Week 1: Playdough Recipe

Materials

- 3 cups flour
- 1 ½ cups salt
- 1 ½ tablespoons Cream of Tartar
- 5 tablespoons Vegetable Oil
- 2 cups warm water (as warm as is safe for touching)
- A few drops of food colouring
- Large Ziploc bag
- Large firm plastic bowl
- Large metal spoon
- Firm plastic cup

Instructions

- Simply add ingredients into the bowl, starting with the dry things first.
- Mix it all together to produce a firm dough.
- Add more flour if dough is too sticky and more water if the dough is too dry (a little at a time).
- Keep kneading until you are happy with the feel/texture.
- You can add a little orange/lemon/almond flavouring from the baking section in the shop to give the dough a lovely smell.
- Play with it with your hands, small toys or baking shapes or use it to fill up small
 containers or cupcake cases using spoons of different sizes. Cut it with forks and
 blunt knives. Use it in Sociodramatic Play scenarios (See Week 8).
- When you are finished playing with it, pop it into a ziploc bag to keep it fresh and stop it drying out.

Where is the STEAM in Making Playdough?

- **Science**: Experiencing Materials and changing Materials from one form into another; experimenting with textures and quantities; questioning-Has this worked? How can I fix it? What can I do with it? etc.
- **Technology**: Looking up different recipes and trying them out; take photos of different things you make and keep a record; share images and recipes with friends and family through email/messaging apps;
- **Engineering**: Coming up with design solutions-how can I make playdough in a new colour/with a firmer texture/with a lovely smell? Using the playdough in an Engineering challenge like creating a brick house for the three Little Pigs, using playdough as concrete.
- Arts: Making things from the playdough like snakes, eggs and nests, hedgehogs with matchstick spikes, etc.
- Maths: Making and discussing playdough shapes; exploring quantities and matching to numerals; investigating volumes of small containers; what is the longest/shortest snake can you make?

There are lots of different playdough recipes online with different smells, textures, etc. and lots of ideas for how to link playdough to different kinds of activities, stories, songs, etc. Here are some sites to try:

17+ Playdough Activities For Kids - Little Bins for Little Hands

<u>List of Play Dough Activities | Learning 4 Kids</u>

35+ Things to Make with Play Dough: Pretend, Create, Learn - Fine Motor (handsonaswegrow.com)

Week 3-Technology

Advice for Parents on Children Using Digital Technology and Screens

What things do I need to keep in mind when supporting my child's Technology learning at home?

1. Using technology safely

Whether children are using technology like magnets or smartphones, it is really important that they learn how to use them and also, that they learn how to use them safely. Before introducing any technology or tools to your child, it is important that you consider whether there are issues around safety that you need to consider and talk about with your child.

There are some specific issues that you need to keep in mind to keep your child safe and healthy when they are using digital technology and screens such as televisions, phones and tablets. The following sites will be useful when you are thinking about these issues:

• South Dublin County Partnership video on Parenting and Technology:

(258) Session 4: Technology - YouTube

 Webwise and Cyber Safe Kids, both of which contains lots of great information about Screentimes and keeping children safe online:

Parents - (webwise.ie)

Resources - CyberSafeKids

• CommonSense Media which is a great site for finding out if content online, in apps, on television, etc is safe and appropriate for your child. Great for reviews too!! Check out the Parents Need to Know section-so much useful information!

Parenting, Media, and Everything in Between | Common Sense Media

HSE has advice here on Screetimes and Technology:

Screen time and young children - HSE.ie

• Safefood's START Programme has good information here:

safefood | Reducing screen time

• Barnardos have really nice videos and other resources for Parents available here:

For Parents | Barnardos

2. Using technology together

For many of the tools and technology, playing with them with parents can be a great way for children to learn how to use them safely. Research also shows that watching Science related content on television or online (like on YouTube) is one of the most popular Science-related activities parents and children engage in. Watching and talking about things together can provide children and parents with opportunities to share positive experiences and learn together.

With newer technologies like apps, parents are not just watching technology with their children, but are using technology with their children too. Such co-using and co-viewing of media and technology with children can have lots of positive effects, such as:

- ➤ Helping children to develop concentration and focus
- > Helping children to remember information
- Stimulating children's curiosity
- Supporting the development of literacy skills
- > Supporting the development of social and emotional skills
- Promoting empathy
- > Strengthening emotional bonds
- ➤ Helping to teach positive values
- Collaboration
- Safer use of digital media and technology

(Common Sense Media, 2021)

3. Set a good example

Be a good model for your child in how you use technology yourself. For example:

- Don't just use digital technology when making choices about which tools to use. Show your child that you also use books for information, pens and paper for making lists or writing cards, meeting people in person
- Be careful to not allow too much "technoference" in which your interactions with your child are regularly interrupted by your phone/technology use
- Limit your own amount of time on screens
- Be critical out loud about technology that is of poor quality so your child can learn how to be a critic too. For example-"I don't like the way the game on that app has that very loud music and flashing lights. It makes it difficult to concentrate"
- Don't be afraid to set boundaries around screen time and screen use in the home. Think about having screen-free areas or times (like at the dinner table or before bedtime).

4. Content should be appropriate to your child's age and stage of development

There are a wide variety of television programmes, internet sites, videos and apps that contain STEAM related content. Choosing content that is appropriate for younger children is really important. Otherwise, children may end up watching content that is too complex for them to understand, so they may lose interest or be exposed to inappropriate content, etc.

Keep the following principles in mind when looking for appropriate educational content for your child:

• Children should be physically active and/or creative, when engaging with content, where possible (for example, through using things like digital cameras, dance apps, active learning, etc.).

- When your child's behaviour, emotions and mind are stimulated by the content, they are more likely to learn.
- The content of the media should be meaningful to your child, building on the knowledge they already have and connecting new material to it. (For example, if they enjoyed learning about Polar bears, the next thing they might enjoy looking at could be other Arctic animals.)
- Your child will get the most from watching television or videos online if they don't do it on their own. Try to watch with your child so you can talk together about what they are watching and answer the questions. They can also catch up with friends or family on apps like Zoom and/or give them opportunities to work together with their friends or family on projects using other apps.
- For STEAM learning, try to think about using television shows, videos or apps that
 they can learn something from. Remember, the learning can also be about things like
 working together or being patient or being creative, which are all important skills for
 STEAM learning too!
- Try to ensure that your child has control of what happens when using the media. Avoid applications where there is only one outcome or answer for every used. Apps that encourage a child to be creative about their answers or aim for your child to create, for example, original drawings are great!
- Choose applications that are easy to use and understand and use familiar features, such as drag and drop
- Avoid applications containing violent or sexual content or gender/cultural stereotyping
- Be aware of health and safety issues

(Hirsch-Pasek et al., 2015; Siraj-Blatchford and Siraj-Blatchford, 2003)

List of STEAM Apps

Some of these Apps are free, some are pay up front and many have in-app purchases. Just be aware when downloading that what may be free at first can look for payment for extras within the app.

- Barefoot World Atlas (6+)
- Busy Water (4-9 Years)
- Crazy Gears (5-8 years)
- Creature Garden (6+)
- DiscoverE (5+) ENGINEERING
- DIY.org-Creative Challenges (5+)
- Faces iMake (5+)
- How it works-Games for Kids to learn and discover (6+)

- Inventioneers (2-8 YEARS)
- k-5 Science for Kids-Tappity (5+)
- Kahoot! Algebra by DragonBox (5+)
- Khan Academy (5+)
- Kodable (6+)
- Light and Colour by Tinybop (6+)
- Loopimal (6+)
- Marble Math Junior (5+)
- MathTango (6+)
- MathTango (6+)
- Montessori 1st Operations (5+)
- Music4Kids-Learn and Compose Music Through Play (6+)
- Musilla (6+)
- Nature Cat's Great Outdoors (5+)
- NASA (7+)
- Ocean Forests (6+)
- Odd Bot out (4+)
- Plum's Creaturizer (5+)
- Smart Tales-STEM learning (3+)
- Star Walk Kids: astronomy game (6+)
- STEMWerkz (5+)
- Tami's Tower (4+) ENGINEERING
- The Cat in the Hat Builds That (4+)
- The Earth by Tinybop (6+)
- The Little Line (5+)
- The Robot Factory by Tinybop (6+)
- Thinkrolls 2 (4-9 years)
- Thinkrolls Play and Code (5+)
- This is my Spacecraft-Rocket Science for Kids (6+)
- Toca Blocks (6+)
- Toca Lab: Elements (6+)
- Toca Lab: Plants (6+)
- Toca Builders (6+)
- What's in Space? (6+)

