



THE UK'S THEATRE FOR YOUNG AUDIENCES

LAIKA

TEACHER RESOURCE PACK

FOR TEACHERS WORKING WITH PUPILS IN YEARS 2 - 5





LAIKA

By Bryony Hannah and Avye Leventis

**FROM 26 SEPTEMBER – 10 NOVEMBER 2017
FOR PUPILS IN YEARS 2 – 5**

BRAVE THE UNKNOWN

Laika, the space dog: the first living creature to orbit earth.

That was in 1957. Today it's 2057, and Sami lives with his mum. She's an astronaut and she understands that there could be a better future out in space. But Sami's life is down here. So now they must face the prospect of letting go, saying goodbye and – just like Laika – head off into the unknown.

A moving sci-fi adventure, inventively and beautifully told using puppetry, movement and music.

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These activities focus on the idea of explorers who journey into the unknown. Activities will ask the children to imagine the kind of challenges explorers might face and the kind of people they might be.

SECTION TWO – MISSION TO MARS p.13

This section introduces the idea of the 'Mission to Mars'. In role the children examine posters and information packs and attend a meeting, all aimed at recruiting intrepid explorers to join the Mission and become the first humans to settle on Mars. This drama will be developed over sections three and four.

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The potential astronauts are taken through a training programme which is designed to test and develop their communication and teamwork skills, physical discipline, mental strength and flexibility, emotional literacy and psychological resilience.

SECTION FOUR – THE FINAL DECISION p.21

Activities in this section will ask children to make the decision whether to join the Mission to Mars or remain on earth. Using simple choreography and music they will imagine the dreams the successful recruits have on the eve of their decision and will explore the idea of leaving loved ones behind on earth in order to join such an exciting adventure.

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INTRODUCTION

This pack is for teachers bringing pupils to see the Unicorn Theatre's production of *Laika*, in autumn 2017.

Laika is a moving and exciting new piece of multi-media theatre. It tells the parallel stories of Laika the dog, the first living creature to orbit earth, and a little boy Sami and his astronaut mum, as she prepares to go on a mission to Mars one hundred years later. Both Laika and Sami's mum are intrepid explorers who travel into the unknown for the sake of scientific progress and discovery to benefit those left on earth.

The classroom activities (which will be added to the pack in September 2017) are designed to support and extend pupils' visit to the theatre and offer teachers ways to pick up on and explore the themes in the play, before and after a visit. They will use drama and storytelling as ways of exploring ideas that are relevant to the play and to support National Curriculum requirements:

'All pupils should be enabled to participate in and gain knowledge, skills and understanding associated with the artistic practice of drama. Pupils should be able to adopt, create and sustain a range of roles, responding appropriately to others in role. They should have opportunities to improvise, devise and script drama for one another and a range of audiences, as well as to rehearse, refine, share and respond thoughtfully to drama and theatre performances.' National Curriculum

The resources will also link to the National Curriculum at Key Stage Two: to English through the development of spoken word and writing tasks, to Science by connecting to learning around space and to SMCS aspects of learning.

There will be a **free teacher CPD day** for *Laika* on **Fri 15 Sep from 10am – 4pm** where teachers can find out more about the show and gain practical experience of the classroom activities, before leading them with a class.

To find out more about the CPD or to book your place, email schools@unicorntheatre.com.

ABOUT THE PLAY

'We are made of stardust you know? This is all stardust, just dust. Centuries, millennia of actions and reactions. Elements from the heart of stars, bonded to make the world, and you, and I. Simply stardust. But it's worth fighting for.'

Val

It is 2057 and Sami is a space enthusiast. He knows all about what it takes to be an astronaut because Val, his mother, is training to be one and hopes to be on the first human occupied rocket to Mars. The red planet could provide valuable resources to people back on earth. However, when Val finally gets the call telling her she has been selected for the mission, Sami isn't quite ready to let her go.

Together Sami and mum read the story of Laika the dog, the first living creature to orbit earth as a way of them both preparing for the difficult journey ahead.

The show will be highly visual, and will use puppetry, movement and music to tell the parallel stories of Laika and Val's journey into the unknown. We will see them both go through intense astronaut training. Val is determined and disciplined, giving her all in the full knowledge of where she is going and with a clear purpose to help save earth as it is running out of resources. In parallel Laika also goes through a gruelling training regime, but with no understanding of why she is being put through it or where she is going. The production will show both Val and Laika as they lift off into space, each of them pioneers of their time, at the forefront of scientific exploration and at the edge of human knowledge. With Sami left on earth, we are asked to consider in what way this exploration - this journey into the unknown - might result in progress for those left on earth.

The arts and sciences combine in this production to explore the limits of what humankind knows and could be capable of.

INTERVIEW WITH THE DIRECTORS

BRYONY HANNAH AND AVYE LEVENTIS

WHERE DID THE IDEA FOR THE SHOW COME FROM?

Bryony: The starting point was the story of Laika, but we wanted to tell it in a fresh, new way. We'd seen a programme about the Mars 1 project, which seemed incredible and almost like a suicide mission, so we wanted to delve into that. We thought, what if we set our story in the present, with a young boy and his mother who is going on a voyage to Mars. Then the boy could try and use the story of Laika to convince her to stay, but actually the mum ends up using the story to explain why she has to go.

Avey: Rather than setting the story now, we've placed it slightly in the future, to make it feasible that we've got to that tipping point when the world's resources are running out, so that the trip to Mars becomes a necessity, rather than an exploration or a luxury.

We started out thinking that we were going to be making a piece of sci-fi, but the more research we do, the more we realise we are actually making a piece of science fact because the issues we are exploring are so imminent. It has been estimated that within 20 to 30 years it would be feasible to put humans on Mars, which is incredible.

Bryony: One of the main reasons to go to Mars is to become a two-planet species. Then the chances of us being wiped out as a species go down exponentially, because we'll be existing on two different planets. But you could argue that we need to sort out our own planet before we do that.

We're very interested in the idea that the story of Laika will be filtered through the imagination of the boy and the mother. We're not that concerned with historical accuracy around Laika and Russia, instead we're more interested in how a very space savvy boy can assimilate all this information and re-imagine it.

