LAKSHMIPAT SINGHANIA ACADEMY

OPEN BOOK PROJECT

SESSION: 2025 – 2026

TERM: 1

CLASS - IV

THEME: SPACE EXPLORATION

- All projects to be done individually by the students.
- Instructions given by each subject teacher to be read carefully and followed accordingly.
- While doing the projects students can take guidance from their parents but the work must be presented in their own handwriting. All illustrations and models must be made by the students themselves.
- Hard copies of projects must be submitted to the respective subject teachers by **7th July 2025**.

ENGLISH

CLASS: IV **FULL MARKS: 20**

INSTRUCTIONS

- The project is to be done individually.
- Use light coloured fabriano sheets for your project.
- Refer to the internet for extra information, but write the matter in your own words.
- Include suitable pictures/ drawings wherever needed.
- Make sure your project is neat and appealing.

THEME: SPACE EXPLORATION

LEARNING OBJECTIVES:

After the completion of the project, students will be able to

- gather information about Barry 'Butch' Wilmore
- collate the most significant elements needed to make an astronaut passport
- augment their creative writing skills
- enhance their artistic skills while making the passport
- learn valuable life lessons from his experience in space

For more than fifty years, humans have been exploring space. Space exploration is the act of studying and discovering things beyond Earth, like planets, stars and galaxies, using spacecraft and other tools. It is essentially exploring outer space and what's in it.

Captain Barry 'Butch' E. Wilmore has had a distinguished career in the US Navy, the US Air Force, and, most recently, NASA. Barry Wilmore and Sunita Williams were stranded on the International Space Station (ISS) for 286 days. They have truly been an inspiration for all.

WHAT YOU NEED TO DO:

Imagine that you are one of the members of the Science club of your school. As a member of that club, you wish to send a handmade **astronaut passport** to **Butch Wilmore**, as a gift on his return to Earth. Create a mini booklet that looks like a passport with space stamps, interesting facts and a page that says "You Are My Super Hero!" Do a thorough research on Butch Wilmore and based on that, **prepare an Astronaut Passport**, focussing on his life and experiences in space.

Your Astronaut Passport must include the following aspects:

i. Make the cover page.
   - Write Astronaut Passport in bold letters.
   - Draw a space logo.

ii. Create the inside pages.
   - Page 1 – Include personal details about Barry Wilmore along with his photograph. His personal details should include his full name, nickname, date of birth, nationality and occupation.
   - Page 2 – List his space missions with 2-3 lines on each and add small drawings or stamps for each.
   - Page 3 – Draw at least 3 'astronaut visa stamps' based on his space exploration achievements.
   - Page 4 – You Are My Super Hero! – Write a thank-you note in about 85-100 words on how he is an inspiration for children of your age, what lessons have you learned from his experiences and why you consider him to be your Super Hero.
   - Page 5 – Wish upon a Star! – Imagine what wish you would make if you saw a shooting star from space. Write in about 40-50 words.

To make the Astronaut Passport, fold A4 size coloured fabriano sheets in half to make a passport-sized booklet. Draw cut-outs of stars, planets, rockets to decorate the passport. Make it look like a real passport!

You may use the links provided for your research.
https://en.wikipedia.org/wiki/Barry_Wilmore
https://www.nasa.gov/people/barry-butch-e-wilmore/
https://www.nasa.gov/humans-in-space/astronauts/barry-e-wilmore/

LEARNING OUTCOME

At the end of the project, students should be able to create an astronaut passport based on their research, develop creative writing and aesthetic skills and express themselves in grammatically correct sentences.

RUBRIC

CATEGORY	4	3	2	1
Content – Accuracy and Research	The project is factually accurate and compelling. It reflects an exhaustive research work.	The project is factually accurate, but not very compelling. It reflects a considerable amount of research work.	The project is not too factually accurate, nor compelling. It reflects a fair amount of research work.	The project lacks necessary details and shows little or no research work; hence it is neither factually accurate, nor compelling.
Incorporation of all elements – cover page and inside pages of the passport	All necessary elements have been included meticulously, following the guidelines given.	Almost all necessary elements have been included, but one or two have been left out.	Some necessary elements are missing and necessary details are incomplete.	Quite a few details are missing, thereby making the passport quite sketchy in nature.
Writing Skill – use of vocabulary, grammar and spellings	The writing displays good use of vocabulary and almost negligible grammatical and spelling errors.	The writing shows more or less good use of vocabulary and a few grammatical and spelling errors.	The writing is flawed, with limited use of vocabulary and some grammatical and spelling errors.	The writing is totally incorrect, with extremely limited use of vocabulary and plenty of grammatical and spelling errors.
Art Integration	The passport is phenomenally creative and artistic in its appeal. The illustrations used are relevant.	The passport is quite creative and artistic in its appeal. The illustrations are moderately relevant.	The passport is average in its creative and artistic appeal. The illustrations are relevant to some extent.	The passport shows lack of creativity and artistic appeal. The illustrations are not relevant at all.
Overall Presentation	Exceptionally neat in presentation and the layout of the project is remarkably done.	Neatly presented and the layout of the project is more or less remarkably done.	Somewhat neat in overall presentation and in the layout of the project.	Untidy presentation and lacks a proper layout of the project.

Class-IV **F.M. 20**
Subject-Hindi 2nd Language

TOPIC- अंतरिक्ष अन्वेषण

उद्देश्य (OBJECTIVES)

- कल्पनाशीलता का विकास
- रचनात्मकता का विकास
- भाषा शैली का विकास
- व्यावहारिक ज्ञान का विकास
- भाषिक क्षमता और वैचारिक क्षमता का विकास
- देश के उज्ज्वल व गौरवशाली अतीत से परिचय
- पत्रिका निर्माण की प्रक्रिया और महत्त्व से परिचय
- विद्यार्थी भारतीय अंतरिक्ष यात्रियों के इतिहास, महत्त्व, योगदान से परिचित होंगे।

