

## **EDUCATION BUREAU CIRCULAR MEMORANDUM NO.151/2016**

From: Secretary for Education

To: Heads of Primary and  
Secondary Schools

Ref.: EDB(CD)PSHE/ADM/150/1/27/(5)

Date: 29 September 2016

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### **Inter-school Cross-curricular Project Competition on Climate Change 2016/17**

#### **SUMMARY**

The purpose of this circular memorandum is to inform heads of primary and secondary schools about the “Inter-school Cross-curricular Project Competition on Climate Change 2016-17” organised by the Education Bureau (EDB), with Esri China (Hong Kong) Limited and HKEdCity as strategic partners. In addition, the Environment Bureau, the Census and Statistics Department, the Hong Kong Observatory, the Polar Museum Foundation, the Jockey Club Museum of Climate Change, World Wide Fund for Nature Hong Kong, the Chinese University of Hong Kong, the Education University of Hong Kong, the Hong Kong Polytechnic University, the University of Hong Kong, Association of Principals of Government Secondary Schools, Hong Kong Aided Primary School Heads Association, Hong Kong Association of Heads of Secondary Schools, Hong Kong Direct Subsidy Scheme Schools Council, Hong Kong Subsidised Secondary Schools Council, Subsidised Primary Schools Council and Union of Government Primary School Headmasters and Headmistresses are the supporting organizations of this competition.

#### **DETAILS**

2. Climate change has been a pressing issue in the 21st Century. To enhance the education with our younger generation in coping with climate change, the EDB is organising the captioned competition to invite all primary and secondary school students to produce small inventions or to propose innovative ways to enhance Hong Kong’s mitigation, adaptation and resilience action on climate change.
3. The competition contains a strong element of enquiry learning, encouraging participating students to integrate cross-curricular knowledge (e.g. General Studies,

Science, Mathematics, Technology, Liberal Studies, Geography and Arts) with problem-solving skills and creative thinking in studying a particular aspect of climate change. Schools can use e-tools (e.g. ArcGIS Platform) for data collection and analysis to explore innovative ways to cope with climate change.

4. The competition consists of project type 1 “invention” and project type 2 “investigative study”. For details, please refer to Annex 1 or the website: [http://www.edb.gov.hk/en/curriculum-development/kla/pshe/climate\\_change\\_competition/index.html](http://www.edb.gov.hk/en/curriculum-development/kla/pshe/climate_change_competition/index.html).

5. The competition is divided into three categories, namely Primary (P.4 – P.6), Junior Secondary (S.1 – S.3) and Senior Secondary (S.4 – S.6). Each school can nominate a maximum of two teams to participate in each category. Each team can either enter project type 1 “invention” or project type 2 “investigative study”.

6. Interested school should complete and return the enclosed application form (Annex 2. 3 or 4) to the Personal, Social and Humanities Education Section, EDB by fax (fax no.: 3104 0542) or by email to [conniewu@edb.gov.hk](mailto:conniewu@edb.gov.hk) on or before 11 November 2016 (Friday).

7. All schools are invited to attend the official launching ceremony to be held in the afternoon of 25 October 2016. Details and application procedures can be found in the Training Calendar of EDB (Course ID: CDI020161275).

## **ENQUIRY**

8. For enquiries, please contact Ms WU Shuk Ting, Connie on 2892 6654.

Mr Sheridan S L LEE  
for Secretary for Education

cc: Heads of Sections – for information

## **Inter-school Cross-curricular Project Competition on Climate Change 2016-17 Regulations**

### **1. Objectives**

To enable students:

- to understand in depth the issue of climate change, to develop a caring attitude for the environment, and to develop readiness to take actions to support the three strategies of mitigation, adaptation and resilience to cope with climate change.
- to integrate knowledge and skills learnt from school curricula (e.g. General Studies, Science, Mathematics, Technology, Liberal Studies, Geography, and Arts) with creativity, collaboration, problem solving skills to foster their innovation as required in the 21st Century

### **2. Main theme of the competition**

Mitigation, adaptation and resilience measures for coping with climate change.

