**Grant Scheme on Promoting Effective English Language Learning in Primary Schools (PEEGS)**
**School-based Implementation Plan**

**School Name: <u>SKH Lui Ming Choi Memorial Primary School</u> (English)**

**Application No.: D <u>063</u> (for official use)**

**(A)  General information:**

1.  No. of English Language teachers in the regular staff establishment (excluding the Native-speaking English Teacher): <u>14</u>

2.  No. of approved classes in the 2020/21 school year:

|  | **P.1** | **P.2** | **P.3** | **P.4** | **P.5** | **P.6** | **Total** |
|---|---|---|---|---|---|---|---|
| No. of approved classes | 4 | 4 | 4 | 4 | 4 | 4 | 24 |

3.  No. of operating classes in the 2020/21 school year: (if different from the number of approved classes)

|  | **P.1** | **P.2** | **P.3** | **P.4** | **P.5** | **P.6** | **Total** |
|---|---|---|---|---|---|---|---|
| No. of operating classes | -- | -- | -- | -- | -- | -- | -- |

4.  Programmes/projects implemented or support service(s) in relation to English Language curriculum received in the past five years:

| **Name of programme/project/ support service** | **Grade level** | **Focus of programme/project/ support service** | **External support (if any)** |
|---|---|---|---|
| Develop school-based KS1 English curriculum | P1-3 | Reading and writing skills | School-based Curriculum Development (Primary) Section, Education Bureau |

**(B) SWOT Analysis related to the learning and teaching of English:**

| Strengths | Opportunities |
|---|---|
| 1. A supportive school head and a team of diligent and forward-thinking teachers with curriculum leadership potentials<br>2. A collaborative and sharing culture developed through co-planning practices | 1. With additional financial support from the IMC, the PEEGS provision empowers the school with flexibility and autonomy in terms of human resources for better curriculum planning.<br>2. Curriculum adaptation enhances the teaching of reading, speaking, listening and writing. |
| **Weaknesses** | **Threats** |
| 1. Given the lack of family support, students do not have enough exposure to English outside class time.<br>2. A regular reading habit has not been developed among students.<br>3. An apparent diversity exists in the writing classroom. | 1. Some students are not motivated readers.<br>2. Competitive primary schools in the neighbourhood |

**(C) Measures taken through the grant under the English Enhancement Grant Scheme for Primary Schools, if any:**

| Areas of Development | Usages of the grant | Grade Level |
|---|---|---|
| 1. To develop a KS1 synthetic phonics-based literacy programme | ● Procurement of professional services<br>● Purchase of printed books<br>● Employment of an ELTA | P1-3 |
| 2. To develop a differentiated reading programme | | P1-6 |

**(D) Focus(es) of the school's proposed school-based English Language curriculum initiative(s) to be funded under PEEGS**

| Proposed target area(s) of development (Please ☑ the appropriate box(es) below) | Proposed usage(s) of the Grant (Please ☑ the appropriate box(es) below) | Time scale (Please ☑ the appropriate box(es) below) | Grade level (Please ☑ the appropriate box(es) below) |
|---|---|---|---|
| ☑ Enrich the English language environment in school through<br>- conducting more English language activities*; and/or<br>- ~~developing more quality English language learning resources for students~~*<br>*(\*Please delete as appropriate)*<br><br>☑ Promote reading* ~~or literacy~~* across the curriculum in respect of the updated English Language Curriculum (Primary) under "Ongoing Renewal of the School Curriculum – Focusing, Deepening and Sustaining"<br>**(\*Please delete as appropriate)**<br><br>☐ Enhance e-learning in respect of the updated English Language Curriculum (Primary) under "Ongoing Renewal of the School Curriculum – Focusing, Deepening and Sustaining"<br><br>☑ Cater for learner diversity with equal emphasis on more able and less able students in respect of the updated English Language Curriculum (Primary) under "Ongoing Renewal of the School Curriculum – Focusing, Deepening and Sustaining"<br><br>☐ Strengthen assessment literacy in respect of the updated English Language Curriculum (Primary) under "Ongoing Renewal of the School Curriculum – Focusing, Deepening and Sustaining" | ☐ Purchase learning and teaching resources<br><br>☑ Employ a full-time* ~~or part-time~~* teacher<br>*(\*Please delete as appropriate)*<br><br>☐ Employ full-time* or part-time* teaching assistant<br>*(\*Please delete as appropriate)*<br><br>☐ Procure service for conducting English language activities | ☑ 2020/21 school year<br><br>☐ 2021/22 school year | ☑ P.1<br>☑ P.2<br>☑ P.3<br>☑ P.4<br>☑ P.5<br>☐ P.6 |