मानवीय जिज्ञासा एक असाधारण शक्ति है, जिसने युगों से हमें अज्ञात की खोज करने के लिए प्रेरित किया है, जिससे हमारी समझ और क्षमताओं की सीमाओं का विस्तार हुआ है। एक सभ्यता के रूप में, यह जिज्ञासा अंतरिक्ष अन्वेषण के विस्मयकारी क्षेत्र में सबसे अधिक स्पष्ट है। जब हम ऊपर की ओर देखते हैं और सितारों तक पहुँचते हैं, तो हम एक ऐसी यात्रा पर निकल पड़ते हैं जो न केवल ब्रह्मांड के रहस्यों को उजागर करती है, बल्कि हमारे क्षितिज का विस्तार करने की हमारी सहज इच्छा को भी दर्शाती है। इस महान प्रयास में, यदि हम अपने देश के हालिया इतिहास का पता लगाना चाहते हैं, तो भारत एक चमकते हुए प्रकाशस्तंभ के रूप में उभरा है, जिसने अंतरिक्ष यात्रा में अग्रणी कुलीन देशों सोवियत संघ), अमेरिका और चीनके बीच अपनी स्थिति को मजबूत किया है। (.

निम्नलिखित लिंक एवं अपनी खोजों के आधार पर इस परियोजना कार्य को पूर्ण करें।

- **परियोजना कार्य से संबन्धित सामान्य निर्देश** - (एकल कार्य)
  - ✓ परियोजना के लिए आवश्यकतानुसार A4 साइज पन्नों का इस्तेमाल करें।
  - ✓ सहायता हेतु निम्नलिखित लिंक्स को देख सकते हैं-

I) https://youtu.be/ivuwVZlfxiM(**भारतीय अंतरिक्ष यात्रा: कठिन परिश्रम और अद्भुत उपलब्धियों का एक दशक!**)

II) **https://youtu.be/IcHYyrCsFbk (अंतरिक्ष में क्या खाते-पीते हैं एस्ट्रोनॉट)**

क) कल्पना करें कि आप एक अंतरिक्ष यात्री हैं और आपने एक नए ग्रह की खोज की है। अपनी खोजों के आधार पर अंतरिक्ष पर आधारित एक ऐसी पत्रिका (MAGAZINE) तैयार करें जिसमें देश के विकास हेतु खोज के लक्ष्य एवं महत्त्व को समझा जा सके।

अ) **पत्रिका (MAGAZINE) में निम्नलिखित बिंदुओं का समावेश अवश्य हो** -

क) विद्यार्थी अपनी एक पत्रिका बनाएँगे और उसको एक नाम देंगे।
ख) प्रथम पृष्ठ की आकर्षक प्रस्तुति (COVER PAGE)
ग) यात्रा के दौरान देखे गए किन्हीं दो ग्रहों के स्पेस फ्लैशकार्ड तैयार करेंगे(चित्र और नाम सहित)
घ) विद्यार्थी अपने ग्रह को बचाए रखने के लिए एक शपथ पत्र तैयार करेंगे। (कम से कम 4 मूल बिंदुएँ अवश्य लिखें)
ङ) प्रस्तुति एवं भाषा पर विशेष ध्यान दें।

ब) सूचना पट्ट का निर्माण- नए ग्रह के खोज से संबंधित सूचना बनाएँगे जिसमें निम्नलिखित विषयों का समावेश अवश्य हो-(A4 SHEET में)

क) नए ग्रह का नाम
ख) ग्रह का आकर्षक चित्र
ग) वहाँ पाए गए जीव एवं पेड़-पौधों का चित्र
घ) नए ग्रह की कोई दो खास बातें
ङ) अपने ग्रह के लिए एक आकर्षक नारा तैयार करेंगे।

LEARNING OUTCOMES (अधिगम प्रतिफल)

इस परियोजना कार्य के माध्यम से विद्यार्थी भारतीय अंतरिक्ष अन्वेषण के इतिहास, खोजों एवं उद्देश्यों से परिचित हुए, उनके संरक्षण के प्रति जागरूक हुए, खोजों की महत्ता एवं प्रक्रिया को समझने में, मानव देश के विकास के लिए खोजों की आवश्यकता तथा पत्रिका बनाने की कला को सीखने में सक्षम हुए।

RUBRICS FOR CLASS 4 HINDI PROJECT(UT_1)

मानदंड	4	3	2	1
विषय-वस्तु का प्रभावी और सृजनात्मक वर्णन	विषय सामाग्री से जुड़े तथ्यों पर गहरा शोध और लेख में सटीक एवं विषयानुरूप वर्णन है।	एक या दो तथ्यात्मक त्रुटियों के अलावा अधिकांश तथ्य सही एवं विषयानुरूप हैं।	कुछ तथ्य विषयानुरूप हैं पर तीन से अधिक त्रुटियाँ पाई गई हैं।	प्रयुक्त लेखों में विषय सामाग्री स्पष्ट नहीं है।
कलात्मक क्षमता एवं चित्र संकलन	परियोजना के विषय की प्रभावी अभिव्यक्ति के लिए रंगों साजसज्जा - की सामग्री, तस्वीरों का अच्छा उपयोग।	परियोजना के विषय की प्रभावी अभिव्यक्ति के लिए रंगों साज-सज्जा की सामग्री , तस्वीरों का कुछ उपयोग।	परियोजना के विषय की प्रभावी अभिव्यक्ति के लिए रंगों साजसज्जा - की सामग्री, तस्वीरों का कम उपयोग।	परियोजना के विषय की प्रभावी अभिव्यक्ति के लिए रंगों साजसज्जा - की सामग्री, तस्वीरों का उपयोग नहीं किया गया ।

