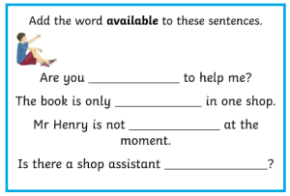
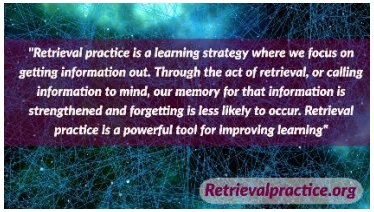
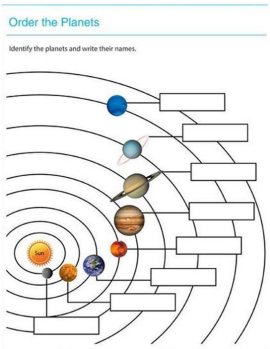
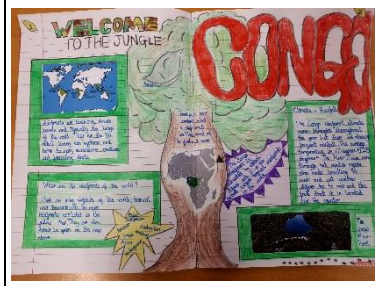
Year 5 Home Learning
w/c 18th May 2020

	Spelling	Reading (retrieval)	Literacy (Biography)	Maths (All maths activities will also be added to Seesaw for you to complete on there)	Topic/Science
Mon	 Add the word **available** to these sentences. Are you _____ to help me? The book is only _____ in one shop. Mr Henry is not _____ at the moment. Is there a shop assistant _____?	This week we are looking at the reading skill, retrieval. To retrieve information from the text you will have to use your skimming and scanning skills to pick out the key information the question is asking for.  Watch and listen to the book 'Counting o Katherine' and use your retrieval skills to answer the following questions. https://www.youtube.com/watch?v=wXtTMCBpXRg 1) What did Katherine count? 2) What sparked Katherine's imagination? 3) What was Katherine's	Complete your research about Katherine Johnson.  Follow the links below and start to gather information about Katherine. Remember to keep it factual. https://www.nasa.gov/content/katherine-johnson-biography https://kids.britannica.com/kids/article/Katherine-Johnson/628677 https://thekidshouldseethis.com/post/katherine-	Today we are looking at adding decimals within 1 Click here to watch the video (Summer term week 1 - Lesson 1) https://whiterosemaths.com/homelearning/year-5/ Click on the following link to access the activity https://wrm-13b48.kxcdn.com/wp-content/uploads/2020/homelearning/year-5/Lesson-1-Y5-Summer-Block-1-WO1-Adding-decimals-within-1-2020.pdf	**Topic (Geography)** Use the internet to help you locate the following places on the world map at the bottom of the page. North America South America Russia India China Research the capital cities of each place. Which place is the exception? 

		brother not happy about? 4) What did Katherine dream of? 5) What year did NACA hire mathematicians?	johnson-videos There is also an amazing book about Katherine Johnson – I have pasted the following link for you to watch the book being read aloud. Remember to take notes! https://www.youtube.com/watch?v=wXtTMCBpXRg		
Tues	Use a dictionary to define the word **average**. _____ _____ _____	Watch and listen to the book 'Hidden Figures: The true story of four black women and the space race'. Match the following descriptions with the correct characters of the story. https://www.youtube.com/watch?v=dKFiSCQK5uY Katherine Johnson – This hidden figure was inspired by the women before her and became and engineer. Dorothy Vaughan – This hidden figure has saved many lives. Mary Jackson – This hidden figure was able to program the computer that was there to do her job. Christine Darden – This hidden figure helped create and test airplanes.	Using the template provided, box up your research about Katherine Johnson. Remember to keep all of your information factual. _____ Fact File Full Name: Date of Birth: Place of Birth: Famous for: Who were they? Their life:	Today we are looking at subtracting decimals within 1 Click here to watch the video (Summer term week 1 - Lesson 2) https://whiterosemaths.com/homelearning/year-5/ Click on the following link to access the activity https://wrm-13b48.kxcdn.com/wp-content/uploads/2020/homelearning/year-5/Lesson-2-Y5-Summer-Block-1-WO2-Subtracting-decimals-within-1-2020.pdf	**Science** Watch the following video and then complete the worksheet at the bottom of the page/Seesaw activities. https://www.bing.com/videos/search?q=order+planets+from+the+sun+&&view=detail&mid=08AA040E6133755A7E6608AA040E6133755A7E66&&FORM=VRDGAR&ru=%2Fvideos%2Fsearch%3Fq%3Dorder%2520planets%2520from%2520the%2520sun%2520%26qs%3Dn%26form%3DQBVR%26sp%3D-1%26pq%3Dorder%2520planets%2520from%2520the%2520sun%2520%26sc%3D8-