**(E)  How to implement the proposed school-based English Language curriculum initiative(s) funded by PEEGS?**

| Proposed school-based English Language curriculum initiative(s) | Grade level | Time scale (month/ year) | Expected outcomes/ Deliverables/ Success criteria | Sustainability | Methods of progress-monitoring and evaluation |
|---|---|---|---|---|---|
| Hiring a full-time English-proficient teacher who will collaborate with the core team in developing:<br>✧ a refined KS1 writing programme to cater for learner diversity with equal emphasis on more able and less able students in respect of the updated English Language Curriculum (Primary) under "Ongoing Renewal of the School Curriculum - Focusing, Deepening and Sustaining"; and<br>✧ a P4-5 gifted STEM programme to enrich the English language environment and promote reading across the curriculum in school | | | | | |
| **Objectives**<br><br>● A full-time English-proficient teacher will be hired with the additional grant and he / she will collaborate with the core team in refining the existing writing curriculum to:<br><br>**The KS1 Refined Writing Programme**<br>✧ cater for diverse needs of learners who are different in terms of motivation, learning styles, preferences and abilities through effective curriculum planning and appropriate differentiation strategies;<br>✧ deepen and widen students' learning of English Language by providing opportunities for the integrative use of the target skills through meaningful tasks in English Language lessons; and<br>✧ broaden teachers' repertoire of teaching strategies to suit students' distinct aptitudes.<br><br>**The P4-5 STEM Programme**<br><br>Supported by the additional teacher, the English Language panel will launch a STEM programme for gifted students to:<br>✧ nurture gifted students in STEM areas through creative activities, experiments and inventions<br>✧ develop their lifelong learning skills;<br>✧ improve their cross-curricular literacy skills; | P1-3 | Module 1<br>Planning<br>09/2020<br>Implementation<br>10/2020<br>Evaluation<br>11/2020<br><br>Module 2<br>Planning<br>11/2020<br>Implementation<br>12/2020<br>Evaluation<br>01/2021<br><br>Module 3<br>Planning<br>02/2021<br>Implementation<br>03-04/2021<br>Evaluation<br>05/2021<br><br>Programme review<br>06/2021 | 9 sets of learning and teaching materials covering a total of 54 lessons will be developed.<br><br>60% of more able students will make improvements in summative assessments.<br><br>60% of less able students will make improvements in summative assessments.<br><br>70% of students agree that the writing programme has improved their writing skills.<br><br>90% of target level teachers agree that the programme has helped narrow the achievement gap. | The module plans developed will be adopted for these 3 levels in the succeeding academic years.<br><br>Professional enhancement of teachers experience sharing in panel meetings<br><br>Experience of curriculum development gained by core team will help teachers of other levels for future KS2 planning. | Co-planning meetings will be recorded.<br><br>Formative tasks will be designed and students' work will be reviewed to monitor and evaluate students' progress of learning.<br><br>Summative assessment results will be analysed at the end of each school term to track students' progress.<br><br>The Learning Progression Framework will be referenced to while analysing students' work.<br><br>Teachers' and students' feedback |