भाषा का प्रयोग	**प्रस्तुतीकरण में वाक्य-विन्यास, वर्ण—विन्यास एवं विराम चिह्न संबंधी त्रुटियाँ न होना। सहज एवं बोधगम्य भाषा का उपयुक्त प्रयोग।**	**प्रस्तुतीकरण में वाक्य-विन्यास, वर्ण—विन्यास एवं विराम चिह्न संबंधी कुछ ही त्रुटियाँ का होना।**	**प्रस्तुतीकरण में वाक्य-विन्यास, वर्ण—विन्यास एवं विराम चिह्न संबंधी त्रुटियाँ के कारण भाषा की उपयुक्तता का अभाव पाया जाना।**	**प्रस्तुतीकरण में वाक्य-विन्यास, वर्ण—विन्यास एवं विराम चिह्न संबंधी त्रुटियाँ के कारण विषयानुसार भाषा का प्रयोग न हो पाना।**
व्यक्तिगत स्तर पर दिशा निर्देशों का पालन/ समयनिष्ठता	**व्यक्तिगत स्तर पर दिशा निर्देशों का कड़ाई से पालन एवं समयानुसार कार्य सम्पन्न होना ।**	**व्यक्तिगत स्तर पर अधिकांश निर्देशों का पालन एवं समयानुसार कार्य सम्पन्न होना।**	**व्यक्तिगत स्तर पर बहुत कम दिशा निर्देशों का पालन एवं अतिरिक्त समय देने के पश्चात कार्य सम्पन्न होना।**	**व्यक्तिगत स्तर पर दिशा निर्देशों का पालन एवं समयानुसार कार्य सम्पन्न न हो पाना।**
समग्र प्रस्तुति	**परियोजना का समग्र प्रभाव रोचक और आकर्षक।**	**परियोजना का समग्र प्रभाव ध्यान आकर्षण के लिए पर्याप्त।**	**परियोजना की समग्र प्रस्तुति को आकर्षक बनाने के लिए कुछ ही प्रयास किया गया।**	**समग्र प्रस्तुति को रोचक बनाने के लिए विद्यार्थी ने किसी प्रकार का प्रयास नहीं किया।**

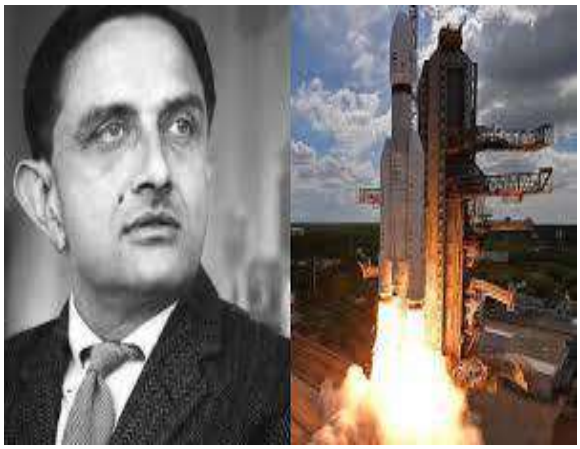
BENGALI 2nd LANGUAGE

Class-IV **F.M. 20**

TOPIC- মহাকাশ অনুসন্ধান

উদ্দেশ্য (Objectives)

- কল্পনার বিকাশ
- সৃজনশীলতার বিকাশ
- ভাষাশৈলীর বিকাশ
- ব্যবহারিক জ্ঞানের বিকাশ
- মহাকাশ সম্পর্কে পরিচয়
- ভাষাগত ক্ষমতা এবং ধারণাগত ক্ষমতার বিকাশ



'কুচকুচে কালো আকাশ, তার মধ্যে অগণিত জ্বলন্ত গ্রহনক্ষত্র। নিউটন দেখে আর মাঝে মাঝে আস্তে লেজের ডগাটা নাড়ে। ওর কাছে বোধহয় ওগুলোকে অসংখ্য বেড়ালের চোখের মতো মনে হয়।' বাঙালি মাত্রেই এই কয়েকটা লাইন পড়লেই বলে দিতে পারবে কোন গল্পের অংশ। প্রোফেসর শঙ্কুর 'ব্যোমযাত্রীর ডায়রি' পড়তে পড়তে আমরা আজও ভেসে বেড়াই অন্তরীক্ষের গহীন ঠিকানায়। সম্প্রতি সুনীতা উইলিয়ামস ফিরে এসেছেন মহাকাশ থেকে। ভারতীয় বংশোদ্ভূত মহাকাশচারীর এই 'বাস্তব' অভিযান বাঙালির বুকের ভিতরে জেগে থাকা অচিন জগতের নেশাকে ফুটিয়ে তুলছে। আসলে বঙ্গদেশের নরম মাটির ভূখণ্ডে দাঁড়িয়েও পৃথিবীর সীমানা ছাড়িয়ে বাঙালির কল্পনামেঘ চিরকালই বহু দূর চলে যেতে জানে।

 প্রকল্পের কাজ সম্পর্কিত সাধারণ নির্দেশাবলী - (একক কাজ)
 প্রকল্পের জন্য প্রয়োজন অনুযায়ী A4 আকারের পৃষ্ঠা ব্যবহার করো।

❖ প্রকল্পের কাজের প্রথম অংশ - ম্যাগাজিন তৈরি

ক) কল্পনা করো যে তুমি একজন মহাকাশচারী এবং তুমি একটি নতুন গ্রহ আবিষ্কার করতে যাচ্ছ। তোমার আবিষ্কারের ভিত্তিতে, একটি মহাকাশ-ভিত্তিক ম্যাগাজিন তৈরি করো যেখানে দেশের উন্নয়নের জন্য আবিষ্কারের লক্ষ্য এবং গুরুত্ব বোঝা যাবে।

ম্যাগাজিনে নিম্নলিখিত বিষয়গুলি অন্তর্ভুক্ত করতে হবে।

- শিক্ষার্থীরা তাদের নিজস্ব পত্রিকা তৈরি করবে এবং এর একটি নাম দেবে।
- প্রথম পৃষ্ঠার আকর্ষণীয় উপস্থাপনা (প্রচ্ছদ পৃষ্ঠা)
- ভ্রমণের সময় দেখা যেকোনো দুটি গ্রহের (ছবি এবং নাম সহ) মহাকাশ ফ্ল্যাশকার্ড তৈরি করো।
- শিক্ষার্থীরা আমাদের গ্রহকে বাঁচানোর জন্য একটি শপথ প্রস্তুত করবে। (কমপক্ষে ৪টি পয়েন্ট লেখো যা সবাই পালন করবে।)
- প্রকল্পের কাজের উপস্থাপনা এবং ভাষার প্রতি বিশেষ মনোযোগ প্রয়োজন।

