

UNIT 6 : To Infinity and Beyond !	
<i>Scientific Innovations and Responsibilities:</i> Space has always triggered our imagination, with more or less fantasy Is space conquest a necessity for the survival of our species ?	
UNIT 6	Is space conquest a necessity for the survival of our species ?
At the end of the Unit, I will	<ul style="list-style-type: none"> - know more about Space Conquest history - how our perception of space has evolved all through the years - how there is still some space for new conquest
What vocabulary will I need ?	<ul style="list-style-type: none"> - space - conquest - progress
What grammatical structure will I need ?	<ul style="list-style-type: none"> - comparatif - supposition - expression du désir
What documents will be used ?	<p>1- Space Conquest representation genially : to infinity and beyond : classic space movie characters</p> <p>2- Conquest : a necessity? 2a-Stephen Hawking on Space Exploration National Geographic (vidéo) 2b- <i>A brief Answer to the Great Questions</i>, Stephen Hawking, 2018 (manuel p 198) 2c- <i>After Indian Moon failure</i>, India’s Prime Minister Modi, September 2019</p> <p>3- Women and space conquest 3a- Vidéo Woman in Space 3b- <i>Space mum</i>, Kate McCann, The Guardian, Saturday 7 August 2010 3b- 'Hidden Figures': the Film's Stars and Their Real-Life Inspirations, hollywood reporter, 1/30/2017 by Kara Haar</p> <p>4- The danger of Space Expansion 4a- Elysium 2013 (manuel Hit The Road, 1ère p 194) 4b- Avatar screenplay script (manuel Hit The Road, 1ère p194) 4c- Martian Chronicles, Off Season, Les Edwards, 1999 4d à 4f – Martian Chronicles, Ray Bradbury, 1950 (à venir)</p>
What will I learn about ?	How space has always been an obsession How it triggered progress
Final Task : EOI	You will need to propose your own trailer, based on at least one of the documents seen in class

INSTRUCTION FOR YOUR FINAL TASK :

- 1) You will need to provide us with a video
- 2) You may be up to 5 people working together but if you are 4 or more, we will need to see you in the video
- 3) You will need to base your trailer on one of the documents seen in class
- 4) Make sure we understand your story and how it answers to our questioning !

CITOYENNETE ET INNOVATION SCIENTIFIQUE

is space conquest a necessity for the survival of our species ?

1) Space conquest representations :

Calvin and Hobbes – Star Wars- Star Trek – Space Odyssey et 1st man on the moon x 3 pour chaque images

Chacun a son image (ne pas la montrer à son voisin) : temps d'appropriation 5 min, repérage du numéro de son image

trouver une série de yes / no questions 5 max => pas le droit aux noms propres, pas le droit de demander le nom de la série / ou de film, pas de chiffres

pair work : on ne se montrer son image, échange de questions / réponses puis on change de partenaire

Objectif : Trouver son binôme après une série d'échange

recap ensemble : à partir du diaporama ou du genially :

<https://view.genial.ly/60145103dafa320d8b9106ed/presentation-to-infinite-and-beyond>

faire passer les élèves au tableau : description de l'image, mise en valeur des différents éléments typiques / phares des films.

Passer qqles trailers au choix : faire repérer les éléments principaux :

acteurs – directeur - titre du film – date de sortie- public concerné – son – scènes issues du film – musique – voix off

2a - Stephen Hawking - CO

CO : proposition https://www.youtube.com/watch?v=2a_NAouiG_E

=> les faire réagir à la vidéo (insister sur l'importance de l'intonation + le fait de surmonter son handicap.

Script stephen Hawking

Stephen Hawking – video on space exploration

Professor SH is arguably our greatest living cosmologist, diagnosed in his twenties with a progressive motor neurone disease or Lou Gehrig's disease. Now he is almost entirely paralysed and can only communicate using a speech synthesizer. But when prof. H speaks, NASA listens.

I fear for our future. Our planet earth is threatened with an ever expanding population and only finite resources. We need a plan B if our species is to survive the next hundred years, let alone a thousand. It is imperative we (go?) into the blackness of space to colonize new worlds across the cosmos. The ISS is pioneering space exploration. Without this knowledge, travel into deep space is impossible. Within 50 years, I have no doubt there will be settlements on the moon and by the end of the century, I truly hope humans will be living on Mars. I think the crew members of the ISS will take a new generation of human space explorers into our solar system and beyond.

