ASEF Classroom Network #ASEFClassNet School Collaboration 2019

Proposal

1. Title of the Online Collaboration (Max. 6 words)

Hacking our Spaces!

2. Name and contact details of project co-ordinator(s)

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3. School description (Max. 30 words)

Boon Lay Secondary School prides itself on being Family-oriented, Co-Curricular Activity-focussed and Aspiration driven. The school has continually supported the ASEF Classroom Network (ASEF ClassNet) activities since 2009.

4. Summary of the Proposed Online Collaboration (Max. 200 words)

This project is designed to allow students to learn and practice solving real-life problems using STEM and Design Thinking methodologies. Hacking Our Spaces will use a Design Thinking approach to guide participants to enhance the living spaces, like homes, schools and communities, around them.

Participants will begin their journey by researching and sharing on how STEM has impacted their lives and explore how STEM solutions can be leveraged to improve the living spaces around them. This may be achieved by either acquiring some (block) programming using Microbits through an online platform, learning about different types of smart materials and their applications, or exploring other areas of STEM.

Through a common online sharing platform, participants will share and collaborate with each other to study the living spaces of their partners and work on solutions to hack the spaces with creative solutions to have useful functionalities.

Through carefully curated interactions and activities, participants will experience and appreciate that no one gender is predisposed in STEM careers, and instead, with the lowering of technological barriers, everyone and anyone can become a STEM enthusiast, innovator, inventor, and/or entrepreneur!

Activities require an internet connection and Google Education accounts can be created for partner institutions.

5. The Online Collaboration falls under the main themes of:
Please state "1" to "3" in level of relevance

[ ]	Arts & Culture	[ ]	Health
[ ]	Business & Entrepreneurship	[ ]	History
[2]	Education	[ ]	Media
[ ]	Environment & Sustainable Development	[1]	Science & Technology

[3] Others. Please specify below:
- Innovation

6. Duration of the Online Collaboration (Please state start and end date):

Start Date	:	2 January 2019
End Date	:	3 May 2019
Duration	:	5 months

7. Expected no. of schools/students involved and level of language and ICT skills

No. of Schools in total	:	3
No. of Students in total	:	40
Students Age Group	:	13 - 16
Level of English	:	Basic
Level of ICT Skills	:	Intermediate

8. ICT tools/software required
Please tick (✓) as appropriate)

Word processing software

- [ ] Adobe Acrobat Reader
- [ ] Google Docs/Sheets
- [ ] Microsoft Word/Excel
- [ ] Scribd
- [ ] Wordpress

Video conference tools

- [ ] Skype
- [ ] Viber
- [ ] Vyew
- [ ] Wechat

Storage tools

- [ ] Dropbox
- [x] Google Drive
- [ ] iCloud

Social media

- [ ] Ask.fm
- [x] Facebook
- [ ] Flickr
- [ ] Instagram
- [ ] Pinterest
- [ ] Tumblr
- [ ] Twitter
- [ ] Weibo

Image editing software

- [ ] Adobe Illustrator
- [ ] Adobe Lightroom
- [ ] Adobe Photoshop
- [ ] BeFunky (online)
- [ ] Sketch (Mac only)

Online collaboration

- [ ] Mindmeister
- [ ] Slack
- [ ] Telegram
- [ ] Trello
- [ ] Padlet
- [ ] Microsoft Teams

Video/audio editing software

- [ ] Adobe Premiere
- [ ] Audcity
- [ ] Garageband (Mac only)
- [ ] Soundcloud
- [ ] Windows Movie Maker
- [ ] Youtube

Presentation

- [x] Google slides
- [ ] Microsoft Powerpoint
- [ ] Prezi

App development

- [ ] Adobe Flash builder
- [ ] Alpha Software
- [ ] Appy Pie
- [ ] Appsshed Creator

Others (please specify):

- Access to Microsoft Makecode Website → https://makecode.microbit.org/

9. Other resources needed:
(Please tick (✓) as appropriate)

☐ Camera	☐ E-reader	☐ OHP
☑ Desktop Computer/Laptop	☐ GoPro	☐ Smart Phones
☐ Digital Projector	☐ Interactive Whiteboard	☐ Tablet
☐ Voice Recording Devices	☐ NA	

Others (please specify):