❖ প্রকল্পের কাজের দ্বিতীয় অংশ : পোস্টার তৈরি

আমরা একটি নতুন গ্রহ আবিষ্কার সম্পর্কিত পোস্টার তৈরি করব যাতে নিম্নলিখিত বিষয়গুলি অন্তর্ভুক্ত থাকতে হবে - (A4 পেপারে)

যার মধ্যে নিম্নলিখিত বিষয়গুলি অন্তর্ভুক্ত করা উচিত-

- নতুন গ্রহটির নাম
- গ্রহের আকর্ষণীয় ছবি
- সেখানে পাওয়া উদ্ভিদ ও প্রাণীর ছবি
- নতুন গ্রহের যেকোনো দুটি বিশেষ বৈশিষ্ট্য
- তোমার গ্রহের জন্য একটি আকর্ষণীয় স্লোগান লেখো

LEARNING OUTCOMES:

এই প্রকল্পের কাজের মাধ্যমে, শিক্ষার্থীরা ভারতীয় মহাকাশ অনুসন্ধানের ইতিহাস, আবিষ্কার এবং উদ্দেশ্যগুলির সাথে পরিচিত হয়ে উঠবে, তাদের সংরক্ষণ সম্পর্কে সচেতন হবে, আবিষ্কারের গুরুত্ব এবং প্রক্রিয়া, মানব উন্নয়ন এবং দেশের জন্য আবিষ্কারের প্রয়োজনীয়তা বুঝতে পারবে এবং পত্রিকা তৈরির শিল্প শিখতে সক্ষম হবে।

Evaluation Rubric (2025-2026)

Skills **দক্ষতা**	Competency **যোগ্যতা**			
	4	3	2	1
বিষয়বস্তুর কার্যকরী এবং সৃজনশীল বর্ণনা	বিষয়ের সাথে সম্পর্কিত তথ্যগুলির উপর গভীর গবেষণা রয়েছে এবং নিবন্ধে বর্ণনাটি বিষয়ের সাথে সঠিক এবং প্রাসঙ্গিক।	দু-একটি তথ্যগত ভুল বাদে অধিকাংশ তথ্যই সঠিক এবং বিষয়ের সাথে সঙ্গতিপূর্ণ।	বিষয় অনুযায়ী কিছু তথ্য কিন্তু তিনটির বেশি ত্রুটি পাওয়া গেছে।	ব্যবহৃত নিবন্ধগুলির বিষয়বস্তু স্পষ্ট নয়।
শৈল্পিক ক্ষমতা এবং ছবি সংগ্রহ	প্রজেক্টের থিমকে কার্যকরভাবে বোঝাতে রং, সাজসজ্জা এবং ছবির ভালো ব্যবহার।	প্রকল্পের থিমের কার্যকরী প্রকাশের জন্য রঙ এবং ছবির কিছু ব্যবহার।	প্রকল্পের থিমের কার্যকরী প্রকাশের জন্য রঙ, সজ্জা এবং ফটোগ্রাফের ন্যূনতম ব্যবহার।	প্রজেক্টের থিমের কার্যকরী প্রকাশের জন্য রং, সাজসজ্জা এবং ছবির ভালো ব্যবহার করা হয়নি।
ভাষার ব্যবহার	উপস্থাপনায় বাক্য-বিন্যাস, বানান এবং বিরাম চিহ্নে কোনো ত্রুটি থাকা উচিত নয়। সহজ ও বোধগম্য ভাষার যথাযথ ব্যবহার।	উপস্থাপনায় বাক্য-বিন্যাস, বানান এবং বিরাম চিহ্নের কয়েকটি ত্রুটি রয়েছে।	উপস্থাপনায় বাক্য গঠন, বানান এবং বিরাম চিহ্নের ত্রুটির কারণে ভাষার উপযুক্ততার অভাব।	উপস্থাপনায় বাক্য গঠন, বানান এবং বিরাম চিহ্নের ত্রুটির কারণে বিষয় অনুযায়ী ভাষা ব্যবহার করতে না পারা।
নির্দেশিকা/সময়ানুবর্তিতা অনুসরণ	নির্দেশিকাগুলি কঠোরভাবে মেনে চলা এবং সময়মতো কাজ শেষ করা।	বেশিরভাগ নির্দেশনা অনুসরণ করা এবং সময়মতো কাজ শেষ করা।v	খুব কম নির্দেশনা অনুসরণ করে এবং অতিরিক্ত সময় নিয়ে কাজটি সম্পন্ন করা হয়।	নির্দেশিকা অনুসরণ এবং সময়মতো কাজ সম্পূর্ণ করতে ব্যর্থতা।
সামগ্রিক উপস্থাপনা	প্রকল্পের সামগ্রিক ছাপ প্রশংসনীয় এবং আকর্ষণীয়।	প্রকল্পের সামগ্রিক প্রভাব মনোযোগ আকর্ষণ করার জন্য যথেষ্ট।	প্রকল্পের সামগ্রিক উপস্থাপনা আকর্ষণীয় করার জন্য সামান্য প্রচেষ্টা করা হয়েছিল।	শিক্ষার্থী সার্বিক উপস্থাপনাকে আকর্ষণীয় করে তোলার কোনো চেষ্টাই করেনি।

MATHEMATICS

CLASS – IV **F.M. 20**

Label your project work mentioning the subject, topic, your name, class and section.

SPACE EXPLORATION
MATH IN ORBIT

LEARNING OBJECTIVES

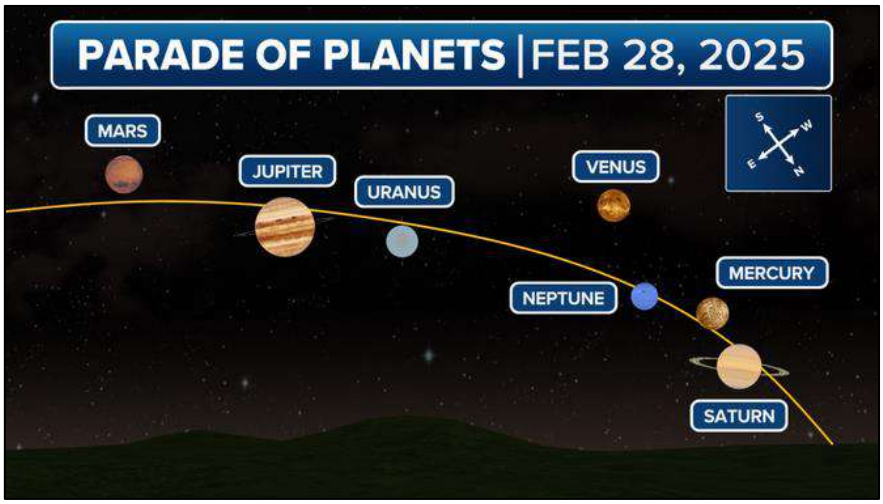
Through this project, students will be able to:

- Understand and apply geometric shapes- whole and half
- Recognize and use 3D shapes- sphere and hemisphere
- Differentiate between 2D and 3D shapes- circle and sphere
- Estimate and measure the size using a ruler and compare
- Use mathematical vocabulary- diameter
- Record and plot the data on the chart
- Identify the shape of the output by connecting the plots they have marked on the chart
- Apply their creativity and imagination to complete their art and craft work
- Revise the concepts of large numbers, addition and subtraction and mental ability
- Develop critical, logical thinking and problem-solving skills

---

Planetary alignment

On February 28, 2025, a rare planetary alignment occured, where seven planets (Mercury, Venus, Mars, Jupiter, Saturn, Uranus and Neptune) were aligned on one side of the Sun. This event was visible until mid-March. While all seven planets were aligned, only Mercury, Venus, Mars, Jupiter, and Saturn were visible to the naked eye, with Uranus and Neptune required binoculars or a telescope to view.



How planets are formed?

A long time ago, there was a big cloud of gas and dust in space called **nebula**. Gravity pulled the gas and dust together to form a new star like the **Sun**. The rest of the dust and bits started sticking together that turned into **rocks**. These rocks crashed into each other and slowly grew bigger and bigger. Over millions of years, some of these rocks became **planets**. Some as **rocky planets** and others **gas giants**. The fact here is it took millions of years for planets to form fully.

To understand in a better manner how this happened we will model the process using clay dough.

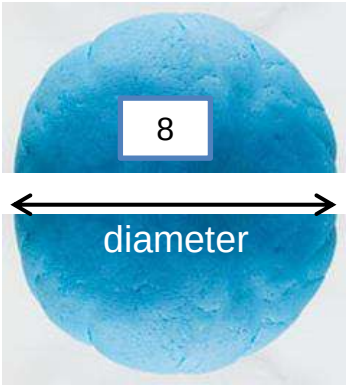
Materials needed- 3 boxes of clay dough of the same colour, one quarter of a chart paper (any light colour), a ruler, an A4 size sheet, marker pen, stickers.

What to do and how to do?

Q1) Make a table as given below on the A4 sheet to note down the measurements (estimated to the nearest whole number. For example, if the measurement is 3.8 cm then make it 4 cm).

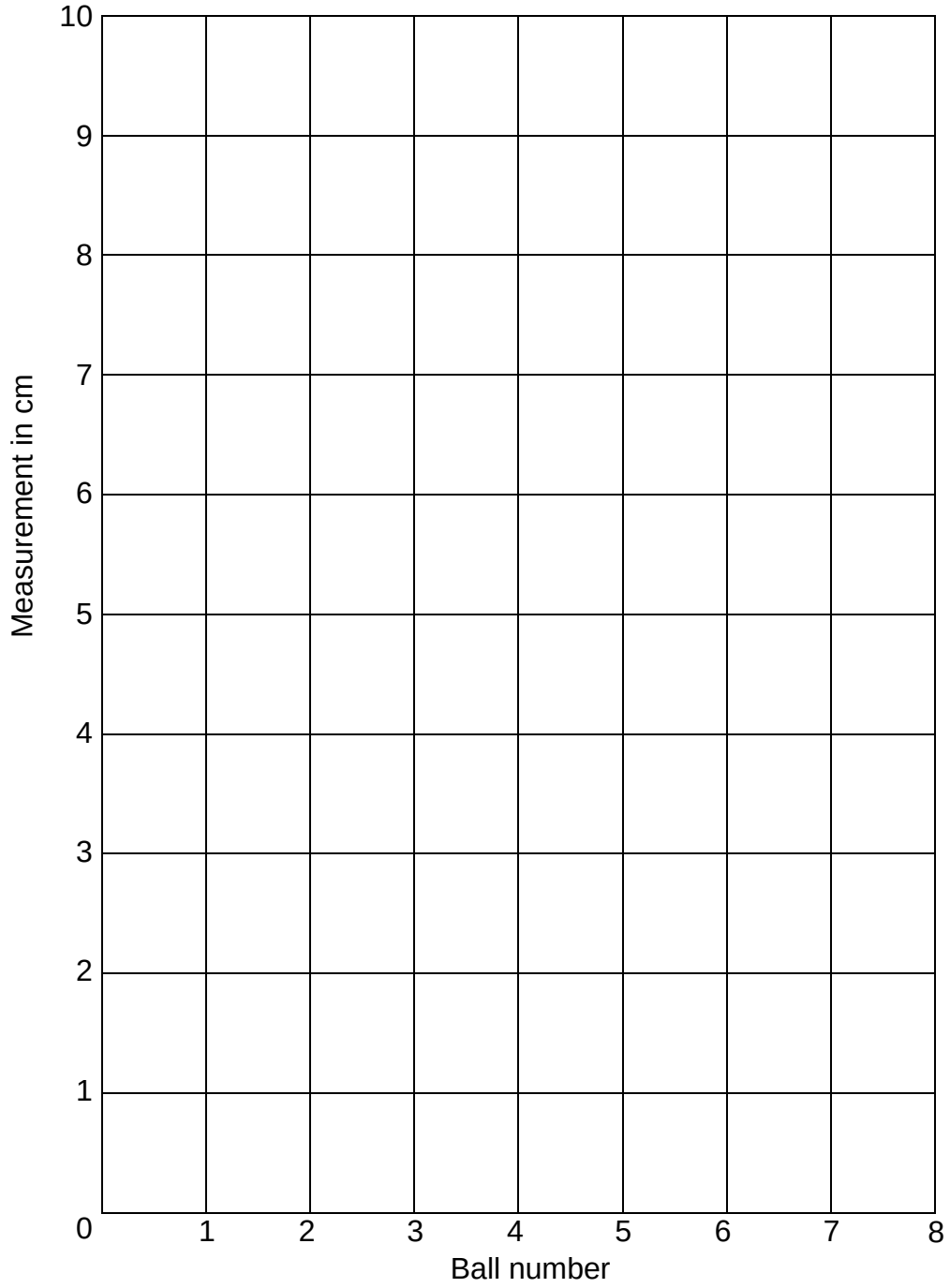
Ball number	Measurement in cm
1	
2	
3	
4	
5	
6	
7	
8	

Step 1- Roll all 3 boxes of clay dough in to one round ball. Cut this round ball into two equal halves. Measure the diameter of any one half using a ruler. Note it down. Label one half of it as number 8.