THE PLAY CONTAINS BIG ISSUES AND EMOTIONALLY DIFFICULT CONTENT – SAMI'S MOTHER CHOOSES TO LEAVE HER SON BEHIND IN ORDER TO ADVANCE PROGRESS FOR ALL ON EARTH. HOW DO YOU APPROACH THIS?

Avey: We both came at this having quite recently become mothers, and working mothers, so it became part of the work almost by osmosis. We were really interested in working with the idea of elastic, that there are things in life pulling you in different directions, but that there is also a breaking point; a point when you are so stretched that you just have to make a decision to go or stay. We thought it was heartbreaking to have that dilemma, to place a mother on that balancing point and watch her have to make that decision, which is for the greater good and for the good of her son in the

long run. But ultimately having to leave that person she loves most in the world. And, as two female directors, it's important to us to have a strong female role model as the central character, who you watch having to make those knotty decisions.

Bryony: We found out that in the Apollo missions they wanted outdoorsy type people to go to the moon; mountaineers, really strong go-getter men. But now, for a mission to Mars, it takes 7 to 9 months to get there and you'd have to stay there for 180 days to have enough time to research and then wait until all the planets are aligned for the return flight, and then it's another 9 month journey to get back. It's a three-year mission, so suddenly the requirements are for someone who likes to read and watch movies and think about things. It's a very different thing; the psychological pressures of being confined with maybe 5 or 6 other people.

CAN YOU TELL US ABOUT THE DIFFERENCE BETWEEN LAIKA AND VAL'S TRAINING – HOW VAL HAS MADE THE CHOICE TO GO ON THE MISSION, BUT LAIKA HAS NOT?

Avye: The animal rights element of the story is not one that we are tackling head on, but it is there by default, you can't avoid it. At one point Sami says, 'the dog didn't choose' and Val says 'well I did choose'. Animal rights is a complex subject and could be a whole play in itself. It's something we wanted to leave as subtext.

The amazing thing about Laika was how resilient and optimistic she was. They put her into these confinement modules and sent her up in aeroplanes, and she would always come out with a wagging tail. She was relentlessly phlegmatic and good tempered, that was why she was chosen. She was a street dog. They rounded up lots of strays and separated them into different categories according to their character and then put them through training: they were confined in smaller and smaller boxes and put into vibration modules where they were played loud sounds of rockets. It was basically endurance testing, and then Laika was the one who came out as the best candidate.

It's terrible to think about now and there was a big reaction even at the time from animal lovers and animal rights groups. It's something we don't want to shy away from, but we want to put the heart of the story elsewhere because it's about the essence or the spirit of that creature, whether a human or animal. It's about these two beings and what they do in the name of science and progress.

CAN YOU TELL US ABOUT THE DIFFERENT ELEMENTS WITHIN THE PIECE?

Avye: We will tell the story through movement, aerial work, puppetry and object manipulation work. Hopefully there will be a live element to the music, and then obviously acting scenes. So there are a fair few dramatic languages, but hopefully there'll be a lightness of touch to incorporate them which will mean that they all talk to each other.

Bryony: It's going to be so visual for the children, as well as include loads of science for them to get excited by.

SOUND AND MUSIC ARE GOING TO BE VERY IMPORTANT, CAN YOU TELL US HOW YOU'RE GOING TO INCORPORATE THEM?

Bryony: We have a wonderful sound designer (Alma Kelliher) so there are going to be amazing

soundscapes. When we're showing a day in the life of Laika, in the streets of Moscow, there will be lots of sound stimuli as Laika is reacting to things.

Avey: Adam Pleeth, who's writing the music, has this incredible ability to absorb what is happening in the rehearsal room and then translate it into music. He sits surrounded by all his instruments, and then he'll say, 'can you just listen to this?' and somehow he's managed to translate what we've done into sound. It's tailored, just like having a beautifully tailored outfit, something that fits you perfectly and feels just right, that's what he does with music.

He's sketched out most of the score already, so he has the big themes and different instrumentation for different things. The modern world (2057) he has described as being 'retro futuristic', the reference for him is *Stranger Things*, a bit synthy, but also relatable, it's not too much of a sci-fi feel. The Laika (1957) music is piano music, stripped back and pure and emotional.

HAVE YOU INCLUDED AERIAL WORK IN ORDER TO HELP CREATE A SENSE OF ZERO GRAVITY?

Bryony: Yes, we're working with a hoop and a two point harness to create what we call the space ballet - when Laika first arrives in space and is just getting used to her surroundings. This moment is an imaginative leap because, in reality, she didn't get to move in space. But what we are doing is a projected imagining, as the boy and his mum come together to share this dream of the magic of that weightless moment.

Avey: What I'm really interested in is the delicate, non-showy end of aerial work. The essence of that would be the moment that the paws of the dog leave the floor, seeing how much you can zoom in on those magical moments. We have a beautiful image of the mother inside the hoop, slowly rotating as the sun sets beneath on earth. It is the delicacy of those moments, the zero gravity-ness, not the acrobatics. The aerial work will have a particular quality of movement and precision.

CAN YOU TALK A BIT MORE ABOUT THE IDEA OF THE WORLD RUNNING OUT OF RESOURCES AND JOURNEYING INTO THE UNKNOWN IN THE SEARCH FOR ANSWERS?

Bryony: We talk about empty oceans. Sami and his mum share a tiny cup of water because one of the main things we face globally is a water crisis. Everyone's working to fix that right now, rather than petrol and oil, water is the big one.

In the play we hear a voice from the future seeming to warn us that if we all move to Mars and use up that planet's resources, we may be forced to move again. And again, like locusts in space. Shouldn't we sort out our own planet Earth before moving to another planet, and another and another?

Avey: Val's song refers to the idea that out there waiting could be the answers. This could be the thing we need to save us. *Could be, might be, must be*, revolves around in the course of the verses as the urgency ramps up.

CLASSROOM ACTIVITIES

The activities in this pack are designed to capture children’s imaginations and increase motivation to explore the play. They offer a range of possible ways to link with your classroom priorities.

