

**ST. LOUIS SCHOOL ANNUAL PLAN 2019-2020****SUBJECT / TEAM****PHYSICS****(I) Aims**

- i. Help students develop interest in the physical world and maintain a sense of wonder and curiosity about it;
- ii. Help students construct and apply knowledge of physics in their daily lives

(II) Situational Analysis**(a) Strengths**

- i. With a small-sized panel (3 teaching members only), it is easy to call on meetings/sharing sessions
- ii. Our technician is an able IT man who can write Apps for promote the implementation of mLearning in the panel.
- iii. Teachers are willing to share their experiences and thoughts
- iv. Distribution of work among members is fair
- v. All Physics teachers and the laboratory assistant were subject-trained and well experienced..
- vi. The Physics laboratory is managed satisfactorily. Frill drills are conducted. Radioactive sources had been discharged and routine laboratory safety check-up was done properly to ensure laboratory safety. Laboratory equipment was adequate for the teaching of Physics; data-logger and corresponding sensors were also purchased to facilitate demonstration.
- vii. Most topics in Physics are related to our daily lives, this makes students have a better understanding of the concepts
- viii. All teachers had a good grasp of subject knowledge. Teachers were friendly and capable of using English as the medium of instruction in lessons. Lessons were well planned with clear objectives. The instructions were clear, logical and systemic

(b) Weakness

- i. Many and many students who are weak in Mathematics have been allocated to study Physics. They will face more difficulties in S5-S6 Physics.
- ii. Most students were passive and were not confident enough to give opinion in an audible voice. Students should be encouraged to jot down ideas discussed in their own words rather than just copying down teachers' answers from the blackboard.
- iii. Insufficient time to teach students how to apply what they have learnt in solving daily life problems; most students put their focus on their examination results only

(c) Opportunities

All classrooms were installed with computer-projection system which facilitate the teaching (especially the classroom presentation with eye-catching PowerPoint and simulations)

(d) Threats

The school's S4 subject combinations may draw some students to study one non-science subject with Physics. Some Physics do not study M1 or M2 at the same time. Synthetic effects are zero!

(III) Highlight

- (a) S1 info day
- (b) Hong Kong Physics Olympiad

(IV) Short Term Direction

- (a) Enrich the on-line resource bank
- (b) Use more statistical data in analyzing students' performance
- (c) Continue to make use of an online forum to allow students-students and students-teachers interactions

(V) Areas of Concern

Major Concern 1: *Students as visionary leaders possessing enhanced thinking skills, especially creativity and problem solving*

Program title (1): Online Practices by the course book publisher (Pearson Education Asia Limited)

Targets	Strategies	Success Criteria	Methods of Evaluation	Time Scale	Person in charge	Resources Required
Students have solid and extensive knowledge base.	Extending knowledge acquisition beyond classroom teaching and textbooks through WebQuest (provided by Pearson Education Asia Limited) ,reading and study tours, etc.	Each of S3-S6 levels has been required to sit for at least two practices. Students' knowledge are extended via the acquisition beyond classroom teaching and textbooks through Online Quest.	Record	Whole year	TKL	Fee HKD 650

Program title (2): Online Question Bank (Physics) by HKEdCity

Targets	Strategies	Success Criteria	Methods of Evaluation	Time Scale	Person in charge	Resources Required
Students have solid and extensive knowledge base.	Extending knowledge acquisition beyond classroom teaching and textbooks through WebQuest, reading and study tours, etc.	Each of S3-S6 levels has been required to sit for at least two practices. Students' knowledge are extended via the acquisition beyond classroom teaching and textbooks through Online Quest.	Record	Whole year	TKL	Fee HKD 2840

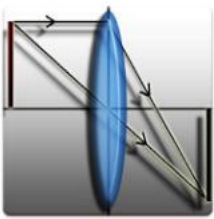


Program title (3): Take part in the HKPO.

Targets	Strategies	Success Criteria	Methods of Evaluation	Time Scale	Person in charge	Resources Required
Students are able to identify needs and devise ways to meet the needs when facing problems, especially those real-life problems	Participating in competitions that stress on creativity and/or problem solving	<p>At least one group of S4 students joins the Competition</p> <p>All more able students finish the "Enhancement questions"</p> <p>At least two tutorial groups are provided to both S4 and S5 Students</p> <p>All enhancement programs (including Mathematics enhancement program, HKDSE essay writing program, HKDSE reading Task enhancement program, preparing tailored practices for S3-S6 students, SBA enrichment program) are held as scheduled.</p>	Check the documents (application form/prize won)	Sept - Aug	ALL Physics teachers	NIL