					27%26sk%3D%26cvid%3D927CC69AE78A45058078B62B0F23A2C3 
Wed	Trace the word **awkward**. awkward	Read chapter 1 of Hidden Figures (found at the bottom of the page).  	Today, you are going to write your introduction. Use the biography key features mat and your steps to success to help you write a successful introduction. Remember that your introduction needs to grab your reader's attention whilst highlighting the most important achievements of Katherine Johnson's life. See the example below for support (also at the bottom of the page).	Today we are looking at complements to 1 Click here to watch the video (Summer term week 1 - Lesson 3) https://whiterosemaths.com/homelearning/year-5/ Click on the following link to access the activity https://wrm-13b48.kxcdn.com/wp-content/uploads/2020/homelearning/year-5/Lesson-3-Y5-Summer-Block-1-WO3-Complements-to-1-2020.pdf	**Topic (Geography)** Use the internet to research human and physical geography. Discuss it with someone in your family and then write a definition for each one. 

			The Extraordinary Life of Katherine Johnson In 1969 history was made when the first humans stepped on the moon. Back on earth, one woman was running the numbers that ensured they got there and back in one piece. As a child, **Katherine Johnson** loved maths. She went on to be one of the most important people in the history of space travel. Discover her fascinating life story in this beautifully illustrated book, complete with narrative biography, timelines and facts.  		
Thurs	How many words can you find that rhyme with the word **bruise**? _____ _____ _____	Read chapter 1 of Hidden figures (Found at the bottom of page).  	Today, you are going to draft your first paragraph. Early life should include their date and place of birth and any important details about their early life. See the example below for support (also at the bottom of the page). Remember to use your steps to success and your biography features mat for extra support. **Early Life** Katherine Coleman was born on August 26, 1918, in White Sulphur Springs, West Virginia. Her intelligence and skill with numbers became obvious when she was a child. She was in high school by the time she was 10 years old. Katherine graduated from West Virginia State College in 1937 with highest honors and then took a teaching job in Virginia. In 1939 Katherine was selected to be one of the first three **African American** students to enroll in a graduate program at West Virginia University. She studied math but soon left to take care of her family. She had married James Goble that year. He died in 1956. (She later married James Johnson.)	Today we are looking at adding decimals across the whole Click here to watch the video (Summer term week 1 - Lesson 4) https://whiterosemaths.com/homelearning/year-5/ Click on the following link to access the activity https://wrm-13b48.kxcdn.com/wp-content/uploads/2020/homelearning/year-5/Lesson-4-Y5-Summer-Block-1-WO4-Adding-decimals-crossing-the-whole-2020.pdf	**Science** Create a colourful and imaginative double page spread of everything you have learnt about Earth and space in science. You can use the internet to help you. Send in your photos! Here is an example based on the jungle. 

Fri

Write a synonym and an antonym for the word **bargain**.

Synonym: _____

Antonym: _____

True or False

Decide whether the following statements are **true or false** based on chapter 1 of Hidden Figures.

The rise in around 1,000 employees was not enough.	
It was President Clinton who made the decision for more airplanes.	
If it wasn't for physics (maths) a plane would not work.	
In 1943, black female women were not allowed to work at Langley.	

Today, you are going to draft your next paragraph. This paragraph should include details of her life achievements and why she is such an inspiration to many. This paragraph will take the longest so don't worry about getting all of your paragraph drafted today, we will complete this in our next lesson.

See the example below (also at the bottom of the page).

NASA Pioneer

In 1958, after NACA was reformulated into the National Aeronautics and Space Administration (NASA), Johnson was among the people charged with determining how to get a human into space and back. The following year she remarried, to decorated Navy and Army officer James A. Johnson.