Retour sur les éléments importants du discours de Stephen Hawking

2b- *Brief Answer to the Great Questions*, Stephen Hawking, 2018 manuel Hit the Road p 198 (manuel 1ère)

travail sur le texte en pair work : mind mapping ou 3 niveaux d'énonciation en repérage, comparaison avec un autre pair work ou un autre camarade

Why should we go into space? What is the justification for spending all that effort and money on getting a few lumps of moon rock? Aren't there better causes here on Earth? The obvious answer is because it's there, all around us. Not to leave planet Earth would be like castaways on a desert island not trying to escape. We need to explore the solar system to find out where humans could live. In a way, the situation is like that in Europe before 1492. People might well have argued that it was a waste of money to send Columbus on a wild goose chase! Yet the discovery of the New World made a profound difference to the Old. [...]

This would be a long-term strategy, and by long term I mean hundreds or even thousands of years. We could have a base on the Moon within thirty years, reach Mars in fifty years and explore the moons of the outer planets in 200 years. By reach, I mean in spacecraft with humans aboard. We have already driven rovers on Mars and landed a probe² on Titan, a moon of Saturn, but if we are considering the future of the human race we have to go there ourselves. [...] There will be those who argue that it would be better to spend our money solving the problems of this planet, like climate change and pollution, rather than wasting it on a possibly fruitless search for a new planet. I'm not denying the importance of fighting climate change and global warming, but we can do that and still spare a quarter of a per cent of world GDP³ for space. Isn't our future worth a quarter of a per cent? [...]

I was quoted at the time as saying that I feared the human race is not going to have a future if we don't go into space. I believed it then, and I believe it still. And I hope I demonstrated then that anyone can take part in space travel. I believe it is up to scientists like me, together with innovative commercial entrepreneurs, to do all we can to promote the excitement and wonder of space travel.

1 quête futile + 2 sonde + 3 PIB

Brief Answers to the Big Questions.
Stephen Hawking, 2018

débat: les mettre en groupe et les faire réfléchir à des arguments en fonction de leur rôle.

Puis lancer les débats en temps limité

- 1) interviewer
- 2) a scientist who worked with Hawking and shared his vision (niveau plus faible)
- 3) an anti Hawking who thinks we need to heal our planet before leaving it
- 4) somebody who doesn't believe in a possible future for humanity

rôle attribué au hasard ou en pédagogie différenciée

pour corser : possibilité de demander une liste de mots à caser (5 mots qui résume / se rapporte au texte)

2c -*After Indian Moon failure*, India's Prime Minister Modi, September 2019 lecture / repérage des idées principale du discours du 1er ministre, partage en classe.

Faire souligner les accents de mots / les accents de phrases puis speech lu en classe avec une tonalité spécifique → sad – hopeful – desperate – rallying – doubtful
attribuer une partie du texte à des élèves différents, et leur faire lire les uns après les autres.

3- Women and space conquest :

3a- Woman in space : vidéo youtub sur la conquête spatiale russe → son capté dans lequel on entend une femme parler en russe et appeler à l'aide, son vaisseau brûle et elle a chaud.

Ac Legrand – A. Largillière – A, Dandoy - Académie de Versailles

Faire faire la BO du trailer par les élèves, après la découverte du film EN SILENCE (ne pas donner les explications en amont) : doit y figurer les différents éléments propre au trailer.

3b- texte space mum

proposition d'activité autour du texte : repérage éléments clés en vue d'un film

=> 3 éléments du film qui devront figurer dans le film

=> 2 éléments à améliorer

=> 3 éléments biographique

choix à justifier.

Partage en group work, échange des notes → rédaction d'un synopsis (EE)

OU

rédaction d'un trailer : reprendre les éléments nécessaire à un trailer puis faire faire le bruitage + voix off + musique par un autre groupe => les explications devront être rédigée clairement, attribution des rôles par le 1er groupe aux personnes de leur choix

=> faire faire une scène sonore : le groupe A donne son script à un groupe B.

Le groupe B se met en ligne au tableau, avec une face un « chef d'orchestre » du groupe A : chaque bruit / lecture de son dialogue doit être fait à la demande par le « chef d'orchestre » qui mène le groupe. Les autres élèves sont dos au tableau ou yeux fermés (jeu de théâtre)

pour corser : demander au chef d'orchestre d'amplifier ou de baisser le fond sonore en levant et en baissant le bras selon les besoins.

b- when fiction exceeds reality

introduction to *Hidden Figures* :

Based on a true story, *Hidden Figures* follows the events of the U.S. and Russian race to put the first man in orbit.

Behind the scenes of one of the greatest operations in U.S. history, a group of African-American women (played by Taraji P. Henson, Octavia Spencer and Janelle Monae) teamed up to solve mathematical equations for NASA. Set during a time of racial and gender inequality, the film tells the untold story of the three females' achievements, which restored the nation's confidence during the 1960s.

