GRADE 4 | LEARNING LANDSCAPE 2020-21

BERLIN METROPOLITAN SCHOOL

G4	WHO WE ARE	SHARING THE PLANET	HOW WE EXPRESS OURSELVES	HOW WE ORGANIZE OURSELVES	HOW THE WORLD WORKS	WHERE WE ARE IN PLACE AND TIME
Description	An inquiry into the nature of the self; beliefs and values; personal, physical, mental, social and spiritual health; human relationships, including families, friends, communities and cultures; rights and responsibilities; what it means to be human	An inquiry into rights and responsibilities in the struggle to share finite resources with other people and with other living things; communities and the relationships within and between them; access to equal opportunities; peace and conflict resolution.	An inquiry into orientation in place and time; personal histories; homes and journeys; the discoveries, explorations, and migrations of humankind; the relationships between, and the interconnectedness of, individuals and civilizations, from local and global perspectives.	An inquiry into the interconnectedness of human-made systems and communities; the structure and function of organizations; societal decision-making; economic activities and their impact on humankind and the environment.	An inquiry into the natural world and its laws; the interaction between the natural world (physical and biological) and human societies; how humans use their understanding of scientific principles; the impact of scientific and technological advances on society and on the environment.	An inquiry into orientation in place and time; personal histories; homes and journeys; the discoveries, explorations and migrations of humankind; the relationships between, and the interconnectedness of, individuals and civilizations, from local and global perspectives.
Timeline	August – October break	October break - December	January – February break	February break – end March	April - end May	June
Central idea	Beliefs and values offer explanations about the world around us and what it means to be human.	Energy may be converted and used to support sustainable life on Earth.	Creative endeavors can help develop and express a sense of self.	The process of designing, creating, and evaluating may be enhanced using technology.	Inventions are designed using materials that serve a particular purpose.	Perspectives of historical events are shaped through personal experience and knowledge.
Conceptual lenses	Perspective Values Beliefs Symbolism	Change Responsibility Process Sustainability	Causation Creativity Culture	Connection Causation Innovation	Form meets function Design innovation	Perspective Truth Subjectivity Pattern
Approaches to Learning & Learner Profile	Social Open-minded	Research Principled	Self-management Communicator Risk taker	Communication Inquirer Thinker	Creative Thinking Knowledgeable Reflective	Critical thinking Caring

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Personal Social Education	**Identity** – understanding ourselves helps us to understand and empathize with others – a person's identity evolves because of cultural influences – self-efficacy – influences the way people feel, think, and motivate themselves, and behave	**Active Living** – attention to technique and regular – practice can improve the effectiveness – of our movements	**Identity** – creative problem solving – reflecting on the strategies we use to – manage change and face challenges, – helps us to develop new strategies to – cope with adversity – (puberty unit) **Interactions**: – creative solutions – behavior can be modified by applying – deliberate strategies.	**Interactions** communities and societies have their own norms, rules, and regulations	**Identity** – explain how self-talk can influence behavior – explain how personal approaches to learning motivates themselves intrinsically and to behave with belief in themselves	**Interactions** – individuals can extend and challenge – their current understanding by – engaging with the ideas and – perspectives of others. – reflect on the perspectives and ideas of others **Identity** – accept and appreciate the diversity of cultures, experiences – and perspectives of others – identify causal relationships and – understand how they impact on the experience of individuals and groups

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Science	**The nature of science** evidence, reasoning, and bias **Living things:** distinguish between inherited and non-inherited characteristics	**Forces and energy** − identify different energy sources − name and compare different methods of energy transformation − identify and describe ways of reducing wasted energy − understand that some materials found naturally on Earth contain energy that can be converted − represent an electrical circuit using symbols and describe the transfer of energy around the circuit − combine simple components in a series circuit to make a game or model	**Creativity in science** − science is an adventure that people everywhere can take part in, as they have for many centuries − consider scientific models and applications of these models (including their limitations) **Living things** Understand the reproductive system (German mini unit)	**Technological advances** − recognize that people may not be able to make or do everything that they can design − understand that the solution to one problem may create other problems − when trying to build something or to get something to work better, it usually helps to follow directions if there are any or to ask someone who has done it before for suggestions	**Materials and matter** − Explore properties and uses of materials - investigate the ways − materials can be changed to suit purpose **Earth and space** understand that some of Earth's resources are limited and can give examples **Technology** − tools and inventions are used to do things better or more easily and to do some things that could not otherwise be done at all − recognize there is no perfect design - designs that are best in one respect may be inferior in other ways − accept that even a good design may fail - sometimes steps can be taken ahead of time to reduce the likelihood of failure, but it cannot always be eliminated	**The nature of science** scientists' explanations about what happens in the world come partly from what they observe, partly from what they think

