



CERN Teacher Programmes

Inspiring the next generation of scientists

Mick Storr

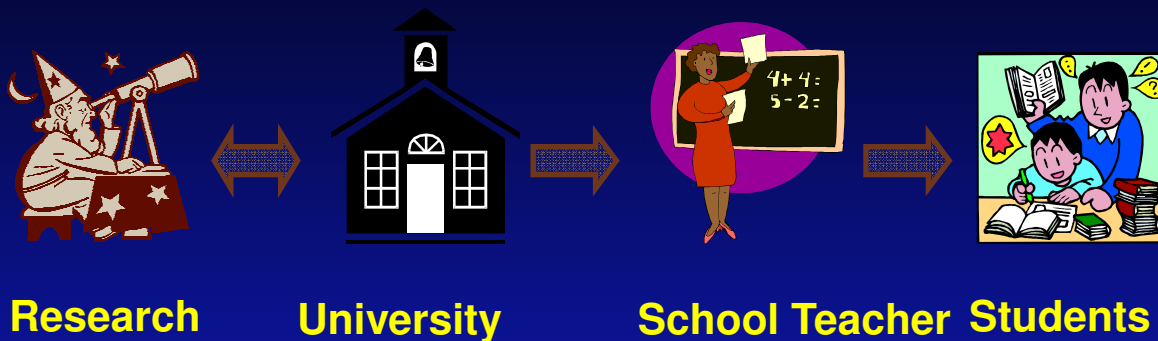
Head CERN Teacher Programmes
and
Visits Service



