

Education Bureau Circular Memorandum No. 58/2024

From : Permanent Secretary for Education To : Supervisors / Principals of all
primary schools offering
local primary curriculum

Ref : (78) in EDB/CSD/SC/821/17

Date : 4 March 2024

“Science (Primary 1 – 6) Curriculum Framework”, “Training Base for Primary Science Teachers” and Related Teacher Training Certificate Programmes

Summary

The purpose of this circular memorandum (CM) is to inform schools of the details about the release of the “Science (Primary 1 – 6) Curriculum Framework” and the setting up of the “Training Base for Primary Science Teachers”, as well as invite primary schools to participate in the “Certificate in Professional Training for Primary Science Teachers (30 hours)” programme and “Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)” programme organised by the Education Bureau (EDB).

Background

2. To tie in with further stepping up of the promotion of STEAM education as advocated in the “Chief Executive’s 2023 Policy Address”, among others, the introduction of Primary Science was proposed to strengthen students’ scientific and creative thinking, with implementation scheduled to start from the 2025/26 school year. In the EDB Circular No. 18/2023 issued in November 2023, EDB announced the Science (Primary 1 – 6) Curriculum Framework (Provisional Draft) and a series of related support measures, including the provision of a one-off grant for supporting the introduction of Primary Science, systematic professional training for in-service teachers, and related curriculum resources.

3. The consultation on the Science (Primary 1 – 6) Curriculum Framework (Provisional draft) was conducted. The Ad Hoc Committee for the Development of the Science (Primary 1 – 6) Curriculum under the Curriculum Development Council Committee on Science Education (CDCC(SE)) then reviewed stakeholders’ opinions, and submitted the revised draft of the Science (Primary 1 – 6) Curriculum Framework to the CDCC(SE) in February 2024. The CDCC(SE) accepted the revised draft and recommended submission to the Curriculum Development Council (CDC). In the same month, the CDC received the curriculum

framework and recommended schools to start implementing the curriculum in the 2025/26 school year.

Details

Science (Primary 1 – 6) Curriculum Framework

4. Science (Primary 1 -6) Curriculum Framework (Final Version) has been uploaded to the Primary Science webpage of the Science Section, EDB (<https://www.edb.gov.hk/ps>).

5. The Ad Hoc Committee for the Development of the Science (Primary 1 – 6) Curriculum under the CDCC(SE) will continue to develop relevant curriculum documents to support the implementation of the Primary Science curriculum.

Training Base for Primary Science Teachers

6. In line with the introduction of Primary Science in the 2025/26 school year, EDB sets up the **“Training Base for Primary Science Teachers”** to systematically organise a series of related teacher training programmes for in-service primary teachers, including the **“Certificate in Professional Training for Primary Science Teachers (30 hours)”** programme and **“Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)”** programme, to enhance teachers’ confidence and capabilities to teach Primary Science, in preparing for the implementation of the Primary Science curriculum. In the first phase of the training (i.e. the 2023/2024 school year), the **“Training Base for Primary Science Teachers”** will be set up at **Lung Cheung Government Secondary School** (Address: 1 Ma Chai Hang Road, Wong Tai Sin, Kowloon).

“Certificate in Professional Training for Primary Science Teachers (30 hours)”

Programme

7. The above training **certificate** programme covers a series of different **elective courses**, targeting all aspiring primary science teachers. The training aims to facilitate teachers’ understanding of the content of the Primary Science curriculum as well as mastery of its learning and teaching strategies and diversified assessment strategies. Its content includes science knowledge enrichment seminars, site visits, teaching practice workshops, etc.

8. Teachers who enrol in and complete a total of 30 hours of designated teacher training courses provided by EDB from the 2022/23 to 2027/28 school years, including a minimum of 12 hours of the **“Professional Teacher Training Series for Introduction of**

Primary Science” programme, will be awarded the “Certificate in Professional Training for Primary Science Teachers (30 hours)”. The above training certificate is of an incentivising nature and is not a requirement for teaching Primary Science. There is also an exemption mechanism for the certificate programme, whereby General Studies teachers with science-related academic qualifications and/or certain years of teaching experience can be exempted for up to 18 hours of training hours, yet are still required to complete a minimum of 12 hours of the “Professional Teacher Training Series for Introduction of Primary Science” programme. For details of the training certificate programme and certificate application, please refer to **Annex 1**.