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Social studies	**Social organization and culture:** − describe how communities can be formed based on common beliefs − identify different stereotypes and understands how these can lead to misunderstandings **Continuity and change through time** − explain why people commemorate significant events from the past − explore 5 systems of religion from around the world	**Resources and the environment** understand that energy use has an impact on the Earth's atmosphere	**Social organization and culture** − describe ways in which people may express their identity through their appearance − explain how a person's behavior can influence others' views of them	**Continuity and change through time** suggest reasons why people innovate and what processes may be involved	**Human systems and economic activities** pose solutions to challenges that are present in the local community **Social organization and culture** − describe how communities work together to solve challenges − offer solutions for identified communal problems **Resources and the environment** − What are some consequences of materials chosen? − What is the sustainability of different materials? (social studies meet science)	**Continuity and change through time** − explain why people commemorate significant events from the past − identify similarities and differences in the ways events have been commemorated in the past and are today **Social organization and culture** − give some examples of significant events − describe a significant event from more than one perspective − compare the validity of statements from a variety of different sources

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Mathematics (within the Programme Of Inquiry)	Students discuss the beliefs and values of different mathematicians. Students use these discussions to reflect on their own mathematical mindset. Students set aspirations about their own approach to math learning for the year.	Students inquire into graphs and tables about electricity. They compare different sources of energy and the consumption of energy in different locations around the world. Students use this connection to see how data can be represented and analyzed in various formats. **Data Handling:** − study ways to collect, organize, display, and analyze data − interpret and draw conclusions from different graphs and tables	Students explore creativity in mathematics. They look at the role of individual numbers – specifically inquiring into the role of 0. They also study creativity in math as represented in patterns. In learning division skills, students explore creativity through story problems. **Pattern and Function:** − make predictions related to repeating geometric and numeric patterns − document patterns in function tables − extend and create patterns with a single constant addition, subtraction, or multiplication change	Students explore different methods for expressing mathematical concepts through technology. Students use coding to measure angles and explore the qualities of shapes. The bots also allow students to explore coordinates and mapping. **Shape and Space:** identify, classify, measure, and compare angles and quadrilaterals **Number:** − mapping and the coordinate plane − binary * coding − Bee Bot programming **Measurement:** measure and construct angles	Students explore mathematical tools while creating their innovative designs. They apply the measuring skills such as calculating perimeter and an area of their designs. They use mathematical tools to measure designs and convert between measuring units when appropriate. **Measurement:** − perimeter and area of quadrilaterals using standard calculation − estimate, measure and draw lines to millimeters − convert linear measurements through a one-step conversion (ex. mm to cm) − know order of standard linear measurements	Students explore timelines to investigate different representations of time and the scale of historic events. Students create a timeline of their own life – documenting their experiences and the experiences of their relatives. **Measurement:** − estimate, measure and tell time to the minute − solve problems involving elapsed time to the nearest 5-minute interval − solve problems involving the relationship between years and decades, and between decades and centuries − chronology
Mathematics (outside the Programme of Inquiry)	**Shape and Space:** − line types, symmetry, congruency, and tessellations of two-dimensional shapes − study of 3-Dimensional Shapes		**Measurement:** mass and volume			**Data Handling:** − predict and record outcomes in probability experiments – documenting results in fraction form − interpret likelihood of events as certain, likely, unlikely, or impossible