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| ✧ strengthen their ability to integrate and apply knowledge and skills across disciplines; <br><br> ✧ nurture their creativity, collaboration and problem solving skills; and <br><br> ✧ enhance teachers' professional capacity in designing, implementing and reviewing cross-curricular literacy programmes. <br><br> **The core team** <br><br> **The KS1 Refined Writing Programme** <br><br> ● A core team comprised of the English Language panel chairs (EPC) and KS1 level coordinators will be set up for the refinement of the writing programme. They will work closely with the additional teacher hired under the Scheme in: <br><br> ✧ refining the writing curriculum structure; <br><br> ✧ formulating the skill progression framework making reference to the Learning Progression Framework developed by the Education Bureau; <br><br> ✧ creating and selecting teaching methods, learning activities, and instructional materials that are appropriate for the students and aligned with the goals for writing lessons; <br><br> ✧ collecting teachers' feedback on the newly-developed lesson materials in the bi-weekly co-planning meetings; <br><br> ✧ delivering the weekly writing lessons; <br><br> ✧ reviewing lesson outcomes and students' | | Professional sharing sessions 07/2021 <br><br> Programme refinement 08/2021 | 90% of level teachers will develop a better understanding of effective strategies to cater for learning diversity in the writing classrooms. | | will be collected through questionnaires. |

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|---|---|---|---|---|---|
| performance through lesson observation every term; | | | | | |
| ✧ measuring the programme effectiveness through various means; | | | | | |
| ✧ disseminating effective differentiation strategies to KS2 teachers in professional sharing sessions; | | | | | |
| ✧ updating the programme to meet the evolving learning demands of students. | | | | | |
| **The P4-5 STEM Programme** | | | | | |
| ● The EPCs, P4-5 level coordinators and the additional teacher will spearhead the development of the captioned programme. Their duties include: | | | | | |
| ✧ devising the programme structure; | | | | | |
| ✧ designing teaching methods, learning activities, and instructional materials that are appropriate for the students and aligned with the programme goals; | | | | | |
| ✧ delivering the programme during the weekly ECA lessons; | | | | | |
| ✧ arranging lesson observation for non-target-level teachers; | | | | | |
| ✧ gauging the programme effectiveness through observation of students' performance and assessment of the final products; | | | | | |
| ✧ reporting programme progress and collecting teachers' feedback in the end-of-term panel meetings. | | | | | |
| ✧ The General Studies panel will provide the core team with curriculum and content support through: | | | | | |
| - sitting in the programme preparation and review meetings; | | | | | |

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|---|---|---|---|---|---|
| - observing lessons at least once during the project year; and <br><br> - co-assessing students' work with the core team; and <br><br> - making suggestions on programme refinement for sustainable implementation. <br><br> **For both initiatives** <br><br> ● Level teachers will also be closely involved in curriculum development and implementation. <br><br> ● The EDB Native-speaking English teacher (NET) will also render professional support and give advice on implementing differentiated writing and cross-curricular literacy instructions. <br><br> **Expected qualifications and requirements of the English-proficient teacher** <br><br> ● The additional teacher is expected to be a bachelor's degree holder with: <br><br> ✧ formal language teaching qualifications (e.g. TESOL, TESL, TEFL); <br><br> ✧ native English-speaking fluency; and <br><br> ✧ preferably two years' teaching experience in primary schools. <br><br> ● His / Her duties entail: <br><br> ✧ contributing to bi-weekly co-planning meetings; <br><br> ✧ co-developing learning and teaching materials for KS1 writing lessons and STEM programme with the | | | | | |