Hidden Figures is [up for three Oscars](#) — best picture, best supporting actress for Spencer and best adapted screenplay for Allison Schroeder and Theodore Melfi — in addition to earning other accolades including [best ensemble at the SAG Awards](#).

The film focuses several real-life people in addition to including some fictional characters to help drive the storytelling. Below, read more about the cast, who they played and how the actors prepared for their role.

Travail biographie / film autour des textes : composition groupes au hasard ou distribution des docs au hasard, appropriation textes et présentation sans note (ils ont le droit de résumer ou de prendre des notes en amont mais lors de la présentation, pas de notes)

rajouter 5 éléments inventés → lors des partages, repérages des éléments faux (soit parce qu'on a la même personne, soit parce que ça nous paraît peu / pas crédible)

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travail en pair work ou en présentation devant la classe ? (cf doc 2 ci dessous, hidden figures)

OU

travail autour de la biographie d'une personne au choix, jeu 2 truth, one lie.
Faire faire deviner aux élèves.

4- the danger of space expansion cf manuel

4a- Elysium 2013 (manuel Hit The Road, 1ère p 194) et 4b- Avatar screenplay script (manuel Hit The Road, 1ère p194)

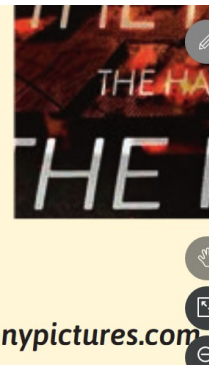
GROUPE A :

In the year 2159 two classes of people exist: the very wealthy who live on a pristine¹ man-made space station called Elysium, and the rest, who live on an overpopulated, ruined Earth. Secretary Rhodes, a hard line government official, will stop at nothing to enforce anti-immigration laws and preserve the luxurious lifestyle

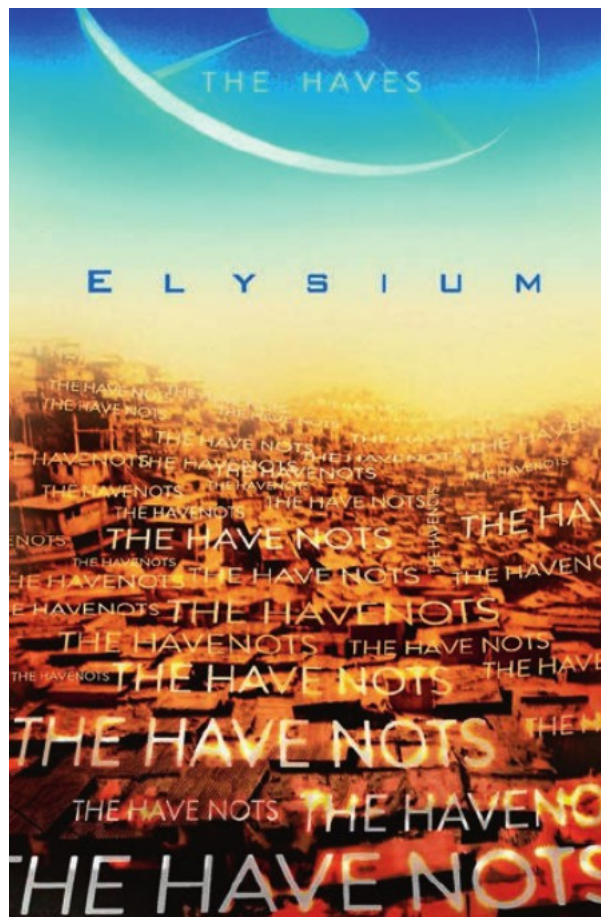
of the citizens of Elysium. That doesn't stop the people of Earth from trying to get in, by any means they can.

1 immaculé

www.sonypictures.com



Groupe B :



A colony of humans, led by head administrator P. Selfridge, is cutting down the trees of Pandora (a far-away planet inhabited by the Na'vi) in order to mine a valuable mineral called unobtainium. Dr. Grace Augustine, a biologist who has been living with the natives, disapproves of the administrator's methods...

GRACE: Those trees were sacred to the Omaticaya in a way you can't imagine.
SELFRIDGE: Tch. Oh, you know what? You throw a stick in the air around here, it's gonna land on some sacred fern, for Christ's sake!
GRACE: I'm not talking about some kind of pagan voodoo here. I'm talking about something real, something measurable in the biology of the forest.
SELFRIDGE: Which is what exactly?
GRACE: What we think we know... is that there is some kind of electrochemical communication between the roots of the trees. Like the synapses between neurons. And each tree has ten-to-the-fourth connections to the trees around it. And there are ten-to-the-twelfth trees on Pandora.
SELFRIDGE: Whi-which is a lot, I'm guessing.
GRACE: It's more connections than the human brain. Get it? It's a network. It's a global network, and the Na'vi can access it. They can upload and download data. Memories. At sites like the one you just destroyed. Yes.
SELFRIDGE: What the hell have you people been smoking out there? They're just goddamn trees!
GRACE: You need to wake up, Parker.
SELFRIDGE: No. You need to wake up.
GRACE: The wealth of this world isn't in the ground. It's all around us.

