

Star in the Jar - Education Pack

From Star in the Jar by Sam Hay.
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Introduction

Welcome to the Education Pack for 'Star in the Jar'.

The pack is divided up into different Curriculum Areas. The suggested activities are appropriate for EYFS to end of KS1 pupils (and can be extended to lower KS2). They provide contexts for learning which can be adapted to suit the learning stages of different ages of pupils. A separate early years pack is also available to download from www.piedpipertheatre.co.uk.

'Star in the Jar' encompasses themes of friendship, of learning to let go, the relationship between older and younger siblings, dressing up and make believe.

The story also provides a wonderful stimulus to learn more about stars and space. In many ways this is a topic that children are familiar with – they have seen stars many, many times. However, learning more about stars and space is challenging for young children because the knowledge and concepts are complex. We hope you find our suggestions of where to begin helpful (see Science).

As preparation for the performance, or as a reminder to help stimulate further work we encourage you to look at our website where you will find recordings of songs and images; and, of course, Sam Hay and Sarah Massini's beautiful picture book which inspired the play.

The activities which follow should be seen as open ended – allowing children to take their learning and play in new directions as they respond to the stimuli of the story.

We hope that this pack provides a useful jumping off point and welcome your feedback.

Caroline Herlihy and Nicola Sangster.





Contents:

PSHE	3
English	4
Maths	8
Science	10
Art & Design	13
History	15
Geography	16





PSHE

'Star in a Jar' is a story about making a new friend. To help teachers to develop ideas about friendship, there are some excellent materials available online called SEAL – Social and Emotional Aspects of Learning. Government produced, and now archived, the easiest way to access them is to put Social and Emotional Aspects of Learning into your search engine. There are ideas for activities for all primary aged children.

The BBC Bitesize website also has a wide range of videos that can be used to promote discussion in KS1 and KS2 – look under PSHE & Citizenship-Relationships-Friendship.

Make a Star Chain

Using a cut out paper or model star begin by forming a circle, holding hands. The star is passed from person to person along the chain. As each person passes the star they make a positive wish for the person next to them... e.g. My wish for x is a lovely time at playtime, my wish for x is her favourite food for lunch etc.

The 'wisher' then passes on the star and that person makes a wish for the next child.

Finders Keepers

Sam found the star and much as he would have liked to keep it, the star did not belong to him and he had to help him find his way home.

Hide in a bag a selection of things that a child might find and reveal them one at a time; an item of school uniform with a name on, a sweet, a purse, some money, medicine (e.g. paracetamol) - discuss what would be the right thing to do if you found each of these objects.

This is an opportunity to discuss some key Fundamental British Values – Respect for others, Rule of Law, as well as personal values to be promoted – honesty, caring for others and their property, in addition health and safety linked to drugs and medicine.





English

Story Starting Points

'Star in the Jar' suggests many starting points for stories. Each can be discussed as a class, or in smaller groups and shared or acted out, before taking the ideas forward into writing:

- ★ Wish upon a star: discuss the idea of wishing on a star. What wish would you make? What would happen if it came true? Might there be some unforeseen consequences?
- ★ Rhyming couplets: the rhyme of the title could be a launchpad for many rhyming couplet little stories – e.g. the fox in the box, the frog in the bog, the bears under the stairs etc.
- ★ Messages in the sky: the stars spell out messages to Sam and Sarah in the sky. What other messages can the class imagine? How would they react and what might happen next?
- ★ A box of treasure: Sam is always looking for treasure. Create a treasure box for found and 'special' everyday objects in the classroom. Pulling out a few objects at a time create a story which uses them all.

A Glossary of Space

Discussion: What is a glossary? Look at glossaries in non-fiction books – where are they in the book? How are they organised (alphabetical) What language is used? (captions – not sentences)

Make a glossary of 'space' words.

First ask for suggestions, then add a few more difficult from your own (differentiate according to ability). Ask each child to choose X many, put them into alphabetical order, and write definitions for their own glossary.

The glossary could be illustrated.





A Planetarium Reading Corner

Using a black tarpaulin, tent, curtains, cover an area of the classroom to create a dark space. Attach glow in the dark and reflective foil stars to the 'roof' to create a 'celestial sphere'. Provide good torches so that the children can go and look at (and charge up) the stars – and read books about them in a star studded space.

Constellations

Talk about the names of the constellations, and the myths behind them (in a simplified way).

There is a useful pdf on www.tcoe.org [here](#).

There are printable worksheets with the stars of constellations to join up dot-to-dot on [BBC Stargazing Live](#) [here](#).