Step 2- Divide the other half of the ball into 7 equal parts. Roll each of these 7 parts into round balls of same size. Label them from 1-7.
Step 3- Take ball numbered 1. Cut into two equal halves. Measure the diameter of any one half of it using a ruler. Note it down.
Step 4- Take ball numbered 2 and roll it with one half of ball 1. Cut into two equal halves. Measure the diameter of any one half of it using a ruler. Note it down.
Repeat this process until you complete with all the balls.

On the chart paper, draw the margin and the graph as given below. Mark the plots according to the measurements of each ball. Connect the plots using your pencil.



Q2) Diameter of the planets in our solar system

Planet	Diameter (in kilometers)
Mercury	4,879 km
Venus	12,104 km
Earth	12,742 km
Mars	6,779 km
Jupiter	139,820 km
Saturn	116,460 km
Uranus	50,724 km
Neptune	49,244 km

Use the above information to answer the questions.

a) Name the planet with the greatest diameter.
b) Find the difference between the diameter of 2^{nd} and the 5^{th} planets.
c) Find the sum of the greatest and the smallest 5 digit numbers that can be formed using the digits given in the measurement of Uranus.
d) Express the diameter of Saturn in expanded form.
e) If the planets are arranged in ascending order according to their diameter, name the planet that will be in the fourth position.

Need to submit-

1) chart paper with the graph work (labelled on top above the margin with your name, class, section)
2) one half of each ball numbered from 1-8 in a proper labelled container
3) A4 size sheet with the measurements noted and the answer for question number 2 stapled with the chart paper

LEARNING OUTCOMES

Through this project, students should-

- understand to apply geometric shapes- whole and half
- Recognize and use 3D shapes- sphere and hemisphere
- differentiate between 2D and 3D shapes- circle and sphere
- estimate and measure the size using a ruler and compare
- use mathematical vocabulary- diameter
- learn to record and plot the data on the chart
- learn to identify the shape of the output by connecting the plots they have marked on the chart
- learn to apply their creativity and imagination to complete their art and craft work
- recall the concepts of large numbers, addition and subtraction and mental ability
- develop critical, logical thinking and problem-solving skills

References-

www.gfsc.nasa.gov

www.slideshare.net

MATHEMATICS PROJECT GRADING RUBRICS
UNIT TEST 1
Class IV

	5	4	3	2	1
Maths content	Shows a clear knowledge and application of math skills.	Shows a general knowledge and application of math skills.	Shows a limited knowledge and application of math skills.	Shows little knowledge and application of math skills.	Shows no knowledge and application of math skills.
Understanding the instructions to make the graph	Is able to understand the instructions correctly to make the models and the bar graph correctly.	Is able to understand the instructions correctly to make the models but unable to complete the bar graph correctly.	Is somewhat able to understand the instructions properly to make the models but unable to complete the bar graph correctly.	Is able to understand only very few instructions correctly, so unable to make the models and the bar graph correctly.	Is unable to understand the instructions correctly so unable to make the models and the bar graph correctly.
Art / craft Integration	The concept in the submission is exceptionally creative and well-integrated with art and craft.	The concept in the submission is creative and well-integrated with art and craft.	The concept in the submission is somewhat creative and integrated with art and craft.	The concept in the submission shows little creativity and integration with art and craft.	The concept in the submission lacks creativity and integration with art and craft.
Overall Presentation and Neatness	The presentation is exceptionally attractive in terms of design, layout and neatness.	The presentation is acceptably attractive in terms of design, layout and neatness.	The presentation is somewhat attractive in terms of design, layout and neatness.	The presentation is little attractive in terms of design, layout and neatness.	The presentation is not attractive in terms of design, layout and neatness.

Name: _____ Sec: _____ IV/UT1/EVS/2025-26

Class – IV **FULL MARKS: 20**
Subject – EVS

THEME: SPACE EXPLORATION

LEARNING OBJECTIVES

Students will be able to:

- Understand the significance of space exploration and how it contributes to science and human advancement.
- Identify basic facts about space, astronauts, and spacecraft, and develop curiosity about planets, stars, and the universe.
- Relate real-life experiences of astronauts with classroom learning.
- Express creativity and imagination through model making and creative writing.
- Connect environmental awareness with space life (like water reuse and oxygen recycling).
- Strengthen problem-solving and observation skills through experiential tasks.
- Integrate Art, Science, and Language effectively.

THEME: SPACE EXPLORATION

EXPLORING SPACE: A JOURNEY BEYOND EARTH

Space exploration means traveling beyond our planet Earth to learn more about the stars, planets, and the universe. Scientists and astronauts use powerful rockets and special spacecraft to go into space.
One exciting part of space exploration is visiting the International Space Station (ISS). The ISS is like a big science lab that floats in space! Astronauts live and work there to learn how to survive in space and do science experiments.
To take astronauts safely to the ISS, companies like Boeing have built special space vehicles. One of them is called the Starliner. It looks like a big capsule and can carry astronauts to space and bring them back to Earth. The Starliner is launched on a tall rocket and returns safely by using parachutes and big airbags.

ACTIVITY

Using the information given and through your own research, do the following as directed:

A. Make a Space Rocket Model. Use waste/recyclable materials like cardboard boxes, paper cups, straws. Foil, etc. Label the rocket parts: nose cone, fins, engine, etc. Make a small astronaut inside the rocket and give it a name (maybe your own), Be creative. Use paints and decorative materials.