### **3. Categories**

- Primary (P.4 – P.6)
- Junior Secondary (S.1 – S.3)
- Senior Secondary (S.4 – S.6)

### **4. Details of competition**

#### **A. Project Types**

##### **(i) Type 1: Invention**

- This type of project involves the production of a small invention for coping with climate change in daily life in relation to the strategies of mitigation, adaptation and/or resilience.
- The invention can be in the form of an end product, a prototype or software programme.
- For end products and prototypes, the size should not exceed 90 cm x 90 cm x 90cm. There is no size limit on software programme.
- Each participating team should submit:
  - **a design proposal** (either in written or non-written format) containing the objectives, design principles, usage and other essential information about the invention. For written proposal, it can be written either in Chinese or

English. For non-written proposal, voice-over in Cantonese, English or Putonghua are acceptable; AND

- **a video** (in the format of MPEG-4) of not more than 5 minutes demonstrating how the invention works. The video should be stored in appropriate device (DVD or USB drive) for submission.

(Note: There is no need to submit the end product or prototype until further notice.)

- The length of the design proposal would be the time an adjudicator spent on studying each project. The time will be:
  - 10 minutes for the ‘Primary’ category, and
  - 15 minutes for the ‘Junior Secondary’ and ‘Senior Secondary’ categories.
- The design proposal, video and all other related materials should be kept inside an envelope for submission, with the submission label (to be provided after successful registration) attached to the front cover of the envelope.
- Participating teams that can enter the second round of the competition would be invited to present their invention in front of the Judging Panel in April 2017.

#### Examples of small inventions

1. Develop a microcontroller-based measurement system through writing apps for carbon emission monitoring devices, Excel macro for data analysis, and scripts for GIS to build web mapping applications and smarter visualisations of data collected for a local comparative study of carbon emissions.
2. Electricity-generation device connected to gymnastic equipment (e.g. fitness bicycle) for student use during recess and lunch time to provide lighting to student union room.
3. A simple chemical device using microbes to generate electricity from food wastes.

#### (ii) Type 2: Investigative study

- This type of project involves the investigation of a problem / an issue related to climate change in daily life and to propose innovative ways for coping with the respective problem / issue in relation to the strategies of mitigation, adaptation, and/or resilience.
- A report on the results and findings of the investigative study should be submitted. A variety of formats can be used, including but not limited to written report, computer presentation or video.
- The report can be submitted in printed or digital format. For digital format, respective file(s) should be stored in appropriate device (preferably USB drive) for submission.

- The report can be written in Chinese or English. For verbal version, Cantonese, English or Putonghua can be used.
- The length of the report would be the time an adjudicator spent on studying each project. The time will be:
  - \* 10 minutes for the 'Primary' category, and
  - \* 15 minutes for the 'Junior Secondary' and 'Senior Secondary' categories.
- Suitable e-tools (e.g. ArcGIS Platform) should be used for investigation and data analysis.
- One copy of the report and all other related materials should be kept inside an envelope for submission, with the submission label (to be provided after successful registration) attached to the front cover of the envelope.
- Participating teams that can enter the second round of the competition would be invited to present their study in front of the Judging Panel in April 2017.

Examples of investigative study

1. Using GIS tools (e.g. ArcGIS Platform) to simulate urban temperature change and greenhouse gas distribution, and suggest possible strategies to reduce heat island effect / greenhouse effect in city.
2. Design of greening facilities to reduce energy consumption in school / at home using 3-D printer to create architectural model for illustration.

**B. Rules of the competition**

- (i) The project must be designed and completed by a team of 3-6 students. Each student can participate in one project type only. Each school can nominate a maximum of TWO teams of students to participate in each category of the competition.
- (ii) Participating schools will be responsible for the production costs of the project. Cost limit of each project is HK\$5,000.
- (iii) The design of all projects must be original and should not infringe on the copyright of any third parties. All sources of information quoted in writing must be explicitly acknowledged. The organiser accepts no legal responsibility whatsoever in respect of any copyright issues.
- (iv) The project submitted should never be used in other competition or award scheme.
- (v) Late submission will be disqualified.
- (vi) The Judging Panel has complete discretion in relation to all matters concerning scores and award. In all aspects, the Judging Panel shall be the final arbiter.