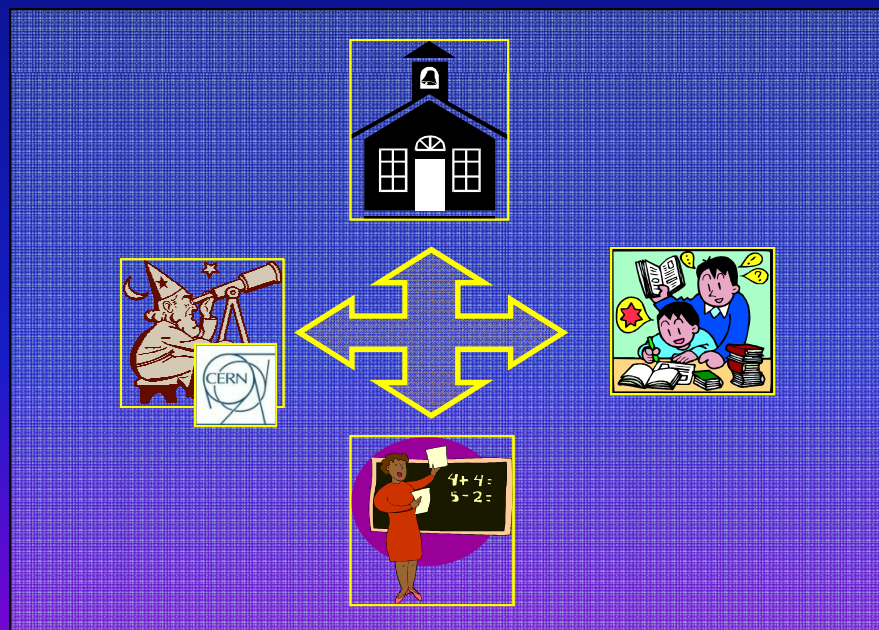
Objective of Teacher Programmes

To bring modern research closer to schools

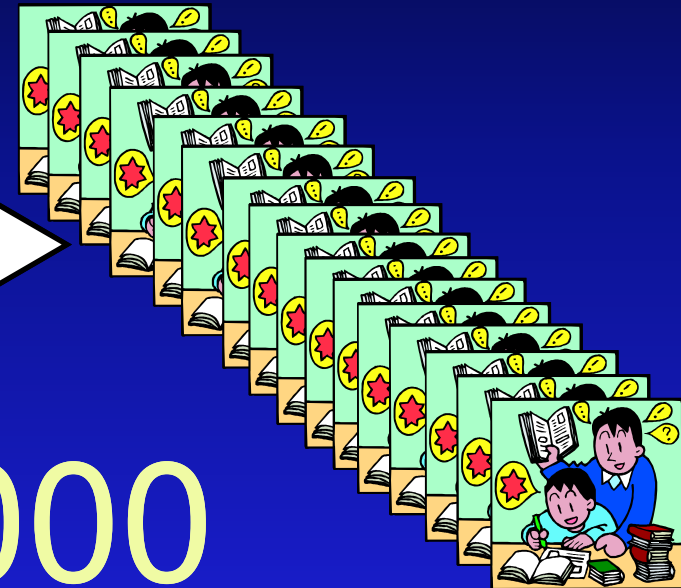
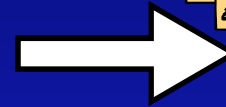
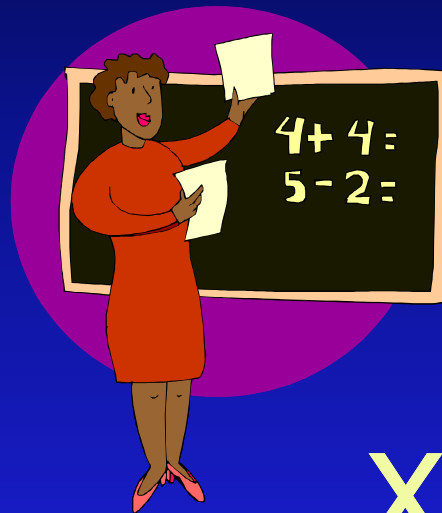
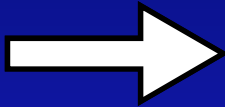
OLD



NEW



Looking for multiplicative factors



x 1000

School Teacher

School
Students



What are we trying to achieve with the help of physics teachers ?

1: RAISE AND MAINTAIN THE INTEREST OF STUDENTS IN MODERN SCIENCE

Motivate them to **continue scientific education at school**
Help them to better understand the physical world