Avatar (screenplay), 2009

proposer activité manuel :

A. Group work. Each group will present a film dealing with the limits of space colonisation.

Group A works on *Elysium* and group B works on *Avatar*.

B. Then together explain what the limits of space exploration are: Who benefits from it? What will happen to the colonised worlds?

HELP!

- slums: bidonvilles
- wheel: roue

Group A

Read the summary of *Elysium* (2013) and study the poster.

- What type of world is depicted in the film? Justify.
- What is man's progress responsible for?
- Give a presentation of the poster, focusing on its contrasts and meaning.

Group B

Read the conversation between two characters of J. Cameron's *Avatar*.

- What do you learn about Pandora?
- Explain what Selfridge's attitude reveals about the history of mankind and the limits of space conquest.

4c- *Martian Chronicles*, *Off Season*, *Les Edwards*, 1999

travail d'anticipation autour du tableau, description en commun, prise de note.

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Pair work : au hasard ou libre : proposition d'une scène autour du tableau => setting / characters / plot / climax/ ending

possibilité travail oral ou écrit.

Faire faire lire la scène en groupe + bruit de fond / musique. Le texte doit être lu avec les bonnes tonalités



The Martian Chronicles; Off Season,
Les Edwards, 2009

4d à 4f – Martian Chronicles, Ray Bradbury, 1950

travail autour de la nouvelle

distribution des textes au hasard. Appropriation du texte par 2 puis par 4 (on regroupe les différents pairwork):
confrontation idée / compréhension du textes.

Titre au tableau: chaque groupe doit s'approprier un titre + justifier pourquoi.

Recomposer les groupes de sorte à avoir un personne par texte dans des grouoes de 4. Explication en interne de l'histoire,
proposition d'un ordre final.

Mise en commun en classe entière, explications en TE.

and the Moon be Still as Bright → rappel des Amérindiens morts à cause des maladies des 1^{ers} etat-unien

AUGUST 2001 The Settlers : Pilgrim Fathers

FEBRUARY 2002 The Locusts- fin du monde

faire faire parallèle avec le document précédent.

TF : pour inspiration: Trailer sur le genially (cliquer sur les photos des films à la fin pour lancer la vidéo)
<https://view.genial.ly/60145103dafa320d8b9106ed/presentation-to-infinite-and-beyond>

CE : pays émergeant et conquête de l'espace (seasons Terminales)

After Indian moon mission failure

Sisters and brothers of India, in our glorious history, we have faced moments that may have slowed us, but they have never crushed our spirit.

Sisters and brothers of India, my scientist friends, for the last few hours the entire nation was awake. We were awake in solidarity. In solidarity with our scientists who had embarked on one of the most ambitious missions of our space programs. Every Indian is filled with a spirit of pride as well as confidence. We are proud of our space program and scientists, their hard work and determination. [They] ensure a better life, not only for our citizens, but also for other nations. The best is yet to come. There are new frontiers to discover and new places to go. To our scientists I want to say, you are exceptional professionals who have made an incredible contribution to national progress. You entered into a place where no one has ever been before.

My dear friends, as important as the final result is the journey and the effort. I can proudly say that the effort was worth it, and so was the journey. Our team worked hard, travelled far and those teachings will always remain with us. The learnings from today will make us stronger and better. There will be a new dawn and a brighter tomorrow very soon.

India's Prime Minister, Narendra Modi,
September, 2019

1 Read Modi's speech and complete the sentences.

- The Prime Minister speaks to
- According to him, Indians must be
- The project was important because
- He values the spirit of
- He does not consider the project a failure because

ARIANE : travail sur les trailers :

Star trek – star wars – 2001 a space Odyssey - Elysium – Avatar

possibilité de les distribuer à charge pour chacun de faire une présentation ?

Doc 3: JUNE 2001– and the Moon be Still as Bright (à diviser en 2 parties?)

It was so cold when they first came from the rocket into the night that Spender began to gather the dry Martian wood and build a small fire. He didn't say anything about a celebration; he merely gathered the wood, set fire to it, and watched it burn.