List of STEAM Television shows

RTE STEAM Programmes - RTÉ Learn (rte.ie)

BBC STEAM Programmes - BBC - STEM Resources

Blaze and the Monster Machines (Nick Junior and YouTube)

StoryBots (Netflix and YouTube)

Helpsters (Apple TV and YouTube)

Annedroids (Amazon Prime)

Odd Squad (Netflix)

The Magic School Bus Rides Again (Netflix)

Creative Galaxy (Amazon)

Dinosaur Train (PBS and YouTube)

Magic School Bus (Netflix)

Catie's Amazing Machines (CBeebies)

Emily's Wonder Lab (Netflix)

List of STEAM YouTube channels

Earth to Luna (4+)

Super Sema (5+)

Toy Hackers (6+)

Science with Sophie (5+)

Khan Academy Kids (4+)

HoopLa Kidz Lab (also called Lab 360) (6+)

Rte Hub Lab (5+)

Steve Spangler Science (6+)

Da Vinci Kids (6+)

SciShow Kids (5+)

Dublin Zoo (4+)

Red Ted Art (5+)

Art for Kids Hub (5+)

List of STEAM Websites

NASA Kids Club (NASA Kids' Club | Play Games and More! | NASA)

National Geographic Kids (National Geographic Kids)

National Geographic Little Kids (Little Kids (nationalgeographic.com))

Kitchen Lab 4 Kids (Kitchen Lab 4 Kids – K4K)

American Museum of Natural History ((250) American Museum of Natural History - YouTube)

Eco Explorers Club (Dublin Zoo) ((250) SSE Airtricity | Welcome to The Eco Explorer's Club - YouTube)

Generation Genius (<u>Balanced and Unbalanced Forces Video For Kids | 3rd, 4th and 5th Grade</u> (generationgenius.com))

Science Kidz (Science for Kids - Fun Experiments, Cool Facts, Online Games, Activities, Projects, Ideas, Technology (sciencekids.co.nz))

CBeebies (CBeebies | Enjoy Games, Activities, Videos and More)

EIE at the Museum of Science, Boston Engineering Activities at Home | EiE

Wow in the World Podcast Wow in the World | (tinkercast.com)

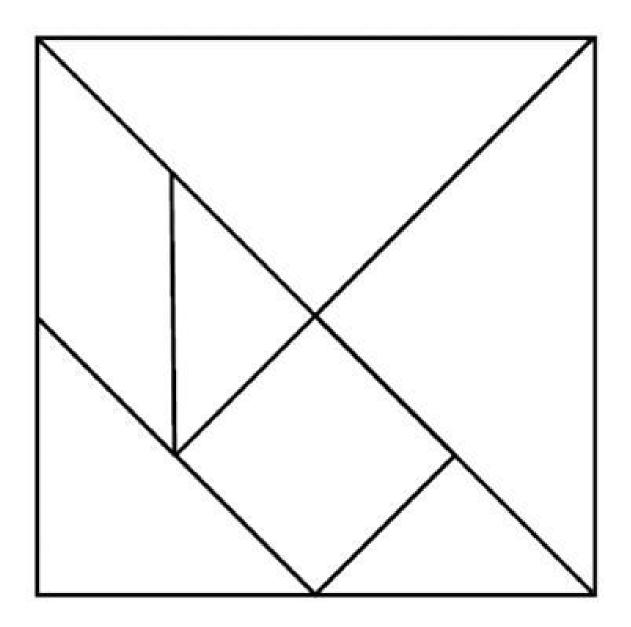
Week 5 The Arts and Sociodramatic Play

Sociodramatic Play and STEAM Template

My child's current interest is	
--------------------------------	--

How can I support my child's STEAM learning through this interest?				
Topic	Ideas for activities	Materials needed		
Science				
Technology				
Engineering				
Arts				
Maths				

Week 6: Tangram Template



Week 7: Minibeast Hunt Template

Minibeast	Tally	Draw a Picture		
Use the spaces below to draw other minibeasts you find				

Week 8: Cloud Dough recipe

Materials

- Plain flour
- Baby oil
- Containers
- Bags to bring cloud dough home in
- Measuring cups
- Spoons to mix together

Instructions

- Mix four cups of flour with ½ cup baby oil in the container
- Once thoroughly mixed, it is ready to play with
- It should resemble sand in texture, rather than playdough.
- Ask your child questions like: What does it feel like? What will you do with it? Will it hold its shape?
- You can add food colour or scented oil to explore their senses more!

BOOKS to promote STEAM learning

Here are some ideas about the different kinds of books which you can read and talk about with your child. Your local library has lots of books to borrow for free and the staff at the library are really good at helping you to work out which books your child will really enjoy!

Picture Books

Picture books are not only a wonderful way of sharing special times with your child but are also a great way of supporting your child's STEAM learning. Many children's picture books contain STEAM topics. Children often like to re-read the same books a number of times and this re-reading of a topic can really help their memory and learning.

Reading Picture books with children can support their learning around an interest they already have or can spark a new interest for the child.

Fact-based (or non-fiction) books are a great way of exploring all kinds of topics in more detail and can often answer the questions your child may have about their current interests. The pictures are often bright and colourful and give real-life examples of things like animals, planets, etc. As they are fact-based books, you can also be sure that the information in them is accurate and true. Books aimed at younger children often summarise the main points of a topic, which can help your child to grasp the content more easily. Then, if the child wants to know more, they can move onto more complex books or more specific topics.

Fiction (or story) books usually contain a story that has been created by someone and often contain really creative artwork. Although it might seem an unlikely place for STEAM learning, in fact it can be a great source for a new interest or for thinking in a new way about an existing interest. Many fiction books contain elements of STEAM topics. For example, the book "Going on a Bear Hunt" contains lots of pictures that describe weather conditions (a Science topic), lots of opportunities to talk about size, counting and location (Maths topics), the beautiful illustrations (Arts) and it could easily link to Technology (perhaps watch a movie version together/torches in a dark "cave") and Engineering ("Could we make a Bear's Cave?").

Whether we are reading Fact-based or Fiction books with young children, children will learn best, and enjoy them most, when we talk about the book with them as we read it. If we want to use a book to support young children's STEAM thinking and learning, we need to look at and discuss the pictures and also ask our child questions about them. Let's take The Very Hungry Caterpillar by Eric Carle for example:

On the first page, we see a *tiny* egg on a *large* leaf (language of size). The egg is *smaller than* the leaf (language of comparison). On the second page, the *small* caterpillar is walking on the ground *under* the big sun (language of size and spatial location). The following pages offer opportunities for counting and describing the various fruits eaten. The page with different food items lends itself to questions such as: which is longer, the pickle or the piece of chocolate cake? Can you find things that are the same **shape**? What shapes can you see? How would you feel if you ate all of those things? The final question asks children to think about actions and consequences. When the caterpillar eats the 'nice green leaf', we can start conversations around healthy foods and categorise foods that are good for us and those that are not. The page with the beautiful butterfly can prompt questions about pattern and symmetry. Finally, we can also discuss life cycles, metamorphosis, chrysalis, eggs, etc.

So, from one picture book, we can engage children in the mathematical language of size, shape, comparison, time (days of the week) and spatial awareness as well as having conversations about healthy food, insects, life cycles, etc. (Science).

Other Books

Don't forget that you can also use books aimed at older children and adults to add to your own knowledge about different interests that your child has. When you have a better grasp of a subject area, you will feel more confident explaining it to your child. And you never know, it may start a new interest for you too!

Think about a picture book that you are familiar with.

- What kinds of STEAM concepts are conveyed by the words and pictures?
- What questions could you ask, and discussions could you have, using this book, to promote STEAM learning?

Look back at the Science questions from Week 2 for prompts about the kinds of questions you can ask as you read books with your child.

Visits to the local library

Local libraries often have many books (both fact-based and fiction) that can help parents support their child's STEAM learning as well as access to services like the internet, photocopying, etc. Librarians can provide advice on suitable books for specific age groups and are often aware of relevant events in the area. Local libraries also host lots of great, fun STEAM activities for children and families, such as Lego clubs and Arts and Crafts events.

Why not pay a visit to your local library and check out some books for free to share with your child?