The links for making the model are:

https://youtu.be/g4YshPrtp4o?si=4AhgWG-jgy76NPpm

https://youtu.be/eTKM8wj9aLE?si=tO-ijfenvsXoF-gi

B. With the above information given and a little research on your own answer the following questions:

a) Apart from rockets and space suits, many things we use in our homes today were invented for space! Can you find and name **any three** such technologies? How do they help us in daily life?
b) We know that astronauts can see things explode in space, but they cannot hear the sound. Why is no sound heard in space?
c) Imagine that you are an ex-student of Lakshmipat Singhania Academy and you are currently working as a NASA scientist. How would you encourage/motivate the students of your school to develop interest and curiosity about space? Mention **any 2** ways.

LEARNING OUTCOME:

At the end of the project students:

- Should have understood the importance of space exploration and how it helps science and human progress.
- Should have identified key facts about space, astronauts, spacecraft, and shown curiosity about the universe.
- Should have connected real-life astronaut experiences with their classroom learning.
- Should have expressed creativity through model making and imaginative writing.
- Should have strengthened their observation, problem-solving, and critical thinking skills.
- Should have integrated concepts from Art, Science, and Language meaningfully through the project.

VIDEO LINKS for Research

- https://youtu.be/IagxIpCvMl4?si=tHShKPNKnNcJ5Nf4
- https://youtu.be/X0VFZUACBSI?si=UDRvqioyLPJ3y6E2
- https://youtu.be/1iSR3Yw6FXo?si=k2xVoaOHY5D1f9em
- https://youtu.be/XkM_04Ch76E?si=zcikdRvv7fZbn3XO

Name: _____ Sec: _____ IV/UT1/EVS/2025-26

RUBRICS

EVS 4 – OPEN BOOK PROJECT – UT1 (2025-2026)

	4	3	2	1
Content - Accuracy and understanding of the theme	Demonstrates a clear understanding of the theme. The content is concise and accurate.	Demonstrates an adequate understanding of the theme. The content is adequately concise and accurate.	Demonstrates limited understanding of the theme. The content is somewhat accurate.	Demonstrates no understanding of the theme. The content lacks accuracy.
Creativity and Originality - Art integration	The submission reflects originality and is exceptionally creative and well-integrated with Art.	The submission reflects originality to some extent and is adequately creative and integrated with Art.	The submission is somewhat creative and displays little integration with Art. Shows little originality.	The submission lacks creativity and integration with Art. Originality is lacking.
Research Work - Use of technology and media (links provided)	Accessed suggested media and employed technology exceptionally for research work.	Accessed suggested media and employed technology adequately for research work.	Suggested media was somewhat accessed. Research work was inadequate.	Suggested media was not accessed at all. Research work is lacking.
Guidelines followed – with timely submission	Guidelines have been strictly followed. The project was submitted on time.	Most of the instructions have been followed. The project was submitted on time.	Followed very few guidelines. The project was submitted beyond time.	Guidelines have not been followed. The project was submitted beyond time.
Overall Presentation – Layout of the project and oral presentation	Presentation is exceptionally attractive and informative, with clear, engaging visuals and oral explanations.	Presentation is visually appealing and mostly clear, with good use of visuals and oral presentation.	Presentation is somewhat clear, but lacks polish or cohesive visuals. Oral presentation was adequate.	Presentation lacks clarity and visuals. Oral presentation was inadequate.

Name:_____ Sec:_____ Roll No.:_____ IV/UNIT TEST 1/SSC/2025-26

SUBJECT – SOCIAL SCIENCE

CLASS – IV **FULL MARKS – 20**

Instructions:

- The project comprises research work, preparing a booklet, map pointing and badge-making.
- Read the instructions carefully and research using the links provided.
- Refer to the internet to gather information but write the matter in your own words and be creative.
- Stick relevant and colourful pictures downloaded from the internet.
- Make sure your project is neat, creative, and interesting.
- It is an individual work.

Theme: SPACE EXPLORATION

LEARNING OBJECTIVES:

After the completion of the project students will be able to -

- Learn about the history of space exploration
- Develop an insight about the notable achievements of various space research organisations across the globe
- Learn about the location of these space research organisations
- Apply critical thinking and creative skills

SPACE TRAILS AND TALES

Space, also known as outer space, is a region beyond our atmosphere. It is a vast, largely empty vacuum filled with planets, stars, and galaxies. It is important to learn about the various space research organizations stationed in various parts of the world which over human history have conducted a number of missions and expeditions to explore space, including the planets, stars, galaxies, and everything in between. Their notable achievements have not only enriched our knowledge of the unknown but significantly aroused our curiosity to know more. Such space research organisations have also set up their respective Students' Wing to encourage young minds to participate in such great ventures.

WHAT DO YOU NEED TO DO

1) **Design a booklet comprising the notable achievements of the important Space Research Organisations in any four countries across the globe. It should be based on your research under the following sub-topics. Use coloured A4 size papers and staple them together.**
   - Name four countries where any four important space research organisations are located.
   - Draw and colour the National Flags of these four countries.
   - Name the space research organisations located in each of these countries. (one organisation per country).
   - Mention the major achievements of these four organisations in 3 to 4 sentences. (one achievement per organisation).
   - Attach relevant pictures of those notable achievements.
2) **Atlas Ventures: Using your Atlas, try to-**
   - Locate these four countries which have the important Space Research Organisations on the World Map.
   - On a blank map of the World, mark these four countries and shade the areas using four different colours.
   - Attach the map to the last page of the booklet.
3) **Let's be creative:**
   - Imagine that the students of Lakshmipat Singhania Academy have been invited to join the Students' Wing of ISRO for their latest space expedition to the moon.
   - Prepare a Mission Badge which is relevant for this programme.
   - Design a logo and write a brief motto.
     (You may watch the video to know how to make badge easily. The link has been provided.)