Resources and CPD support teachers in embedding drama in their curriculum planning. Working through drama allows children to explore ideas and issues that matter to them within a fictional context, draw on their prior knowledge and apply it to new situations, develop language skills to express their new understandings, and develop emotional intelligence and critical thinking as they see things from different perspectives. It also allows the children to take responsibility, make decisions, solve problems and explore possibilities from within the drama.

Activities work sequentially by layering and deepening children’s responses, but are also designed to be flexible so that teachers can re-order and build activities in a way that makes sense for their particular children, setting and the time available.

These session plans place the children in a fictional future where they are asked to consider joining the Mars Mission; a mission to send the first people to Mars and to settle there. The play and the drama in this pack have been informed by work NASA is doing currently looking at the possibility that Mars could support human life indefinitely, as well as the Mars 1 programme which is currently recruiting those who would like to be the first people to travel to the ‘Red Planet’.

By imagining what it takes to be the kind of person who would journey into the unknown for the sake of scientific discovery and progress the children will begin to open up some of the themes of the play.

ACTIVITIES WILL EXPLORE:

- The stages of preparation for space travel including imagining the physical, psychological and emotional training that would be necessary for travel to Mars. The sequence will also explore the impetus for scientific discovery and its connection to human need and progress.
- The production will explore the wonder and awe of space and the constellations, through potent visual and aural elements. Activities will draw on these elements to support children in expressing their own responses to the scale and wonder of space. Creating sound and movement sequences will allow children to discover what they can express through non verbal means

SECTION ONE

EXPLORERS

noun or plural noun

People who explore a new or unfamiliar area.

AIMS

- In the production, Val and Laika are both great explorers of their time; journeying into the unknown, at the forefront of human knowledge and scientific discovery, as they travel into space. This session will examine the personal skills and qualities it takes to be the first to accomplish something extraordinary – to go somewhere no other humans have been before.

DRAMA STRATEGIES

- Stop/Go, discussion, physical theatre, freeze-frames, hot seating.

INTRODUCTION

- Explain to the class that the play tells the story of two characters who travel into space; in 1957 Laika was the first living creature to orbit earth, paving the way for human space travel; and in the imagined future 2057, Val is part of a team of astronauts who are the first to travel to Mars; they are both explorers of their time, the first to journey into the unknown, and discover something new that will add to our knowledge and understanding of the universe.
- Introduce the class to the idea of explorers and adventurers; people who have been the very first to achieve something in their field:
 - For example the first humans to set foot in a certain place: the top of the highest mountain; under the earth in the deepest pot-hole; the first to reach the north or South Pole; the most remote jungle; the bottom of the ocean; the most uninhabitable parts of the desert; the first in space or the first to walk on the moon.
 - Or scientific explorers – people who are the first to discover or invent something that is beneficial for human beings.
- Discuss with the class any examples of explorers you can think of throughout history.

INTO THE UNKNOWN: STOP/GO

- Explorers travel to new territories and we are going to ask the children to imagine what it was like for those people discovering these places for the first time.
- Set up a game of STOP/GO; ask the children to find a place on their own in the hall.
- When you say GO ask the class to move around the room and when you say STOP ask them to freeze like a statue
- When you have established a good focus with this exercise, explain that you are now going to give them a character in a situation and want them to create a statue (freeze-frame) of that person.
- As you develop the activity you can guide children through doing a mime of the activity which you then freeze in a final image (image 4 for example).

EXAMPLE IMAGES

1. The first person to reach the bottom of the ocean (wearing diving suit and helmet)
2. The first person to reach the top of a mountain (put your flag on the mountain top)

3. The first person to reach the North Pole (pose for a photograph with your flag)
 4. The first person to reach a remote part of the jungle, you discover an insect no-one has seen before (make a detailed sketch and place it in your bag)
 5. The first person in the deepest cave beneath the earth. Wearing a helmet with a light on top, squeezing through a tight gap, with hundreds of feet of rock above you.
 6. The first person to fly around the world single handed.
 7. The first person to sail around the world solo.
 8. The first person to walk on the moon.
- When pupils freeze in their images comment on what you see and the different ways in which they have chosen to show these moments.
 - Choose a few children that you can thought track; when you tap the children gently on the shoulder ask them to voice the thoughts their character might have in that moment.
 - Discuss what kind of qualities people who are explorers and adventurers need to have and write up a list of the children's suggested ideas so that you can return to them.
 - Discuss what kind of doubts or concerns those explorers might have had and what they might have done with those thoughts and feelings.

STILL IMAGES/SHORT SCENES

- Move the class into groups of around five and explain how you are going to examine the idea of explorers a little more. Introduce the idea that these achievements are always the result of a team effort – there might be one adventurer leading the way, but there is always a team of experts around them too. Neil Armstrong was the first to set foot on the moon, but there was a whole team of people involved; Buzz Aldrin and Michael Collins who joined Armstrong in Apollo 11, as well as those down on earth.
- Give each group a 'first to' scenario to work with. Give them the title of their freeze frame and a little bit of information and some images to help them create their moments (**resource 1**).
- Ask the group to create a frozen picture of the task being achieved. When they have done that ask them to bring the picture to life for five seconds in a short scene which shows the challenge in action, and then freeze the picture again. Ask them to try and make it clear what each person in the team is doing and, if they can, the environment their achievement takes place.

EXPLORER MISSIONS (RESOURCE 1)

- **The first climbers to reach the summit of a mountain:** The higher you climb a mountain, the harder it becomes. The air gets thinner, with less oxygen which can slow climbers down and make breathing difficult, and there are risks of melting snow, avalanches and high winds to throw you off course. Climbers often travel in small groups and with local guides who know a mountain very well.
- **The first travellers to cross a remote desert:** Deserts have extremely harsh conditions; at night, the temperature can dip below freezing, during the day temperatures soar to blistering levels. There is almost no water and finding an oasis is very important. Sandstorms, sharp rocks, and high mountains also make travelling difficult. Nomadic people would travel by camel and navigate by the stars; later scientific explorers would be drawn to these areas with hope of making discoveries relating to plant and animal life.
- **The first scientists to explore an area of the ocean bed:** The bottom of the ocean is still largely unexplored because it is so dangerous. Deep-sea explorers are often crammed into specially constructed steel chambers with oxygen tanks to breathe from. These explorations are often used to explore ship wrecks or for scientists to find new marine life.
- **The first astronauts to walk on the moon:** The moon is a difficult place to explore. Take off is the time when most can go wrong as trying to reach the speeds needed to escape Earth's gravity is

dangerous. But even when astronauts reached the moon, they had to deal with zero gravity and radiation from the sun which is why they wear their spacesuits. Astronauts are always in close communication with the base back on Earth.