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|---|---|---|---|---|---|
| core team; | | | | | |
| ✧ co-teaching with level teachers 24 lessons every week; | | | | | |
| ✧ co-delivering the STEM programme with the core team; | | | | | |
| ✧ analysing both qualitative and quantitative information to gauge programme effectiveness; | | | | | |
| ✧ refining the newly-developed programmes for sustainable implementation after the project period. | | | | | |
| **Implementation of the KS1 Refined Writing Programme** <br> ● The core team will focus on 3 modules, with each covering 6 lessons, for each target level.  Quality resources, multiple learning skills and multimodal texts will be exploited to develop writing skills required for Key Stage 1. <br> ● Target writing skills <br> ✧ Use basic conventions of written English such as basic sentence punctuation, capital and small letters <br> ✧ Put words in a logical order to make meaningful phrases or sentences <br> ✧ Reproduce sentences based on teacher's model <br> ✧ Provide personal ideas and information based on a model or framework provided <br> ✧ Use appropriate cohesive devices <br> ✧ Use concepts of order and time <br> ✧ Use appropriate formats and conventions of short written texts <br> ✧ Gather and share information, ideas and language by using strategies such as brainstorming, building concept maps, listing and observing <br> ✧ Express imaginative ideas with the help of cues | | | | | |

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| ✧ Use available resources such as word books<br>✧ Make changes to incorrect spelling, punctuation and grammar, and add details if necessary.<br>✧ Draft, revise and edit short written texts with teacher support | | | | | |

*Tentative modules and target text types*

**P1**

| Term | Module theme | Target text types |
|---|---|---|
| 1 | Me, my family and friends: people around the world | A personal profile |
| 2 | Using my five senses: describing people and animals | A toy/game description |
| 3 | The world around me: amazing animals and plants | A class mini-book |

**P2**

| Term | Module theme | Target text types |
|---|---|---|
| 1 | Me, my family and friends: my favourite things | A menu<br>A recount |
| 2 | Caring and sharing: being a good child | An instruction<br>A pamphlet |
| 3 | The world around us: wonderful seasons and weather | A weather report<br>A class book |

**P3**

| Term | Module theme | Target text types |
|---|---|---|
| 1 | Places and activities: activities we like | A letter |
| 2 | Using my senses: taste it | A recipe<br>A recount |
| 3 | Caring and sharing: sharing fun experiences | A class pamphlet<br>A letter |

● The following strategies are to be adopted to cater for the diversity in the writing classroom.
  ✧ Diagnostic assessments
    Apart from analysing summative assessment (examination) data, other touchpoints such as student

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| survey, in-class assessments and teacher observation are adopted to determine students' readiness and guide instructions.<br>✧ Individualised goal setting<br>Students will be involved in the process of their own progress through goal setting activities.  They may establish specific and measurable learning goals with the teacher's guidance at the outset and continue to review / reflect on their own learning throughout the module with the use of self-assessments and peer-assessment checklists<br>✧ Instructional scaffolding<br>To bridge learning gaps, teacher adopts a broad array of scaffolding strategies such as building on students' prior knowledge and skills, conducting think-pair-share activities, pre-teaching vocabulary, teacher demonstration, and providing extra think time. Instructions will also be organised around different modalities and materials such as graphic organisers, mobile games and songs will be used to create a more stimulating learning environment.<br>✧ Tiered questioning<br>Teacher vary their questioning techniques by asking students different questions (knowledge, comprehension, application, analysis, synthesis and evaluation) based on their language proficiencies and cognitive development.  Less able students are provided with more support from the teacher when attempting challenging questions.<br>✧ Flexible grouping arrangements<br>Flexible grouping encourages multiple opportunities to work with different peers in different settings in different ways (e.g. in pairs, as a class, in homogeneous or heterogeneous groups).  They get | | | | | |

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|---|---|---|---|---|---|
| the right support from their peers, exchange ideas and develop ownership of their own learning. <br> ✧ Differentiated tasks <br> Teachers will maximise the potential of students by learning about their strengths, facilitating the development of their multiple intelligences and providing differentiated tasks that match their preferences. Students will be provided with a choice of assignments (e.g. incorporating artwork into the writing assignments, performing the writing tasks through performative means) <br> ✧ Diversified assessment strategies <br> Different assessment strategies, especially assessment for and as learning, will be adopted to inform and improve learning and teaching. <br> ✧ Provision of feedback <br> Consolidation practices are designed to help students identify their strengths and weaknesses in their grasp of specific reading strategies. Teacher provides constructive and specific feedback based on students' performance in the reading tasks. <br> ● **Description of sample modules:** | | | | | |