9. The “**Professional Teacher Training Series for Introduction of Primary Science**” programme mentioned in paragraph 8 is jointly organised by EDB and the Hong Kong Association for General Studies Education. The programme aims to integrate teaching theories and practice, with a focus on the themes of “The Use of Scientific Models in Primary Science Lessons”, “Discovering Knowledge through Scientific Inquiry” and “Engineering Practice and Innovation”, each providing 6 hours of seminars and workshops, enabling participating teachers to master engaging and lively science teaching methods, and implement the scientific inquiry activities recommended in the Primary Science curriculum within classroom contexts. EDB will organise the first round of the “Professional Teacher Training Series for Introduction of Primary Science” programme from March to July 2024, with a total of 3 600 training places available. We invite schools to nominate aspiring primary science teachers to participate in the above programme. Teachers can apply for the related training courses through the Training Calendar System (TCS) of EDB (<https://tcs.edb.gov.hk>). For details of the courses, please refer to **Annex 2**.

“Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)” Programme

10. The above training programme is jointly organised by EDB and tertiary institutions, targeting aspiring Primary Science subject panel heads or level coordinators, and aims at enhancing their capabilities in Primary Science curriculum leadership and management. Its content includes curriculum leadership, curriculum interpretation, curriculum planning, safety guidelines, etc. Teachers are required to complete and obtain the “Certificate in Professional Training for Primary Science Teachers (30 hours)” before applying for the “Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)”. The above training certificate is of an incentivising nature and is not a requirement for serving as Primary Science subject panel heads or level coordinators. For details of the training certificate programme, please refer to **Annex 3**.

11. EDB will organise the first round of the “**Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)**” programme from April to November 2024, with a total of 360 training places available. Details of the programme will be announced later through the Training Calendar System (<https://tcs.edb.gov.hk>) and the Primary Science webpage (<https://www.edb.gov.hk/ps>). By then, we will invite each school to nominate one aspiring primary science subject panel head to participate in the above programme.

Briefing Session on Support Measures for the Introduction of Primary Science

12. EDB will organise a briefing session in hybrid mode on **6 March 2024 (Wednesday)** to provide schools with more details of the Science (Primary 1 – 6) Curriculum Framework, the “Training Base for Primary Science Teachers”, and related teacher training programmes. Provision of the one-off grant and learning and teaching resources will also be introduced. Schools may apply the briefing session via the Training Calendar System (Website: <https://tcs.edb.gov.hk>; Course ID: CSD020240489).

Enquiry

13. For enquiries, please contact Dr CHEUNG Kam-wah, Thomas (Tel: 3698 3522) or Mr CHENG Chung-ki (Tel: 3698 3455) of the Science Education Section, Curriculum Support Division, EDB.

Dr William LAM
for Secretary for Education

c.c. Heads of Sections – for information

Certificate Application Form
Certificate in Professional Training for Primary Science Teachers (30 hours) /
Certificate in Professional Training on Primary Science Curriculum
Leadership (15 hours)

**【Please submit this application form to Science Education Section,
Curriculum Support Division, EDB by post】**

Address: Science Education Section, Curriculum Support Division, EDB
Room E232, 2/F, East Block,
Education Bureau Kowloon Tong Education Services Centre, 19 Suffolk Road,
Kowloon Tong, Kowloon.

I have participated in the following certificate programme(s) and fulfilled the requirements for designated training hours. I hereby apply for: (Can choose more than one option)

- the “Certificate in Professional Training for Primary Science Teachers (30 hours)”
 - the “Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)” (Note: Teachers should have completed and obtained the “Certificate in Professional Training for Primary Science Teachers (30 hours)” programme.)
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Section A: Personal Particulars

Name in Chinese: _____

Name in English: _____

Name of School: _____

Section B: Details of the Training Programmes

The “**Certificate in Professional Training for Primary Science Teachers (30 hours)**” programme covers a series of different **elective courses**, targeting all aspiring primary science teachers. The training aims to facilitate teachers’ understanding of the content of the Primary Science curriculum as well as mastery of its learning and teaching strategies and diversified assessment strategies. Its content includes science knowledge enrichment seminars, site visits, teaching practice workshops, etc.

Applicants who apply through the Training Calendar System and complete a total of 30 hours of **designated teacher training courses** provided by EDB from the 2022/23 to 2027/28 school years, including a minimum of 12 hours of the “**Professional Teacher Training Series**

for Introduction of Primary Science” programme, will be awarded the **“Certificate in Professional Training for Primary Science Teachers (30 hours)”**. The [list of designated courses](#) has been uploaded to Primary Science webpage of the Science Section, EDB and will be updated regularly. The above training certificate is of an incentivising nature and is not a requirement for teaching Primary Science.