- **The first people to reach the north pole:** Until very recently nobody was able to live in the harsh conditions of the North Pole; icebergs, biting winds and wild arctic animals would face the first humans to venture so far north. Travellers to the North Pole would travel by ship and husky dogs and sledge.
- **The first people to sail around the world:** sailing around the world would take a very long time, up to 10 years. It would mean being at sea for months with strict food rations. The weather can change very suddenly; from being completely calm to storms with 30-f

SECTION TWO

MISSION TO MARS

AIMS

- To explore the idea of space travel to Mars, imagining the risks and challenges and the reasons humans might consider going on such a dangerous journey. The following three sessions use a simple Mantle of the Expert structure, where the children imagine they are people with the skills, knowledge and understanding necessary to go on such a journey and role play people attending training for the Mission to Mars.

DRAMA STRATEGIES

- TIR (teacher in role) role-play, improvisation, discussion, listening hand

RESOURCES

- Mission to Mars posters, Mission to Mars fact packs, application forms, images for training room presentation, item of costume or badge for in role work.

INTRODUCE THE DRAMA

- Explain that the class are going to use their imaginations to build a drama together. In the drama, they will become a group of people who have been selected to start training with the hope of going on a momentous journey. The journey isn't to another city, or another country. This journey is into space. It is a one-way trip to Mars.
- Ask them to imagine that it is 20 years in the future. 2037. Things are fairly similar to today, people live similar lives, they enjoy the things we enjoy, they work in similar ways and worry about similar things. And just like today:
 - Scientists and the best minds in the world are still hard at work trying to sort out the world's environmental challenges.
 - Technology and science are making huge and exciting discoveries every single day.
 - Governments around the world are putting more and more money into space travel. There are more space programmes than at any other time in history.

MISSION TO MARS – POSTERS

- Explain that around the country, posters begin appearing (**Resource 2**) about a new space mission which captures the nation's interest. People are curious about what the mission might involve.
- Move the class into groups of four or five and hand out different posters to the groups. First ask the children to discuss what they see in their poster and what they think the purpose of their poster might be.
- Now ask the groups to imagine what the local people seeing these posters going up might think and feel as they look at them. What questions might they have? What do they think about the posters? How do the posters make them feel? How might different people respond to the posters?
- Hear some of the pupils responses. As the groups have different posters you can use this opportunity for children to present to each other and talk about the detail they have noticed in their particular posters.

MISSION TO MARS FACT PACK

- Describe the way in which some who saw the posters knew straight away that this mission was not for them. But some adventurous people were extremely curious and wanted to find out more,

so they sent off for an information pack from Mission to Mars. We are going to imagine that we are those people.

- Hand out the information packs (**Resource 3**) and in their groups, ask them to look at the pack and try to find out as much information about the mission as they can.
- What questions do they have about the mission to Mars?

MISSION TO MARS APPLICATION FORM

- After receiving the information pack, describe the way some people were very interested in signing up for the training and finding out more. Ask the children to imagine they are those people and who choose to fill in the application form (**Resource 4**) with the hope of being accepted onto the training programme.
- Explain that some people filled in the application forms, but were still unsure whether they wanted to join the mission to Mars. Part of the training process will be about giving them information and time to make a final decision about whether to join the mission or not. There are great risks and challenges involved for those who say yes, but the training will answer some of their questions and concerns.
- While older pupils will be able to fill out the application forms on their own (or in pairs) younger classes can discuss the questions as a whole group, and choose their own personal answer to each question.
 - What excites you about the Mission to Mars?
 - What do you look forward to finding out when you get to Mars?
 - What worries do you have about this mission?
 - What skills and strengths would you would bring to the team – why should Mission to Mars choose you?
 - Do you have any weaknesses which might need support from the rest of the team?

TRAINING MEETING

- Explain that they are now going to imagine that they have all been selected for the Mission to Mars training programme, their applications were very strong and they have shown that they possess the skills and qualities that will be needed. Remind them that the training programme is all about preparation, but it will also give them a chance to make a final decision about whether to go on the mission through understanding all that is involved.
- Set up an area in the classroom or hall which can serve as a meeting room, perhaps using benches or other furniture to create a doorway and presentation area.
- Have images of Mars and the living pods on display within the 'training room' which you can refer to. (**Resource 5**)
- Explain that when you wear a particular costume (badge, jacket) you will be the Chief Training Officer of 'THE MISSION TO MARS' project.
- Ask the class to line up outside the training room. As they wait in their line, ask them to;
 - Imagine what they are thinking and feeling before they enter the training.
 - What questions might they like to ask at the training?
- Now ask them to turn to one or two others in the queue and introduce themselves, discuss why they have come here today, and share their reasons for wanting to go on the mission.
- Use a 'Listening hand' to hear some of the paired conversations. Explain that when you open your hand above the heads of a group it acts as a microphone, so the rest of the group can hear a snippet of the conversation, before moving onto another pair.

WELCOME TO TRAINEE RECRUITS

- Put on a costume/badge and in role as the Chief Training Officer, welcome the recruits to the first day of training. Use some of the following script to guide a discussion with the training recruits.

Ladies and Gentlemen, or should I say Space Explorers of the Future. Congratulations! Your applications have been accepted. Out of thousands who applied you have been selected to go forward with the training programme for the Mission to Mars.

Have you ever dreamt of going on a once in a lifetime adventure?

The time for dreaming is over. And the time for adventure is here.

I am the Chief Training Officer for The Mission to Mars Project – we are in charge of sending the first ever humans to Mars in order to create a settlement for them to live.