Improve scientific literacy

2: INSTIL A FEELING OF MYSTERY AND DISCOVERY POTENTIAL

Motivate students to take up physics at universities

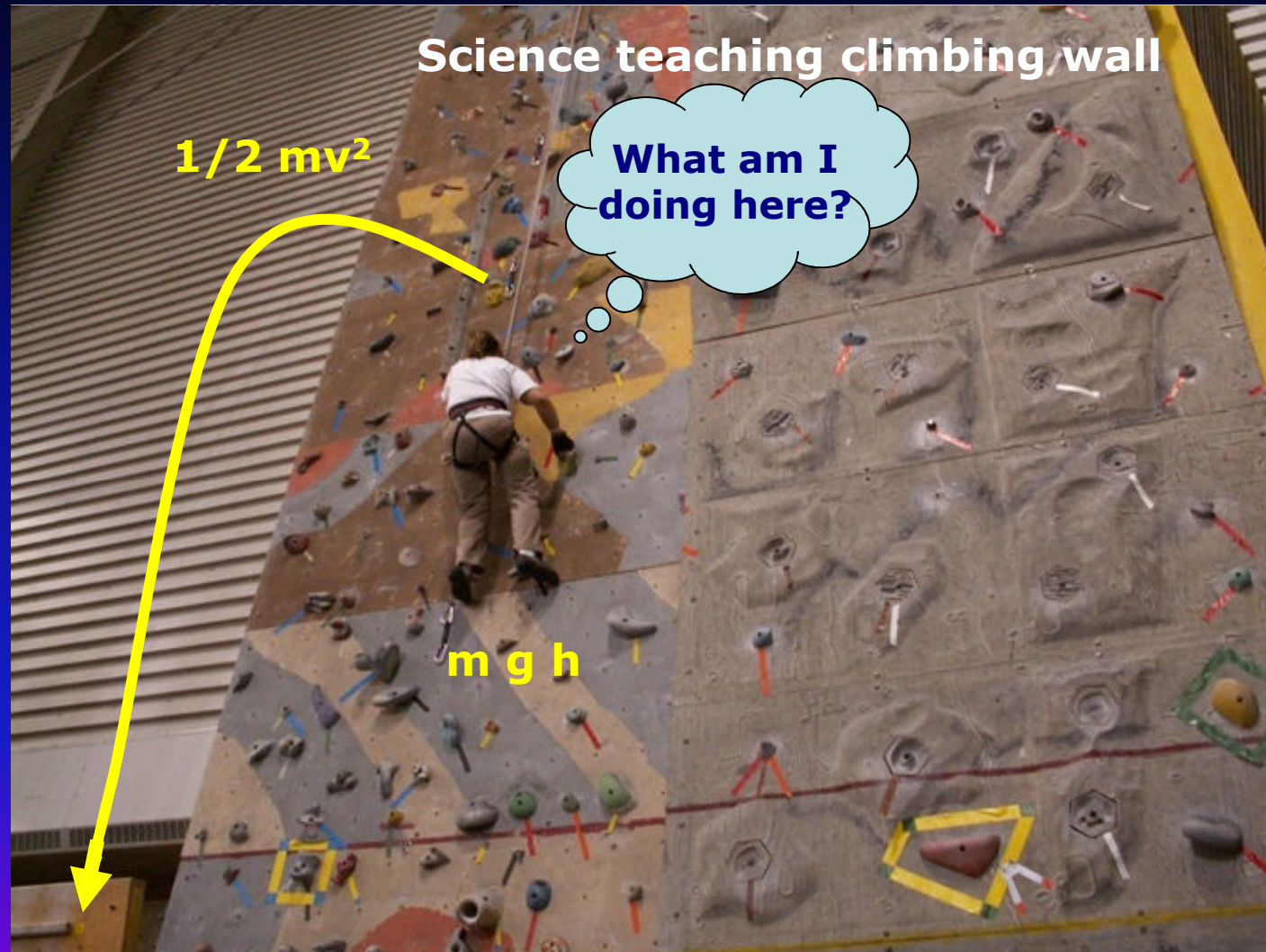
Prepare the future generation of physicists

SCIENCE IS ALIVE !