Locations of Libraries in Tallaght:

Library Branch Address	Opening Hours	Contact Details
Castletymon Library	Monday: 9.45am - 8pm	01 4149203
Castletymon Road	Tuesday: 9.45am - 8pm	Email:
D24 EC1X	Wednesday: 9.45am - 8pm	castletymon@sdublincoco.ie
	Thursday: 9.45am - 8pm	
	Friday: 9.45am - 4.30pm	Website:
	Saturday: 9.45am - 4.30pm	<u>Castletymon - SDCC</u>
	Closed on Saturday and	
	Monday of Bank Holiday	Facebook page (for details of
	Weekends.	lots of free events)
		(20+) Castletymon Library
		<u>Facebook</u>
County Library,	Monday: 9.45am - 8.00pm	01 462 0073
Library Square,	Tuesday: 9.45am - 8.00pm	Email:
Tallaght,	Wednesday: 9.45am - 8.00pm	talib@sdublincoco.ie
Dublin D24 A3EX	Thursday: 9.45am - 8.00pm	
	Friday: 9.45am - 4.30pm	Website address:
	Saturday: 9.45am - 4.30pm	County Library, Tallaght - SDCC
	Closed on Saturday and	
	Monday of Bank Holiday	Facebook page (for details of
	Weekends.	lots of free events)
		(20+) Tallaght Library
		<u>Facebook</u>

Here is a list of both fact-based and fiction books that promote STEAM learning with your child. Many of them can be borrowed for free at your local library.

Non-fiction

- Whatever the Weather: Learn about Sun, Wind and Rain by Steve Parker (Author), Little Gestalten (Editor), Caroline Attia (Illustrator)
- The Wonders of Nature by Ben Hoare (Author)
- The Mysteries of the Universe: Discover the Best-Kept Secrets of Space by Will Gater (Author)<u>javascript:void(0)</u>
- Up in the Garden and Down in the Dirt by Kate Messner, Christopher Silas Neal (Illustrator) (*Over and Under Series*)
- Life Cycles: Everything from Start to Finish by D.K. Publishing, Sam Falconer (Illustrator)
- Secrets of Animal Camouflage by Carron Brown, Wesley Robbins (Illustrator) (Shinea-Light Books series)

- Secrets of Animal Camouflage: A Shine-a-Light Book by Carron Brown (Author)
- Ocean: A Visual Encyclopedia by John Woodward
- Except Antarctica by Todd Sturgell
- Robots (STEAM and Me) by Dinah Williams (Author)
- Someone Builds the Dream by Lisa Wheeler (Author), Loren Long (Illustrator)
- Lindsey the GIS Professional by Tyler Danielson
- Molly and the Mathematical Mysteries: Ten Interactive Adventures in Mathematical Wonderland by Eugenia Cheng, Aleksandra Artymowska (Illustrator)
- Lift the Flap Periodic Table y Alice James (Author), Shaw Nielsen (Illustrator)
- Science You Can Eat: Putting what we Eat Under the Microscope by Stefan Gates
- Change It!: Solids, Liquids, Gases and You by Adrienne Mason
- Buzzing with Questions: The Inquisitive Mind of Charles Henry Turner by Janice N.
 Harrington (Author), Theodore Taylor III (Illustrator)
- The Street Beneath My Feet by Charlotte Guillain (Author), Yuval Zommer (Illustrator)

Fiction

- The Bridge to Sharktooth Island: A Challenge Island Steam Adventure by Sharon Duke Estroff (Author), Joel N. Ross (Author)
- The Race Across Anaconda Swamp: A Challenge Island Steam Adventure by Sharon Duke Estroff (Author), Joel Ross (Author)
- Zoey and Sassafras Series by Asia Citro (Author)
- (Dragons and Marshmallows; Monsters and Mold; Merhorses and Bubbles; Caterflies and Ice; The Pod and the Bog; Unicorns and Germs; Grumplets and Pests; Bips and Roses; Wishypoofs and Hiccups)
- Rosie Revere, Engineer by Andrea Beaty (Author), David Roberts (Illustrator)
- Ada Twist, Scientist by Andrea Beaty (Author), David Roberts (Illustrator)
- Rosie Revere and the Raucous Riveters by Andrea Beaty (Author), David Roberts (Contributor) (Questioneers Chapter Books series)
- Creatrilogy: The Dot, Ish, Sky Color by Peter H. Reynolds (Author)
- Frankie Sparks and the Class Pet by Megan Frazer Blakemore (Author), Nadja Sarell (Illustrations)
- Dreaming Up: A Celebration of Building by Christy Hale (Author)

- Charlotte the Scientist Is Squished by Camille Andros (Author), Brianne Farley (Illustrator)
- Cece Loves Science by Kimberly Derting (Author), Shelli R. Johannes (Author) (Cece Loves Science Series)
- More Than a Princess by Delanda Coleman (Author), Terrence Coleman (Author), Beatriz Mello (Illustrator)
- The Most Magnificent Thing by Ashley Spires (Author, Illustrator)
- Count on Me by Miguel Tanco (Author)
- Jim and the Beanstalk by Raymond Briggs
- The Shopping Basket by John Burningham
- The Napping House by Audrey Wood (patterns)
- Beep Beep Vroom Vroom by Demarset and Murphy (Pattern/Algebra)
- The Secret Birthday Message by Eric Carle (spatial language)
- The Doorbell Rang by Pat Hutchins (sharing/dividing)
- Block City by Robert Louis Stephenson (shape, space, engineering)
- Leaf Man by Lois Ehlert (art through nature/loose parts)
- Me on the Map by Joan Sweeney (geography, spatial awareness)

^{**} some of these books can be found on You Tube if you can't find a copy elsewhere!

Dates of Special STEAM Related Events**

Maths Week 15th- 23rd October 2022

Science Week 7th – 13th November 2022

Engineers Week $4^{th} - 10^{th}$ March 2023

Biodiversity Week May 2023

Culture Night 23rd September 2022

^{**} Libraries usually hold activities to tie in with the events mentioned above.

Songs and Rhymes that promote STEAM learning

Maths

- 1) 1,2,3,4,5 Once I caught a fish alive
- 2) Sorting
- 3) Ten In the Bed

Engineering

- 4) The Engineer Song
- 5) London bridge is falling down
- 6) Electric Car

Technology

- 7) Computer Bug
- 8) We the Digital Citizens
- 9) Media Balance Is Important
- 10) Googly Eyes
- 11) The Technology Song For Kids

Arts

- 12) We Call It Art Song!
- 13) The Artist Song!
- 14) If You can Dream It
- 15) Work On Our Fitness
- 16) Let's Star Jump!
- 17) Follow The Leader Dance
- 18) Trolls: Can't Stop The Feeling dance
- 19) The Musical Instruments Song for Children

Science

- 20) Humpty Dumpty
- 21) Itsy Bitsy Spider
- 22) Living Things
- 23) Ecosystems
- 24) Plants
- 25) Seven Continents Song
- 26) Animal Classification: The Vertebrates Song

- 27) Hypothesis song
- 28) My Heart
- 29) Wash your hands with Rufus
- 30) Planets Song
- 31) The Dinosaurs Song
- 32) Why does the Sun Shine?

Storybots (funny and educational songs and videos-these are their STEAM ones!)

- 33) Where Does Rain Come From?
- 34) Outer space
 - A Beautiful, Beautiful World (Earth)
 - I'm a Star
 - I'm so Hot (Sun)
 - Time to Shine (Moon)
 - We Are the Planets
- 35) How Are Planets Made?
- 36) How Do Cell Phones Work?
- 37) The Gravity Song
- 38) How Do Eyes See?
- 39) Professions:
 - Architect
 - Software engineer
 - Veterinarian
 - <u>Pilot</u>
 - Scientist

Lyrics

1) <u>1,2,3,4,5 Once I caught</u> a fish alive

One, two, three, four, five. Once I caught a fish alive. Six, seven, eight, nine, ten. Then I let it go again.

Why did you let it go?
Because it bit my finger so.
Which finger did it bite?
This little finger on the right.

One, two, three, four, five.

One, two, three, four, five. Once I caught a fish alive. Six, seven, eight, nine, ten. Then I let it go again.

Why did you let it go?
Because it bit my finger so.
Which finger did it bite?
This little finger on the right.

One, two, three, four, five

2) Sorting

This is a story about a family of bears On a picnic without any cares. Oh, they're sorting out a basket of colourful fruits Just a family of bears, what a hoot!

They put red with the red ones
Blue with the blue
Green with the green ones
And then a yellow, too Purple with the purple
And another one, too
Just a family of bears sorting fruits

This is a story about a family of bears
On a picnic without any cares
Oh, they're sorting out a basket of
colourful fruits
Just a family of bears, what a hoot!

They put black with the black ones
Just two then two
White with the white ones
That's just what they do
Orange ones with orange ones
Another one, too Just a family of bears
sorting fruits.