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Number	− place value of whole numbers to hundred-thousands − compare, order and round whole numbers to hundred-thousands − addition: written strategies to hundred-thousands − subtraction: written strategies to hundred-thousands − multiplication – apply mental math strategies of numbers to 12 (yearlong focus)	− multiplication - mental math strategies − written multiplication strategies for one digit by three digits (area model, box and window, breaking apart)	− division – mental math strategies − written division strategies for single digit divisor problems into hundreds (area model, partial quotient, short division) − represent remainder results as rounding off or leftovers − use inverse operations to check the accuracy of division quotients − interpret and solve word problems in all four number operations	− understand the function of both the numerator and the denominator in a fraction − convert between mixed numbers and improper fractions − add and subtract fractions with like denominators − compare fractions with unlike denominators using an efficient multiplication strategy − reduce fractions to their simplest form	− place value of decimal numbers to tenths − skip count decimal numbers − compare and order decimal numbers to tenths − convert between decimals, percentages and fractions to tenths	− operations review: Interpret and solve word problems in all four number operations

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Language Genre German and English	NONFICTION and REPORTS **Conceptual Understandings** – What we already know enables us to understand what we read. – Knowing what we aim to achieve helps us to select useful reference material. **Reading** NONFICTION FOR RESEARCH – read informational texts in order to locate specific information, gain a better understanding of the world, understand different perspectives and points of view and to find good models for writing **Writing** INFORMATION REPORTS The Art of Information Writing – research and write information reports about topics of personal interest and beliefs and values. – learn to use a range of structures to organize texts, including similarities and differences, cause and effect, problems and	NONFICTION and ARGUMENTATION **Conceptual Understandings** – The structure and organization of written language influences and conveys meaning. – Identifying the main ideas in the text helps us to understand what is important. **Reading** INFORMATIONAL NONFICTION – read informational texts in order to locate specific in-formation about sustainable energy, understand new concepts, expand vocabulary, seek answers to problems, understand different perspectives and points of view, and find good models for writing. **Writing** PERSUASIVE ARGUMENTATION Changing the World: Persuasive Speeches, Petitions, and Editorials – gather and organize information to persuade	TRADITIONAL TALES & LITERATURE **Conceptual Understandings** – When writing, the words we choose and how we choose to use them enable us to share our imaginings and ideas. – Traditional literature fosters the interconnectedness of, individuals and civilizations, from local and global perspective. **Reading** TRADITIONAL LITERATURE (fairytales, fables and narratives) – read fairytales and alternative versions of fairytales to appreciate narrative as a form of creative expression, expand imagination, understand different cultures, understand different perspectives and points of view, and to find good models for writing. **Writing** NARRATIVE FICTION Adapting and Writing Fairy Tales	PROCEDURAL GUIDES & TEXTS **Conceptual Understandings** – Checking, rereading and correcting our own reading as we go enable us to read new and more complex texts – We write in different ways for different purposes. **Reading** PROCEDURAL TEXTS – read procedural texts in order to seek answers to problems, learn how to perform a task – explore types of media and various communication channels that provide procedures and information **Speaking and Listening** – explore how gestures and non-verbal communica-tion impact communication **Writing** **Procedures and Guides** – plan and create a procedural guide for creation of their design project that includes	SCIENTIFIC TEXTS AND LAB REPORTS **Conceptual Understandings** – The structure of different types of texts includes identifiable features. – Different types of texts serve different purposes. **Reading** – read and explore examples of scientific experiments and instructions in order to: learn how to perform a task, understand new concepts, expand vocabulary, and satisfy curiosity **Writing** LAB REPORT record experiments they undertake while working on their invention project, including features such as: hypothesis, procedures, results and conclusions	HISTORICAL GENRES and PERSONAL NARRATIVE **Conceptual Understandings** – Wondering about texts and asking questions helps us to understand the meaning. – Thinking about storybook characters and people in real life helps us to develop characters in our own stories. **Reading** **Historical Genres** – read about historical events considering different perspectives through a variety of genres including personal recounts in journals, diaries, biographies, interviews, film and realistic fiction **Writing** NARRATIVE Crafting True Stories – students will write small moment stories based on personal experiences, capturing the essence of documentation through story telling

	solutions, and pros and cons. **Viewing and Presenting:** prepare an informational eBook/poster on an unfamiliar world religion **Speaking and Listening** present description of a religious artifact to an audience	people about an aspect of sustainable energy **Speaking and Listening** − use persuasive language to debate for change with evidence to support arguments − prepare an oral presentation to deliver to the class about their chosen energy topic	− write stories based on a fairytale and the features of fairytales. − use creativity to adapt a fairy tale to help develop and express a sense of self and purposeful messaging	progressive steps, photographs and visual information to guide the reader. − Design and create infographics and posters about internet safety/cyber mobbing	