INTRODUCE THE MISSION

- Show the recruits the images of the living and cultivation pods on Mars and any other images you can find – images of Mars vehicles and satellites etc - that will help them imagine what life might be like up there.
- In role ask the recruits a number of questions to help build their belief and investment in the venture. For example:
 - Why do you want to take part in the mission?
 - What questions do you have about the mission?
 - What do you think you will bring to the team?
 - Do you have any concerns about the mission?
- Led by what the children are interested in, ask further questions which deepen their responses. There are a number of points you can feed into your discussion with the new recruits when it feels appropriate.

We need people to help us become a two planet species so that humankind has a base on Earth and on Mars! You will set up places to live and work on the Red Planet with the hope that in the future, more and more people from Earth can join you.

This is a mission that is at the cutting edge of science and will expand human knowledge.

The most important reason for the Mission to Mars is curiosity, a thirst for knowledge and scientific discovery. The earth may run out of some vital resources in the future, who knows what riches Mars can offer us and those back on earth.

If you pass the training, some of you will be invited to join the mission. You will then have to make a very important decision whether to come to come with us or not.

Acknowledge that the mission will not be for everyone, it is not for the faint hearted. There will be no shame for those who realise it is not for them; it is a very difficult decision.

How do you think you will cope? Why do you want to go at all?

*If something was to go wrong on Earth, we would have a second planet to live on.
Humans would owe a huge debt to the courage you showed.*

*You will be famous – just as Neil Armstrong is famous for being the first to set foot
on the Moon, you will have done something amazing on behalf of all humanity.*

SPECIALIST TEAMS

Explain how, based on the skills they wrote about in their application forms, you have assigned them jobs and responsibilities they will carry out when they are on Mars. These are also important for their training. Arrange the class into appropriate job groups and once organised, give them a brief synopsis of what each job entails.

- 1. Communications** – those responsible for technology so that we can communicate with all those back on earth. It will also help us keep up with what is happening as well as keep in touch with loved ones.
 - 2. Plant researchers** – also known as botanists – this team will be essential in order to ensure that we have everything we need to grow food: water, light, soil and nutrients.
 - 3. Engineers** – people who know how to maintain the space ships, the Mars vehicles and the living pods.
 - 4. Health** – doctors, those on the cutting edge of the science of medicine. You will keep us healthy as well as conduct research on how the human body reacts to the environment and adapts to space.
 - 5. Geographers and geologists** – those that will lead the mapping of Mars – the canyons and the volcanoes – and the make-up of Mars, alongside its Cosmic Chemistry.
 - 6. Meteorologists** – The team that study the weathers and the atmosphere on Mars. They will be studying summer, winter, the different temperatures, the winds and cloud formations.
- Give the groups time to meet their fellow team members and ask them to discuss what they are looking forward to finding out about the mission.
 - Hear back something from each group. Remind everyone how much we rely on each other and each job is essential to the whole mission. We will rely on each other for our lives and the success of the mission.
 - Thank everyone for attending the first day of training:

We hope you will succeed and be one of the final candidates taken on for the Mission to Mars.

SECTION THREE

MISSION TO MARS TRAINING

AIMS

- To imagine the skills and attributes needed to work effectively as part of a team of Mars explorers. Through training exercises, they will explore concepts relating to space travel, what kind of training astronauts need and how to support others during challenging and risky periods.

DRAMA STRATEGIES

- TIR, mirroring, whole class in role improvisation, freeze-frame, scene work, paired improvisations, whole class picture building.

INTRODUCTION TO TRAINING

- In role as the Chief Training Officer explain to the trainees that now they have all met each other, they are going to begin intensive training to test and develop their:
 - Communication and teamwork skills
 - Physical discipline.
 - Mental strength and flexibility
 - Emotional literacy and psychological resilience
- Explain that discipline will be key to the success of the team and mission and ask them: Why do they think discipline might be so important? Can they think of situations where they will need to be disciplined?
- You can choose which of the following activities to run with your class, and may want to run them in a different order depending on your particular pupils' needs. You can use the TIR lightly throughout all activities, reflecting on the way in which the training activities are helping them develop the skills needed for the highly challenging mission to Mars. Remind them that they will need to rely on each other at all times, that they will be in small confined spaces together for long periods of times and that their work will sometimes be dangerous and a matter of life or death.

1. COMMUNICATION AND TEAMWORK SKILLS

- Explain that the first part of the training will cover communication and teamwork for all trainees.
- Briefly discuss why communication might be important on the mission.

a) Mirroring

This activity requires pairs to work closely together and develops concentration, close observation and co-operation.

- Ask the children to find a partner and decide who will be A and who B.
- Ask for a volunteer (could be a LA) to demonstrate mirroring. Explain that Bs will be the leader and As will follow as closely as possible what the B, is doing as if they are in a mirror.
- The aim is to work closely together, so both the leader and the follower are responsible for the success of the activity. Look at the pairs as they try the activity, pick up on a pair that are doing particularly well and ask the rest of the class to observe and identify why they are successful – A successful activity will use highly tuned non-verbal communication, strong teamwork skill,, the

leader will not be moving too fast, the follower will be concentrating and watching closely.

- Ask the children to swap over and do the activity again.
- In role ask the recruits to reflect on the activity; what they found easy and what difficult; whether they preferred leading or following and why, neither is right and knowing what our preference is can be useful when going on a mission into space where we are reliant on each other.

b) Hand signals

Explain that if they've ever swum in water, they'll know how their bodies work differently underwater. Heavy objects move with ease, and the body feels light and tends to drift and float. This is similar to how it feels to be in the microgravity of space.

- Because of this all astronauts do training underwater in scuba diving tanks. Similar in space, when you are underwater you can't communicate with your voice so astronauts use hand signals to communicate with one another.
- Explain that you are going to develop their ability to learn and respond to orders and hand signals.
- Teach the class each of the hand gestures (**Resource 6**) and then test their memory and the speed of their responses.
- Ask the recruits what skills they think the activity is helping them to develop. In their specialist groups ask them to come up with one situation where these hand signals will be important on the mission.
- Ask each specialist group to come up with one more hand signal that might be useful to their particular group.
- Feedback each groups' new hand signals to the other teams.