This is a story about a family of bears
On a picnic without any cares
Oh, they're sorting out a basket of
colourful fruits
Just a family of bears, what a hoot!

Now, what did they do?
They counted up all the fruits
Two by twos
And what do you know?
When it's said and done
There's only one It's a yellow one!

This is a story about a family of bears
On a picnic without any cares
Oh, they're sorting out a basket of
colourful fruits
Just a family of bears, what a hoot!
Just a family of bears, what a hoot!
Just a family of bears, what a hoot!

3) Ten In the Bed

There were ten in the bed and the little one said, "Roll over, roll over." So they all rolled over and one fell out.

Nine!

There were nine in the bed and the little one said, "Roll over, roll over." So they all rolled over and one fell out.

Eight!

There were eight in the bed and the little one said, "Roll over, roll over." So they all rolled over and one fell out.

Seven!

There were seven in the bed and the little one said, "Roll over, roll over" So they all rolled over and one fell out.

Six!

There were six in the bed and the little one said, "Roll over, roll over." So they all rolled over and one fell out.

Five!

There were five in the bed and the little one said, "Roll over, roll over." So they all rolled over and one fell out.

Four!

There were four in the bed and the little one said, "Roll over, roll over." So they all rolled over and one fell out.

Three!

There were three in the bed and the little one said, "Roll over, roll over." So they all rolled over and one fell out.

Two!

There were two in the bed and the little one said, "Roll over, roll over." So they both rolled over and one fell out.

One!

There was one in the bed and the little one said, "I'm lonely..."

4) The Engineer Song

Is there a problem that needs fixing? Is there something to improve? What works? And what's missing? Is there something we can do? Some of us would just let it go.

But if you like to create, like to explore, Like to make things better than before, Build, develop, and design, Solve problems and apply. The things you like could be your career You might be an engineer.

When you see an airplane in the sky, or a windmill spin
Or take a ride on a roller coaster that you're brave enough to get in.
When you use a prosthetic leg or ride a train down the track,
Odds are a mechanical engineer was helping with that.

From tall traffic lights that signal when to safely go,
To tiny microchips transmitting signals to a mobile phone.
From self-driving cars to toys that talk or move about,
An electrical engineer is sure to figure it out.

Canals, bridges, sewage, dams, and roads, We build towers with steel beams to take a heavy load. We make water safe, so you can use it for years Leave it up to civil engineers!

Software engineers write code to tell computers what to do We design apps and video games, and play them, too. We make homes smarter, to help you throughout the day We guide robots, cars, and rockets safely on their way.

Chemical engineers produce, recycle, and reuse, We stir, mix, and separate in medicines and food. We develop new sources of fuel to keep our carbon footprint low And some of us make fireworks explode!

What do you love? Opportunities abound There's an engineer for every industry around: Aerospace, geological, audio, bioengineering, biomedical, structural, robotic, agricultural, environmental, automotive, nuclear, materials, manufacturing, marine, computer, energy, Engineering's in everything you could ever see.

If you like to create, like to explore, Like to make things better than before, Build, develop, and design, Solve problems and apply.

5) London bride is falling down

London Bridge is falling down, Falling down, falling down. London Bridge is falling down, My fair lady.

Build it up with sticks and stones. Sticks and stones, sticks and stones. Build it up with sticks and stones. My fair Lady.

Sticks and stones, will all fall down, All fall down, all fall down Sticks and stones, will all fall down, The things you like could be your career You might be an engineer, You might be an engineer.

My fair Lady.

Build it up with wood and clay, Wood and clay, wood and clay, Build it up with wood and clay, My fair Lady.

Wood and clay will wash away, Wash away, wash away, Wood and clay will wash away, My fair Lady. Build it up with iron and steel, Iron and steel, iron and steel, Build it up with iron and steel, My fair Lady.

Iron and steel will bend and bow, Bend and bow, bend and bow, Iron and steel will bend and bow, My fair Lady.

Build it up with bricks of shaw bricks of shaw, bricks of shaw

6) Electric Car

Electric car
On roads so dark
To change the end
Rewrite the start
Electric car
So good, so far

Electric car
On verdant green
Invent a turn
Invent a dream
Electric car
The new machine

Let's take a ride in an electric car To the West Side in an electric car How can you deny an electric car? Won't you take a ride with me? Come on and take a ride with me

Electric car
Beside the tree
Way past the dock
Way past the sea
Electric car
Roll silently

Electric car
On roads so dark
To change the end
Rewrite the start
Electric car
So good, so far

Build it up with bricks of shaw My fair Lady.

It will stand for ever more, ever more, ever more, It will stand for ever more, My fair Lady. Let's take a ride in an electric car To the West Side in an electric car How can you deny an electric car Won't you take a ride with me Come on and take a ride with me

No diesel, steam, or gasoline Let's take a ride in an electric car Happiness resides in an electric car You can even drive an electric car Won't you take a ride with me? Come on and take a ride with me?

Let's take a ride in an electric car To the West Side in an electric car How can you deny an electric car? Won't you take a ride with me? Come on and take a ride with me

7) Computer Bug

I was using the computer Tried to make my own game. I was using the computer But it didn't work.

The computer got confused A bug was messing with the code. The computer got confused And didn't know what to do.

When there is a bug in the code It means that something isn't right. When there is a bug in the code It could be something I misspelled.

I am using the computer

8) We the Digital Citizens

We, the Digital Citizens With our hands up in the air. Pledge to travel safely When we click from here to there.

If you want to see the world

You don't always need a plane. A giant yellow school bus Or a noisy train.

You just need the internet And something with a screen.

So this is what we do When we find out what is wrong. We debug the code And fix up all the mistakes.

We will keep on trying Till everything just works. Then we can play the game How it was meant to be played.

Now I made my own game. I am using the computer And it's working great. Again.

To see a different country Or a pretty ocean scene.

If you've never seen a sloth
Or a pic of Auntie Sue.
Just go online and check them out
Remember what to do.

Always ask a grown-up Before you go online. It's good to set a limit And keep track of your time.

Keep your info private Like your name and your address. And always find a grown-up If you're scared or you're stressed.

If you want to see the world You don't always need a plane. A giant yellow school bus Or a noisy train.

You just need the internet
And something with a screen.
To play an awesome puzzle game
Or watch a soccer team!

So go online and check them out

9) Media Balance Is Important

Balance is important,
For me and you and you.
Balance helps us stand up straight,
And keeps us in our shoes.

But sometimes with technology, Balancing's hard to do. Yes, balance is important, For me and you and you.

So gather 'round to hear our song

remember what to do, to do, to do, to do.

Always pause and think
When visiting a site.
Only talk to friends you know
And never start a fight.

It's fun to have a screen,
To laugh and play with friends.
But if it's nice, go outside
And find the rainbow's end!

If you want to see the world You don't always need a plane. A giant yellow school bus Or a noisy train.

You just need the internet And something with a screen. To be a part of something GREAT! Whatever you can DREAM!

Remember that you took this pledge To be your BEST online. So stick with the Dig Citizens And together you will shine!

You'll learn these words are true.

When you... Look up from your screen, when a friend says hi.
Share your game if they want to try,
Play outside when the sun is bright,
Devices go off when you say goodnight.

It makes your whole self-happy When you're balancing just right.

Balance is important,
For me and you and you.
Your Heart, your Head, your Arms and
your Legs,
Need that balance, too.

Too much of something,
Can make you mad or blue.
So trust your Guts, get on your Feet,
There's so much that you can do!

When you...Ask before you take a phone, Invite a friend if they're all alone.
Stick to sites you know online,
Go outside when the weather is fine.

It makes your whole self-happy When you're balancing just right

Media balance isn't easy, We know that this is true. Just think about this balance song, It will help you through.

10) Googly Eyes

Switch on your computer Password, please. Shhh shhh shhh My password is just for me.

Log on to the internet,
Be careful where you go.
Communicating with your friends,
But only those you know.

Now always tell an adult, If you see something bad.

Because no one has the right, you see, To make you feel sad.

So have fun, Learn lots.

Remember to be wise.

Now stop, Switch off.

So you don't get googy- googly eyes.

x2

11) The Technology Song for Kids

T-E-C-H-N-O-L-O-G-Y, technology, technology! Technology! CD's, DVD's and mobile phones. Oh technology.

Computers and laptops in every home. Oh technology. It's in your school, it's in your street. It's over your head, it's under your feet. Oh technology.

There's no doubt about it. We can't live without it. Oh technology.

My grandma could live without it, But I can't live without it.

Oh technology.