| German and English Language outside the Programme of Inquiry | **Conceptual Understandings:**
− Rereading and editing our own writing enables us to express what we want to say more clearly.
− The structure and organization of written language influences and conveys meaning.
− The grammatical structures of a language enable members of a language community to communicate with each other. | | | | |

| German outside the POI | **German Language Use & Conventions**
Yearlong Progressions:
− use word walls, dictionaries, and thesauri to expand academic vocabulary and spell words correctly
− become familiar with and memorize standard German spelling conventions
− understand and apply increasingly complex German language conventions and grammar | | | **Traffic Education (German Stand Alone) Unit**
− understand traffic rules, traffic signs and general bicycle safety
− pass theoretical written bike and traffic safety test (in-class)
− pass practical bicycle safety test (traffic school) | **German Language Use & Conventions**
(yearlong goals continued) |

| | **English Language Use & Conventions**
Yearlong Progressions:
− English spelling & word study groups
− use academic language word walls, dictionaries, and thesauri to expand vocabulary and spell new words
− understand and apply increasingly complex English language conventions | | | | |

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Arts within the Programme of Inquiry	**Visual Arts** create portraiture in connection to drama monologues (developing personal convictions) **Drama** write ~~Self-written~~ monologues on a subject they feel strongly about (like or dislike) developing personal convictions	**Visual Arts** explore the concept of sustainability through creating urban gardening elements **Music** — Recognize sound as a form of energy — develop an understanding of copyright in music and the need for responsible use	**Visual Arts** — respond to a prompt in an individual way and explain thinking — develop planning and problem-solving skills to reach an independent goal **Music** identify how patterns and structures in music contribute to a composition; explore form, structure & style **Drama** — engage in the creative process to plan and perform a collaborative short play — develop problem solving skills and identify strategies as part of the creative process	**Visual Arts** explore how the development and invention of materials has changed the artistic approach (using natural materials as a starting point)	**Visual Arts** design marionettes or puppets for a particular function or purpose **Music** develop reflective thinking skills **Drama** apply creative thinking skills to planning performances	**Visual Arts** inquire into the history of art; discuss and explore different periods of art and the artists in those times **Music** use Music Passports to explore and develop perspective on popular and contemporary music from around the world **Drama** inquire into Bauhaus and how it connected all aspects of art (Gesamtkunstwerk) form, shape and movement
Arts outside the Programme of Inquiry	**Visual Arts** explore lettering and collage techniques **Music** — develop musical knowledge and understanding through the year-long music theory unit — use musical vocabulary appropriately **Drama** — create simple written monologues — explore and develop monologue presentation skills — develop a full monologue performance independently	**Music** — develop musical knowledge and understanding through the year-long music theory unit **Drama** — develop collaboration skills as part of drama group work — demonstrate responsibility within a team		**Music** — develop musical knowledge and understanding through the year-long music theory unit **Drama** — develop miming skills and comedic techniques, using props appropriately	**Visual Arts** Plan and execute a moving artistic object **Music** — explore drumming techniques focusing on improvisation, call and response **Drama** — create stories and scenes through freeze frames — develop creative thinking skills	

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Physical Education within the Programme of Inquiry	**Games** recognize the history, evolution and importance of rules and how they define the nature of a game	**Individual pursuits** understand development of basic motor skills and the body's capacity for movement **Gymnastics:** − study athletes' bodies, muscles, movement − explore forces, body energy, movement - vaulting/springboards − kinetic & potential energy	**Movement composition** explore how complexity and style add aesthetic value to a performance	**Adventure challenge** work through problem solving as teams and recognize the value of the group	**Games** explore inventions and technology for improvement in sport	**Games** recognize a high level of achievement and how to improve a performance
Physical Education outside the Programme of Inquiry	understand and establish safety agreements					**Health related fitness** Track and Field- show basic motor skills (jumping, running, and throwing) demonstrate coordination and manipulation with and without objects while playing games