Encourage children to draw their own constellation pattern – Using a sheet of black paper randomly drip white paint dots, or drop white paper circles from a hole punch and glue them where they land. Then use chalk and a ruler to join the random dots together with dotted / thin lines.

What does the shape they have created remind them of?

What will they name their constellation?

What is the myth of their constellation?





Acrostic Poem

Use the worksheet overleaf to create your own acrostic star poems... e.g.

- S** Shiny, shimmering in the night
- T** Winkling tiny spots of light
- A** Across the sky
- R** Really beautiful
- S** Stars





My Star Poem



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Maths

The topic of space provides a great jumping off point for many maths activities. The Earth's movement around the sun is important in helping us to measure time. This could lead to looking at seasons, calendars, and units of time in the day, telling the time...

Shape - Pointed Stars

Give the children print outs of a simple six pointed star to cut out.

Discuss as a class what happens when you fold the triangular points in.

- What shape are you left with? (hopefully a hexagon!)
- What about 3, 4, 5 pointed stars? What shape would be in the middle of each?
- Can the children draw some of the stars? What about more points?
- Give out cut out polygons (e.g. heptagon, octagon, nonagon, decagon) to work with (or worksheets with the shapes pre-drawn on and space for the points).
- What are these shapes called and how many points will there be?
- Exploring making 2D and 3D star shapes - 2D - made by joining lolly sticks or straws.
- What other shapes can they see in their star shape? How many?





Number

When talking about space and stars the number quantities are very challenging to conceptualise – especially for very young children. Understanding the size of numbers is very important. This is an opportunity to explore and investigate size of numbers.

You could set up a competition in the classroom – guess how many xxxx are in the container. You could have small containers with many tiny objects, and larger containers with bigger objects.

Give the children a challenge...

- What would they count in ones?
- What would you count in tens?
- What comes in hundreds?
- What things would we count in thousands?
- What we count in millions?
- What would we count in billions?

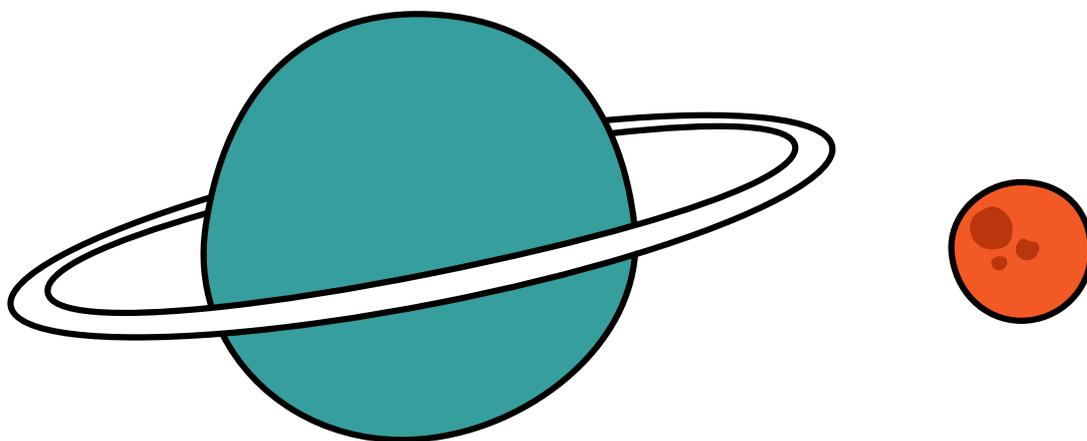




Science

'Star in the Jar' provides a wonderful stimulus to learn more about stars and space. In many ways this is a topic that children are familiar with – they have seen stars many, many times. However, learning more about stars and space is challenging for young children because the knowledge and concepts are complex.

Why not open up the topic by setting up a large display board with pictures of the sun, the Earth and some stars. Use this as a starting point to assess prior learning, and provide post-it notes or similar for children to jot down what they know about the stars and space. You will then be able to match the learning activities to the needs of different pupils. There will always be children who are keen to find out more (often at home). They can add notes of their own to the display board – but make sure that they can explain what they have written down (in case they have just copied something from a book or website that they do not understand).