In the flare that lighted the thin air of this dried-up sea of Mars he looked over his shoulder and saw the rocket that had brought them all, Captain Wilder and Cherokee and Hathaway and Sam Parkhill and himself, across a silent black space of stars to land upon a dead, dreaming world.

Jeff Spender waited for the noise. He watched the other men and waited for them to jump around and shout. It would happen as soon as the numbness of being the "first" men to Mars wore off. None of them said anything, but many of them were hoping, perhaps, that the other expeditions had failed and that this, the Fourth, would be *the* one. They meant nothing evil by it. But they stood thinking it, nevertheless, thinking of the honor and fame, while their lungs became

accustomed to the thinness of the atmosphere, which almost made you drunk if you moved too quiddy.

Gibbs walked over to the freshly ignited fire and said, "Why don't we use the ship chemical fire instead of that wood?"

"Never mind," said Spender, not looking up.

It wouldn't be right, the first night on Mars, to make a loud noise, to introduce a strange, silly bright thing like a stove. It would be a kind of imported blasphemy. There'd be time for that later; time to throw condensed-milk cans in the proud Martian canals; time for copies of the *New York Times* to blow and caper and rustle across the lone gray Martian sea bottoms; time for banana peels and picnic papers in the fluted, delicate ruins of the old Martian valley towns. Plenty of time for that. And he gave a small inward shiver at the thought.

They had landed on an immense tomb. Here a civilization had died. It was only simple courtesy that the first night be spent quietly. The men shifted around. There were twenty of them, holding to each other's shoulders or adjusting their belts. Spender watched them. They were not satisfied. They had risked their lives to do a big thing. Now they wanted to be shouting drunk, firing off guns to show how wonderful they were to have kicked a hole in space and ridden a rocket all the way to Mars.

But nobody was yelling.

The captain gave a quiet order. One of the men ran into the ship and brought forth food tins which were opened and dished out without much noise. The men were beginning to talk now. The captain sat down and recounted the trip to them. They already knew it all, but it was good to hear about it, as something over and done and safely put away. They would not talk about the return trip. Someone brought that up, but they told him to keep quiet.

There was a touch of fire across the sky, and an instant later the auxiliary rocket landed beyond the camp. Spender watched as the small port opened and Hathaway, the physician-geologist--they were all men of twofold ability, to conserve space on the trip--stepped out. He walked slowly over to the captain.

"Well?" said Captain Wilder.

Hathaway gazed out at the distant cities twinkling in the starlight. After swallowing and focusing his eyes he said, "That city there, Captain, is dead and has been dead a good many thousand years. That applies to those three cities in the hills also. But that fifth city, two hundred miles over, sir--"

"What about it?"

"People were living in it last week, sir." Spender got to his feet.

"Martians," said Hathaway.

"Where are they now?"

"Dead," said Hathaway. "I went into a house on one street. I thought that it, like the other towns and houses, had been dead for centuries. My God, there were bodies there. It was like walking in a pile of autumn leaves. Like sticks and pieces of burnt newspaper, that's all. And *fresh*. They'd been dead ten days at the outside."

"Did you check other towns? Did you see anything alive?"

"Nothing whatever. So I went out to check the other towns. Four out of five have been empty for thousands of years. What happened to the original inhabitants I haven't the faintest idea. But the fifth city always contained the same thing. Bodies. Thousands of bodies."

"What did they die of?" Spender moved forward.

"You won't believe it."

"What killed them?"

Hathaway said simply, "Chicken pox. I made tests. Chicken pox. It did things to the Martians it never did to Earth Men. Their metabolism reacted differently, I suppose. Burnt them black and dried them out to brittle flakes. But it's chicken pox, nevertheless. So York and Captain Williams and Captain Black must have got through to Mars, all three expeditions. God knows what happened to them. But we at least know what *they* unintentionally did to the Martians.

"My God, no!"

"You saw no other life?"

"Chances are a few of the Martians, if they were smart, escaped to the mountains. But there aren't enough, I'll lay you money, to be a native problem. This planet is through."

Spender turned and went to sit at the fire, looking into it. Chicken pox, God, chicken pox, think of it! A race builds itself for a million years, refines itself, erects cities like those out there, does everything it can to give itself respect and beauty, and then it dies. Part of it dies slowly, in its own time, before our age, with dignity. But the rest! Does the rest of Mars die of a disease with a fine name or a terrifying name or a majestic name? No, in the name of all that's holy, it has to be chicken pox, a child's disease, a disease that doesn't even kill *children* on Earth! It's not right and it's not fair. It's like saying the Greeks died of mumps, or the proud Romans died on their beautiful hills of athlete's foot! If only we'd given the Martians time to arrange their death robes, lie down, look fit, and think up some *other* excuse for dying. It can't be a dirty, silly thing like chicken pox. It doesn't fit the architecture; it doesn't fit this entire world!