For Johnson, calculating space flight came down to the basics of geometry: "The early trajectory was a parabola, and it was easy to predict where it would be at any point," she said. "Early on, when they said they wanted the capsule to come down at a certain place, they were trying to compute when it should start. I said, 'Let me do it. You tell me when you want it and where you want it to land, and I'll do it backwards and tell you when to take off.' " As a result, the task of plotting the path for Alan Shepard's 1961 journey to space, the first in American history, fell on her shoulders.

The next challenge was to send a man in orbit around Earth. This involved far more difficult calculations, to account for the gravitational pulls of celestial bodies, and by then NASA had begun using electronic computers. Yet, the job wasn't considered complete until Johnson was summoned to check the work of the machines, providing the go-ahead to propel John Glenn into successful orbit in 1962.

While the work of electronic computers took on increased importance at NASA, Johnson remained highly valuable for her unwavering accuracy. She performed calculations for the historic 1969 Apollo 11 trip to the moon, and the following year, when Apollo 13 experienced a malfunction in space, her contributions to contingency procedures helped ensure its safe return.

Johnson continued to serve as a key asset for NASA, helping to develop its Space Shuttle program and Earth Resources Satellite, until her retirement in 1986.

Today you have got maths challenges.

Questions 1-5 are aimed at year 5.

The rest will challenge you, but you could ask someone in your family to work with you.

You could make it a competition - who finds the answer first!

Topic (Geography)

Click on the following link and play the game to test your knowledge of human and physical features.

https://wordwall.net/resource/58780/geography/physical-or-human-geography

Look at the following picture (at the bottom of the page/Seesaw activities) and identify all the human and physical features.

Chapter One
A Door Opens

Melvin Butler, the personnel officer at the Langley Memorial Aeronautical Laboratory, had a problem, the scope and nature of which was made plain in a May 1943 telegram to the civil service's chief of field operations. "This establishment has urgent need for approximately 100 Junior Physicists and Mathematicians, 100 Assistant Computers, 75 Minor Laboratory Apprentices, 125 Helper Trainees, 50 Stenographers and Typists," exclaimed the missive. Every morning at 7:00 a.m., the bow-tied Butler and his staff sprang to life, dispatching the lab's station wagon to the local rail depot, the bus station, and the ferry terminal to collect the men and women—so many women now, each day more women—who had made their way to the lonely finger of land on the Virginia coast. The shuttle conveyed the recruits to the door of the laboratory's Service Building on the campus of Langley Field. Upstairs, Butler's staff whisked them through the first-day stations: forms, photos, and the oath of office: *I will support and defend the Constitution of the United States against all enemies, foreign and domestic . . . so help me God.*

Thus installed, the newly minted civil servants fanned out to take their places in one of the research facility's expanding inventory of buildings, each already as full as a pod ripe with peas. No sooner had Sherwood Butler, the laboratory's head of procurement, set the final brick on a new building than his brother, Melvin, set about filling it with new employees. Closets and hallways, stockrooms and workshops stood in as makeshift offices. Someone came up with the bright idea of putting two desks head to head and jury-rigged the new piece of furniture with a jump seat in order to squeeze three workers into space designed for two. In the four years since Hitler's troops overran Poland—since American interests and the European war converged in an all-consuming conflict—the laboratory's complement of 500-odd employees at the close of the decade was on its way to 1,500. Yet the great groaning war machine swallowed them whole and remained hungry for more.

The offices of the Administration Building looked out upon the crescent-shaped airfield. Only the flow of civilian-clothed people heading to the laboratory, the oldest outpost of the National Advisory Committee for Aeronautics (NACA), distinguished the low brick buildings belonging to that agency from identical ones used by the US Army Air Corps. The two installations had grown up together, the air base devoted to the development of America's military airpower capability, the laboratory a civilian agency charged with advancing the scientific understanding of aeronautics and disseminating its findings to the

military and private industry. Since the beginning, the army had allowed the laboratory to operate on the campus of the airfield. The close relationship with the army flyers served as a constant reminder to the engineers that every experiment they conducted had real-world implications.

The double hangar—two 110-foot-long buildings standing side by side—had been covered in camouflage paint in 1942 to deceive enemy eyes in search of targets, its shady and cavernous interior sheltering the machines and their minders from the elements. Men in canvas jumpsuits, often in groups, moved in trucks and jeeps from plane to plane, stopping to hover at this one or that like pollinating insects, checking them, filling them with gas, replacing parts, examining them, becoming one with them and taking off for the heavens. The music of airplane engines and propellers cycling through the various movements of takeoff, flight, and landing played from before sunrise until dusk, each machine's sounds as unique to its minders as a baby's cry to its mother. Beneath the tenor notes of the engines played the bass roar of the laboratory's wind tunnels, turning their on-demand hurricanes onto the planes—plane parts, model planes, full-sized planes.