You have to be smart, All you boys and girls. Oh technology. You have to be smart, It's a digital world.
Oh technology.

Everywhere you go, Everything you see. It's all around you,

12) We Call It Art Song!

Come on, let's paint with some colours.
Start with yellow, red, and blue.

Mix them together to get purple, green, and orange too.

We put the paint.
On the brush.
And we swirl it all around.
We swirl it all around
on the canvas.

We call it art.
Oh, oh, oh, oh,
we call it art.
Yeah. We call it art.
Oh, oh, oh, oh,
we call it art.
We call it art.

So many things

13) The Artist Song!

Go get a crayon
When I sing this song.
Maybe you can sing
And draw along.

If you can't find a crayon Anything will do. If you wanna have fun, It's all around me. Oh technology.

T-E-C-H-N-O-L-O-G-Y, technology! T-E-C-H-N-O-L-O-G-Y, technology! Technology!

that we can draw lines, dots, stripes, and shapes.

Let's use chalk, pencils, Markers and crayons to brighten up the page.

All these colours.
To choose from.
Like turquoise, and magenta,
lime green, and sienna.

It's time to sketch.
We call it art.
Oh, oh, oh, oh,
we call it art.
Yeah. We call it art.
Oh, oh, oh, oh,
we call it art.
We call it art.

Try drawing with two.

When you make art Like using your voice. No matter what you do There is no wrong choice.

Pencil, crayon, chalk

Pick them up. Learn to draw a tree,

Kitty or a truck.

Make your drawings messy, Or you can make them clean. No matter how they look, Hang them up to be seen.

When you make art, It's like using your voice. No matter what you do, There is no wrong choice.

You're a perfect artist Whatever you do.

Stanton just made a six-legged poodle.
Lindy drew a boat,
Floating in the sky.
Davey likes to draw
As much as he loves apple pie.

When you make art, It's like using your voice. No matter what you do, There is no wrong choice.

Go crab a paint brush When I sing this song. Maybe you can paint And sing along.

If you can't find a paint brush, That's okay. Bitsy used her your fingers

14) If You can Dream It

CHORUS

If you can dream it You can do it. You can paint it The same way.

When you make art, It's like using your voice. No matter what you do, There is no wrong choice.

Pencil, crayon, chalk Anything will do. Learn to draw a tree, Kitty or a shoe.

Make your drawings messy, Or you can make them clean. No matter how they look, Hang them up to be seen.

When you make art, It's like using your voice. No matter what you do, There is no wrong choice.

You're a perfect artist, However you do.

Stanton just made a six-legged poodle.
Lindy drew a boat,
Floating in the sky.
Davey likes to draw
As much as he loves apple pie.

When you make art, It's like using your voice. No matter what you do, There is no wrong choice.

You can sing it.

х2

VERSE 1

You can act it on stage Or in a Hollywood part.

You can inspire the whole wide world

With your art.

You can sing it.

You can paint it

x2

Let's paint a mountain

Then let's climb it high. Let's sing an anthem

Where the mountain meets the sky.

VERSE 2

Let's write a poem, About amazing things. About swimming the seas

And sailing the breeze.

Let's dance for the heavens

Like a butterfly

Then let's make some wings And soar down the mountainside Let's sew a costume

Like a dinosaur in clothes.

And then let's "roar" like a dragon

With a fire in his nose.

Let's dance for the heavens

Like a butterfly.

If you can dream it

You can do it.

[CHORUS]

Then let's make some wings And soar down the mountainside.

15) Work On Our Fitness

Here we go

Out on the dance floor

Let's move and sing

With all of our friends and...

Here we go

Out on the dance floor Let's move and sing

With all of our friends and...

Work, work Work on our fitness

Work, work Like it's our business (x2)

Work, work

Work on our fitness

Work, work

Like it's our business (x2)

Turn to the left

Turn to the right

Take a step back

Put your hands up high (x2)

Turn to the left

Turn to the right

Take a step back

Put your hands up high (x2)

Shake, shake

Like a leaf on a tree

Shake, shake

Like a bumblebee

Shake, shake

Like a bird in the sky

Shake, shake

Let's exercise

Shake, shake

Like a leaf on a tree

Shake, shake

Like a bumblebee

Shake, shake

Like a bird in the sky

Shake, shake Out on the dance floor Let's exercise Let's move and sing

With all of our friends and...

Dance, dance

Move, move Work, work
Shake, shake Work on our fitness

Play, play (x2) Work, work

Like it's our business (x2)

Here we go

16) Let's Star Jump!

Let's star jump, let's star jump! x3
To this song.
Jump forward, jump back now x3
To this song.
And shuffle, shuffle, shuffle your feet, shuffle, shuffle, shuffle, shuffle your feet...
Jump left and jump right now x3
Let's starjump, let's starjump x3
repeat shuffle your feet until end..

17) Follow The Leader Dance

The roof, the roof the roof is our fire.
Follow the leader, leader, leader follow the leader. [Repeat: x4]
Up, down, up, down, everybody up, down, up, down.
And now one hand in the air, and turn from the left to the right.
Left, right [Repeat: x12]

Follow the leader, leader, leader follow the leader. [Repeat: x4]
Turn for the left, turn for the right, turn for the left, turn for the right. [Repeat: x2]
Clap, and wait Clap, and wait [Repeat: x2]

Follow the leader, leader, leader follow the leader. [Repeat: x4]
Now repeat after me, you repeat after me.
Say I love soca (I love soca)
Say I love soca (I love soca)
Now somebody, anybody, everybody scream.

Follow the leader, leader, leader follow the leader. [Repeat: x4]

Now we jump on the way, are you ready for jump?

One, two, one two three four.

Jump and wave, jump and wave, jump, jump, jump, jump. [Repeat: x2]

Follow the leader, leader, leader follow the leader. [Repeat: x4] The roof the roof is our fire, we don't need no watherlander, yeah. Follow the leader, leader, leader follow the leader. [Repeat: x4] And scream.

18) The Musical Instruments Song for Children

Drums, guitar, violin, maracas Piano, xylophone, flute and trumpet. Eight musical instruments that are very fun to play So listen cause we'll learn them all today.

The drums can be played with your hands or sticks The guitar is very popular and the planets love it. The violin has a bow that is used to play And maracas you can play them as you dance, hey!

Drums, guitar, violin, maracas Piano, xylophone, flute and trumpet. Eight musical instruments that are very fun to play So listen cause we'll learn them all today.

The piano has many keys, some are white and some are black The xylophone is made with small wooden planks. The flute has many holes, try and cover them all And the trumpet's sound is very powerful.

Drums, guitar, violin, maracas Piano, xylophone, flute and trumpet. Eight musical instruments that are very fun to play So listen cause we'll learn them all today.

Once more! Drums, guitar, violin, maracas Piano, xylophone, flute and trumpet. Eight musical instruments that are very fun to play And now you know them, which one will you learn To play.

19) Humpty Dumpty

Humpty Dumpty sat on a wall.

Humpty Dumpty had a great fall. All the king's horses and all the king's men couldn't put Humpty together again.

Humpty Dumpty sat on a wall. Humpty Dumpty had a great fall. All the king's horses and all the king's men couldn't put Humpty together again.

Humpty Dumpty sat on a wall. Humpty Dumpty had a great fall. All the king's horses and all the king's men couldn't put Humpty together again.

20) Itsy Bitsy Spider

The itsy-bitsy spider
Climbed up the waterspout.
Down came the rain
And washed the spider out.
Out came the sun
And dried up all the rain,
The itsy-bitsy spider
Climbed up the spout again!

The itsy-bitsy spider Climbed up the stairs. "Woosh" went the wind And blew him in the air. Out came the sun No longer did it blow. The itsy-bitsy spider Had another go. The itsy-bitsy spider
Climbed up the chimney
spout.
Birds made a nest
And blocked the spider out.
The birds flew away
And let the sun come in.
The itsy-bitsy spider
Climbed up the spout again!

The itsy-bitsy spider
Went to the zoo.
Along came an elephant
And said "How d'you do?"
He met all the spiders,
The snakes and lizards too.
The itsy-bitsy spider

Went on to somewhere new.

The itsy-bitsy spider
Climbed to the top.
He made a silky web
And spun it without a stop
Then came the wind
And blew it all away.
The itsy-bitsy spider
Started it again.

21) Living Things

Every living thing needs air to breathe Water to drink and food to eat.
Every animal from the birds in the trees
To the dolphins and the whales
In the deep blue sea.

Even a frog has to eat A toad, a lion, a bumblebee. Even a fish and a chimpanzee They all need food to eat.

