Everyday science picture books

Science in the junior years covers physics, chemistry and biology in a very simple way. We encourage child to observe the world around them and to question and think about it at whatever level they can engage in such activities. The resources here try and cover all these areas linking to the physical world. We explore space, weather and the animal and insect kingdoms in many simple ways as well as simple experiments.

All of these books are online.

Here we are (Space)

Making moons with 'puffy paint'
To make 'puffy paint' mix grey/silver paint with equal amounts of flour and salt and a little water to make the paint spreadable. E.g. a yoghurt pot full of paint plus 2 teaspoons of salt and two teaspoons of flour plus a little water to make it spreadable. Cut a circle out of an old cereal box or some other cardboard. Paint a thick layer onto the card and microwave for about 15-35 seconds (you'll need to watch this and judge it yourself as all microwaves are different). The paint will puff and bubble and will create a 'moonscape'. Take it out carefully out of the microwave and allow to cool – it will be hot but will dry quite hard! You can change the colours for other planets e.g. red for Mars; green and blue for the Earth….

Some facts about planets: https://www.theguardian.com/childrens-books-site/gallery/2015/nov/13/best-space-facts-ever-astro-cat

'I see the moon' song https://www.youtube.com/watch?v=mDgnN4lLKtQ

Printable planet colouring pages http://www.supercoloring.com/coloring-pages/space-astronomy/planets

Some ideas for working through this book https://www.teachingideas.co.uk/library/books/here-we-are-notes-for-living-on-planet-earth

Oliver Jeffers (the author of Here we are) is reading a book a day
https://www.oliverjeffers.com/abookaday

If you have a smartphone or tablet, the **Night Sky is a free app** that maps the sky above us showing stars, satellites and other planetary bodies. It's really interesting and might be useful on those evenings when bedtime gets pushed out later! It can be used at dusk as well as at night.

Song about the planets https://www.youtube.com/watch?v=mQrlgH97v94

European Space Agency resources for kids http://www.esa.int/kids/en/home

Some space facts for kids https://www.sciencekids.co.nz/space.html

Astronauts reading picture books for kids from space
https://www.parents.com/fun/entertainment/books/astronauts-reading-picture-books-to-kids-from-space-is-the-coolest-thing/

How to catch a star read aloud https://www.youtube.com/watch?v=_3oQcKxE-ck

The Snowy Day (weather/the seasons)

This book is the most loaned book in the New York public library system. It's a really lovely books and children love it. We explore the seasons, the changes in weather and plant development in infants as part of science so there are four books suggested here – one for each season. You will concentrate on spring and summer as this is the time we are in at the moment but revising and revisiting work really helps children to engage their long and short term memories and to reinforce learning previously explored.

Read aloud of the book 'The Snowy Day' https://www.ezra-jack-keats.org/read-aloud/the-snowy-day/ and lots of other activities around the book on this website

This book really lends itself to exploring sensory items while you read e.g. crunching cornflakes when in the snow; chilled cotton wool falling on the child's face as 'snow'; a basin of water for wet feet; bubbles for the bath… This can be a great way to help children who are visually impaired or have sensory issues to engage with the story.

Melting and freezing. Freeze water in the freezer; melt an ice cube in your child's hand; put an ice cube on a plate and direct a hairdryer on the ice cube… you and your child can describe the sensations; describe what's happening when the ice cube melts…

Ice fishing experiment
http://www.sciencefun.org/kidszone/experiments/ice-fishing/

The water cycle explains how rain is made. You can explore this concept simple in a steamy bathroom. Bring a mirror into the bathroom when your child is in the bath or just watch the condensation on the windows. Here is an experiment to see it in action in a plastic bottle https://www.adabofgluewilldo.com/water-cycle-bottle-science-experiment/

Walking colour experiment https://funlearningforkids.com/rainbow-walking-water-science-experiment-kids/

Some other resources about weather and the Spring

Beatrix Potter is a great way to talk about woodland animals and Peter Rabbit Cartoons are on Netflix

A book of Seasons	https://www.youtube.com/watch?v=WhDJDIviAOg
Seasons song	https://www.youtube.com/watch?v=DTSWQGKUg_c
Who's awake in Springtime?	https://www.youtube.com/watch?v=Brn_GWUogmc
The Cloud book	https://www.youtube.com/watch?v=eS5uN0RuIHI
Little Cloud	https://www.youtube.com/watch?v=WhUI7V-JbSI
The ugly duckling story	https://www.youtube.com/watch?v=X4o5_8cEAHs
What's the weather like today song	https://www.youtube.com/watch?v=Jn7uAsLWXpk

Make a weather chart and refer to it each day. You child can draw the pictures for each type of weather or there are lots of printables online.