2. PHYSICAL DISCIPLINE

a) Zero gravity and weightlessness

Explain how every day humans do activities such as sitting, walking and picking things up without thinking. But none of these activities are easy when you are in space. Once a rocket ship reaches orbit, everything inside will appear to be weightless – people included. Anything not tied down will float and materials like velcro are very important in space for keeping things in place. This activity is designed to allow recruits to imagine the effects of zero gravity.

- Use music to underscore this activity which will help to slow and control the activity.
 - Put the groups into pairs and ask them to decide who is A and who is B. A will be the astronaut and B zero gravity.
 - The Bs are not allowed to touch their partner, but when they place their hand over a part of the astronaut's body (elbow, shoulder, knee) imagine there is a magnet causing that body part to slowly float towards the hand as though weightless. Ask the Bs to then return the body part to its original position.
 - Experiment slowly at first while standing on the spot. Once the pairs have the hang of moving certain body parts, they could start floating their partners around the room but SLOWLY. Remind the recruits that nothing moves very quickly in zero gravity.
 - Work towards taking away B and seeing the As move around by themselves, as though experiencing zero gravity. Ask the Bs to sit and watch.
 - Swap over As and Bs.
 - Ask the pairs how they found the experience. What did it feel like to be moving in that way? What do they imagine the day-to-day challenges of moving in zero gravity might be?

b) Reaction times

- This activity, created by NASA as part of their Train Like An Astronaut resource, suggests ways in which children can experience some of the things their astronauts do in NASA's training programme. See **resource 7** for a full description of further training activities in their series.
- <https://www.nasa.gov/audience/foreducators/trainlikeanastronaut/activities/SpeedofLight.html>

RESOURCES

Ruler, piece of paper/pencil for each pair

- When they are stationed on Mars many jobs will require fine motor skills and precision as they will be in charge of operating highly complex machinery or accurately landing the space craft at certain points. Concentration, co-ordination skills and reaction times need to be excellent.
- This activity asks the children to work in pairs: child A holds a ruler while child B waits ready to catch the ruler when it is dropped.
- The pair write down the reaction time for each drop (measured by how low on the ruler it is caught) and trainees repeat the experiment a number of times trying to improve their reaction times.

MENTAL STRENGTH AND FLEXIBILITY

1) Problem solving

- Explain that working on Mars will not be without risks. We can plan for as many eventualities as possible but unforeseen problems will always arise. Therefore, we need to know that every team member has excellent problem-solving abilities.
 - In their specialist groups ask them to create a freeze frame which shows their team hard at work, doing one of the first tasks they will need to do when they arrive on Mars e.g. the geographers and geologists might want to measure the depth of a canyon.
 - Once they have their freeze frame ask them to create another freeze frame which shows an unforeseen problem which arises which disrupts this task e.g. the geographers and geologists' buggies get stuck in one of the canyons.
 - Now ask the groups to use those two images and go on to create a short scene. Each person in the group can have up to two lines of dialogue each, showing the problem they faced.
 - Watch each group's scene showing the potential problems they might face, and in role as the Chief Training Officer, question the team about how they might solve such a problem.
 - All of the teams are interconnected on the Mars Mission and what affects one team will also affect everyone else. Discuss with the rest of the trainees how these problems or decisions might affect their life on Mars and the jobs they do.

EMOTIONAL LITERACY AND PSYCHOLOGICAL RESILIENCE

1) Supporting each other

- Discuss with the trainees how initially, before other people come to join the settlement on Mars, there will only be a small team of around 30 people. Because of this they will need to be able to offer emotional support to any team member who may need it. Discuss the way in which each of us is different and that other's may have different needs and wants from your own. For example, some people need a lot of privacy and space whereas other people are very sociable and need to be with people a lot. Some people enjoy a lot of noise and others like it when it's quiet. Some people are 'morning people' and others are 'night owls'. Discuss the ways in which living closely with others will be challenging and ask the recruits: *What kind of things might*

upset people on Mars? What kind of things might people need emotional support with?

- Ask the recruits to imagine they've been on Mars for one month and that one of the team has become upset. Hear some ideas about why the team member might be upset and ask them to think about what they could do or say to help that person. Remind them that being able to show they are a caring and sympathetic team member is a vital part of being selected for the mission.
 - Put the trainees into pairs - one as the upset team member (A) and one as the helper (B) and ask them to role play the conversations which might take place. They can use the idea of what has upset A from the group discussion or come up with a new idea of their own.
 - Use a listening hand to hear some of the conversations taking place.
 - Swap roles - ask A to become the person listening and B to role play the person who is upset.
- **NB: This is role-play within a role-play;** the children are in role as trainees who are imagining they are someone who is upset on an imagined mission to Mars. This will feel less complicated in practice than it might appear here in writing. The way TIR speaks to them about what they are doing will help support this. For example you might reflect on one pairs' work: 'So you imagine that someone might miss their family terribly and will need support with that - which is very likely scenario. By listening and also sharing your own feelings of missing your family you clearly showed you understand and acknowledge their feelings are common and normal.'
 - **Extension/alternative to pairs work:** You might prefer to work in role as someone who is struggling with life on Mars and ask the group of recruits as a whole to offer support and advice. As the Chief Training Officer set up the idea that you are going to imagine you have a problem and that the group will try to offer emotional support. A scenario you could explore is that the person has come into conflict with someone else in their team and that the other team members can offer support and advice.

FINAL TRAINING GROUP PICTURE

- Congratulate all the team for their brilliant work throughout the training. Explain that they will have to wait a few days to hear whether they have passed the training or not. If they are successful, remind them that they will then have to make the decision as to whether they definitely want to go or not.
- Before they all leave the training, it is tradition that the trainees take a photo together to mark the end of their training.
- Discuss the training and the skills they have developed. What would they like to show in their photograph of the quality of the people that have been on the training course (refer back to their list of qualities and characteristics). See if they can take up a pose for the photographer which shows the one quality they most want to convey.
- Take a photograph and ask the trainees if they could give the photograph a title what might that be?