Every living thing needs air to breathe

Water to drink and food to eat.
Every animal from the birds in the trees
To the dolphins and the whales
In the deep blue sea.

A big red dog needs water to drink Like cats and otters and green algae. A might oak tree needs water you see To grow so tall and made shade for me!

Every living thing needs air to breathe Water to drink and food to eat.
Every animal from the birds in the trees
To the dolphins and the whales
In the deep blue sea.

Plants in the garden have to breathe The flowers and the veggies and the fruits so sweet.

Monkeys and daisies and tiny fleas Even cucumbers need air to breathe. (Believe me!)

Every living thing needs air to breathe Water to drink and food to eat.

Every animal from the birds in the trees

To the dolphins and the whales

In the deep blue sea.

22) Ecosystems

From the great green forests
To the ice in the North Pole.
To the mountains and oceans
And every river we know.

From the deserts to the plains
To the valleys below.
Every place has an ecosystem
A place called home.

Dirt supports plants
So they grow and seed.
Then plants make oxygen
So animals can breathe.

Then, animals make waste So the soil gets enriched. And then bugs are born So they can feed all the fish.

From the great green forests
To the ice in the North Pole.
To the mountains and oceans
And every river we know.

From the deserts to the plains To the valleys below. Every place has an ecosystem A place called home.

Rocks support the bottom
Where the river flows.
And bugs on the rocks
Feed the frogs and the toads.

And fish swim around
In the deepest holes.
Where the sun shines through,
And it warms the cold.

From the great green forests
To the ice in the North Pole.
To the mountains and oceans
And every river we know.

From the deserts to the plains To the valleys below. Every place has an ecosystem A place called home.

23) Plants

The roots are in the ground
And the stem grows up.
Then the leaves grow out
And the flowers sprout.
And if you're lucky
The flowers grow fruit.
It's amazing what plants can do! Do! Do!

All you need is a seed
And a little bit of dirt.
A splash of water
And some sunshine doesn't hurt.

Then the seed will grow And grow and grow. And before you know it What do you know?

It's a plant!
A plant?
A big green plant!

A plant! A plant! So what do you think of that?

'Cause the roots are in the ground
And the stem grows up.
Then the leaves grow out
And the flowers sprout.
And if you're lucky
The flowers grow fruit
It's amazing what plants can do! Do! Do!

Wow!
Look at 'em go!
First it's the roots,
And then the stem,
And then the leaves,
The flowers!
The roots are in the ground
And the stem grows up
Then the leaves grow out
And the flowers sprout
And if you're lucky
The flowers grow fruit
It's amazing what plants can do! Do! Do!

24) Seven Continents Song

The world is split up into continents, there are seven in all.

And if you get the gist, we're gonna make a list from biggest to small:

They are: Asia, Africa, North and South America, Antarctica, Europe, and finally, Australia.



Hey! My name is Asia, And more than half of the world lives here, but, whatever.

And I am Africa, with desert for miles And my Nile is the longest river.

North America! Start down in Panama, Wide open spaces, all the way to Canada.

I'm South America with animals galore,
Where the rainforest grows 'cause the rain really pours.

I'm Antarctica, and I'm totally ice.

And I'm Europe. You're welcome... For the pasta, pizza, waffles, and fries.

I am Australia, some call me Oceania, I got a lot of islands, too many to explain to ya.

We are Asia, Africa, North and South America, Antarctica, Europe, and finally, Australia.

25) Animal Classification: The Vertebrates Song

Do you have a backbone? That's weird Ninety-five percent of earth life does not.

You're called a vertebrate because of the spine you've got There are five vertebrate classes.

Some have warm blood and some have cold,

Some on land, in the air or sea.

What are they called? Repeat after me:

Mammals, reptiles, birds, amphibians, and fish. Mammals, reptiles, birds, amphibians, and fish.

Hedgehog:

Most mammals don't come in eggs like all the others, The babies drink milk from their mothers.

And we all have fur or hair on our soft skin.

We have cats, deer, platypus, kangaroos, and you.

Fun fact: whales and bats are mammals, too.

Turtle:

Reptiles are covered in scales or bony plates, Yeah, we know you can't relate. We lay eggs with a leathery shell, We have snakes, lizards, crocodiles, and turtles, as well.

Toucan:

Birds are born from hard-shelled eggs, We have beaks and feathers, but scales on our legs. Not all of us take to the sky, But most of us have hollow bones and most of us fly.

Frog:

Amphibians lead a double life in cold blood,
Our metamorphosis takes us from the water to the mud.
We start with gills, then we graduate to lungs,
Some of us catch food with our specialized tongues.
Some of us look like worms, and some of us are long,
And some of us are toads, but most of us are frogs.

Shark:

Fish, fish, fish are the largest groups of vertebrates,
And we've been around much longer.
We have scales and fins, we're ectothermic,
And we lay our eggs in the water.
And guess what: a jellyfish is not a fish 'cause it doesn't have a backbone...
Same with starfish, shellfish, cuttlefish, and crayfish.
These are fake fish.
Ok, I'm done... But they're fake.

There are so many ways to divide up the data, But we all have spines in subphylum vertebrata. (Subphylum vertebrata! Subphylum vertebrata!)

Mammals, reptiles, birds, amphibians, and fish (but only the real ones!) Mammals, reptiles, birds, amphibians, and fish.

Birds, amphibians, and fish.

26) Hypothesis song

How, what, where, why? What, where, why? Ada Twist, Scientist.

I've got a hypothesis. I've got a hypothesis. Does that observation mean this explanation? Right or wrong, let's find out what the answer is.

I might not be right but we're gonna find out What this theory is all about.
An educated guess,
But will it stand up to our test?
Yes, that's what a hypothesis is.

I've got a hypothesis.
I've got a hypothesis.
Let's find out how right it is.

(Find out what the answer is)
Let's find out how right it is.

(Find out what the answer is)
Let's find out how right it is.

27) My Heart

My heart is a muscle that's pumpin' blood, Pumpin' blood, pumpin' blood. My heart is a muscle that's pumpin' blood To make my body healthy.

Blood circulates in a circle, you see,
All around my entire body.
Exercise helps my heart stay strong
And if you're eating right, you can't go wrong.

Now just make sure that you never smoke. It's bad for your heart, and that's no joke. My heart is a muscle that's pumpin' blood To make my body healthy.

My heart pumps blood through blood vessels, Blood vessels, blood vessels, My heart pumps blood through blood vessels All through my body.

Arteries go away from my heart And take oxygen to each body part. Veins carry blood back again So they can get more oxygen.

Capillaries connect veins and arteries They all carry blood through my body. My heart pumps blood through blood vessels All through my body.

My blood contains so many things, So many things, so many things, My blood contains so many things That my body needs.

Red blood cells carry oxygen.
Platelets help a boo-boo mend.
White blood cells help fight disease.
Plasma carries vitamins from food you eat.

All of these blood cells Travel through my blood vessels My blood contains so many things That my body needs.

My heart is a muscle that's pumpin blood, Pumpin' blood, pumpin' blood, My heart is a muscle that's pumpin blood To make my body healthy!

28) Wash your hands with Rufus

Wash, wash, wash your hands,

Thumbs and fingers too,

Rinse and then make sure they're dry,

That's the thing to do!

29) Planets Song

There are eight planets in our solar system We revolve around the sun Join us to learn about the different planets Now sing along and have some fun

My name is Mercury
I'm the second hottest planet
The closest one to the sun
A year on my surface is 88 days
I'm the smallest but I'm lots of fun

My name is Venus I'm the hottest planet But the second planet from the sun I'm the brightest planet in our solar system And I'm too hot for any one

My name is Earth
I'm the planet you live on
The third Planet from the sun
I'm the only planet with organic life
So take care of me 'cause we're all one

My name is Mars
I am red in color
I'm the fourth planet from the sun
I have the highest mountain in our solar system
A volcano named Olympus Mons

There are eight planets in our solar system We revolve around the sun Join us to learn about the different planets Now sing along and have some fun

My name is Jupiter, I am covered in clouds I'm the fifth planet from the sun
My giant red spot is a raging storm
As for size, I'm the biggest one

My name is Saturn, I am brown in color I'm the sixth planet from the sun My outer rings are extremely thin They're made of dust and icy chunks

My name's Uranus, I am blue in color I'm the seventh planet from the sun Humans have named me the icy planet Because I am the coldest one

My name is Neptune, I am blue in color I'm the eighth planet from the sun I have too many storms in my atmosphere And I'm the furthest planet from the sun

There are eight planets in our solar system We revolve around the sun Join us to learn about the different planets Now sing along and have some fun

30) The Dinosaurs Song

They used to walk. They used to swim
They used to fly with a toothy grin
Some ate plants and some ate meat

Some walked around on just two feet

[Chorus]

Oh, the dinosaurs! Big as trees!
Dinosaurs! Brains like peas!
Jaws and claws and teeth and bone...
That used to growl, groan, and moan

Some had feathers. Some had scales
Spikes, clubs, and whip-like tails
They fought like dragons. The earth sure shook
The volcanoes sizzled and the lava cooked

[Chorus]

Tyrannosaurus Rex was a terrible king
The Stegosaurus' tail could really swing
Brachiosaurus liked to stomp
Trachodon would chew and chomp

[Chorus]

They roamed the earth, a hundred million years... Without worries, cares, or fears
Then one day they hit the soil...
Now they're fossils, gas, and oil!