| P3 Caring and sharing:   Sharing fun experiences | |
|---|---|
| *Task* | ✧ A letter to Santa Claus sharing about fun experiences celebrating a Chinese festival in Hong Kong |
| *Target language items* | ✧ Thematic vocabulary about festivals such as activities, food, clothing, etc. <br> ✧ Past tense <br> ✧ Adjectives describing conditions and emotions |
| *Target writing skills* | Students will be able to: <br> ✧ provide personal ideas and information based on a model or framework |

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| Proposed school-based English Language curriculum initiative(s) | | | Grade level | Time scale (month/ year) | Expected outcomes/ Deliverables/ Success criteria | Sustainability | Methods of progress-monitoring and evaluation |
|---|---|---|---|---|---|---|---|
| | provided;<br>✧ describe, express or explain ideas, feelings and experiences; and<br>✧ gather and share information, ideas and language by using strategies such as brainstorming, building concept maps, listing and observing. | | | | | | |
| *Pre-writing activities* | Objectives:<br>✧ To review and build students' knowledge of relevant vocabulary, grammar points and students' background knowledge<br>✧ To identify possible gaps and plan suitable intervention<br><br>Steps:<br>**Setting up the writing task**<br>1. Teacher starts the lesson by asking students questions about festival celebrations in Hong Kong. | | | | | | |
| | Less able (Thin questions) | ✧ *What is your favourite festival?*<br>✧ *Who do you usually celebrate it with?*<br>✧ *Where do you usually go on the festival day?*<br>✧ *What do you usually eat?* | | | | | |
| | More able (Thick questions) | ✧ *What do you like best about <u>(the festival)</u> and why?*<br>✧ *How did you last celebrate the festival?*<br>✧ *How would you tell* | | | | | |

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| *your foreigner friends about the festival?*<br><br>2. Teacher shows pictures of Santa Claus and Chinese festival celebrations in Hong Kong and sets the purpose for writing - that students are going to write a letter to Santa Claus sharing with him their fun experiences celebrating a Chinese festival.<br><br>**Brainstorming ideas**<br>1. Students brainstorm ideas they already know about Chinese festival celebrations in Hong Kong using a graphic organiser with their shoulder partners.<br>For example,<br>*All about the Chinese New Year*<br>https://go.aws/3er977l<br>2. To help students brainstorm ideas, key vocabulary items previously covered in class are reviewed with a song.<br>*Festival Songs for Kids - Chinese New Year Song*<br>https://bit.ly/2X7fUh0<br>*dragon floaters, dumplings, parade, bands, a zodiac sign, celebrate, spring, fireworks, red hues, Nian*<br>3. Students identify and put the vocabulary in the song under appropriate category in the graphic organiser.<br>4. Copies of the lyrics in print are given to the less able groups as a support. | | | | | |

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| Students can circle the key vocabulary items on the lyrics and sort them into the preset categories in the graphic organiser provided.<br>5. More able students can include vocabulary items / categories of their choice in the graphic organiser.<br>6. Groups share their graphic organisers with the class.<br>7. Flashcards with the vocabulary in the songs are created and displayed on the board for making the input more visible.<br>8. Additional vocabulary flashcards are prepared for high flyers' self-access.<br>9. To increase retention, students read aloud the vocabulary on the flashcards.<br><br>**Grammar Revision**<br>1. Individual quizzes on previously taught grammar lessons (in print or electronic format) are designed to identify the points which need remedial work.<br>Past tense<br>  ✧ Noticing and correcting common and significant mistakes<br>  ✧ Converting sentences into past tense<br>Adjectives describing conditions and emotions<br>  ✧ Forming sentences in past tense<br>2. Teacher revisits / re-teaches problem items in class as necessary. | | | | | |