USEFUL LINKS FOR RESEARCH WORK

- https://www.planetary.org/space-agencies
- https://timesofindia.indiatimes.com/etimes/trending/top-10-space-agencies-in-the-world/photostory/114155560.cms
- https://youtu.be/6pFOj8pRMEM?si=-pnR4F_tkpCI-kgo

LEARNING OUTCOME:

After the completion of the project students were able to-

- Learn about the history of space exploration
- Develop an insight about the notable achievements of various space research organizations across the globe
- Learn about the location of these space research organizations
- Apply critical thinking and creative skill

Name:_____ Sec:_____ Roll No.:_____ IV/UNIT TEST 1/SSC/2025-26

RUBRIC:

CATEGORY	4	3	2	1
Content - Accuracy and understanding of the theme	Demonstrates a clear understanding of the theme. The content is concise and accurate.	Demonstrates an adequate understanding of the theme. The content is adequately concise and accurate.	Demonstrates limited understanding of the theme. The content is partially accurate.	Demonstrates very little understanding of the theme. The content lacks accuracy.
Creativity and Originality - Art integration	The submission reflects originality and is exceptionally creative and well- integrated with Art.	The submission reflects originality to some extent and is adequately creative and integrated with Art.	The submission is average in its creative appeal and originality. Displays little integration with Art.	The submission lacks creativity, originality and integration with Art.
Guidelines followed with timely submission	Guidelines have been strictly followed. The project was submitted on time.	Most of the instructions have been followed. The project was submitted on time.	Followed very few guidelines. The project was submitted beyond the stipulated timeframe.	Guidelines have not been followed. The project was submitted way beyond the stipulated timeframe.
Skill- Map Pointing	Map pointing is done very neatly and accurately. The map is supported by a correct key.	Map pointing is done neatly and correctly. The map is supported by a correct key.	Map pointing lacks accuracy and neatness. The map is supported by a key. .	Map pointing is done in an untidy way and lacks accuracy. The map is partly or not supported by a key.
Overall Presentation and Neatness	Exceptionally neat in presentation and the layout of the project is par excellence.	Neatly presented and the layout of the project is remarkably done.	Somewhat neat in the overall presentation and the layout of the project.	Untidy presentation and lacks proper layout of the project.

Class: IV **Subject: Computer Education** **Full Marks: 10**

Project topic: Space Exploration

General instructions:-

1. Use a bordered A4 size Fabriano paper to complete your project.
2. Follow the instructions given below to prepare the project.
3. Write your name, class and section clearly at the top of the Fabriano paper.
4. It is an individual project.
5. Submit the single Fabriano paper to your CE Teacher during the scheduled CE period as per the submission day.

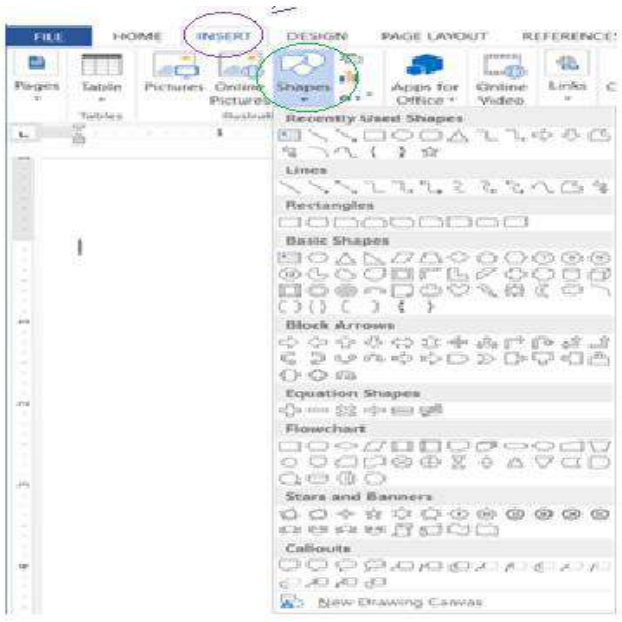
Learning Objective

1. Identify key Indian astronauts and their contributions to space exploration.
2. Present information creatively using shapes and text boxes present in MS Word.
3. Understand the importance of space missions in India's scientific journey.
4. Develop independent research and presentation skills.

Introduction

India's journey into space has been remarkable, thanks to the brave astronauts who have dared to go beyond the Earth. From Rakesh Sharma, the first Indian in space, to,Sirisha Badla the third Indian origin woman to travel to space. These heroes have inspired millions.

In this project, **you will become a space storyteller**. Your mission is to create a tribute page for our Indian space heroes using shapes of MS Word 2016, images, and creativity!



Shapes in MS Word 2016: These are available under the insert tab and shapes option and are used to enhance visual appeal, organize information, and highlight key points in a document. They can be used to create drawings, add visual interest, and wrap text within a container.

To Do :

1. Add a **title** and **decorative border** using shapes.
2. Identify any 2 shapes which represents a space object (star / rocket / planets).

   Cut out the shapes and paste them on the A4 size Fabriano paper.

3. Choose the faces of **any 2 astronauts, print, cut out the face and then stick.** (Rakesh Sharma/ Shubhanshu Shukla/ Kalpana Chawla / Raja Chari or any Vyommitra).
4. Paste their faces inside the shapes that you have pasted.
5. Write **their names**, **one achievement and a fun fact (**eg Who is Vyommitra?, Who said " our dreams are our possibilities"?, Who spent over 300 days in space? etc.).
6. Use **creative formatting** (colors, borders, etc.)

Learning Outcome:

Student will be able to:

1. Know about the key Indian astronauts and their contributions to space exploration
2. Use shapes to present information creatively.
3. Understand the importance of space missions in India's scientific journey.
4. Research some fun facts about Indian astronauts.

Resources:-

https://www.hsfc.gov.in/AstronautCorner?lang=en

https://www.financialexpress.com/life/lifestyle-from-sunita-williams-to-kalpana-chalwa-heres-a-list-of-people-from-indian-origin-who-have-been-to-space-till-date-3228802/

Rubrics:-

Criteria	2.5	1.5	1
Research and Accuracy	Information is well-researched and accurate	Mostly accurate	Some errors in facts
Creativity and design	Highly creative use of shapes and design	Good use of design elements	Some creative effort shown
Use of different shapes in MS Word	Different shapes used effectively	different shapes used	Unclear shapes used
Overall Presentation	Neatly written with excellent layout,	Mostly clear with Good layout	Unclear writing with average layout