WE ARE SCIENTISTS

Class: Apples Teacher: C Down Term and Year: Summer 2020

PRIMARY PROVOCATION

'What would you do if you found an alien in your pant drawer?'

Read the story "Aliens Love Underpants" by Claire Freedman and Ben Cort

https://www.bing.com/videos/search?q=aliens+love+underpants+story&&view=detail&mid=F4084367B9E8D2D081D3F4084367B9E8D2D081D3&&FORM=VDRVRVFeedman and Ben Cort

Where did they come from? (Investigate space and planets)

How did they get here? (Create our own spaceships and rockets)

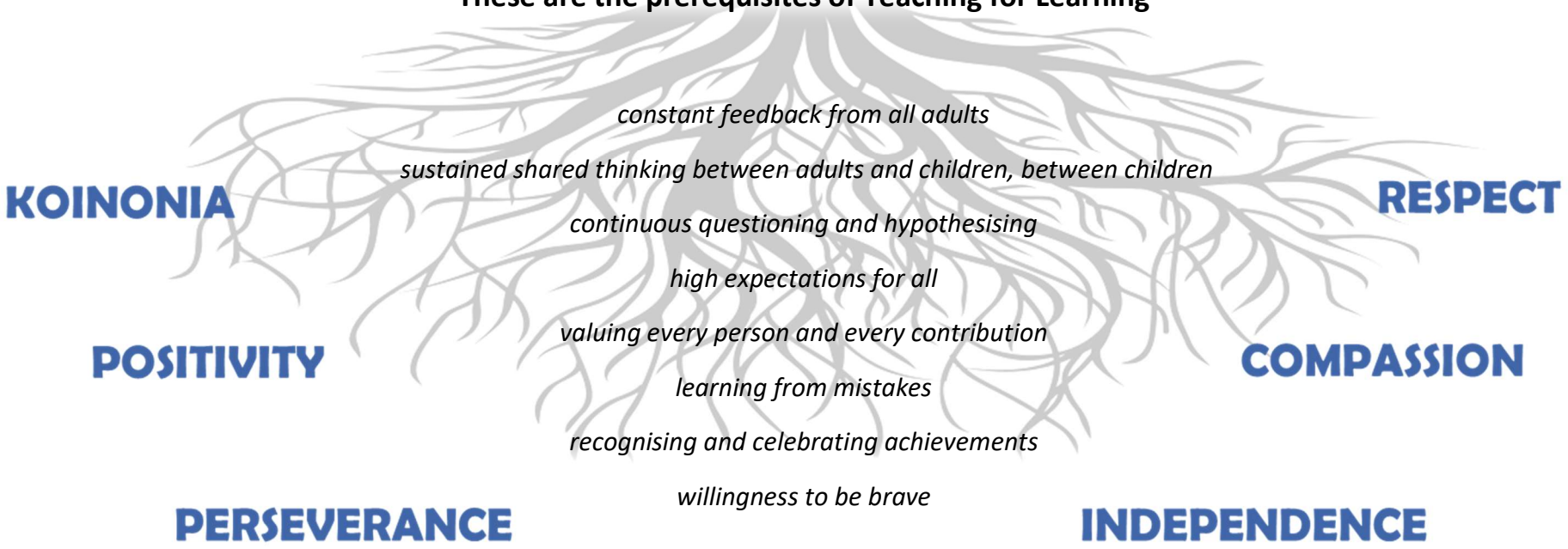
What will they learn about humans? (How our bodies work, exercise, food and healthy eating)

Do you think they would want to stay here? (looking at plants and the local environment, exploring our amazing world)

Can you make a travel brochure for the aliens?

THE ROOTS OF TEACHING FOR LEARNING

These are the prerequisites of Teaching for Learning



Teaching for Learning is rooted in our values. In WE ARE SCIENTISTS we are focusing on the following values.

PERSEVERANCE	INDEPENDENCE
Children will learn to grapple with problems and persevere to find a solution. They will know that mistakes are part of learning and that solving a problem is more important than the outcome. They will adopt an attitude of “don’t give up”	Children will be encouraged to think for themselves when tackling problems, deciding on resources and actions and in creating opinions. They will be supported to learn new skills and gently encouraged to attempt them for themselves, such as dressing, finding activities and resources and planning an activity.