Just two years prior, with the storm clouds gathering, President Roosevelt challenged the nation to ramp up its production of airplanes to fifty thousand per year. It seemed an impossible task for an industry that as recently as 1938 had only provided the Army Air Corps with ninety planes a month. Now, America's aircraft industry was a production miracle, easily

surpassing Roosevelt's mark by more than half. It had become the largest industry in the world, the most productive, the most sophisticated, outproducing the Germans by more than three times and the Japanese by nearly five. The facts were clear to all belligerents: the final conquest would come from the sky.

For the flyboys of the air corps, airplanes were mechanisms for transporting troops and supplies to combat zones, armed wings for pursuing enemies, sky-high launching pads for ship-sinking bombs. They reviewed their vehicles in an exhaustive preflight checkout before climbing into the sky. Mechanics rolled up their sleeves and sharpened their eyes; a broken piston, an improperly locked shoulder harness, a faulty fuel tank light, any one of these could cost lives. But even before the plane responded to its pilot's knowing caress, its nature, its very DNA—from the shape of its wings to the cowling of its engine—had been manipulated, refined, massaged, deconstructed, and recombined by the engineers next door.

Long before America's aircraft manufacturers placed one of their newly conceived flying machines into production, they sent a working prototype to the Langley laboratory so that the design could be tested and improved. Nearly every high-performance aircraft model the United States produced made its way to the lab for drag cleanup: the engineers parked the planes in the wind tunnels, making note of air-disturbing surfaces, bloated fuselages, uneven wing geometries. As prudent and thorough as old family doctors, they examined every aspect of the air flowing over the plane, making careful note of the vital signs. NACA test pilots, sometimes with an engineer riding

shotgun, took the plane for a flight. Did it roll unexpectedly? Did it stall? Was it hard to maneuver, resisting the pilot like a shopping cart with a bad wheel? The engineers subjected the airplanes to tests, capturing and analyzing the numbers, recommending improvements, some slight, others significant. Even small improvements in speed and efficiency multiplied over millions of pilot miles added up to a difference that could tip the long-term balance of the war in the Allies' favor.

"Victory through airpower!" Henry Reid, engineer-in-charge of the Langley laboratory, crooned to his employees, the shibboleth a reminder of the importance of the airplane to the war's outcome. "Victory through airpower!" the NACA-ites repeated to each other, minding each decimal point, poring over differential equations and pressure distribution charts until their eyes tired. In the battle of research, victory would be theirs.

Unless, of course, Melvin Butler failed to feed the three-shift-a-day, six-day-a-week operation with fresh minds. The engineers were one thing, but each engineer required the support of a number of others: craftsmen to build the airplane models tested in the tunnels, mechanics to maintain the tunnels, and nimble number crunchers to process the numerical deluge that issued from the research. Lift and drag, friction and flow. What was a plane but a bundle of physics? Physics, of course, meant math, and math meant mathematicians. And since the middle of the last decade, mathematicians had meant women. Langley's first female computing pool, started in 1935, had caused an uproar among the men of the laboratory. How could a female mind process

something so rigorous and precise as math? The very idea, investing $500 on a calculating machine so it could be used by a girl! But the "girls" had been good, very good—better at computing, in fact, than many of the engineers, the men themselves grudgingly admitted. With only a handful of girls winning the title "mathematician"—a professional designation that put them on equal footing with entry-level male employees—the fact that most computers were designated as lower-paid "subprofessionals" provided a boost to the laboratory's bottom line.

But in 1943, the girls were harder to come by. Virginia Tucker, Langley's head computer, ran laps up and down the East Coast searching for coeds with even a modicum of analytical or mechanical skill, hoping for matriculating college students to fill the hundreds of open positions for computers, scientific aides, model makers, laboratory assistants, and yes, even mathematicians. She conscripted what seemed like entire classes of math graduates from her North Carolina alma mater, the Greensboro College for Women, and hunted at Virginia schools like Sweetbriar in Lynchburg and the State Teachers College in Farmville.