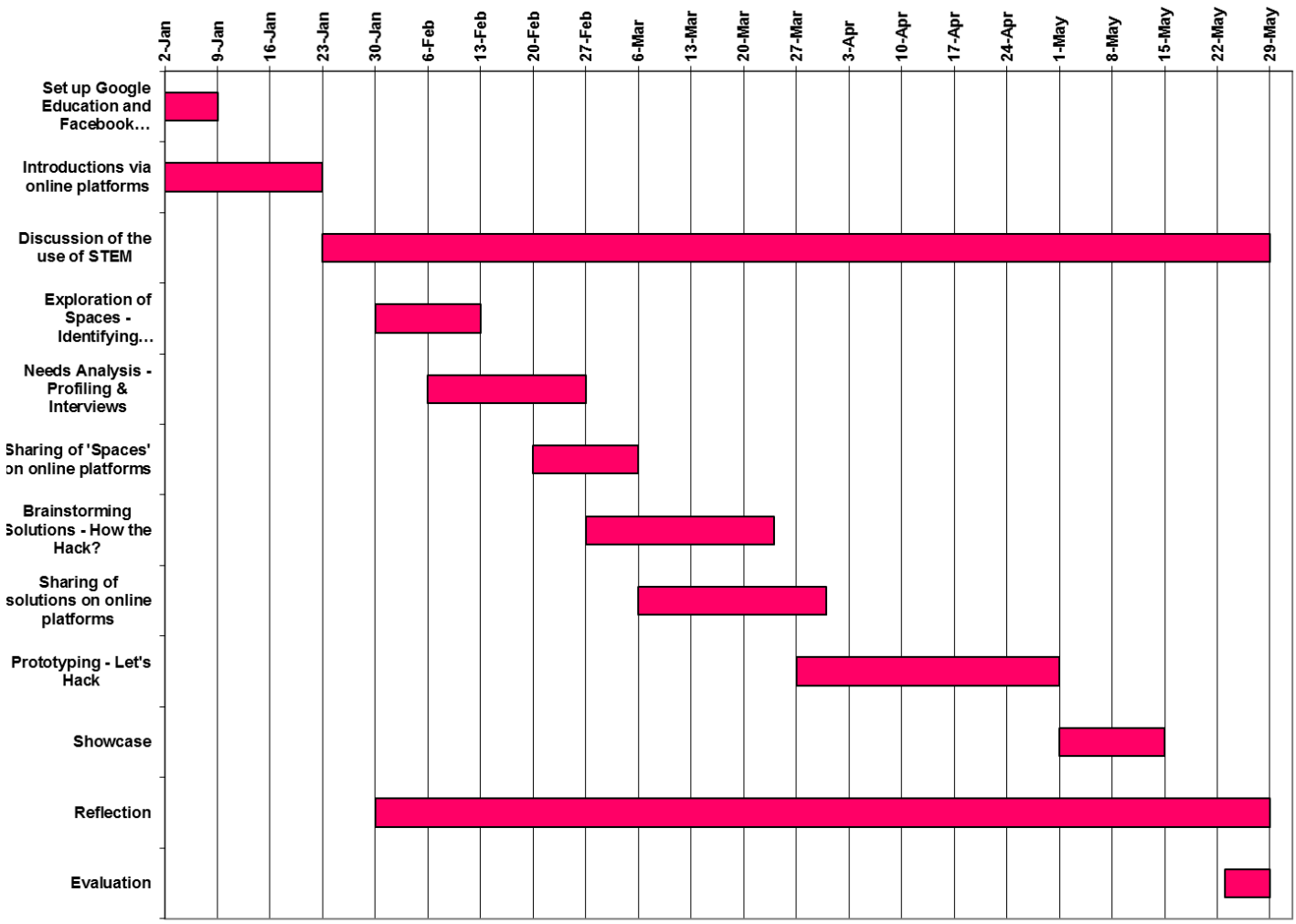
- Microbits (Optional)
- Microbits extension kit (more optional than above)

10. Learning objectives and outcomes for teachers and students
(Please list at least 3 learning objectives and outcomes for teachers and students respectively.)

Learning Objectives	Outcomes
Teachers should join to:	**For Teachers:**
1. Explore areas which can have possible integration between STEM and our immediate living spaces.	1. Able to identify areas that can be improved with STEM solutions.
2. Gain / renew their understanding of areas in STEM (e.g.: smart materials, and/or the use of microbits in everyday lives).	2. Able to articulate and guide students to explore the general concepts behind technologies or areas in STEM that students had researched on. (e.g.: common smart materials, and/or the fundamental use of microbits).
3. Learn / deepen their understanding of Design Thinking and STEM related problem-solving approaches.	3. Able to guide and facilitate students through problem solving approaches using Design Thinking / STEM related methodology and terminology.
Students will learn to:	**For Students:**
1. Understand and appreciate how lives can be improved using STEM solutions.	1. Able to identify areas in lives / user experiences can be improved using STEM solutions.
2. Use Design Thinking / STEM approaches to solve real-world problems.	2. Able to apply Design Thinking / STEM related problem-solving methods to improve their immediate living spaces
3. Appreciate the fundamental working principles in everyday applications of STEM such as smart materials and / or appreciate aspects of computational thinking required in programming simple functions	3. Able to identify applications of STEM elements and create prototypes to demonstrate their concept

11. Timeline and activities of the Online Collaboration

	Main Coordinator	Teachers	Students
Phase 1 (January 2019)			
▪ Set up Google Education accounts for partner schools ▪ Set-up Facebook group and invite members to the group	✓		
▪ Self-introduction by all participating members	✓	✓	✓
▪ Building Awareness: participants to discuss the importance of STEM in their everyday lives, how STEM has impacted them in their respective country (eg: research and sharing of interesting innovation in their country onto project platform)			✓
Phase 2 (February to March 2019)			
▪ Spaces!: Participants to explore spaces or items in a space to improve on (e.g.: identifying problems in the spaces such as home, school or neighbourhood, around them)			✓
▪ Interview affected people to find their needs			✓
▪ Sharing of final problem to work on and get suggestions from partners on project platform			✓
▪ How The Hack?!: Brainstorming of solutions and research and decide on solution to improve on the space / item in space (e.g.: research on the feasibility of solution)			✓
Phase 3 (April to May 2019)			
▪ Participants to share and study the living spaces of their partners and work on solutions to hack the spaces with creative solutions to have useful functionalities			✓
▪ Let's Hack!: Construction of prototype / model (with the inclusion of partners' suggestion)			✓
▪ Showcase of the project work in the respective countries through an exhibition		✓	✓
Phase 4 (End May 2019)			
▪ Feedback and evaluation: Student participants will conclude the project through reflections on the tasks and what they have learnt from the project. They will also reflect on the benefits of working with students from another country and the collaboration they had with them. They will also share their experiences and difficulties faced during the project and how they have overcome the obstacles faced.	✓	✓	✓
Please refer to next page for the detailed timeline			



For further details about this online collaboration, please contact the coordinator directly

ASEF's contribution is with the financial support of the European Union.