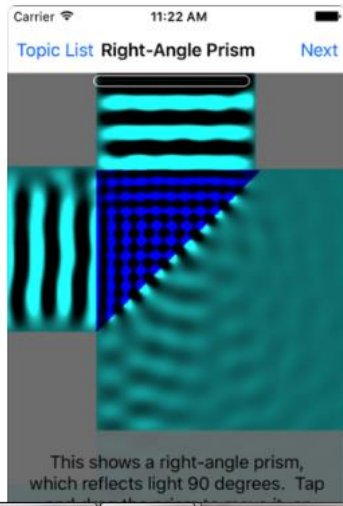
Program title (4): mLearning and eLearning in Physics

Targets	Strategies	Success Criteria	Methods of Evaluation	Time Scale	Person in charge	Resources Required
Students have solid and extensive knowledge area.	<p><u>mLearning and eLearning</u></p> <p>To enhance mLearning (Mobile Learning) and eLearning (Electronic Learning) to allow students to learn in a more flexible and informal way at their own pace</p>	<p>At least one App and one eLearning practice is introduced to each of S3-S6 Physics students to promote both mLearning and eLearning. See below for some recommendations from the panel. The Physics Virtual Lib is updated.</p> <p>Students are equipped with related knowledge, suitable skills and appropriate attitude, which build them into self-directed learners stage by stage.</p>	Documents	Whole year	TKL	NIL

Recommendations from the panel (most Apps are free of charge)

Level	Recommendations for 2019-2020 & Screen shots
S3	<p>Optics:</p> <div data-bbox="280 331 1115 571">  <p>Ray Optics Shakti Malik Education ★★★★★ 1,015 3+ Contains Ads ⚠ You don't have any devices. Add to Wishlist Install</p> </div> <div data-bbox="295 628 1102 1024">  </div>
S4	<p>S4 Waves:</p> <div data-bbox="268 1157 604 1321">  <p>Ripple Tank Lite Falstad.com ★★★★★ 2.7, 3 Ratings Free</p> </div>

iPhone Screenshots



S4 Mechanics:



Exploring Physics 4+
 Exploring Physics LLC
 ★★★★★ 5.0, 1 Rating
 Free

ExploringPhysics

Unit 7
 Storyline and NGSS Alignment
 Unit 7: Linear Momentum

Activity	NGSS Cross-Cutting Concepts	Science Practices	Math Concepts	Standards	Standards
Lighting a candle Lab	MS-C.2	SP.1, SP.2, SP.4, SP.5, SP.6	MS-1, MS-2, MS-3, MS-4, MS-5, MS-6, MS-7, MS-8, MS-9	MS-PS.2.A, MS-PS.2.B, MS-PS.2.C, MS-PS.2.D	MS-PS.2.A, MS-PS.2.B, MS-PS.2.C, MS-PS.2.D
Rolling Pair - Inertia	PS.2.A	SP.1, SP.2, SP.4, SP.5, SP.6	MS-1, MS-2, MS-3, MS-4, MS-5, MS-6, MS-7, MS-8, MS-9	MS-PS.2.A, MS-PS.2.B, MS-PS.2.C, MS-PS.2.D	MS-PS.2.A, MS-PS.2.B, MS-PS.2.C, MS-PS.2.D
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Unit 8
 Practice 8.2: Energy Pie Charts

Velocity vs. Time Graph

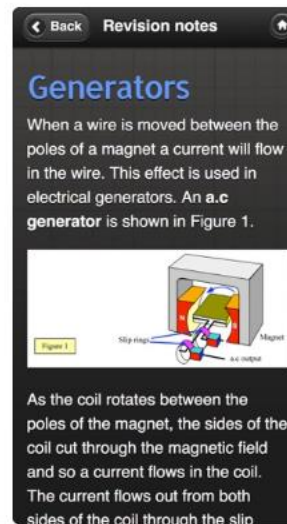
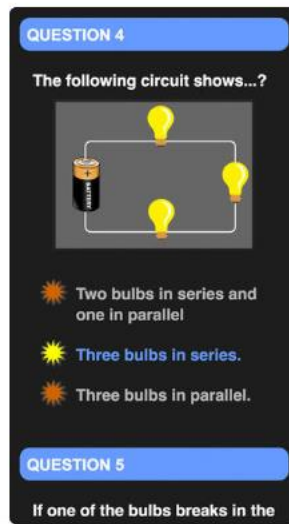
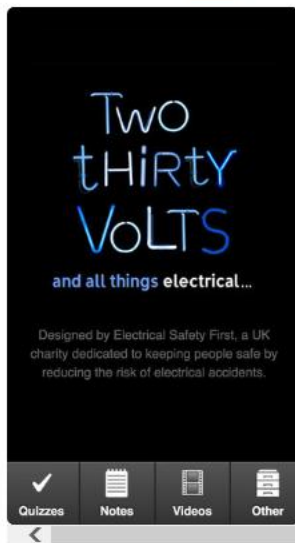
S5