THE TRUNK OF TEACHING FOR LEARNING

Teaching for Learning Objectives	Activities to Support Teaching for Learning	
	What are the adults doing?	What are the children doing?
SCIENCE OBJECTIVES To know about similarities and differences in relation to places, objects, materials and living things To talk about the features of their own immediate environment and how environments might vary from one another. To make observations of animals and plants and explain why some things occur and talk about changes. Specific knowledge will include space, forces, human body, plants and growing. **DT OBJECTIVES** Materials • Different types of media and materials and how they can be used – paper, card, junk, feathers, pom poms and various collage materials Construction • Identify different construction kits such as Lego, Clixi, Mobilo and how to fit pieces together. • Different ways to join construction materials (eg glue, tape) Textiles • Identify different textiles and their possible uses (eg. Felt, hessian, cotton, wool) • Identify different methods of joining fabric – running stitch, glue, staple	**transfer of knowledge revisiting learning vocab identification identifying purpose of learning** **classroom organisation subject knowledge** Children will be taught about space, planets and the solar system. They will know that Earth is part of the solar system and that this travels around the sun, the sun is a star. Children will understand that pushing and pulling are forces that move and change objects. Gravity is a force on Earth which pulls. They will be challenged to make their own rockets and spaceships. Children will be taught how their bodies work such as why their heart beats faster when they exercise, which foods are healthy and why hygiene is important. Children will look at how plants grow to provide food. They will understand why some plants grow well in our climate and appreciate the beauty of our local area. Adults will encourage children to think about how aliens might be different and if there is anything they would need to survive on our planet.	**following routines** **active listening** **being prepared and organised** **ready for learning** **engaged in the process** **commitment to the learning** The children will learn songs about and model the solar system. They will create representations of the different planets (for example hot and dry). The children will explore the forces of pushing and pulling using toy vehicles, play dough, wind and their bodies. They will test gravity using different materials. They will make balloon rockets, frisbee spaceships and detailed models of spaceships. The children will investigate their bodies, looking at resources illustrating the skeleton, finding out about the heart, lungs and muscles and testing the effects of exercise and lying down on breathing. They will begin to know which foods make up a healthy diet and prepare their own healthy meals and snacks. They will understand that much of our food is grown and grow their own beans, peas, potatoes and other veg. They will appreciate that our landscape looks the way it does because we have a temperate climate (lots of rain) and compare it to eg a desert climate. The will show their appreciation

Food and Nutrition • Begin to identify different food groups • Understand the changes which can be made by preparing and cooking • Know how to work safely and hygienically (wash hands and clean surfaces) **SCIENCE VOCABULARY** Space, planet, star Rocket, fly, push, pull Body, exercise, nutrition – related vocab Plants and growing – related vocab Explore, try, test Challenge, question Think, know, remember, forget, idea, make sense, plan, learn, find out Predict What else? Why? How? I wonder... **DT VOCABULARY** • materials – card, paper, wood, metal, fabric • tools – scissors, glue sticks, stapler, rolling pin, clay moulding tools • shaping techniques – cut, fold, roll, bend, twist • joining techniques – stick, tape, glue, staple • texture – rough, smooth, bumpy, soft, hard • function – stiff, flexible, move • design, ideas, plan, test, change • food – wash, cut, chop, peel, mix, cook		using art, modelling and creating mini gardens as well as growing their own plants. Children will imagine their own alien, make a model and describe it's similarities and differences, for example, number of eyes, legs, will it need a breathing apparatus or special food. Children will design their own pants to encourage aliens to visit Earth and create a travel brochure.

GROWING

The child is beginning to demonstrate understanding and is engaging with the learning. They recall some knowledge and use some vocabulary correctly and in context but maybe not sufficiently confident to do this without prompting. They are carefully led, by the adult, through small steps of guided learning to recognise, practise and repeat key skills.