There is also an exemption mechanism for the certificate programme, whereby General Studies teachers with science-related academic qualifications and/or certain years of teaching experience can be exempted for up to 18 hours of training hours, yet are still required to complete a minimum of 12 hours of the “Professional Teacher Training Series for Introduction of Primary Science” programme. An applicant who holds a bachelor’s degree in Science, Technology or Engineering conferred by a recognised tertiary institution in Hong Kong or holds an equivalent qualification (the applicant must clearly state the major and minor subjects of the degree program), and/or has a certain years of teaching experience as verified by the principal / School Management Committees (SMCs) / Incorporated Management Committees (IMCs), can have certain training hours exempted.

The **“Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)”** programme targets at aspiring Primary Science subject panel heads or level coordinators and aims at enhancing their capabilities in Primary Science curriculum leadership and management. Its content includes curriculum leadership, curriculum interpretation, curriculum planning, safety guidelines, etc. Teachers are required to complete and obtain the “Certificate in Professional Training for Primary Science Teachers (30 hours)” before applying for the “Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)”. The above training certificate is of an incentivising nature and is not a requirement for serving as Primary Science subject panel heads or level coordinators.

I confirm that:

- I have completed a minimum of 12 hours of the **“Professional Teacher Training Series for Introduction of Primary Science”** programme and provided the relevant information in **Form A**.
- I have completed _____ hours of other courses on the **designated course list** and provided the relevant information in **Form B**.
- I hold a bachelor’s degree in Science, Technology or Engineering conferred by a recognised tertiary institution in Hong Kong or hold an equivalent qualification. I intend to apply for an exemption from a total of 9 hours of training and have provided the relevant information in **Form C**.
- I have served as the General Studies subject panel head / Coordinator for STEAM / Coordinator for the “Quality Education Fund Thematic Networks” Project for 5 years or more. I intend to apply for an exemption from a total of 9 hours of training and have

provided the relevant information in **Form D**.

- I have completed the “Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)” programme and provided the relevant information in **Form E**.
(Only applicable to those concurrently apply for the “Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)”)

Form A: Completed a minimum of 12 hours of training courses from the “**Professional Teacher Training Series for Introduction of Primary Science**” programme

(Please refer to website: <https://www.edb.gov.hk/ps-pdp> for details of the programme)

Course ID	Course Title	No. of Hours	Date of Completion	Supporting Document Provided by the Teacher	Verified by Principal/SMCs/IMCs <small>Note 1</small>
CSD020240405	e.g. “The Use of Scientific Models in Primary Science Lessons”	6	11.3.2024	e-Services record	✓

Note 1: Principal/SMCs/IMCs should verify the courses completed by the applicant, and retain the relevant supporting documents for inspection by EDB when necessary.

[To be continued on the next page]

Form B: Completed other courses on the [designated course list](#)

Course ID	Course Title	No. of Hours	Date of Completion	Supporting Document Provided by the Teacher	Verified by Principal/SMCs/IMCs <small>Note 2</small>
CSD020230564	e.g. Science and Technology Education Series at Primary Level: Exploratory Activity Workshop (1) (Properties of Air and Water) (New)	3	7.11.2023	e-Services record	✓

Note 2: Principal/SMCs/IMCs should verify that the course(s) completed by the applicant is/are courses on the “**Certificate in Professional Training for Primary Science Teachers (30 hours)**” [designated course list](#), and retain the relevant supporting documents for inspection by EDB when necessary.

[To be continued on the next page]

Form C: Hold a bachelor’s degree in Science, Technology or Engineering conferred by a recognised tertiary institution in Hong Kong or an equivalent qualification, and intend to apply for an exemption from a total of 9 hours of training

Qualification Obtained	Name of Institution	Date of Issue	Supporting Document Provided by the Teacher	Verified by Principal/SMCs/IMCs Note 3
e.g. Bachelor in Science (Major in Physics)	e.g. XX University of Hong Kong	3.12.2016	Degree Certificate	✓

Note 3: Principal/SMCs/IMCs should verify whether the applicant holds the above-mentioned academic qualifications eligible for exemption and retain the relevant supporting documents for inspection by EDB when necessary.

Form D: Served as the General Studies subject panel head / Coordinator for STEAM / Coordinator for the “Quality Education Fund Thematic Networks (QTNs)” Project for 5 years or more, and intend to apply for an exemption from a total of 9 hours of training

Post/ Job Title/ Project Title	Name of School/ Organisation	Year of Serving Note 4	School Year	Supporting Document Provided by the Teacher	Verified by Principal/SMCs/IMCs Note 5
e.g. General Studies Subject Panel Head	Serving school	3	2019/20 – 2021/22	e-Services record	✓
e.g. Coordinator of STEAM	Serving school	2	2021/22 – 2022/23	School record	✓
e.g. Coordinator of QTNs project	EDB	2	2022/23 – 2023/24	Project contract	✓

Note 4: If a teacher holds different job title within the same school year, the year of experience cannot be counted twice.