Melvin Butler leaned on the US Civil Service Commission and the War Manpower Commission as hard as he could so that the laboratory might get top priority on the limited pool of qualified applicants. He penned ads for the local newspaper, the *Daily Press*: "Reduce your household duties! Women who are not afraid to roll up their sleeves and do jobs previously filled by men should call the Langley Memorial

Aeronautical Laboratory," read one notice. Fervent pleas from the personnel department were published in the employee newsletter *Air Scoop*: "Are there members of your family or others you know who would like to play a part in gaining supremacy of the air? Have you friends of either sex who would like to do important work toward winning and shortening the war?" With men being absorbed into the military services, with women already in demand by eager employers, the labor market was as exhausted as the war workers themselves.

A bright spot presented itself in the form of another man's problem. A. Philip Randolph, the head of the largest black labor union in the country, demanded that Roosevelt open lucrative war jobs to Negro applicants, threatening in the summer of 1941 to bring one hundred thousand Negroes to the nation's capital in protest if the president rebuffed his demand. "Who the hell is this guy Randolph?" fumed Joseph Rauh, the president's aide. Roosevelt blinked.

A "tall courtly black man with Shakespearean diction and the stare of an eagle," Asa Philip Randolph, close friend of Eleanor Roosevelt, headed the 35,000-strong Brotherhood of Sleeping Car Porters. The porters waited on passengers in the nation's segregated trains, daily enduring prejudice and humiliation from whites. Nevertheless, these jobs were coveted in the black community because they provided a measure of economic stability and social standing. Believing that civil rights were inextricably linked to economic rights, Randolph fought tirelessly for the right of Negro Americans to participate fairly in the wealth of the country they had helped build. Twenty years in the future, Randolph would address

the multitudes at another March on Washington, then concede the stage to a young, charismatic minister from Atlanta named Martin Luther King Jr.

Later generations would associate the black freedom movement with King's name, but in 1941, as the United States oriented every aspect of its society toward war for the second time in less than thirty years, it was Randolph's long-term vision and the specter of a march that never happened that pried open the door that had been closed like a bank vault since the end of Reconstruction. With two strokes of a pen—Executive Order 8802, ordering the desegregation of the defense industry, and Executive Order 9346, creating the Fair Employment Practices Committee to monitor the national project of economic inclusion—Roosevelt primed the pump for a new source of labor to come into the tight production process.

Nearly two years after Randolph's 1941 showdown, as the laboratory's personnel requests reached the civil service, applications of qualified Negro female candidates began filtering in to the Langley Service Building, presenting themselves for consideration by the laboratory's personnel staff. No photo advised as to the applicant's color—that requirement, instituted under the administration of Woodrow Wilson, was struck down as the Roosevelt administration tried to dismantle discrimination in hiring practices. But the applicants' alma maters tipped their hand: West Virginia State University, Howard, Arkansas Agricultural, Mechanical & Normal, Hampton Institute just across town—all Negro schools. Nothing

in the applications indicated anything less than fitness for the job. If anything, they came with more experience than the white women applicants, with many years of teaching experience on top of math or science degrees.

They would need a separate space, Melvin Butler knew. Then they would have to appoint someone to head the new group, an experienced girl—white, obviously—someone whose disposition suited the sensitivity of the assignment. The Warehouse Building, a brand-new space on the west side of the laboratory, a part of the campus that was still more wilderness than anything resembling a workplace, could be just the thing. His brother Sherwood's group had already moved there, as had some of the employees in the personnel department. With round-the-clock pressure to test the airplanes queued up in the hangar, engineers would welcome the additional hands. So many of the engineers were Northerners, relatively agnostic on the racial issue but devout when it came to mathematical talent.

Melvin Butler himself hailed from Portsmouth, just across the bay from Hampton. It required no imagination on his part to guess what some of his fellow Virginians might think of the idea of integrating Negro women into Langley's offices, the "come-heres" (as the Virginians called the newcomers to the state) and their strange ways be damned. There had always been Negro employees in the lab—janitors, cafeteria workers, mechanic's assistants, groundskeepers. But opening the door to Negroes who would be professional peers, that was something new.