## 5. Application deadline

11 November 2016 (Friday)

## 6. Time line

Date	Important event
25 October 2016	Official launching ceremony and demonstration of project samples
11 November 2016	Application deadline
19 November 2016	Briefing session – Primary school
26 November 2016	Briefing session – Secondary school
November - December 2016	Training sessions for participating schools
17 March 2017	Submission deadline
April 2017	Presentation of projects in front of the Judging Panel by schools entering the second round of the competition Result announcement
May 2017	Prize presentation ceremony

## 7. Award and Prizes

Each of the Primary, Junior Secondary and Senior Secondary Categories will have the following awards:

Awards		Prizes
The Best “Invention”	Champion	A trophy, certificates of merit, and HK\$7,000 book coupons.
	First Runner-up	A trophy, certificates of merit, and HK\$5,000 book coupons.
	Second Runner-up	A trophy, certificates of merit, and HK\$3,000 book coupons.
The Best “Investigative Study”	Champion	A trophy, certificates of merit, and HK\$7,000 book coupons.
	First Runner-up	A trophy, certificates of merit, and HK\$5,000 book coupons.
	Second Runner-up	A trophy, certificates of merit, and HK\$3,000 book coupons.

<b>Awards</b>	<b>Prizes</b>
Outstanding GIS Application	A trophy, certificates of merit, and HK\$2,000 book coupons.

## 8. Judging criteria

For the “Best Invention” and the “Best Investigative Study”:

Primary, Junior and Senior Secondary Category		Percentage
Type 1: Invention	Type 2: Investigative study	
<b>A. Originality</b> <ul style="list-style-type: none"> <li>• A new and original invention</li> </ul>	<b>A. Originality</b> <ul style="list-style-type: none"> <li>• Innovativeness</li> </ul>	10
<b>B. Design of invention</b> <ul style="list-style-type: none"> <li>• Definition of applicability</li> <li>• Practicability</li> <li>• Efficacy of invention</li> </ul>	<b>B. Definition of problem / issue, methodology and analysis</b> <ul style="list-style-type: none"> <li>• Definition of problem / issue</li> <li>• Choice of method for survey or investigation</li> <li>• Availability of data to support findings / analysis</li> <li>• Logic of analysis</li> </ul>	40
<b>C. Relevance</b> <ul style="list-style-type: none"> <li>• Related to main theme</li> <li>• Application of knowledge / skills / values</li> </ul>	<b>C. Relevance</b> <ul style="list-style-type: none"> <li>• Related to main theme</li> <li>• Application of knowledge / skills / values</li> </ul>	20
<b>D. Design Implementation</b> <ul style="list-style-type: none"> <li>• Craftsmanship</li> <li>• Testing and evaluation of the design solution</li> <li>• Cost effectiveness</li> </ul>	<b>D. Design Implementation</b> <ul style="list-style-type: none"> <li>• Feasibility of the innovative suggestions</li> <li>• Cost effectiveness</li> </ul>	20
<b>E. Presentation skills</b> <ul style="list-style-type: none"> <li>• Demonstration of operation and function of the invention</li> <li>• Layout of the proposal</li> <li>• Fluency of language</li> </ul>	<b>E. Presentation skills</b> <ul style="list-style-type: none"> <li>• Presentation of data</li> <li>• Layout of the report</li> <li>• Fluency of language</li> </ul>	10

For “Outstanding GIS Application”:

Criteria	Percentage
<b>A. Application of GIS Tools</b> <ul style="list-style-type: none"><li>• Spatial Analysis</li><li>• Data Analysis</li><li>• Situational Analysis</li><li>• Presentation (Bonus will be given if use Story Map to present)</li></ul>	35%
<b>B. Subject and Content</b> <ul style="list-style-type: none"><li>• Innovation</li><li>• Investigation</li><li>• Definition of Problem / Issue</li><li>• Problem-solving</li></ul>	30%
<b>C. Creativity</b> <ul style="list-style-type: none"><li>• Originality</li><li>• Uniqueness</li></ul>	25%
<b>D. Relevance</b> <ul style="list-style-type: none"><li>• Related to main theme</li><li>• Echo to STEM</li></ul>	10%



Attn.: PSHE Section, Education Bureau Fax no.: 31040542 / Email: conniewu@edb.gov.hk <b>Application deadline: 11 November 2016 (Friday)</b>	(Official use only) <b>P</b>
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**Inter-school Cross-curricular Project Competition on Climate Change 2016-17**  
**Application form – Primary (P.4 – P.6)**

School information

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Tel. No.: \_\_\_\_\_

E-mail: \_\_\_\_\_

My school would like to nominate the following team(s) of students to participate in the competition.