"All right, Hathaway, get yourself some food."

"Thank you, Captain."

And as quickly as that it was forgotten. The men talked among themselves.

doc 3 a- AUGUST 2001 The Settlers

The men of Earth came to Mars. They came because they were afraid or unafraid, because they were happy or unhappy, because they felt like Pilgrims or did not feel like Pilgrims. There was a reason for each man. They were leaving bad wives or bad jobs or bad towns; they were coming to find something or leave something or get something, to dig up something or bury something or leave something alone. They were coming with small dreams or large dreams or none at all. But a government finger pointed from four-colour posters in many towns: THERE'S WORK FOR YOU IN THE SKY: SEE MARS! and the men shuffled forward, only a few at first, a double-score, for most men felt the great illness in them even before the rocket fired into space. And this disease was called The Loneliness, because when you saw your home town dwindle to the size of your fist and then lemon-size and then pin-size and vanish in the fire-wake, you felt you had never been born, there was no town, you were nowhere, with space all around, nothing familiar, only other strange men. And when the state of Illinois, Iowa, Missouri, or Montana vanished into cloud seas, and, doubly, when the United States shrank to a misted island and the entire planet Earth became a muddy baseball tossed away, then you were alone, wandering in the meadows of space, on your way to a place you couldn't imagine. So it was not unusual that the first men were few. The number grew steadily in proportion to the census of Earth Men already on Mars. There was comfort in numbers. But the first Lonely Ones had to stand by themselves ...

FEBRUARY 2002 The Locusts

The rockets set the bony meadows a fire, turned rock to lava, turned wood to charcoal, transmuted water to steam, made sand and silica into green grass which lay like shattered mirrors reflecting the invasion, all about. The rockets came like drums, beating in the night. The rockets came like locusts, swarming and settling in blooms of rosy smoke. And from the rockets ran men with hammers in their hands to beat the strange world into a shape that was familiar to the eye, to bludgeon away all the strangeness, their mouths fringed with nails so they resembled steel-toothed carnivores, spitting them into their swift hands as they hammered up frame cottages and scuttled over roofs with shingles to blot out the eerie stars, and fit green shades to pull against the night. And when the carpenters had hurried on, the women came in with flower-pots and chintz and pans and set up a kitchen clamour to cover the silence that Mars made waiting outside the door and the shaded window.

In six months a dozen small towns had been laid down upon the naked planet, filled with sizzling neon tubes and yellow electric bulbs. In all, some ninety thousand people came to Mars, and more, on Earth, were packing their grips ...

Doc 2: 'Hidden Figures': the Film's Stars and Their Real-Life Inspirations, hollywood reporter, 1/30/2017 by Kara Haar

Katherine G. Johnson, portrayed by Taraji P. Henson



Courtesy of NASA; Twentieth Century Fox Film Corporation

Ac Legrand – A. Largillière – A, Dandoy - Académie de Versailles

A physicist and mathematician, Katherine G. Johnson worked with NASA in calculating trajectories, launch windows and the return paths for many famous space flights. Her background includes such projects as Project Mercury (the first man to fly into space), 1969's Apollo 11 (first flight to the Moon) and the Space Shuttle program (plans for a mission to Mars).

At the time of her work, African-Americans and women were not respected in the workplace. In 1953, she was hired by NASA and struggled to receive equal recognition for her work. During her time at NASA, she worked under segregated conditions as a "computer."

Still alive at age 98, Johnson lives in Virginia, where the movie takes place. She saw the movie and enjoyed it. "It was well done. The three leading ladies did an excellent job portraying us," she said, [according](#) to *The Los Angeles Times*.

Taraji P. Henson, who portrays Johnson, said she felt pressure playing someone who is still alive and wanted to make sure she got it right. "And I owe her the truth and all of me," Henson [told](#) *The Hollywood Reporter*. "I got to sit with her and started studying her mannerisms, and I asked her a lot of questions. What I did find that was parallel in our lives was math, which I hated."

It's ironic Henson is playing a math whiz, as she told *THR* she was never good at math. "I failed pre-calc," Henson said. "Not calculus, pre-calc! The class that preps you for all the math you have to do."

Dorothy Vaughan, portrayed by Octavia Spencer



Courtesy of NASA; Twentieth Century Fox Film Corporation

A mathematician, Dorothy Vaughan was the first African-American woman to be promoted as a head of personnel at the National Advisory Committee for Aeronautics, later known as NASA. She was the head

Ac Legrand – A. Largillière – A, Dandoy - Académie de Versailles

of the West Area Computers, leading a group of African-American mathematicians through crucial space projects.