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| | **Introduction of the text type features**<br>1. Teacher introduces the purpose, features and components of a personal letter.<br>2. Working in similar ability groups, students study a sample letter and identify the key features and components of a letter.<br>3. Less able groups can do so with the choice provided by teachers.<br><br>**Goal setting activities**<br>1. Students set goals with the teachers' guidance.   For example,<br><br>**Checking for myself**<br>✧ *I will share interesting information about Chinese New Year with Santa Claus.*<br>✧ *I can write the letter using the graphic organiser.*<br>✧ *I can write in complete paragraphs*<br>✧ *I can use past tense correctly.*<br>✧ *I can work well with my friends.*<br><br>2. High flyers can challenge themselves by setting more advanced goals for themselves, for example, *I can* | | | | | |
| *While writing* | **Individual writing (drafting)**<br><u>Teacher support during the writing tasks</u><br>**Less able students**<br>✧   Teacher can use a writing frame to show students how to set out their writing and remind them to include key features.<br>**More able students** | | | | | |

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| | ✦ More able students are given additional task cards and encouraged to include additional features / content in their work. | | | | | |
| *Post writing* | **Evaluation** <br>1. Students share their writing and classmates give feedback. <br>2. Students re-read the goal setting sheet to evaluate writing on their own. <br>3. Students edit and write the final draft in paragraphs and add pictures in the process writing booklet. | | | | | |
| **Implementation of the P4-5 gifted STEM programme** <br>● A gifted STEM programme will be conducted during the weekly extra-curricular activity (ECA) lessons. A total of 60 P4-5 gifted students will be involved and selection criteria are as follows: <br><br>Participating students should: <br>✦ be with proven abilities in English; and <br>✦ demonstrate a keen interest in innovation. <br><br>The programme consists of 3 rounds, with each involving 20 students and covering a total of 8 sessions per term. Each session will last for 1 hour and 20 minutes. A broad array of stimulating activities and authentic materials (such as webpages, instructional videos and manual) are adopted for developing the following skills: <table><tr><td>**Target reading skills**</td></tr><tr><td>**P4-5**</td></tr></table> ❖ Understand the information provided in different types of texts <br>❖ Recognise the format, visual elements and language features of a variety of text types | | P4-5 | Batch 1 <br>Planning <br>09/2020 <br>Implementation <br>10/2020 <br>Evaluation <br>12/2020 <br><br>Batch 2 <br>Planning <br>10/2020 <br>Implementation <br>12/2020 <br>Evaluation <br>03/2021 <br><br>Batch 3 <br>Planning <br>12/2020 <br>Implementation <br>03/2021 | 2 STEM resources packs covering a total of 16 sessions will be developed. <br><br>100% of the teachers agree that they have acquired a better understanding of conducting STEM related activities in English. <br><br>70% of the participating students will increase their interest in learning about other subjects in English. | The STEM teaching materials will be used by the school after the project period. <br><br>Lessons will be videotaped. Sharing will be done in the English Language Panel. <br><br>STEM classes will be conducted in the future school years. | Lesson plans will be kept for monitoring and evaluation. <br><br>Video recording of the lessons will be kept for monitoring and evaluation. <br><br>Feedback from teachers and students will be collected for evaluation. |

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| ❖ Predict the likely development of a topic<br>❖ Self-correct using strategies such as re-reading, asking to help<br>❖ Skim a text to obtain a general impression and the gist or main ideas<br>❖ Locate specific information by recognising simple text structures<br>❖ Work out the meaning of words and phrases by using pictorial clues, knowledge of word formation and context and the world<br>❖ Recognise the presentation of ideas through headings, paragraphing, spacing, italics, bold print and punctuation | | Evaluation 06/2021 | 70% of the participating students will agree that the course has helped enrich their their STEM knowledge. | | |

*Generic Skills*

| *Basic study skills* | *Thinking skills* | *Personal and Social skills* |
|---|---|---|
| ✧ To activate self-learning skills<br>✧ To apply mathematical skills<br>✧ To use IT skills to search for information | ✧ To stimulate creativity<br>✧ To promote critical thinking<br>✧ To build up problem solving skills | ✧ To enhance communica-tion skills through collaborative learning<br>✧ To reinforce self-manage ment skills |

● Programme outline
   ✧ A project-based approach is adopted and students will have the opportunities to explore how scientific and technological tools can be used to solve real-life challenges and problems. Learning activities include research, documentation of using engineering design processes, writing, presentation and discussion.