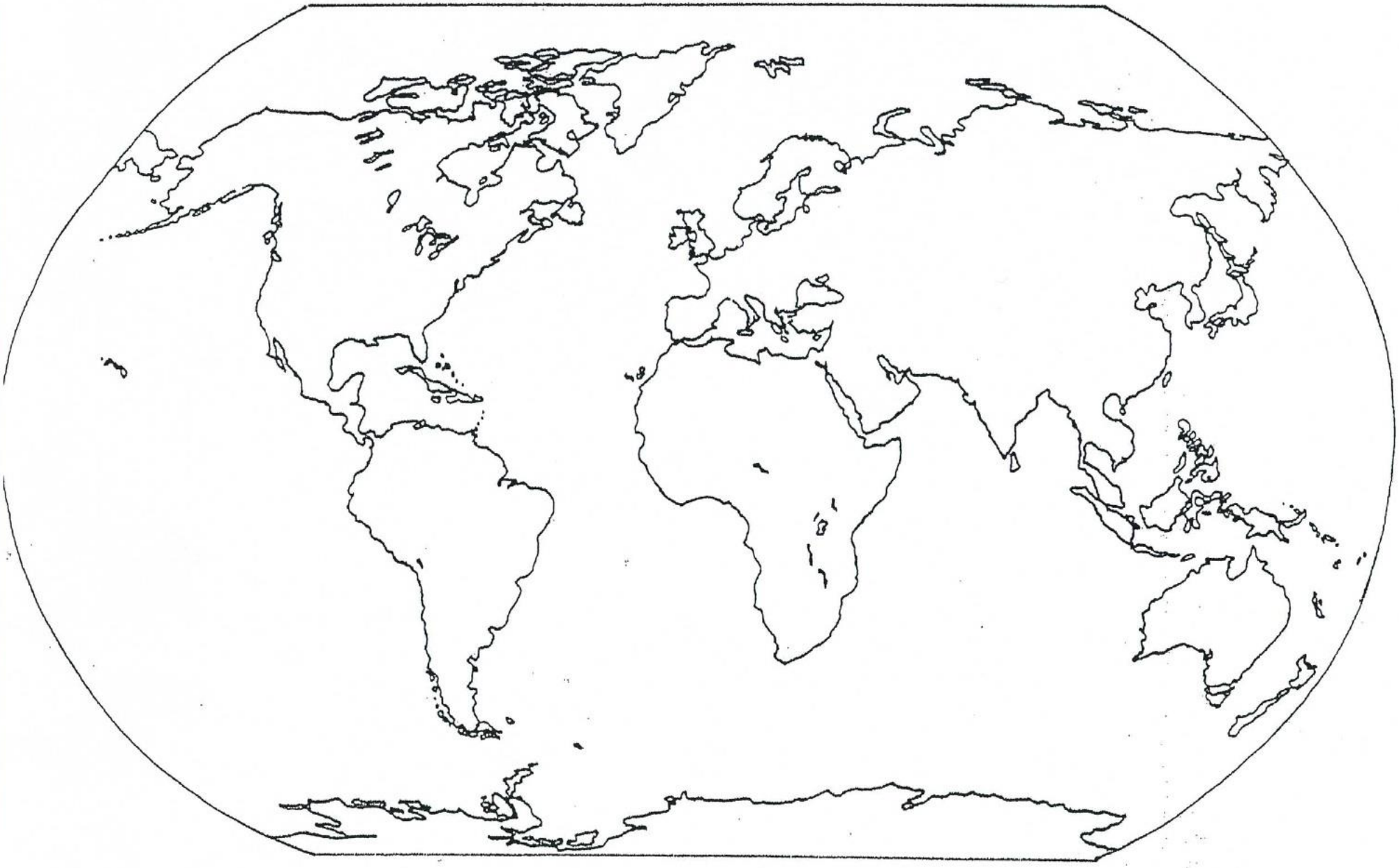
Butler proceeded with discretion: no big announcement in the *Daily Press*, no fanfare in *Air Scoop*. But he also proceeded with direction: nothing to herald the arrival of the Negro women to the laboratory, but nothing to derail their arrival either. Maybe Melvin Butler was progressive for his time and place, or maybe he was just a functionary carrying out his duty. Maybe he was both. State law—and Virginia custom—kept him from truly progressive action, but perhaps the promise of a segregated office was just the cover he needed to get the black women in the door, a Trojan horse of segregation opening the door to integration. Whatever his personal feelings on race, one thing was clear: Butler was a Langley man through and through, loyal to the laboratory, to its mission, to its worldview, and to its charge during the war. By nature—and by mandate—he and the rest of the NACA were all about practical solutions.