Teaching for Learning Objectives	Activities to Support Teaching for Learning	
	What are the adults doing?	**What are the children doing?**
Where are they from? **SCIENCE OBJECTIVES** To know about similarities and differences in relation to places, objects, materials and living things To talk about the features of their own immediate environment and how environments might vary from one another. Specific knowledge relating to space, planets and the solar system. **VOCABULARY** Space, planet, star, galaxy, universe Think, know, remember, forget, idea, make sense, plan, learn, find out What else? Why? How? I wonder...	Provide the question "Where did the aliens come from?" Show the children videos, books and websites of outer space and our solar system. Teach the children about stars and ensure they understand that our sun is also a star. Sing songs and create models of the solar system. Ask the children to question where they think the aliens came from – a planet in our solar system, galaxy or deeper into the universe.	Engaging in the learning provided. Watching TV programmes and clips about space. Singing songs about the solar system. Creating pictures and models of the solar system Creating 'star' pictures of galaxies Experimenting with shadows and observing where the sun is at different points in the day Asking questions about space such as "where does the universe end" and "how many stars are there"

DT OBJECTIVES Materials • Different types of media and materials and how they can be used – paper, card, junk, feathers, pom poms and various collage materials **VOCABULARY** • materials – card, paper, wood, metal, fabric • tools – scissors, glue sticks, stapler, rolling pin, clay moulding tools • shaping techniques – cut, fold, roll, bend, twist		

# How did they get here? **SCIENCE OBJECTIVES** To know about similarities and differences in relation to places, objects, materials and living things To talk about the features of their own immediate environment and how environments might vary from one another. To make observations of animals and plants and explain why some things occur and talk about changes. Specific knowledge will include forces and gravity **Vocabulary** Rocket, fly, push, pull, gravity Explore, try, test Challenge, question Think, know, remember, forget, idea, make sense, plan, learn, find out Predict What else? Why? How? I wonder… **DT OBJECTIVES** Materials • Different types of media and materials and how they can be used – paper, card, junk, feathers, pom poms and various collage materials Construction	Introduce non-fiction books and stories about space travel Provide experiences to test pushing and pulling on small and large scale Teach children that gravity is a pulling force exerted by the earth Provide experiences to test gravity and question why some things fall quicker than others (feathers vs rock, piece of paper vs scrunched up) (does space have gravity?) Provide experiences to test gravity using car ramps, marble runs, water troughs Experiment with how friction changes the pull of gravity using car ramps, marble runs or prams Provide materials to make a balloon rocket Provide materials to design, make and review a model rocket.	Engage in experiments and exploration of pushing and pulling using play dough, toy vehicles, swings, kites etc and question what is creating the pushing or pulling force. Test different objects and time (video) how quickly they fall to earth – understand that gravity is pulling them all at the same rate but some objects (eg feather) are flatter and catch on the air to create a push force which slows the fall Watch videos of zero gravity in space Explore how gravity works with marble runs, car ramps, pram runs and water troughs Question how they can slow down or speed up the object Can they stop water flowing down? Make a balloon rocket to a given design following instructions – question how it works Design their own space travel rocket or ship in detail, collect resources and make the rocket. Assess how well their rocket worked

• Identify different construction kits such as Lego, Clixi, Mobilo and how to fit pieces together. • Different ways to join construction materials (eg glue, tape) **VOCABULARY** • materials – card, paper, wood, metal, fabric • tools – scissors, glue sticks, stapler, rolling pin, clay moulding tools • shaping techniques – cut, fold, roll, bend, twist • joining techniques – stick, tape, glue, staple • texture – rough, smooth, bumpy, soft, hard • function – stiff, flexible, move • design, ideas, plan, test, change		

# How are aliens the same/different? **SCIENCE OBJECTIVES** To know about similarities and differences in relation to living things To make observations of animals (humans) and explain why some things occur and talk about changes. Specific knowledge will include human body and its needs **VOCABULARY** Body, exercise, nutrition – related vocab Explore, try, test Challenge, question Think, know, remember, forget, idea, make sense, plan, learn, find out Predict What else? Why? How? I wonder…	Look at our bodies – number of arms, legs, eyes noses etc Read Funnybones and explore the skeleton by looking at xrays and models Pose the question – what do different parts of our bodies do? Provide tests and explorations of the senses Show videos of how the heart and lungs work to provide oxygen to the muscles Experiment with what happens when you exercise (heart rate increases) – question why that needs to happen At each stage use imagination to wonder if aliens would be the same • How would they see? • Do they taste? • How many legs/arms etc • Do they need oxygen? • Do they have blood?	Draw and label a face and body (eg 2 eyes, 1 nose) Talk about what each of the features are used for (seeing, running, holding) By looking at pictures and models of skeletons, ask a friend to draw round them and draw in the skeleton Take part in sensory experiments and explore how their senses work in different environments or with different objects (eg can you still taste if you can't smell) Begin to learn about the respiratory system and experiment with their breathing and pulse – how it raises with exercise and lowers with rest Design and describe their own alien (model or draw) Describe how it uses its senses and moves