SECTION FOUR

THE FINAL DECISION

AIMS

- The production will explore the wonder and awe of space and the constellations, through rich visual and aural elements. These activities aim to draw on these elements to support children in expressing their own responses to the scale and wonder of space and the feelings they might have when contemplating space travel. Creating sound and movement sequences will allow children to extend what they can express non-verbally.

DRAMA STRATEGIES

- TIR, movement work, choreography.

RESOURCES

- Music to create movement sequences (eg. Ben Lukas Boysen or Brian Eno)

TRAINEES FIND OUT

- In role as Chief Technical Officer gather the recruits in the training room and inform them that it was a very difficult decision working out who should be in the final team to go on The Mission to Mars. There were different training sessions up and down the country which made it even harder. Talk about the strengths they showed in the training session and how impressed you were. Explain that the Mission to Mars team have made their decision and thank them all for the work they have done so far.
- Explain that the level of expertise shown by this group was exceptional and as such, they have made the unprecedented decision to accept every one of this group on to the mission. It wasn't an easy decision but the Mission to Mars Team felt they were the perfect candidates to form a new civilisation on Mars.
- However, remind them that now they must make the difficult final decision about whether they want to go or not. This will be a journey into the unknown, and they will be gone for a very long time. Who knows what they will find on Mars and what the future will hold. And although it is exciting and the future of humankind may one day thank them all for the sacrifice they've made – it is important they choose carefully whether they want to join the final mission.
- Tell the recruits they will be given 24 hours to make this final decision before a meeting the next day where they will let the Chief Technical Officer know what they have decided. Wish them luck!

DREAMS AND NIGHTMARES

- Narrate the way in which the recruits all headed home in the knowledge that they were successful and had been accepted onto the mission, but that now they would have to make the biggest decision of their life. That night they slept fitfully and began to have a very vivid dream.
- Ask the children to find a space on the floor and to lie down and close their eyes. Explain that you are going to talk them through the beginning of their dream that night. Look at images
- Playing a piece of atmospheric music talk them through the beginning of the dream that they had:

They are in the rocket waiting for take-off. There is the most terrific noise and vibrations and then they feel themselves propelled into space at thousands of miles an hour. And then everything slows right down, as it often does in dreams, it's as if

everything is in slow motion. They lift their hand, it feels light and floaty. They look through a small window by their side where they can see Earth getting smaller and smaller as they float away. They see the blue of the oceans, the green of the land, the sparkling lights of the cities far below. Earth gets smaller and smaller as they go deeper and deeper into the blackness of space. Around them they see the millions of stars in the galaxy. And then they pass close by the moon where they can see all the craters and mountains. At last they see the Red Planet approach, getting closer and closer and closer.

- Explain that the dream continues, and it is a dream about what awaits them when they arrive on Mars.
- In groups, ask them to create a dream that one of the recruits had that night.
- Remind them that dreams often express our unconscious hopes and fears and they don't have to be logical; anything can happen in a dream.
- Ask them to create three freeze frames showing the beginning, middle and end of the dream. Then work on connecting these together using slow-motion, physical movement and choreography.
- When they have created their movement sequence give them some options for music to underscore their dream. Find three contrasting pieces from which to choose.
- Ask the groups to perform their pieces for each other and then ask the children who have performed to answer questions about their dream sequence. Help the children extend and develop questions which draw out the thoughts and feelings the recruits might be having about the decision they are about to make.

CONVERSATIONS WITH LOVED ONES

- Ask the children to move into groups of three or four and imagine the conversation one of the recruits might have with family or close friends about the dream they had last night and the decision they are having to make about whether to join the mission to Mars. Ask them to decide:
 - a)** Whether they have decided they are definitely going and this is the conversation where they let their family or friends know what their decision is, or...
 - b)** They are still deciding and they want to speak to someone they are close to who they think can help them with the decision.
- Ask the groups to first improvise the conversation exploring the different things they might say in such a situation.
- Now ask the groups to edit their improvisation, choosing their best ideas to create a scene which they can then rehearse and perform for each other. Ask them to begin and end their scene with a clear freeze-frame.
- See all of the groups' scenes and at the end thought track one or two of the characters; when you place your hand on the character's shoulder ask the audience to voice what they imagine might be going through their thoughts at this moment. Help children to voice these thoughts in the first person.
- You could hot-seat some of the characters from the scene; ask them to take a seat and invite others to ask questions that have arisen out of their short scenes. For example you might hot-seat the mother or best friends of one of the recruits who has decided to go and you can ask them about their thoughts, feelings and the questions they might have about the mission which will offer a different perspective.

THE FINAL DECISION

- As the Chief Training Officer gather all the recruits together for the final meeting. Talk about the importance of the decision they are about to make and how each individual will need to make the decision which is right for them. There are no right or wrong decisions.
- Before they make their decision ask them how it has been thinking this through over the past 24 hours. *What process did they go through? Was it difficult to make the decision? Was there anything in particular which helped them make their decision? Did they talk it through with anyone in particular?* Acknowledge that they probably didn't sleep that well last night.
- Ask people to share their final decision and to talk about why they made the decision they did and how they came to their decision.
- Thank everyone for their time. Whatever their final decision, they have all been part of something momentous. It is important that the children feel able to make a real decision at this point. There are many, many reasons why someone might not want to join the mission and these need to be properly acknowledged. The children should not be left feeling they have been cowardly or unadventurous, but that they have made an informed and considered decision.
- For those who have decided to join the mission they will meet the following Monday morning at 9am where they will begin to make the final preparations for the journey to Mars.
- They can go home, say their goodbyes and pack their very small bag, with the few items they will be able to take in the space ship to Mars.
- For those who have decided not to join the mission, thank them for the time and commitment they have given to the training and the seriousness with which they made their final decision.

Most of the resources are links to photographs and images on line which will enrich the work and help the children to imagine what a settlement on Mars might look like.

The Mars One project has already recruited people to go on a first Mission to Mars and set up a community of the first humans.

NASA has provided a range of very rich resources which are incredibly useful for primary schools working around space travel. In particular their Mars recruitment posters and Train like an Astronaut online videos have hugely enriched this resource and will be useful to teachers who want to extend the work around their visit.

Because of copyright laws, and in order to ensure that those who have created photographs and other resources are properly credited, we have provided the link to the website, so that teachers can download these for themselves.