Note 5: Principal/SMCs/IMCs should verify that the applicant served the above-mentioned position(s).

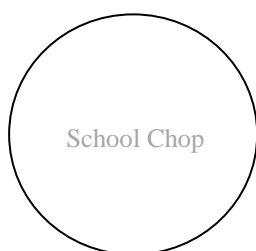
Form E: Completed the “Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)” programme

Course ID	Course Title	No. of hours	Date of Completion	Supporting Document Provided by the Teacher	Verified by Principal/SMCs/IMCs <small>Note 6</small>
	“Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)” Programme	15			

Note 6: Principal/SMCs/IMCs should verify that the applicant has completed the programme, and retain the relevant supporting documents for inspection by EDB when necessary.

Section C: Declaration by the Principal/SMCs/IMCs

I hereby confirm that the applicant mentioned in Section A of this form has fulfilled the training hour requirements and that I have verified the information listed in Section B. I write to submit the application to EDB. The school will ensure the proper retention of all the relevant supporting documents provided by the applicant for inspection by EDB when necessary.



Signature of School Supervisor/Principal* : _____

Name of School Supervisor/Principal* : _____

Date : _____

*Please delete the inappropriate

Professional Teacher Training Series for Introduction of Primary Science

Introduction

The “Professional Teacher Training Series for Introduction of Primary Science” programme aims to integrate teaching theories and practice, enabling participating teachers to master engaging and lively science teaching methods, and implement the scientific inquiry activities recommended in the Primary Science curriculum within classroom contexts. From March to July 2024, EDB will organise the first round of the “Professional Teacher Training Series for Introduction of Primary Science” programme, which includes the following courses: “The Use of Scientific Models in Primary Science Lessons” (6 hours), “Discovering Knowledge through Scientific Inquiry” (6 hours) and “Engineering Practice and Innovation” (6 hours). Additional courses under the “Professional Teacher Training Series for Introduction of Primary Science” programme will be launched subsequently.

Course Title	Content	Event
The Use of Scientific Models in Primary Science Lessons (6 hours)	Seminar (Morning session) (3 hours): <ul style="list-style-type: none"> - Utilise thinking tools and scientific models as effective methods for clarifying and organising scientific concepts - Instructional strategies for guiding students to use thinking tools and scientific models in the process of learning science 	CSD020240405 (New) AA-2024/03/11 AB-2024/03/14 AC-2024/03/15 AD-2024/05/22
	Workshop (Afternoon session) (3 hours): <ul style="list-style-type: none"> - Utilise thinking tools and scientific models in science learning in classroom contexts 	CSD020240408 (Rerun) AA-2024/06/03 AB-2024/06/19 AC-2024/06/26 AD-2024/07/29
	Examples of related scientific inquiry activities: <ul style="list-style-type: none"> - Study or construct physical models of the related human body systems (or mammals) (Primary 5) 	

Course Title	Content	Event
	<ul style="list-style-type: none"> - Simulate a simple food chain to illustrate the predator-prey relationship (Primary 4) - Connect circuit components such as batteries, switches, wires and light bulbs, to explore the necessary conditions for a closed circuit (Primary 4) - Use models to explain the phases of the Moon on different days within a month (Primary 3) - Simulate the processes of water cycle using tools such as hot water, cups and lids (Primary 3) - Create models using modelling clay in three different colours to simulate the layered structure of the Earth's interior (Primary 4) 	
<p>Discovering Knowledge through Scientific Inquiry (6 hours)</p>	<p>Seminar (Morning session) (3 hours):</p> <ul style="list-style-type: none"> - Utilise scientific inquiry as effective methods for discovering and constructing scientific knowledge - Instructional strategies for guiding students to conduct scientific inquiry <p>Workshop (Afternoon session) (3 hours):</p> <ul style="list-style-type: none"> - Conduct scientific inquiry activities and carry out formative assessment in classroom contexts <p>Examples of related scientific inquiry activities:</p> <ul style="list-style-type: none"> - Perform tests on how to speed up the dissolution of substances in water (Primary 2) - Use a flashlight to shine on the palm to create different shadow puppets, and observe the changes in the size of the shadow when the hand is moved closer 	<p>CSD020240406 (New)</p> <p>AA-2024/03/19 AB-2024/03/20 AC-2024/03/21 AD-2024/05/23</p> <p>CSD020240409 (Rerun)</p> <p>AA-2024/06/04 AB-2024/06/20 AC-2024/06/27 AD-2024/07/30</p>