Oscar winner Octavia Spencer, who plays Vaughan, [told](#) *THR* she knew math and science prior to the role but not to the level of a rocket scientist. “I understood her work to an extent, but she's a rocket scientist and there are very few people in the world who get that type of physics and can work interchangeably in the math disciplines,” Spencer said. “It's a small group of people, and my hat is off to them. I am not a member of that club!”

Spencer said the cast wanted to present these women “in a truthful way” and “in the best light possible.” Since Vaughan died in 2008, the first audience she wanted to impress was the family, and she was proud to learn she did.

“What I learned from playing Dorothy Vaughan is that I have a voice and that I have to use it for people who don't have a voice or whose voice is somehow subdued by whatever's happening in society,” she told *THR*.

• **Mary Jackson, portrayed by Janelle Monáe**



Courtesy of NASA; Twentieth Century Fox Film Corporation

Mary Jackson was a mathematician and NASA's first black female engineer in 1958. She influenced the hiring and promoting of women in science, engineering and mathematics careers at NASA. Jackson died in 2005 at age 83.

Grammy-nominated singer Janelle Monáe, who portrayed Jackson in the film, said she was proud to be a part of a story so many people didn't know about. "These [women] are our true American heroes," she [told](#) CNN. "It's because of them that we can have that as America. We can feel proud that we achieved something so extraordinary."

Ac Legrand – A. Largillière – A, Dandoy - Académie de Versailles

3- ARIANE : travail sur les trailers :

Star trek – star wars – 2001 a space Odyssey - Elysium – Avatar

possibilité de les distribuer à charge pour chacun de faire une présentation ?

4- the danger of space expansion cf manuel

+ Martian Chronicles

CE : confrontation à la réalité : chiffres de nos jours sur la NASA

Star trek : travail sur le générique

trouver photo pour diversité + 1^{er} baiser inter racial (à revérifier) + Russe en guerre froide

4- confrontation à la réalité : Hidden Figures + chiffres de nos jours sur la NASA ou garde poru une CO

5- the danger of space expansion cf manuel

+ Martian Chronicles

CE : pays émergeant et conquête de l'espace

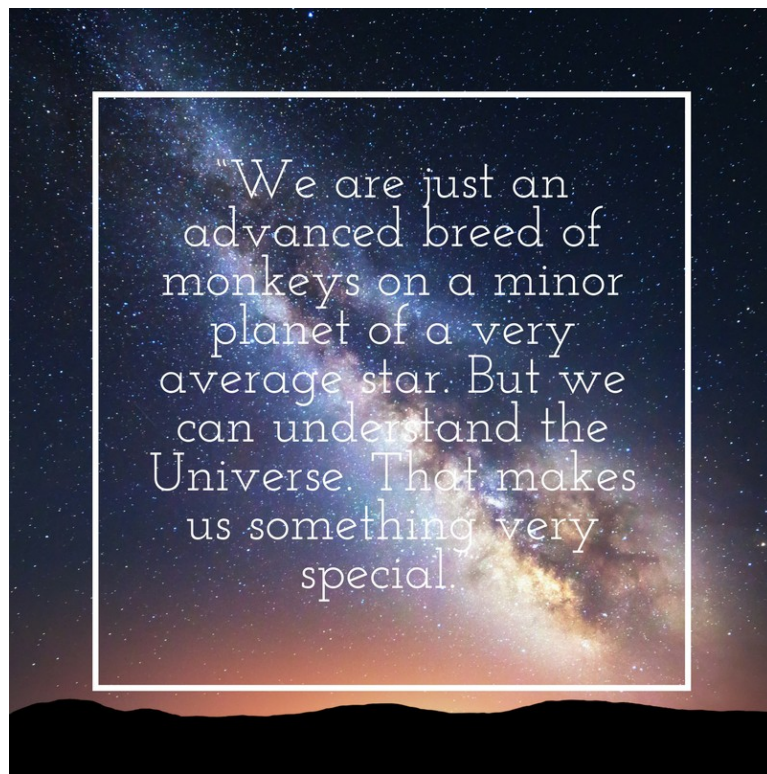
+ chanson Nelly (wiser me)

ARIANE : travail sur les trailers :

Star trek – star wars – 2001 a space Odyssey - Elysium – Avatar

possibilité de les
distribuer à charge
pour chacun de faire
une présentation ?