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| **_P4 Robotics_** | | | | | | |
| _Session_ | _Details_ | | | | | |
| 1 | **The world of robots**<br>✧ In groups, students share what they know about robots.<br>✧ They learn what makes up a robot and its real-life applications viewing the following texts.<br>Webpage<br>_10 Humanoid Robots of 2020_<br>https://bit.ly/2M5ZezW<br>YouTube video<br>_9 Most Advanced AI Robots - Humanoid & Industrial Robots_<br>https://bit.ly/2X9gGtR<br>✧ Students discuss the following questions in small groups of 4:<br>- _How can robots help human?_<br>- _Could robots be smarter than human?_<br>- _Have you ever had a robot toy?   Tell your friend about it._<br>- _Would you like to have a robot pet? Why / Why not?_<br><br>**The robot design process**<br>✧ Students are introduced to the robotics design process.<br>_The Engineering Process_<br>https://bit.ly/3d4Nvxv<br>- Research<br>- Plan<br>- Prototype<br>- Test<br>- Commercialise | | | | | |

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| **Design journal**<br>✧ Teacher gets students to create a design journal and discuss the importance of brainstorming, sketching and documenting work on challenges.<br>✧ Students should complete their journal entries and document their learning after each class.<br>✧ Students sketch and write about what they would like to have as a personal robot.<br>✧ Ideas are shared in groups.<br>✧ Home research task:<br>Students collect information about programmable robots (e.g. mBot, Ozobot and Makey Makey) and prepare a short presentation about one of them. | | | | | |
| **Introducing programmable robots**<br>✧ Students share with their peers their findings.<br>**Getting started - programming with mBot**<br>✧ Teacher introduces students to mBot, a programmable robot.<br>✧ Students are given time to read the manual, explore the software and hardware of mBot to figure out what is possible with experimentation.<br>*Getting Started: Programming with mBlock*<br>https://bit.ly/3dawGkO<br>✧ Home research task:<br>Students visit the example link of mBot and gather information about the more example programmes.<br>https://bit.ly/3dawGkO<br>(Grade level: 2) | | | | | |

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| 3-4 | **Exploring the example challenges**<br>✧ Teacher demonstrates how to set up mBot and use Scratch.<br>✧ Students explore the many different example programmes downloading applications and experimenting by seeing what the mBot does.<br>✧ Teacher presents students with a challenge e.g. transport to the playground.<br>✧ Home research task:<br>Students design a programme for the challenge. | | | | | |
| 5-7 | **Creation of my first robot**<br>✧ In groups, students share their ideas.<br>✧ They test the programme, analyse, create a prototype, evaluate and redesign. | | | | | |
| 8 | **Showcase**<br>✧ Groups present on and demonstrate their programmed activities to the class.<br>✧ Other groups share their feedback and give suggestions for improvement.<br><br>**Demonstration**<br>✧ Teacher explains how mBot is used in real life, for example, noise detection.<br>https://bit.ly/3c4ewjb | | | | | |
| | *P5 Power Generator* | | | | | |
| 1 | **Demystifying energy**<br>✧ Teacher shows pictures of wind turbines and hydro dams.  Teacher invites students to share how they generate electricity.<br>✧ Teacher can recap subject-specific concepts using a video.<br>*Kinetic and Potential Energy (clip)* | | | | | |