Course Title	Content	Event
	<p>to or farther from the light source (Primary 1)</p> <ul style="list-style-type: none"> - Observe the changes in shadow length and position under sunlight at different times (Primary 4) - Perform tests to find out whether water and air are necessary conditions for rusting (Primary 5) - Perform tests on the factors affecting the magnitude of friction (e.g. pull an object on different materials and measure the required pulling force using a spring balance) (Primary 4) - Perform tests on the functions of simple machines such as rollers, inclined planes and pulleys (fixed pulleys) (Primary 3) 	
<p>Engineering Practice and Innovation (6 hours)</p>	<p>Seminar (Morning session) (3 hours):</p> <ul style="list-style-type: none"> - Introduce the engineering design process as an effective method for designing and creating new products - Instructional strategies for guiding students to conduct the engineering design process <p>Workshop (Afternoon session) (3 hours):</p> <ul style="list-style-type: none"> - Conduct design-and-make activities and carry out formative assessment in classroom contexts <p>Examples of related scientific inquiry activities:</p> <ul style="list-style-type: none"> - Construct a simple solar still (Primary 3) - Construct a small fan or vacuum cleaner using materials such as solar panels and small motors (Primary 5) - Design and construct a soundproofing device and improve its sound insulation performance through the design cycle (Primary 5) 	<p>CSD020240407 (New)</p> <p>AA-2024/04/23 AB-2024/04/25 AC-2024/04/26 AD-2024/05/24</p> <p>CSD020240410 (Rerun)</p> <p>AA-2024/06/05 AB-2024/06/21 AC-2024/06/28 AD-2024/07/31</p>

Course Title	Content	Event
	<ul style="list-style-type: none"> - Design and make a water rocket to investigate the relationship between force and motion, including action-and-reaction pair of forces and the effect of forces on the state of motion of an object (Primary 5) - Construct simple instruments (e.g. anemoscope, rain gauge) to measure weather data (Primary 5) - Design and construct simple physical models (e.g. a model of a small house with a heat-resistant roof, a paper bridge capable of bearing weight) based on the scenario created by the teacher (Primary 4) 	

Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)

The “Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)” programme is jointly organised by EDB and tertiary institutions, targeting aspiring Primary Science subject panel heads or level coordinators, and aims at enhancing their capabilities in Primary Science curriculum leadership and management. Its content includes curriculum leadership, curriculum interpretation, curriculum planning, safety guidelines, etc. Teachers are required to complete and obtain the “Certificate in Professional Training for Primary Science Teachers (30 hours)” before applying for the “Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)”.

EDB will hold the first round of the “Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)” programme from April to November 2024. Additional events will be announced subsequently.

Course Title	Content	Event
“Certificate in Professional Training on Primary Science Curriculum Leadership (15 hours)” Programme	The course composes of 3 seminars (3 hours each) and 2 workshops (3 hours each): Seminar (1) Curriculum Interpretation of Primary Science (3 hours): <ul style="list-style-type: none"> - Interpret the curriculum rationale, learning objectives, curriculum framework, and diverse science learning experiences of Primary Science - Explain the learning content within the curriculum framework through examples 	CSD020240458 (New) A total of 6 events (AA to AF) will be held from April to July 2024
	Seminar (2) Curriculum Leadership and Development of Primary Science (3 hours): <ul style="list-style-type: none"> - Introduce key aspects of curriculum leadership, including curriculum coordination, establishment of subject team, and manpower planning - Explain the principles of curriculum design and the design of learning and 	CSD020240460 (Rerun) A total of 6 events (AA to AF) will be held from September to November 2024

Course Title	Content	Event
	<p>teaching activities for Primary Science through examples</p> <p>Seminar (3) Curriculum Planning and Management of Primary Science (3 hours):</p> <ul style="list-style-type: none"> - Introduce the curriculum planning of Primary Science - Illustrate curriculum management, teacher professional development, curriculum implementation and evaluation of Primary Science through examples <p>Workshop (1) Curriculum Planning and Management of Primary Science (3 hours):</p> <ul style="list-style-type: none"> - Design learning plans for different levels based on a specific theme - Explain the practical operation of curriculum planning and management of Primary Science through examples <p>Workshop (2) Design of Learning and Teaching Activities and Assessment for Primary Science (3 hours):</p> <ul style="list-style-type: none"> - Design learning and teaching activities or diversified assessment strategies for a specific topic - Explain the design of learning and teaching activities and assessment for Primary Science through examples 	