# What would they eat? **SCIENCE OBJECTIVES** To know about similarities and differences in relation to living things To make observations of animals and explain why some things occur and talk about changes. Specific knowledge will include human body and nutrition **VOCABULARY** Body, exercise, nutrition – related vocab Explore, try, test **DT OBJECTIVES** Food and Nutrition • Begin to identify different food groups • Understand the changes which can be made by preparing and cooking • Know how to work safely and hygienically (wash hands and clean surfaces) **VOCABULARY** • food – wash, cut, chop, peel, mix, cook	Introduce the children to different food groups – dairy (from milk), fruit and veg (from trees) and meat (from animals) Show the children which foods are unhealthy in large amounts (salt, sugar, fat) and which foods they should eat lots of. Develop an understanding of a balanced meal Provide resources to make models of their favourite meal – review to see if it is healthy Provide resources to cook with the children: Healthy pizza Fruit salad or kebabs Fruity flap jack	Children will engage in discussions of food types and talk about their own diets Question their food choices Think about and design models of favourite food choices and balanced meals Imagine what an alien might eat – would it eat meat or dairy? Would the plant foods be the same? Engage in preparing, cooking and tasting a variety of foods Observe and talk about the changes they observe (eg dough rising, going darker and more solid, fruit becoming juicy) Know that they need to wash their hands, not lick fingers, not eat off the table, wait until food is prepared and served. Understand that knives are sharp and must be used carefully under adult supervision Clear up after themselves as part of the preparation and cooking process

# What would they think of our world? **SCIENCE OBJECTIVES** To know about similarities and differences in relation to places, objects, materials and living things To talk about the features of their own immediate environment and how environments might vary from one another. To make observations of animals and plants and explain why some things occur and talk about changes. Specific knowledge will include climates, plants and growing. **VOCABULARY** Plants and growing – related vocab Weather, climate Explore, try, test Challenge, question Think, know, remember, forget, idea, make sense, plan, learn, find out Predict What else? Why? How? I wonder... **DT OBJECTIVES** Materials	We will look at our local environment and discuss what is wonderful about it. What would you change? What do humans do to make the environment better/worse? (look after fields, hedges, forests, wild animals/litter, pollution) Understand why we live in such a green land (lots of rain) and compare to deserts or cities. Introduce some art works showing landscapes. Provide resources to make shoe box representations, collage and paintings of our beautiful world. Look at how the plants grow and provide resources to grow own beans, sunflowers and potatoes. Introduce books such as Sam's Sunflower Organise a science experiment using cress to find out what plants need Provide resources to design and create mini gardens Observe the changes and what the plants need – diary keeping	The children will express opinions about what they find wonderful about our environment. They will begin to appreciate the beauty of our locality (eg Almscliffe Crag) and talk about how they enjoy the spaces. They will compare to cities and talk about the benefits of each – where would you prefer to live? They will look at some impacts of humans (eg litter) and how they can help to combat this (eg make a poster) They will compare our green county to other climates eg desert They will design and make shoe box scenes, collages and paintings of beautiful landscapes of their choice and compare to some of the art work they have seen. They will look at different seeds and plant some, observing them over time to see how they grow by keeping a diary They will follow instructions to carry out an experiment to find out what plants need to grow.

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BLOSSOMING

The child is engaged and enjoying the learning and able to apply the necessary skills and knowledge in order to demonstrate their understanding of the learning. They confidently meet the objectives and demonstrate a full ability to use the vocabulary correctly and in context. They are confident when making links and explaining their method to others. They are encouraged to explore and experiment whilst the adult sets challenges, hypothesises and explores misconceptions with them.		
Teaching for Learning Objectives	**Activities to Support Teaching for Learning**	
	What are the adults doing?	**What are the children doing?**
Keep scrolling!		

