity 1: Creating a Timeline (using the Activity Sheet)

- Children work in small groups to research and select significant inventions from different historical periods mentioned in the book.
- Ask children to draw and write their selected inventions in chronological order, using the activity sheet, on the timeline of inventions throughout history.
- Encourage children to include illustrations and dates of each invention to accompany the timeline, enhancing understanding and engagement.
- Finally, children can present their timelines to the class, fostering discussion and reflection on the importance of innovation and creativity in shaping the world.

Activity 2: Inventor Interviews

- Ask children to conduct research into the lives of legendary inventors, such as Thomas Edison, Alexander Graham Bell, Ada Lovelace, Rosalind Franklin and Marie Curie. But don't stop there!
- Introduce them to the fascinating stories of lesser-known inventors from diverse backgrounds and cultures, like Annie Malone and Madam C.J. Walker, Hideo Shima, Olga D. González-Sanabria and many more. Challenge children to research not only their inventions but also their personal backgrounds and the challenges they faced and to choose an inventor who inspires them the most.
- Encourage them to create interview questions and role-play as both the interviewer and the inventor, either in pairs or small groups.
- To extend this task, children could use their research and newfound knowledge to write a biography about their chosen inventor.



Activity 3: The Future of Invention

- Conclude by discussing the importance of creativity and innovation in the process of invention. Have a class discussion about what inspires inventors and how they come up with new ideas.
- Encourage children to identify a problem they encounter in their daily lives and brainstorm possible inventions to solve it, focusing on the use of recycled materials as shown in the book.
- Provide time for children to work either individually, in pairs or small groups to create a simple prototype or design of their invention using recycled materials.
- Allow children to share their inventions with the class, explaining how their invention works and why they think it would be useful. You could also organise an invention exhibition where children showcase their ideas and inventions to parents, teachers and the community, promoting sustainability and creative problem solving.



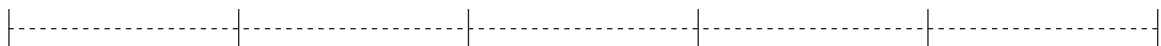
ACTIVITY SHEET

TIMELINE OF INVENTIONS THROUGHOUT HISTORY

Instructions:

1. Label the earliest inventions on one end and progress towards the most modern ones.
2. Use images, drawings or symbols to represent each invention. Don't forget to include the dates of each one!
3. Write a short explanation under each drawing, describing how the invention worked and its significance.

Earliest inventions



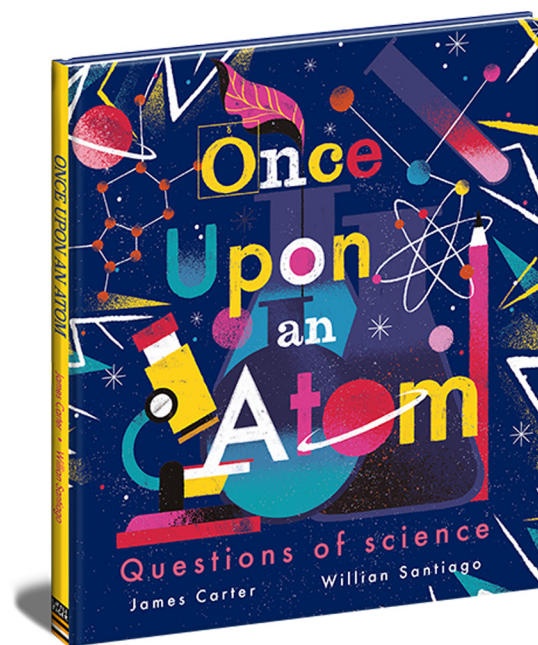
Modern inventions



BOOK 4

ONCE UPON AN ATOM: Questions of Science

Written by James Carter and illustrated by Willian Santiago



DISCUSSION QUESTIONS:

1. Let's take a closer look at the cover! What's the first thing you notice?
2. The book is called "Once Upon an Atom". Have you ever heard about atoms? What do you think they might look like?
3. Why do you think atoms are important in science?
4. Think about everything around you. Did you know that everything is made of tiny particles called atoms?
5. How do you think atoms come together to create the things we see and use every day?
6. Atoms are super small! If you could shrink down to the size of an atom, what do you think you would see and feel?
7. How do you think scientists discovered atoms, considering they're too small to see with the naked eye?
8. Why do you think it's important for us to learn about atoms and science? How does learning about atoms help us understand the world around us?
9. Can you name any famous scientists who made significant discoveries about atoms? What were some of the things they found out?
10. If you could ask a scientist any question about atoms, what would you ask? What are you curious to learn more about?



ONCE UPON AN ATOM Activities

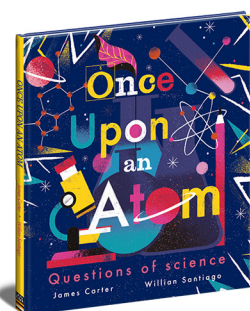
- Begin by asking the class what they know about science and what questions they have about the world around them. Encourage them to share their thoughts and curiosity.
- Read aloud the book “Once Upon an Atom”, stopping occasionally to discuss the concepts introduced and answer any questions the children may have.