So, too, was A. Philip Randolph. The leader's indefatigable activism, unrelenting pressure, and superior organizing skills laid the foundation for what, in the 1960s, would come to be known as the civil rights movement. But there was no way that Randolph, or the men at the laboratory, or anyone else could have predicted that the hiring of a group of black female mathematicians at the Langley Memorial Aeronautical Laboratory would end at the Moon.

Still shrouded from view were the great aeronautical advances that would crush the notion that faster-than-sound flight was a physical impossibility, the electronic calculating devices that would amplify the power of science and technology to unthinkable dimensions. No one anticipated that millions of wartime women would refuse to leave the

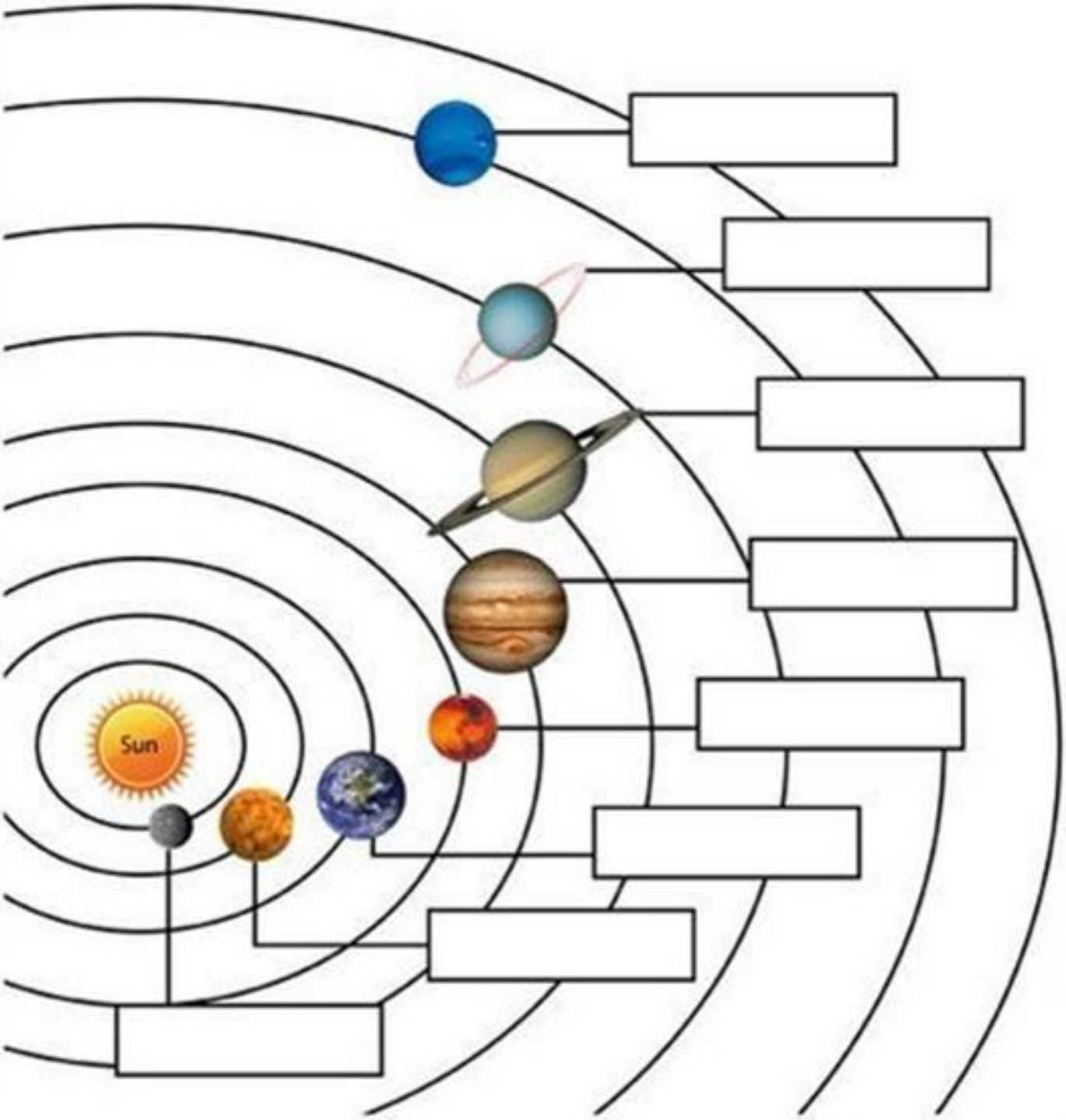
American workplace and forever change the meaning of women's work, or that American Negroes would persist in their demands for full access to the founding ideals of their country and not be moved. The black female mathematicians who walked into Langley in 1943 would find themselves at the intersection of these great transformations, their sharp minds and ambitions contributing to what the United States would consider one of its greatest victories.