Teachers who attend the CPD here at the Unicorn on September 15th will be provided with a file containing the Mars Information Package and other images ready to print back at school.

RESOURCE ONE

- These images can be printed out and given to the groups in order to help pupils imagine and create their moments of exploration and achievement. 'The first to...' is often disputed and it is hard to find images of the very first people discovering a new place. The activities ask the children to imagine what it might be like and to identify the characteristics of the people who are driven by exploration and adventure. You may want to do further research into the first people to do something - in particular the space pioneers and what makes them tick.
- **The first climbers to reach the summit of a mountain:** The higher you climb a mountain, the harder it becomes. The air gets thinner, with less oxygen which can slow climbers down and make breathing difficult, and there are risks of melting snow, avalanches and high winds to throw you off course. Climbers often travel in small groups and with local guides who know a mountain very well.
<https://goo.gl/5MToxi>
- **The first travellers to cross a remote desert:** Deserts have extremely harsh conditions; at night, the temperature can dip below freezing, during the day temperatures soar to blistering levels. There is almost no water and finding an oasis is very important. Sandstorms, sharp rocks, and high mountains also make travelling difficult. Nomadic people would travel by camel and navigate by the stars; later scientific explorers would be drawn to these areas with hope of making discoveries relating to plant and animal life.
<https://goo.gl/qw7SZm>
- **The first scientists to explore an area of the ocean bed:** The bottom of the ocean is still largely unexplored because it is so dangerous. Deep-sea explorers are often crammed into specially constructed steel chambers with oxygen tanks to breathe from. These explorations are often used to explore ship wrecks or for scientists to find new marine life.
<https://goo.gl/24fngb>

- **The first astronauts to walk on the moon:** The moon is a difficult place to explore. Take off is the time when most can go wrong as trying to reach the speeds needed to escape Earth's gravity is dangerous. But even when astronauts reached the Moon, they had to deal with zero gravity and radiation from the sun which is why they wear their spacesuits. Astronauts are always in close communication with the base back on Earth.
<https://goo.gl/PU88sJ>
- **The first people to reach the north pole:** Until very recently nobody was able to live in the harsh conditions of the North Pole; icebergs, biting winds and wild arctic animals would face the first humans to venture so far north. Travellers to the North Pole would travel by ship and husky dogs and sledge.
<https://goo.gl/i2GfgX>
- The **first people to sail around the world:** sailing around the world would take a very long time, up to 10 years. It would mean being at sea for months with strict food rations. The weather can change very suddenly; from being completed becalmed to storms with 30 foot high waves.
<https://goo.gl/mF7hM5>

RESOURCE TWO

- NASA have created some incredible posters advertising for people to join the first mission to Mars. Download and print out in colour a range of these posters which will really help to bring the idea of astronauts living on Mars to life.
<https://mars.nasa.gov/multimedia/resources/mars-posters-explorers-wanted/>

RESOURCE THREE

THE MARS PROJECT

INFORMATION PACK FOR POTENTIAL RECRUITS

We are thrilled you have asked for this information pack. The Mission to Mars will be the most ground breaking expedition of modern times. In this pack, you will explore the background of the Mission to Mars programme.

If you are interested please complete an application form. If we think you have the necessary skills for such a life-changing adventure, we will invite you to a training session with us.

If you pass the training, you will then be given the option of whether you would still like to join this one-way journey to Mars.

1. Mars is known as the Red Planet. It is the next planet to Earth and gets its red colour from the iron in its soil.

<https://goo.gl/FD7bGr>

2. Mars is a very cold, desert like world. The average temperature on Mars is minus 80 degrees Fahrenheit - way below freezing.

<https://goo.gl/yy2auo>

3. Mars is about half the size of Earth.

<https://goo.gl/tRzdT1>

4. Our Mars astronauts won't be able to go outside without spacesuits on because the atmosphere is 95% carbon dioxide and the huge dust storms on Mars can last for months. This can be very dangerous.

<https://goo.gl/KKAgT4>

5. A lot like Earth, Mars has seasons, polar ice caps, volcanoes, canyons and weather. It will be a fascinating place to explore and we might find discoveries which will help life on Earth.

<https://goo.gl/5wX24L>

6. Along with our colleagues at NASA, we have already sent robots to Mars to find out lots about the planet and landscape, to test whether we can live and work on Mars. And we think our chances of setting up a new colony on Mars are looking very good!

<https://goo.gl/S9F7dX>

7. When we arrive on Mars, we will set up inflatable pods with life-support systems and solar panels to power the units. These pods will be where we live, sleep and eat.

<https://goo.gl/LPiHuY>

8. One of the first jobs when we arrive on Mars will be to start growing fresh fruit and vegetables.

<https://goo.gl/T7iQ8u>

WHY THIS MISSION IS IMPORTANT

This trip is not for the faint-hearted. It is a one way trip to Mars which means you won't be able to come home after a month or so.

We want people who can help us become a two planet species so that humankind has a base on Earth and on Mars! You will set up places to live and work on the Red Planet with the hope that in the future, more and more people from Earth can join us and also live on Mars.

WHY GO?

- Help set up a second planet for humans to live on in the future.
- Progress! Make scientific discoveries which could help life back on Earth. Find minerals and resources that may provide a cure to illnesses, solutions to our environmental problems, new ways to produce food and solutions to our energy needs.

Go where no-one has ever been before and take part in the most incredible adventure of all time.

RESOURCE FIVE

<https://goo.gl/hD3shB>

<https://goo.gl/u3tDdi>

RESOURCE SIX

<https://goo.gl/2RN9EX>

RESOURCE SEVEN

- NASA has created a resource for teachers that take children through a whole range of activities in order to experience the kind of training that is essential for astronauts.
<https://www.nasa.gov/audience/foreducators/trainlikeanastronaut/home/index.html>



THE UK'S THEATRE FOR YOUNG AUDIENCES

LAIKA

A Unicorn Production

By Bryony Hannah and Aye Leventis

Resource pack written by Emma Higham

Developed with Catherine Greenwood, Yasmin Joseph and the pupils at Christopher Hatton Primary School

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