Space Facts

Some basic science facts to share:

- **The sun is our nearest star.**
- The glow from the light of the sun looks different from other stars because the sun is much closer to **our planet, Earth.**
- The sun is the centre of our **solar system** – with planets, including Earth, **orbiting around it.**
- The sun does not stay still, it moves very slowly around the centre of **our galaxy.** A galaxy is a group of billions of stars and planets.
- Our galaxy is **the Milky Way.**
- Stars are millions of miles away. Stars form patterns in the sky called **constellations.**

Older children could carry out research, in groups, to investigate the bold vocabulary above and then share their findings with the class. Teachers could phrase these investigations as questions for the children to answer:-

What is a star? Could extend to things like 'Why do stars twinkle?' and beyond with questions that prompt creative, analytical levels of thinking – such as 'What do you think it would be like to live on Earth if we did not have our sun?'





Relative Size

The sheer magnitude of space is very difficult for children (and adults) to grasp. It may help to provide a visual representation – e.g. if the sun were the size of a football, the Earth would be the size of a sesame seed.

The Observatory at Greenwich have a solar system in a box activity and video to help you recreate a classroom relative size solar system. [Find it online here.](#)

Light

To link directly with stars – you could provide a sheet of pictures of things that create light and things that reflect light - e.g. the sun, stars, fire, light bulb, torch, foil, mirrors, metal, the moon. Can the class cut out the pictures and sort them into the two groups?

Materials - Classification

Sam's love of collecting 'treasure' could prompt and investigation into the properties of found objects:

Provide a 'treasure box' of different 'found' objects made of lots of different materials. Following a discussion on properties of materials, ask the children to carry out a sorting exercise in groups, so that they can discuss their reasons for sorting – e.g. these are shiny, (reflect light) these are hard, these are translucent, etc.

Do any of the objects fall into more than one category?

Teachers will need to help with the technical vocabulary.





Art & Design

Starry Sky

Extend the 2D and 3D shape work from the maths section to create a starry classroom 'sky'. Enhance your shapes with decorations – paint, glitter, foil, sequins etc. and string them up singly or in groups to form mobiles.

For multiple stars there's a fun exercise in how to cut out a five pointed star in just four folds and a single cut [here](#).

Found Objects

- ★ Make a collage picture of found treasure.
- ★ Provide a range of pencils, chalk, pastels and make close observational drawings or paintings of found objects e.g. feathers, crushed foil, shells, pebbles etc.

This could extend with older children to a discussion on objet trouvé. What do the class think 'art' means, and what is 'art' and what it not 'art' – looking at the work of artists such as Duchamp. You can find out more in [this Wikipedia article](#).





Star in the Jar Snowglobes

Adults – first check none of your jars are leaky! Then use a glue gun plastic stars (e.g. Christmas decorations, glow in the dark stars stuck back-to-back) to the inside of jam jar lids and leave to dry overnight.

Then the jar is filled by the children with:

- Water – $\frac{3}{4}$ full
- Glitter – 1 teaspoon (2 for a very big jar)
- Baby oil or glycerine – a few drops (this is to help the glitter fall more slowly, like snow)

Assistance should be provided with replacing the lids tightly, before the jar is carefully turned upside down.

No leaks? Then it's safe to shake!

Make a 'star scope'

Using a cardboard tube (loo roll, paper towel), an elastic band, and a circle of black paper larger than the end of the tube. Make a pattern of holes in the centre of the black paper, using the pointed end of a pen or pencil. Fix on to one the end of the tube with a rubber band. Shine a torch through the other end to show your very own constellation pattern.





History and Geography

Space and the night sky provide a wealth of topics for learning about history and geography:

History

Find out about scientists such as Copernicus, Galileo, and why their ideas were so important.

Look at the history of astronomical instruments: sundials, astrolabes, astronomical clocks, telescopes.

Discovering stars and planets: when were the major discoveries – and that we are still discovering new stars and galaxies today. Make a space timeline and show key events that have changed our ideas about space and stars.

There is plenty on info online [here](#).





Geography

Ask an open-ended question – do we see the same stars in England as children do who live in Australia? This could open up investigations into the nature of Earth's orbit, and how this relates to countries on the globe.

Viewing the earth from space – how much is water / land / frozen?

How can we use the stars to navigate? There is a great activity for KS1 and EYFS from Greenwich Observatory that you can [find online here](#).

Find out about what life is like on a Space Station. Compare it to your life at home.

Resources:

- [Solar System song – full of accessible facts](#)
- [Information about living on a space station from the European Space Agency](#)
- [Images from NASA of the earth from space. There are also many videos online](#)
- [BBC Stargazing Live 2012 Lesson Plans](#)
- [An expanse of Hubble images](#)
- [National Space Centre, Leicester](#)
- [Images of moon exploration etc.](#)