The Very Hungry Caterpillar (the insect kingdom) this book will also link to the knowledge explored in the gardening resources section. It also opens with 'In the light of the moon…' linking to the moon you may have explored with 'Here we are'. Creating links between knowledge previously explored is really important and is a way to revise work we have explored already. It helps to engage long and short term memory, stimulates language receptively and expressively and may help engagement and eye gaze. The Very Hungry Caterpillar is very timely for this time of year when we will start to see caterpillars and butterflies and moths and covers change and growth in the curriculum.

The book read by the author https://www.youtube.com/watch?v=eXHScpo_Vv8

The animation of the book https://www.youtube.com/watch?v=75NQK-Sm1YY

Some questions you can ask when reading the book – I usually read the book first, then read a second time and ask the questions then. If you have ever watched a film or TV show you know how annoying it can be when someone keeps asking questions throughout. Children are the same! Read first then go back and read and ask.

Can you remember what the caterpillar ate?

How many plums did he eat? Can you show me the number on your fingers? Can you make a set of that number? Can you point to the number on the number line? Can you write the number etc.

Can you write a list of the food by trying hard to segment the words and write the sounds you need? (you might modify this to what sound/letter does salami start with? Point to it/write it/choose it from the magnetic letters Etc)

Can you continue these repeating colour patterns on the caterpillar? https://primarysite-prod-sorted.s3.amazonaws.com/porthcawl-primary-school/UploadedDocument/af2fe1f6fd3c4b6ba6bffb564f633750/making-patterns.pdf

What colour is the cake? What colours can you see in the caterpillars body?

Some sentences to read or for you to read aloud: https://primarysite-prod-sorted.s3.amazonaws.com/porthcawl-primary-school/UploadedDocument/093984e537b448abb7ee9fa69ecd6865/sentence-game.pdf

Beautiful colourful pack of ideas around the book: https://www.pacey.org.uk/Pacey/media/Website-files/PACEY%20general/VHC-PACEYnew_FINAL.pdf

Another resource pack around the book: https://www.rif.org/literacy-central/book/very-hungry-caterpillar

As you can see this book is very popular among teachers for good reason! You will find lots of resources online.

Five little caterpillars song https://www.youtube.com/watch?v=v5ZCw9cUEq0

Ten magic butterflies story https://www.youtube.com/watch?v=kBi_RoXKVo0

General science experiments to try at home

Science means knowledge. You know that some children ask lots of questions so they are naturally curious about the world around them. Some children may not use language to ask questions or may seem disinterested in the world around them. With these children, we can use experiments to stimulate their curiosity and interest and engage their eye gaze towards us.

When we engage children in science experiments the language around the experiment and the process involved is where the learning occurs. We may not succeed in the outcome of the experiment but that also is a learning event. We ask the children to describe; predict; infer; question; wonder in whatever way they communicate.

Easy science experiments https://www.youtube.com/watch?v=4MHn9Q5NtdY

Some summer themed experiments: https://www.familyeducation.com/activities-crafts/the-ultimate-summer-bucket-list-for-kids-and-families

Baking is a type of science when you think of all the chemical reactions needed to get bread to rise. Here are some other recipes you might like to make with your child. Store the dough/sand/playdoh in an airtight box or sealable plastic bag when you are finished playing with it so you can reuse it.

Slime recipe https://tonyclarke.ie/diy-slime/

Easy salt dough recipe https://irishprimaryteacher.ie/salt-dough-decorations/

Edible kinetic sand recipe https://www.familyfriendlyhq.ie/things-to-do/how-to-make-edible-kinetic-sand-15153/

Play Doh recipe https://www.earlychildhoodireland.ie/playdough-recipes/

Some Spring/summer themed colouring in pages https://www.crayola.com/free-coloring-pages/seasons/spring-coloring-pages/