# Where are they from? **SCIENCE OBJECTIVES** To know about similarities and differences in relation to places, objects, materials and living things To talk about the features of their own immediate environment and how environments might vary from one another. Specific knowledge relating to space, planets and the solar system. **VOCABULARY** Space, planet, star, galaxy, universe Think, know, remember, forget, idea, make sense, plan, learn, find out What else? Why? How? I wonder... **DT OBJECTIVES** Materials • Different types of media and materials and how they can be used – paper, card, junk, feathers, pom poms and various collage materials **VOCABULARY** • materials – card, paper, wood, metal, fabric	Provide non-fiction books about space and encourage the children to access them Provide story books about space and space travel Create role play space rocket to visit other planets and solar systems, including costumes and props Put different sized spheres and story stones into sand and water Put challenge cards in playdough Create a circle/sphere display in maths area Provide resources to illustrate the solar system and planets in workshop Provide writing resources such as bordered paper and space passports Provide circle mats and hoops to create solar systems outside for physical play	The children will read stories and identify which are fictional and discuss how they match to the facts we have learnt They will role play travelling in space to other galaxies, solar systems and planets, using the vocabulary they have learnt to describe where they are going Children will use resources in different areas to create planets, solar systems and galaxies (for example sand and water, workshop, using mathematical equipment, outdoor play) Children will create maps and plans of planets and solar system Children will create a space passport and/or a space log

• tools – scissors, glue sticks, stapler, rolling pin, clay moulding tools • shaping techniques – cut, fold, roll, bend, twist		

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# What would they think of our world? **SCIENCE OBJECTIVES** To know about similarities and differences in relation to places, objects, materials and living things To talk about the features of their own immediate environment and how environments might vary from one another. To make observations of animals and plants and explain why some things occur and talk about changes. Specific knowledge will include climates, plants and growing. **VOCABULARY** Plants and growing – related vocab Weather, climate Explore, try, test Challenge, question Think, know, remember, forget, idea, make sense, plan, learn, find out Predict What else? Why? How? I wonder... **DT OBJECTIVES** Materials	Provide books showing different climates around the world Challenge to create habitats in areas eg desert in sand, underwater in water, jungle in small world Create a class challenge to make a 3d map of the village using construction Use paintings and photos to encourage artwork of different places Set up an experiment to test what plants need. Create a role play garden centre Provide compost, plant pots, trowels, labels, seed packets etc in role play – sheets to record instructions Provide writing frames and mini books to create plant diaries	Children will use what they know to create representations of different climates, environments and their own locality in a variety of mediums eg sand, water, small world, construction They will form opinions about what is beautiful and what humans do to affect the environment. They will express these opinions with increasing clarity Children will role play being a gardener and talk about what they have learnt about plants as they play. They will take responsibility for looking after their plants and record the changes they observe They will use what they know to talk about what the aliens might think about plants and growing and the world.

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FLOURISHING

The child is exhibiting a depth of learning and enthusiasm relating to the objectives. They can select knowledge and understanding for different contexts and justify their choice when using their repertoire of skills. They are able to revise, review and reflect on what they know and create their own solutions to situations, justifying the rationale for what they are demonstrating. They are able to, and indeed want to, 'show off' with what they know and what they can do; they want to share that they are flourishing and how they know they are flourishing. Adults are present for affirmation and organisation.		
Teaching for Learning Objectives	**Activities to Support Teaching for Learning**	
	What are the adults doing?	**What are the children doing?**
	affirmation challenge active listening observing checking understanding By using the resources available adults will be able to engage in sustained shared thinking with the children to refine and develop their ideas of how to demonstrate their knowledge. The children will be encouraged to revisit the areas they have learnt and relate it to a visit by aliens. They will create a travel brochure and travel agents to send to the aliens	formative mistakes justifying reasoning demonstrating choosing and explaining reviewing and reflecting The children will use their knowledge and skills to choose different ways to present their understanding of our world. They will create a presentation or travel brochure for the aliens using writing, pictures, computer printouts They will show a secure understanding by explaining how an alien might see what they have learnt

WE ARE EXPLORERS

Class: Apples Teacher: Mrs Down Term/Year: Summer 2020

FINAL FLOURISH

North Rigton Travel agents

VISIT OUR WORLD

The children will create an exhibition inviting aliens to visit Earth.

They will create travel brochures, information and models of how to get here, what the aliens might need to bring with them and where they can stay.

We will invite parents to role play being aliens to visit the travel agent and find out how they can book a holiday to Earth.