[Chorus]

31) Why does the Sun Shine?

The sun is mass of incandescent gas, a gigantic nuclear furnace Where hydrogen is built into helium at a temperature of millions of degrees Yo ho it's hot, the sun is not a place where we could live But here on earth there'd be no life without the light it gives

We need its light, we need its heat, we need its energy
Without the sun, without a doubt, there'd be no you and me
The sun is mass of incandescent gas, a gigantic nuclear furnace
Where hydrogen is built into helium at a temperature of millions of degrees

The sun is hot
It is so hot that everything on it is a gas
Iron, copper, aluminum and many others
The sun is large

If the sun were hollow, a million earths could fit inside And yet the sun is still only a middle-sized star

The sun is far away
About 93, 000, 000 miles away, and that's why it looks so small
And even when it's out of sight, the sun shines night and day

The sun gives heat, the sun gives light, the sunlight that we see The sunlight comes from our own sun's atomic energy

Scientists have found that the sun is a huge atom-smashing machine The heat and light of the sun come from the nuclear reactions Of hydrogen, carbon, nitrogen and helium

The sun is mass of incandescent gas, a gigantic nuclear furnace Where hydrogen is built into helium at a temperature of millions of degrees

32) Where Does Rain Come From?

Why, oh why,
Does the rain come tumbling from the sky?
Well, it all starts when the weather's sunny and fair.
When the sun hits the ocean, streams, and lakes.
The heated water evaporates
Going up, up, up
Cause vapor's lighter than air.

Oh, it's in the air I do declare. And it's true that you can't see now But soon you'll know is there.

Cause way up high where it's not so warm, When the vapor cools, little droplets form. That my friends is condensation, And that leads to cloud formation. (We're gonna get precipitation)

My, oh my,
Now a big dark cloud comes drifting by
With all those tiny droplets it can contain.
They get so heavy all squished together
So down they come bringing wet wet weather.
Umbrellas go up cause down goes the pouring rain
Umbrellas go in the pouring rain.

33) Outer Space

A Beautiful, Beautiful World (Earth)

Such a beautiful... such a beautiful... such a beautiful... Beautiful world.

I'm the Earth, and for what it's worth 25 thousand miles is my girth. I've got more than 7 billion people living on me All across my amazing geography.

Check out my mountains, valleys, trees so tall And I've got lakes, rivers and waterfalls. Volcanoes, craters, swamps with alligators Tropical islands at my equator.

The North and South poles have lots of ice Only Polar Bears say, "This weather's nice!" I've got so much land, yeah, I'm so immense. I've got 7, 7 different continents: North and South America, Europe, Asia Africa, Antarctica, and Australia.

But the biggest thing,
Everybody can see
Is that I gotta lotta water, all over me!
I have oceans with lobsters, whales, otters
Three quarters of me is covered in water.

I orbit the sun - ("I'm so hot") - that's his line And the moon orbits me - ("It's my time to shine"). I'm filled with life, both big and small The most beautiful planet of all.

Such a beautiful... such a beautiful... such a beautiful... beautiful world.

- I'm a Star

StoryBot: Do you see anything? The stars are out tonight...
I'm a star, I'm a star, I'm a star,

I'm a star, I'm a star I'm a big, big star! I'm a star from afar, Yes you are, So am I. We are balls of hot gas that shine in the

sky.

There are trillions and trillions of us.

That's a lot!

Even the sun is a star ("I'm so hot").

There are lots of other stars

Like him, And me, And me!

And a bunch of us together form a galaxy.

There's billions of galaxies,

Lots of stars! Understand?

There's more stars in space than all of Earth's grains of sand.

And from land, with your eye to the night sky display,

You can see the Earth's galaxy —

The Milky Way.

Stars are different sizes
And we can morph.
There are super giants – Giants.
Main sequence and dwarfs.
And we form constellations
Which are patterns of stars
Before GPS, that's how you'd know where you are.

We're the Big Dipper
We're the Belt of Orion.
We're the Gemini Twins
We're Leo the Lion (Rawwrr)
People think we twinkle
But that's not true.
The light's just playing tricks when it shines on you.

And shooting stars aren't stars
No they're not.
They're meteors burning up when they
get too hot.
Wish upon a star, it might come true,
Well, I hope
Look up tonight in the sky or look through
a telescope.

I'm a star, I'm a star, I'm a star, I'm a star, I'm a star. I'm a big, big star!

There are lots and lots of stars. That's true, there really are. I made a wish. What was it? I'm not telling.

- I'm so Hot (Sun)

I'm so hot, I'm so hot, Check me out, check me out, I'm hot.

Yo, Everyone, I'm the Sun.
I'm made of gas like Hydrogen and Helium.
I keep the Earth warm and help to grow food.
I shine down on the beach on guys who say "Dude".
I set into the West and on comes night
And then I rise from the East with that golden light.
I'm so hot - so hot - so hot and bright
28 million degrees.
Fahrenheit!

I make plants grow, like trees and flowers, so powerful, got that solar power.

Make the desert dry, make the oceans rise,
Don't stare right at me I can hurt your eyes!

I'm just about a million miles wide,
I'm so big, you could fit a million Earths inside.

I'm the centre of the solar system, can't ya see.

Got so much gravity, planets orbit me!

I'm 4 and a half Billion Years Old.
In Spanish, everybody calls me Sol.
When I'm not around you'll be feeling cold,
Yeah, I shine so bright with my rays of gold.

I'm so hot! So hot! I'm so hot! So hot! Ow! He's right. He's really hot!

Come on Storybots, show me what you got How hot am I? So hot!

The Sun is so hot I have to wear these. Now I'm cool. So cool.

Time to Shine (Moon)

It's my time to shine, It's my time to shine. The day's over now, So it's my time to shine.

Good evening, it's the Moon Here to regale you with a tune. I'm so bright up in the sky at night But the truth is I'm just reflecting light.

See let me help you break it down
The Earth and I are spinning around,
And I orbit the Earth in a loop,
"You see, the moon is kinda like my hula hoop"
We both orbit the sun; he's the big shot.
"I'm the center of the solar system, I'm so hot".

The sun's like a lightbulb and I'm like a mirror, Light bounces off me and then it appears to the Earth below for a lovely view. For animals like wolves who go "Awhoooooo!"

Sometimes I'm full, sometimes half on Sometimes I'm crescent, or it looks like I'm gone. But I'm here in the dark, just a lonely moon, Hoping that somebody will visit me soon. I'm covered in dust and I'm made of rock So come see me soon and go on a moonwalk.

It's my time to shine It's my time to shine

Both at day, And at night.

We can see the moon shine

It's my time to shine It's my time to shine

I'm planting this flag on the mountain I climbed. One small step for a StoryBot. One giant leap for Storybotkind.

- We Are the Planets

We are the planets of the Solar System
Different sizes for everyone.
The music never ends,
We are such good friends,
And we all orbit the sun.

Here comes the Sun rapping first on this track, from the beginning. I'm the center of the solar system, planets be spinning around me, so hot, I'm roasting, ya see?

Now I pass the mic to the planet closest to me.

Mercury! The smallest planet, small as Earth's moon ("Yo!") I get super hot and cold and I spin very slow. I'm Venus! I've got mountains and volcanoes that spray. I'm the same size as Earth but spin the opposite way.

Yeah, I'm Earth, I'm the home to every boy and girl. Such a beautiful, beautiful world.

I'm Mars, the red planet, I've got deserts and ice. And I've got two moons - nice - that's like one moon, twice!

I'm Jupiter, the biggest planet, I'm humungous, gargantuan. I spin the fastest, rap the fastest, plus I'm handsome, BAM SON!

Oh please, I'm Saturn, check out my beautiful rings, Made up of billions of rocks, dust, and other things.