DST EE : citation de
Hawking :



DST : 1st black woman

doc Space mum :

When Catherine Coleman, known as Cady, goes to work, waving goodbye to her son Jamey, 10, she doesn't drive or take a train – she blasts off in a spaceship. Many more women now work in space, but Cady's next Nasa mission is a big one. In December, she leaves Earth on a Soyuz rocket for the International Space Station, where she will live and work for six months. This will be the longest mission undertaken by a Nasa astronaut who is the mother of a young child.

The Cady Coleman who greets me at the door of her 200-year-old farmhouse deep in the woods of New England is smaller than I had expected. This is a woman who walked into an American Air Force centrifuge programme as a volunteer and walked out with a world record for endurance. She once spent six weeks camping in Antarctica, learning that "my mother was correct when she told me to dress in layers." She has also lived 18m underwater in a giant tank, as part of Nasa's extreme environment training, an experience she took in her stride as the daughter of a navy diver. And she has clocked up 500 hours in space on two previous short-duration shuttle missions, in 1995 and 1999.

Cady is 49, 5ft 4in, slim and narrow-waisted. She confesses to having had trouble getting space suits small enough.

There is excitement in her voice when she talks about the possibility of a space walk during the coming mission – but the reality is that committing to a mission at all has required soul-searching. She needed the full support of her husband, Josh Simpson, and she needed Jamey to understand, too. "We talked a lot about whether I would even sign up to go – but it is part of who I am – and it's part of who Jamey's mother is and Josh's wife is. If I'm not doing those things, I'm not sure I'm being as much of a mum as I could be. It is part of me."

How does an astronaut with a child come to terms with the risks inherent in space travel? Cady answers by putting those risks into a broader context. Soldiers are deployed all the time to places "not nearly as nice to be as the International Space Station" she says.

However, she and her husband do their best to shield Jamey from the starker realities of his mother's profession.

They recall sitting down as a family to watch a television series about space flight and then, when the topic turned to the Columbia disaster in 2003, deciding calmly that it was Jamey's bedtime. It's harder to

protect him from the tactlessness of the public. "People come up to me all the time, with Jamey there, and say: 'Aren't you afraid that rocket's going to blow up?'" says Josh. "I'm always taken aback." These days, more thought is put into pre-mission preparation, especially when children are involved. "Everyone in the family has to be committed," says Al Holland, a Nasa psychologist. "It's not just one person on one mission."

Kate McCann, The Guardian, Saturday 7 August 2010

proposition dST CE /EE à partir du livre p 190

DST – CE / EE To infinity and Beyond

1- Give an account of the following two documents in ENGLISH and in your OWN words to define what the New Frontier is for John F. Kennedy at different time of his career, and explain his vision of space conquest (150 words min)

Text 1

Senator John F. Kennedy accepting the Democratic Party Nomination for the Presidency of the United States. Memorial Coliseum, Los Angeles, July 15, 1960.

2-

“**B**ut I tell you the New Frontier is here, whether we seek¹ it or not. Beyond that frontier are the uncharted² areas of science and space, unsolved problems of peace and war, unconquered pockets of
5 ignorance and prejudice, unanswered questions of poverty and surplus. It would be easier to shrink back³ from that frontier, to look to the safe mediocrity of the past, to be lulled⁴ by good intentions and high rhetoric [...]. But I believe the times demand new invention, inno-
10 vation, imagination, decision. I am asking each of you to be pioneers on that New Frontier. My call is to the young in heart, regardless of age – to all who respond to the scriptural call: ‘Be strong and of a good courage; be not afraid, neither be thou dismayed⁵.’”

1 look for • 2 unexplored • 3 reculer • 4 bercé •
5 consterné

Text 2

President John F. Kennedy makes his "Moon speech". Rice University, Houston, September 12, 1962.

“**F**or the eyes of the world now look into space, to the moon and to the planets beyond [...]. The vows¹ of this nation can only be fulfilled² if we in this nation are first, and, therefore, we intend to be first
5 [...]. In short, our leadership in science and in industry, our hopes for peace and security, our obligations to ourselves as well as others, all require us to make this effort, to solve these mysteries, to solve them for the good of all men, and to become the world's leading
10 space-faring nation. [...] We choose to go to the moon [...] We choose to go to the moon in this decade [...], not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and
15 skills, because that challenge is one that we are willing to accept, one we are unwilling to³ postpone⁴, and one which we intend to win, and the others, too.”

1 vœux • 2 réalisé • 3 refuser • 4 remettre à plus tard

Choose one of the following subjects (200 words min)

A- Do you think space conquest is a necessity to one's nation ? Justify your answer by using both personal and seen-in-class elements

OR

Ac Legrand – A. Largillière – A, Dandoy - Académie de Versailles

B- Are there dangers to space conquest ? Justify your answer by using both personal and seen-in-class elements