

CAPE TOWN SCIENCE CENTRE HOME SCHOOL PROGRAMME 2017



CTSC



CapeTownScienceCentre

INTRODUCTION

The Cape Town Science Centre provides valuable hands-on learning experiences using world-class exhibits designed to enrich the school curriculum and equip learners by increasing their skill and understanding of science, technology and maths. The Cape Town Science Centre strives to be a fun, innovative place and offers learners an unforgettable experience.

Science is a practical subject and whichever curriculum you use, carrying out experiments is a necessary part of the learning experience. We are aware of the difficulties homeschoolers have in accessing the necessary equipment in order to carry out required experiments, especially at High School level. As such we have developed a programme of chemistry and physics experiments designed to support the theory being taught at home. It is based on the iGCSE Cambridge Syllabus 2017.

Space is limited to 20 children per term and spaces will be allocated on a first-come-first-served basis. BOOK NOW to avoid disappointment!

PROGRAMME

The first term programme is suitable for Senior learners (Age 15+). There will be a 2-hour lesson each week for 8 weeks. The lesson will be from 13:30 - 16:15. Each lesson includes a 1-hour Physics practical and a 1-hour Chemistry practical. There will be a 15 minute break between the two sessions.

DATE	PHYSICS TOPIC - SESSION 1 (13:30 - 14:30)	CHEMISTRY TOPIC - SESSION 2 (14:45 - 15:45)
2 February	<ul style="list-style-type: none">• Mechanics (motion in one direction) (Scalar & Vector quantities)	<ul style="list-style-type: none">• Solids, liquids and gases (use of apparatus)• Purification of materials
9 February	<ul style="list-style-type: none">• Force definition, effects of force (Newton's second law)	<ul style="list-style-type: none">• Elements, mixtures and compounds• Atomic structure and Periodic table• Bonding
16 February	<ul style="list-style-type: none">• Energy (types), Work & Power	<ul style="list-style-type: none">• Stoichiometry - equations, relative atomic mass, relative molecular mass• Calculations - empirical formulae
23 February	<ul style="list-style-type: none">• Moments of Force (centre of gravity)• Levers	<ul style="list-style-type: none">• Electricity and chemistry (Electrolysis and electro chemical cell)• Electro chemical series
2 March	<ul style="list-style-type: none">• Pressure (In solids , liquids and gases)• Barometers	<ul style="list-style-type: none">• Chemical reactions, rate of reactions
9 March	<ul style="list-style-type: none">• Kinetic molecular model of matter• Thermal Physics, convection, conduction and radiation	<ul style="list-style-type: none">• Reversible reactions, both physical and chemical
16 March	<ul style="list-style-type: none">• Gas Laws (Boyle's Law, Charles's Law)	<ul style="list-style-type: none">• Redox reactions (oxidation number, oxidation agent and reducing agent)
23 March	<ul style="list-style-type: none">• Thermal Capacity, Heat transfer• Specific heat, Latent heat	<ul style="list-style-type: none">• Acids, bases and salts.• Titrations (Concentration of solutions)

PAYMENT PROCEDURE

COST: CTSC Members: R1 000 per person

Non-members: R1300 per person (includes a 1-year membership to the Cape Town Science Centre)

PLEASE NOTE: There is no charge for accompanying parents, but accompanying siblings NOT attending the lessons will be required to pay the standard entry fee if they are not a CTSC member.

BOOKINGS AND FULL PAYMENT MUST BE RECEIVED BY 26 JANUARY 2017.

Payment to be paid into the CTSC's bank account. Once the payment is made, a deposit slip verifying this payment must be emailed to portia@ctsc.org.za. **Should you wish to cancel a booking, this must be done by 1 February 2017 in order to qualify for a full refund. Any cancellations after this cut off date will not be refunded.**

CAPE TOWN SCIENCE CENTRE BANK DETAILS:

Name: Interactive Science Foundation t/a Cape Town Science Centre

Bank: Standard Bank, Cape Town Branch

Branch code: 020 909

Account No: 070098549

Reference: Use "HSP" followed by your child's name as the reference.

EMAIL PROOF OF PAYMENT TO PORTIA@CTSC.ORG.ZA TO CONFIRM BOOKING.

BOOKING FORM - HOME SCHOOL PROGRAMME 2017



Please fax this form to PORTIA (086 519 7227) or email to portia@ctsc.org.za

- Only written bookings will be confirmed via a letter from the Cape Town Science Centre.
- Parents\Guardians are to fill in one **Booking Form** and one **Indemnity Form** per Homeschooler.
- Please note that telephonic enquiries do not serve as a confirmed booking.

Please fill in the following information:

Name of participant: _____

Name of parent/guardian: _____

Home address: _____

Telephone number: _____ Gender: _____ Age: _____

Parents' cell phone(s) (emergency): _____

Email address: _____

Membership number: _____ (If your child is a member)

INDEMNITY FORM

Specific Medical Requirements

Does your child suffer from asthma or allergies, have any specific medical condition or/and require medication?

I, the undersigned

(Full names and surname)

being the father/mother/guardian of

(Child's name and surname)

hereby have read and understood the booking procedure and indemnity forms and consent to the participation of the aforementioned child in the Home School Programme.

Signature: _____

Date: _____

PLEASE NOTE THE FOLLOWING:

The Home School Programme is not designed to teach the whole topic being covered in the syllabus. The content follows experimental/practical parts of the Cambridge iGCSE 2017 syllabus, which are difficult to carry out at home. It is recommended that the theory for the weeks topic is covered prior to attendance as the course is designed to complement and enhance the theory through hands on experiments.

Refunds will not be given should you miss a session or choose to cancel the booking after the cut off date. It will not be possible to run catch up sessions in the case of missing a session.

In the event that the CTSC is not able to run a session in any given week due to unforeseen circumstances, we will endeavour to provide as much notice as possible and will arrange an agreed alternative day to run the missed session.

Please endeavour to arrive 15 minutes early so we can make a prompt start. There will be a short 15 minute break after the first experiment. iCafe will be open should you wish to purchase a snack during break time.

All facilities within the Cape Town Science Centre are used at own risk and subject to the rules of management. Under no circumstances will management accept liability for injury, death, loss or damage sustained for any reason, howsoever caused.

We thank you for your understanding.