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| https://bit.ly/3c6QrZ1<br>✧ Key vocabulary items related to energy are introduced.<br>✧ In groups, students discuss the advantages of producing electricity from kinetic and potential energy sources<br><br>**The power generator project**<br>✧ Teacher shows how kinetic and potential energy produce energy with videos of power generators.<br>*How to Generate Electricity from Water flow || Hydropower*<br>https://bit.ly/2XAf6Ae<br>*MULTIPLE GENERATOR- how to convert kinetic energy into electrical energy*<br>https://bit.ly/36zmdwQ<br>✧ Teacher tells students that they are going to create a power generator which can produce energy from either kinetic / potential energy.   It must be:<br>-   cost-efficient;<br>-   easy to use;<br>-   suitable for homes in rural villages; and<br>-   safe.<br><br>**Design journal**<br>✧ Teacher gets students to create a design journal and discuss the importance of brainstorming, sketching and documenting work on challenges.<br>✧ Students should complete their journal entries and document their learning after | | | | | |

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| each class.<br>✧ Home research task:<br>Students create an invention process flowchart. | | | | | |
| **Introducing power generators**<br>✧ Students share with their peers their findings.<br><br>**The invention process**<br>✧ Students view a video about the invention process.<br>*The Invention Process by Invent the Summer*<br>https://www.youtube.com/watch?v=z5-kyPwLFSs<br>- Step 1 Identify a problem<br>- Step 2 Brainstorm potential solutions<br>- Step 3 Design your inventions<br>- Step 4 Build it<br>- Step 5 Test and evaluate<br>- Step 6 Resign if necessary<br>- Step 7 Share your work<br>✧ Students watch a video about the energy shortage problems in Gaza. In groups, they should discuss following:<br>- the power shortage problems faced by homes in rural villages; and<br>- design features of the power generator which can help the villagers.<br>*Gaza: Energy shortage adds to plight of residents*<br>https://bit.ly/3gu5rDU<br><br>✧ Home research task: | 2 | | | | |

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| | Students gather information about power generators and make notes in their design journal. | | | | | |
| 3 | **Design sketch**<br>✧ Groups create and present their design sketches of the power generator to the class.<br>✧ Other groups can comment and give suggestion for improvement.<br>✧ Homework research task:<br>Groups refine their sketches. | | | | | |
| 4 | **Preparation of an instructional text**<br>✧ Teacher introduces the key features of instructional text.<br>✧ Groups write an instructional text about how the power generator is created.<br>✧ Homework research task:<br>Groups prepare all necessary materials. | | | | | |
| 5-7 | **Teacher's feedback on the draft**<br>✧ Teacher provides students feedback on the draft.<br>✧ Students refine their work and create their power generator following the instructions.<br><br>**Creation of the power generator**<br>✧ In groups, students share their ideas.<br>✧ They test the generators, analyse, create prototypes, evaluate and redesign. | | | | | |
| 8 | **Showcase**<br>✧ Groups present their final products to the class.<br>✧ Other groups share their feedback and give suggestions for improvement. | | | | | |

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| • Ways to ensure other students will also benefit from the programme<br>  ✧ Students will share their STEM products on Campus TV.<br>  ✧ Students will promote STEM and help create a print-rich environment by putting up their work or relevant information (writing, art work) on display at school.<br>**Expected project deliverables**<br>• KS1 writing programme<br>  ✧ Module plans<br>  ✧ Lesson plans<br>  ✧ Student worksheets<br>  ✧ Differentiated learning and teaching materials such as writing frames and task cards<br>  ✧ Self-assessment evaluation checklists<br>• STEM programme<br>  ✧ Programme plan<br>  ✧ Lesson plans<br>  ✧ Learning and teaching materials such as PowerPoints, videos and design journal.<br>  ✧ Assessment checklists<br><br>**Evaluation**<br>• Specific attention will be paid to the following when evaluating students' language learning:<br>  ✧ understanding of features of descriptive and procedural texts<br>  ✧ mastery of basic presentation skills (opening, elaborating and connecting ideas as well as concluding the speech). | | | | | |