Team A

**Project Type: 1. Invention / 2. Investigative Study\***

No.	Name of student	
	Name in English	Name in Chinese
1		
2		
3		
4		
5		
6		

Team B

**Project Type: 1. Invention / 2. Investigative Study\***

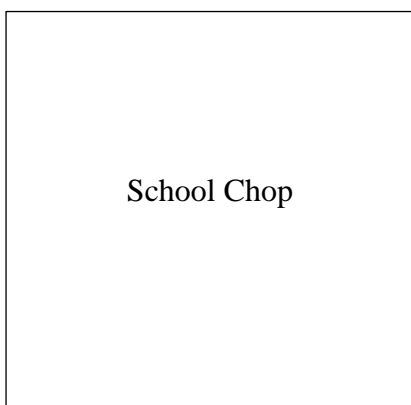
No.	Name of student	
	Name in English	Name in Chinese
1		
2		
3		
4		
5		
6		

*(\*Please delete as appropriate)*

Signature of School Head: \_\_\_\_\_

Name of School Head: \_\_\_\_\_

Date: \_\_\_\_\_



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**Inter-school Cross-curricular Project Competition on Climate Change 2016-17**  
**Application form – Junior Secondary (S.1 – S.3)**

School information

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Tel. No.: \_\_\_\_\_

E-mail: \_\_\_\_\_

My school would like to nominate the following team(s) of students to participate in the competition.

Team A

**Project Type: 1. Invention / 2. Investigative Study\***

No.	Name of student	
	Name in English	Name in Chinese
1		
2		
3		
4		
5		
6		

**Team B**

**Project Type: 1. Invention / 2. Investigative Study\***

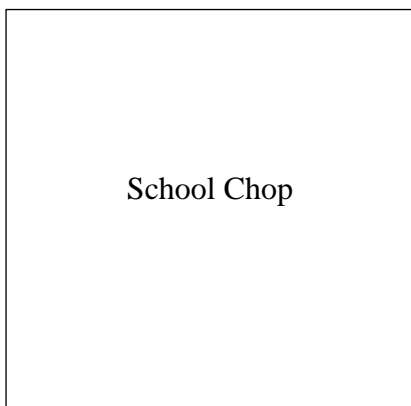
No.	Name of student	
	Name in English	Name in Chinese
1		
2		
3		
4		
5		
6		

*(\*Please delete as appropriate)*

Signature of School Head: \_\_\_\_\_

Name of School Head: \_\_\_\_\_

Date: \_\_\_\_\_



Attn.: PSHE Section, Education Bureau Fax no.: 31040542 / Email: conniewu@edb.gov.hk <b>Application deadline: 11 November 2016 (Friday)</b>	(Official use only) <b>S</b>
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**Inter-school Cross-curricular Project Competition on Climate Change 2016-17**  
**Application form – Senior Secondary (S.4 – S.6)**

School information

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Tel. No.: \_\_\_\_\_

E-mail: \_\_\_\_\_

My school would like to nominate the following team(s) of students to participate in the competition.

Team A

**Project Type: 1. Invention / 2. Investigative Study\***

No.	Name of student	
	Name in English	Name in Chinese
1		
2		
3		
4		
5		
6		

Team B

**Project Type: 1. Invention / 2. Investigative Study\***

No.	Name of student	
	Name in English	Name in Chinese
1		
2		
3		
4		
5		
6		

*(\*Please delete as appropriate)*

Signature of School Head: \_\_\_\_\_

Name of School Head: \_\_\_\_\_

Date: \_\_\_\_\_