I'm Uranus, I say that with pride, okay, I lied, I'm embarrassed 'cause I'm the only planet lying on its side.

I'm Neptune, I'm cold, dark, windy and mysterious, I'm very stormy, so bring an umbrella - I'm serious.

We're the planets in the Solar System
Different sizes for everyone.
The music never ends,
We are such good friends,
And we all orbit the sun.

34) How Are Planets Made?

When giant clouds of dust and gas collapse A star is born.
And from the leftover bits of dust and gas New planets often form.

It starts with the force of gravity,
Which pulls objects together.
That's what causes clouds of dust and gas to cave in.
And a crash as big as those ones are,
They make so much heat, that it forms a star,
And that's when a planet's story begins.

Because the new star is surrounded By leftover dust and gas around it. And those little bits, they bump And sometimes, stick to form a clump.

First, it's called a planetesimal And if it keeps on growing, then you call it a protoplanet. Which as the name implies – is almost planet-size.

And when it gets so big, that its own gravity rounds it out. And its clear a path around The star we just sung about. There's one more planet in the sky.

Giant clouds of dust and gas collapse,
A star is born.
And from the leftover bits of dust and gas
New planets often form.
When giant clouds of dust and gas collapse
A star is born.
And from the leftover bits of dust of gas
New planets often form.

35) How Do Cell Phones Work?

When you talk into a phone Each time you make a call. The sound changes to many forms (Like radio waves) and that's not all.

Then at the other phone, those changes get reversed. So it comes out through the other phone as the sound it was at first.

When you talk, your voice makes waves of air That moves a magnet in the phone somewhere, Causing changes to an electrical current.

And when that current makes it down
The wire through which it runs,
A microprocessor tracks those changes as zeroes and ones.

Which promptly leave your phone behind Takin' off as radio waves
That find their way
To the nearby cell towers around.
From there it's off to a switching station
Which, this is wild —
Sends those waves to the one exact individual phone you dialled.

And once they reach the other phone The process goes the other way around. From radio waves to zeroes and ones To electrical signals (Not yet sound).

Those signals move a magnet
Which moves a speaker cone.
Creating sound that's just the same
As what was spoken in the other person's phone.
When you talk into a phone
Each time you make a call.
The sound changes to many forms
Like radio waves, and that's not all.
Then at the other phone those
Changes get reversed.
So it come out through the other phone
which the sound it was at first.

36) The Gravity Song

Spinning all around us in the universe
Is what scientists call space-time.
Matter is the stuff that makes up everything
From a star, our planet, to a lemon or a lime, so

When there's matter, it bends space-time Which is curious as can be,

And that bending action is the cause of attraction That we now know is gravity.

Now, mass is a word for the amount of matter
In anything you'll ever find.
And the greater the mass every object has
The more the bend it make in space-time.
So, the bigger the bend, the stronger the pull
On other things around.
It's how the mass of a great big planet
Pulls smaller things down to the ground.
It's how the moon keeps spinning so close to the earth
While the earth spins happily.
Around the sun with its super humongous mass
Creating powerful gravity.

That's the force of gravity. That's the force of gravity. That's the force of gravity.

37) How Do Eyes See?

The story of sight begins with light
Bouncing off an object.
Entering the eye and makin' its way on through.
First, it's focused, then rearranged
Into electrical signals that reach the brain and
Voila! Sit back and enjoy the view.

When light from an object meets your eye,
The first layer that is greeted by is the cornea.
Which protects the eyes and focuses the light.
Then it passes through the pupil,
All surrounded by this ring of colour called the iris.
It controls the pupil size,
So the right amount of light goes in the eyes.
And then hits the lens,
Which is sort of like a window,
except it bends.
And exactly how it bends depends,
are you lookin' near or far?

Then the light hits the retina

Which is lined with zones of special cells
Called rods and cones.
And when the light hits those,
it gets transformed into signals
That go climb aboard your little optic nerve
Which sends 'em toward the brain
Which does the rest.

The story of sight begins with light
Bouncing off an object.
Entering the eye and makin' it's way on through.
First, it's focused and then rearranged
Into electrical signals that reach the brain
and then, voila,
sit back and enjoy the view.

38) Professions

Architect

When there's an office or a house to build, An architect is highly skilled. At designing a building, whether curvy or square, And drawing up a blueprint showing what goes where.

For any kind of building like a school or a mall,
Or something really fancy like a symphony hall,
Or a big apartment tower that's a thousand feet tall,
The architect makes up the plans.
The architect makes up the plans!

Now buildings come in every kind,
And each one needs its own design.
So a supermarket's boxy while a stadium's round,
And they must be strong and sturdy so they won't fall down.

A good imagination is an architect's guide.

A building might have columns or a fountain inside!

And when it's done, the architect is bursting with pride,

The architect makes up the plans.

The architect makes up the plans!

- Software engineer

Computers are amazing!
We use 'em every day.
They're packed with apps like puzzles, maps,
And lots of awesome games to play!

A coder is the one who makes
The apps that we download,
And it's done by typing lines and lines
Of sweet computer code!

The code's a special language
With words and symbols too
For talking to computers
And telling them just what to do,
Like show a flying T-Rex
Or a singing purple toad.
That dancing bear is only there
'Cause someone wrote the code!

Now some folks call a coder A software engineer, And a programmer is one more name For someone in the same career.

A coder might make turtles race Or asteroids explode. It's tons of fun when you're the one Who gets to write the code! You get to write the code!

Veterinarian

There's a special kind of doctor Who can treat a cat or dog, A cockatoo that's got the flu Or a not-so-jumpy frog. A well-trained veterinarian, Most often called a vet, Has just the skills to cure the ills Of every kind of pet.

When a dog won't bark and a cat won't purr,
When a bird goes bald or a turtle grows fur,
When a rabbit's got a limp and an earache too,
When a cow goes, "Cough" when she should go, "Moo,"
When a horse gets hiccups and they just won't stop,
When a fish is all red from a belly flop,
When a gerbil has germs, you can bet that pet's
Gonna get much better when it sees the vet!

Now animals get sick of course,
The same as you and me,
But the vet can make them well again
And frisky as can be.
So when a hard-luck duck has a broken beak,
When a parrot's got a cold, and she just can't speak!
When a mouse gets mumps, you can bet that pet's
Gonna get much better when it sees the vet!
Yes, a pet'll get better when it sees the vet!

- Pilot

When people are taking a trip on a plane,
They need someone there at the wheel.
A pilot has the training and the skills to fly,
So that everyone is safe when they go up in the sky.

The pilot keeps watch on the speed and the fuel And looks out for wind and for rain. In daytime or night-time, whenever it's flight time, The trusty pilot flies the plane!

Now, before every take-off, the pilot must check

To be certain that everything's fine.

The wings and the engines have to work just right

From the moment of the take-off to the end of the flight.

The pilot makes sure that the plane's on its course To New York or Chicago or Spain.
When your job keeps you soaring,
It never gets boring.
The trusty pilot flies the plane!
Yes, the trusty pilot flies the plane!

- Scientist

The scientist is searching high and low for amazing and important things to know. Like how does water freeze? Is the moon made out of cheese? Can a turtle jump a hurtle? Does an octopus have knees?

If there's something new to study in the stars, In the error, in the ocean or on land. By observing every clue and experimenting too, The scientist can help us understand.

A scientist will measure, test and weigh, And discover things we use from day to day. Our computers and TV - well they just could never be, If a scientist had not discovered electricity.

With a notebook, a computer and a ..., With a microscope or telescope in hand. If there's something to find out, There just isn't any doubt, The scientist can help us understand. The scientist can help us understand. The scientist can help us understand.

List of places to go to support your child's STEAM learning

Local Parks Museums

Tymon Park National Museum, Kildare St.

Corkagh Park Natural History Museum, Merrion St.

Seán Walsh Park Museum of Decorative Arts

Marlay Park Henrietta Street

Phoenix park Dublinia

Art Galleries – these often run free children's workshops and are all free to visit for parents and children.

National Gallery of Ireland, Merrion Square West

Gallery of Photography, Temple Bar

The Douglas Hyde Gallery of Contemporary Art

Hugh Lane Gallery

Irish Museum of Modern Art (IMMA)

National Print Museum

Other Places of Interest-these are all free to visit and keep an eye on websites and Facebook pages for free children's events!

Local Libraries

National Botanic Gardens, Dublin 9

The Ark (Arts and Cultural Centre for 2-12 year olds). Dublin 2

Fettercairn Youth Horse Project

Third level institutions: Contact their Access Officer who might be able to help organise a trip.