But in 1943, America existed in the urgent present. Responding to the needs of the here and now, Butler took the next step, making a note to add another item to Sherwood's seemingly endless requisition list: a metal bathroom sign bearing the words COLORED GIRLS.



Order the Planets

Identify the planets and write their names.



_____ Fact File

Full Name: _____

Date of Birth: _____

Place of Birth: _____

Famous for: _____

Who were they? _____

Their life: _____

Features of a Biography

Purpose:

to give an account of someone's life.

Tense:

- written in the past tense
- Closing statements may use present/ future tense

Structure:

Opens with an **attention grabbing** introduction that summarises the main events of the person's life and makes the audience want to read on.

Key events are written in **chronological order.**

Early life, family, home and influences help the audience to understand the person.

Use relevant images and captions for interest.

Concludes with what they are doing now, or how they are/will be remembered.

Include:

- information about their personality
- specific facts about achievements, influences and significant people

Include:

- their feelings about different points and events in their life
- quotes from the person themselves, or other key people

Include:

- third person pronouns, such as:
  he, she, they, himself, herself, it, their, them

Include:

- adverbials, such as:

  accordingly

  consequently

  therefore

  hence

Include:

- ellipses, repetition, and time conjunctions to link sentences and paragraphs, such as:
  then, after that, this, firstly, whenever

Writing Steps to Success

I can write a short burst biography

Pupil	Teacher	Features I MUST try to Include:	
		Punctuation	I have accurately punctuated parenthesis.
			I have used a range of appropriate punctuation to mark clauses. : ; ,
		Vocabulary/ grammar	I have included facts about the person I am writing about.
			I have used third person pronouns.
			I have written in past tense.
			I have used technical vocabulary
		Sentence	I have used a range of clause structures.
			I have included parenthesis to provide addition information.
		Text structure	I have used a suitable subheading which is linked to the paragraph I am writing.
			My paragraph fits with the chronology of the whole text.

Comments

_____

_____

_____

My target for next time

_____

_____

_____

The Extraordinary Life of Katherine Johnson

In 1969 history was made when the first humans stepped on the moon. Back on earth, one woman was running the numbers that ensured they got there and back in one piece.

As a child, **Katherine Johnson** loved maths. She went on to be one of the most important people in the history of space travel. Discover her fascinating life story in this beautifully illustrated book, complete with narrative biography, timelines and facts.

Early Life

Katherine Coleman was born on August 26, 1918, in White Sulphur Springs, West Virginia. Her intelligence and skill with numbers became obvious when she was a child. She was in high school by the time she was 10 years old. Katherine graduated from West Virginia State College in 1937 with highest honors and then took a teaching job in Virginia.

In 1939 Katherine was selected to be one of the first three **African American** students to enroll in a graduate program at West Virginia University. She studied math but soon left to take care of her family. She had married James Goble that year. He died in 1956. (She later married James Johnson.)

NASA Pioneer

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For Johnson, calculating space flight came down to the basics of geometry: "The early trajectory was a parabola, and it was easy to predict where it would be at any point," she said. "Early on, when they said they wanted the capsule to come down at a certain place, they were trying to compute when it should start. I said, 'Let me do it. You tell me when you want it and where you want it to land, and I'll do it backwards and tell you when to take off .' " As a result, the task of plotting the path for Alan Shepard's 1961 journey to space, the first in American history, fell on her shoulders.

The next challenge was to send a man in orbit around Earth. This involved far more difficult calculations, to account for the gravitational pulls of celestial bodies, and by then NASA had begun using electronic computers. Yet, the job wasn't considered complete until Johnson was summoned to check the work of the machines, providing the go-ahead to propel John Glenn into successful orbit in 1962.

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