S5 E & M (Quiz)



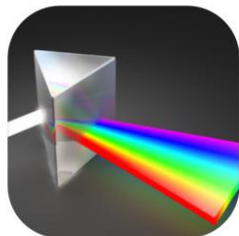
Two Thirty Volts 4+
 Electricity Revision Quiz
 The Electrical Safety Council
 ★★★★★ 3.6, 11 Ratings
 Free

Screenshots [iPhone](#) [iPad](#)



S6

Optional: (~ HKD 8)



Physics 4+
 Hanz Meyer
 ★★★★★ 3.9, 7 Ratings
 \$0.99

Physics is a great reference app for all of your High School physics exams.

Physics includes all the reference tables and the 10 units covered in High School.

Each of the 10 units includes common formulas, a brief description of each formula, and examples.

TOPICS INCLUDE:

- Mechanics
- Energy
- Electricity & Magnetism
- Wave Phenomena
- Modern Physics
- Motion in a Plane
- Internal Energy
- Electromagnetic Applications
- Geometric Optics
- Nuclear Energy

(VI) Other panel-based concerns:

Targets	Strategies	Success Criteria	Methods of Evaluation	Time Scale	People in charge	Resources Required
Provide both more able and less able students with extensive experiences in tackling demanding problems	Continue to participate in Hong Kong Physics Olympiad 2020 All more able students (top 20 students are required to finish all “Enhancement questions” – a set of questions compiled to help more able students to tackle two specific types of HKDSE questions, namely “Reading Article” and “Describing an experiment”). Providing remedial lessons	At least one group of S4 students joins the Competition All more able students finish the “Enhancement questions” At least two tutorial groups are provided to both S4 and S5 Students	Check the documents (application form/prize won)	Sept - Aug	ALL Physics teachers	NIL

	Uplifting the HKDSE and value-added performance (Mathematics enhancement program, HKDSE essay writing program, HKDSE reading Task enhancement program, preparing tailored practices for S3-S6 students, SBA enrichment program)	All enhancement programs (including Mathematics enhancement program, HKDSE essay writing program, HKDSE reading Task enhancement program, preparing tailored practices for S3-S6 students, SBA enrichment program) are held as scheduled.				
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(VII) Provisional Scheme of work

Month	Events	PIC / VPIC
Sept 2019	Uplifting the HKDSE and value-added performance (Whole Year) Physics Virtual Library ; Incorporate mLearning and eLearning	TKL
Oct 2019	Apps (Physics Around Us) + Online Question quest	TKL, WCK, CSL
Nov 2019	LWL day program: visit to the 香港科學園 (Hong Kong Science Park)	TKL

	LWL day (S3)	
Dec 2019	S6 SBA	TKL
Jan 2020	HW inspection 1	TKL
Feb 2020	Post exam evaluation (S3-S5)	TKL
Mar 2020	Post exam evaluation (S6)	TKL
Apr 2020	S4-5 remedial course, S5 SBA ;	WCK, TKL, CSL
May 2020	Hong Kong Physics Olympiad;	CSL
Jun 2020	HW inspection 2, CLP	TKL
Jul 2020	Post exam evaluation (S3-S5)	TKL
Aug 2020	Summer tutorial classes	ALL Physics teachers

(VIII) Budget and Other Resources

	Amount
EXPENDITURE	
A. General Panel / Team-based budget	
A1. Teaching Resources & Online Practices (Pearson Education Asia Limited)	650.00
A2. Online Question Bank (Physics) OQB HKEdCity	2,840.00
Sub-total (A) =	3,490.00
B. CEG	
B1.	
B2.	
Sub-total (B) =	
C. Furniture and Equipment (F & E)	
C1.	
C2.	
Sub-total (C) =	
D. DLG	
D1.	
D2.	
Sub-total (D) =	
E. Reading Grant	
E1.	
E2.	

Sub-total (E) =	
F. Life Wide Learning Grant (LWLG)	
F1.	
F2.	
Sub-total (F) =	
G. Budget of items using other specific grant from EDB* : _____ *Chinese History, NCS or Student Support grant	
G1.	
G2.	
Sub-total (G) =	
H. Other Resources	
H1.	
Sub-total (H) =	
Total Expenditure =	3,490.00

(IX) Members: CSL, TKL, WCK