Activity 1: Teeny Tiny Atoms

- After reading, talk with the children about atoms. Ask them questions like “What do you think atoms are?” or “Why are atoms important?” Provide them with some relatable examples or analogies, such as comparing atoms to building blocks that make up everything around us.
- Teach children about the parts of an atom: the nucleus, protons, neutrons and electrons. Show pictures or models to help them understand. Explain that the nucleus is like the centre of the atom, with protons and neutrons inside, and electrons around it.
- Help children understand the small scale of atoms by comparing them to familiar objects or using visual demonstrations. For example, you can explain that atoms are so tiny that they cannot be seen with the naked eye and are even smaller than the tiniest speck of dust. Discuss how scientists use tools like microscopes to see them.
- Lead hands-on activities where children create their own atom models using playdough to visualise them in a tactile way. Offer a variety of colours to represent the different parts of the atom, making the learning experience both fun and educational.

Activity 2: Science in Our Lives

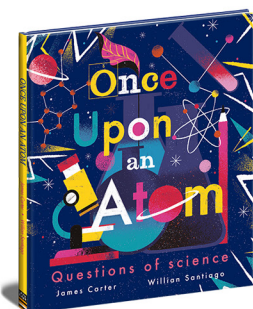
- Start by explaining to the children that the book shows how science is everywhere around us, from animals and nature to how things move.
- Encourage the children to think about how science impacts their daily lives. Ask them questions like, “What gadgets do we use?” or “How does space affect us?” Let them share their ideas and discoveries.



- Divide the class into small groups. Each one will focus on one aspect of science, like technology, space or nature. Make sure the groups are manageable and allow children to work together effectively.
- In their groups, ask the children to create simple presentations illustrating how their chosen aspect of science is important in our lives. They can draw pictures, write sentences or use images from the book!

Activity 3: Becoming Scientists (using the Activity Sheet)

- Invite the children to imagine themselves as scientists. Discuss the qualities and skills that scientists possess, such as curiosity, observation and critical thinking.
- Provide each child with a blank journal page and encourage them to use it as a scientist's log. They can use the journal to record observations, ask questions and conduct their own mini-experiments or investigations inspired by the book.
- Throughout the week, set aside time for children to share their discoveries and reflections from their science explorer journals with the class.
- Reflect on the journey of exploration the class has taken through the world of science with *Once Upon an Atom*. Encourage the children to continue asking questions, seeking answers, and exploring the wonders of the universe around them.



ACTIVITY SHEET

SCIENTIST JOURNAL

Scientist's Name:

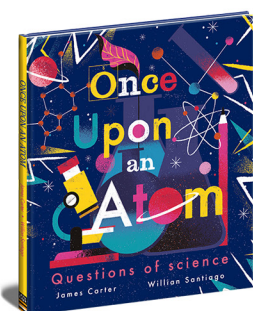
Date:

Observations: Record anything interesting you notice in the world around you. It could be about nature, technology or anything else that catches your attention.

Questions: Write down any questions you have about the world. Remember, scientists are always curious and ask lots of questions!

Mini-Experiments or Investigations: Conduct your own mini-experiments or investigations at home or in the classroom. Use the space below to describe what you did and what you discovered.

Reflections: Share your thoughts and reflections on your discoveries. What did you learn? What surprised you?



Remember to bring your Science Explorer Journal back to class each week to share your discoveries and reflections with your classmates. Let's continue our journey of exploration and discovery together!



NATIONAL CURRICULUM OBJECTIVES

KEY STAGE 1/2

ENGLISH

Spoken language

Pupils should be taught to:

- Develop understanding through speculating, hypothesising, imagining and exploring ideas
- Participate in discussions, presentations, performances, role play/improvisations and debates

Reading: comprehension

Pupils should be taught to:

- Develop pleasure in reading, motivation to read, vocabulary and understanding by:
 - listening to, discussing and expressing views about a wide range of contemporary and classic poetry, stories and non-fiction at a level beyond that at which they can read independently
 - discussing the sequence of events in books and how items of information are related
- Understand what they read, in books they can read independently, by:
- identifying how language, structure, and presentation contribute to meaning
- Participate in discussion about books, poems and other works that are read to them and those that they can read for themselves, taking turns and listening to what others say
- Explain and discuss their understanding of books, poems and other material, both those that they listen to and those that they read for themselves.

Writing: composition

Pupils should be taught to:

- Plan their writing by:
 - discussing writing similar to that which they are planning to write in order to understand and learn from its structure, vocabulary and grammar
- Develop positive attitudes towards and stamina for writing by:
 - writing narratives about personal experiences and those of others (real and fictional)

SCIENCE

Working scientifically

Pupils should be taught to:

- Ask simple questions and recognise that they can be answered in different ways
- Observe closely, using simple equipment
- Perform simple tests
- Identify and classify
- Use their observations and ideas to suggest answers to questions
- Gather and record data to help in answering questions



States of matter

Pupils should be taught to:

- compare and group materials together, according to whether they are solids, liquids or gases
- identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Earth and space

Pupils should be taught to:

- describe the movement of the Earth, and other planets, relative to the Sun in the solar system

HISTORY

Pupils should be taught about:

- the lives of significant individuals in the past who have contributed to national and international achievements