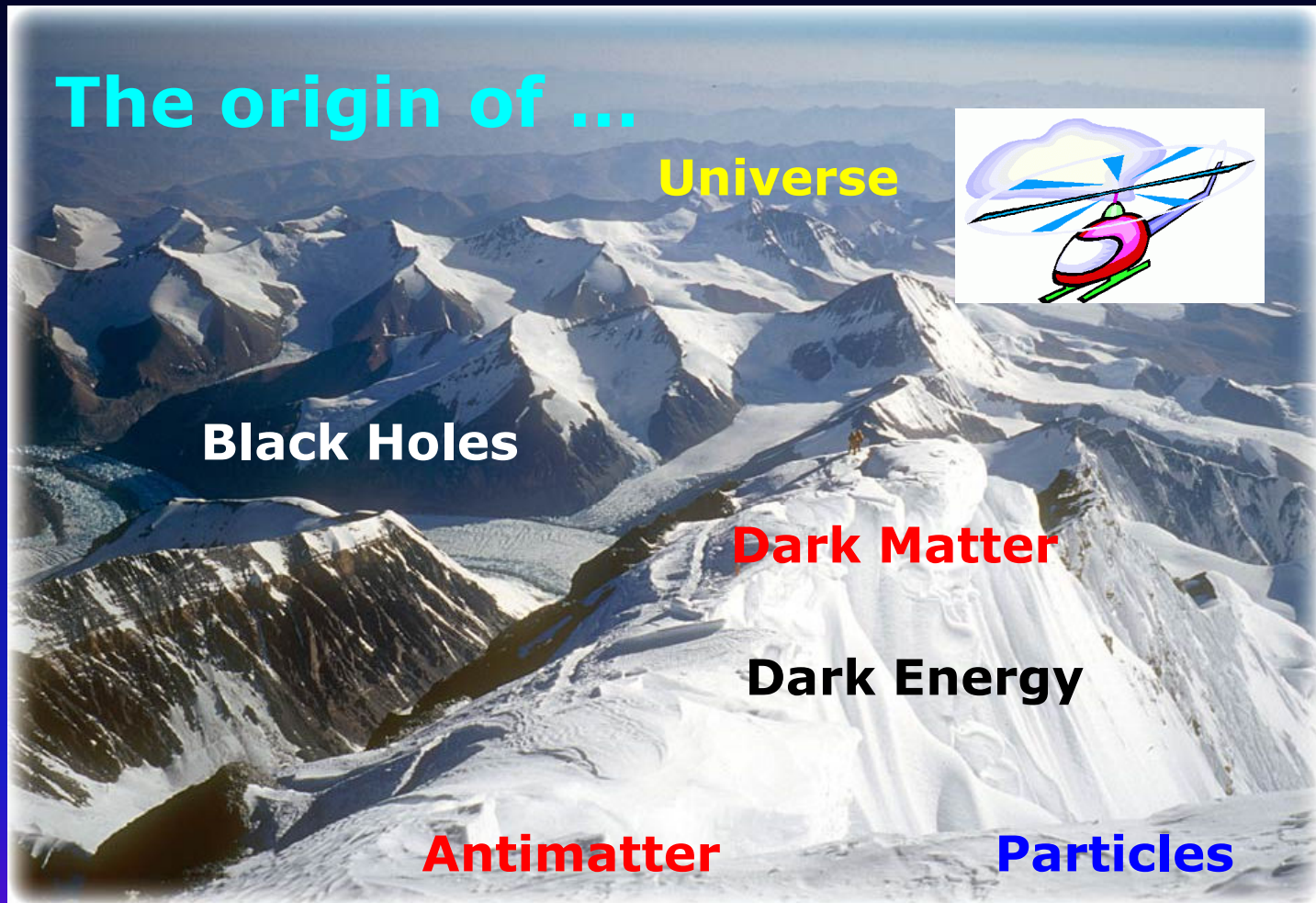
How researchers view science



How school students view science



Take students on a sight-seeing tour ...



Link modern physics to school curriculum



Residential Teacher Programmes

Basic content

- Lectures
 - Introductions to CERN, Particle Physics, Cosmology, the LHC Experiments, Particle Accelerators, Medical Applications of Particle Physics, and the GRID
- Visits to experimental facilities
- Hands-on activities
- Working group activities
- Opportunities to meet working research physicists in a variety of informal settings.

All lectures are recorded, web archived and made publicly available



3 - week Summer School



30-40 participants, mainly from member states - held in English

Fully funded by CERN (travel, accommodation, food, lectures)

Lectures: Particle physics, cosmology, accelerators, detectors

Seminars: Antimatter, medical applications, ...

Working Groups: Bubble chambers, teacher lab, stories, ...

Guided Tours: LHC experiments, Antimatter factory

Social events - networking - Alumni contacts

4 - 24 July 2010



3-day weekend programme

≤ 50 participants (mainly member states)

In English

Partially funded by CERN (accommodation)

Lectures on:

particle physics and cosmology

accelerators and detectors

antimatter, medical applications

Guided tours:

LHC experiments

Antimatter Factory

14 - 17 May 2009



1-Week Programmes

30 - 50 participants (from same country or language group)

In the language of the participants

No course fee, but external funding for travel, accommodation, subsistence

Goal: 20+ programmes per year

In collaboration with teachers and scientists from member states

Funding: teacher education funds, ministries, local authorities, foundations



NTP Programme Organisation

Collaboration

CERN education group + for each country:

CERN National Oganiser scientist from the country resident at CERN

National coordinator(s) e.g. teacher, administrator resident in the country

National agencies, foundations to assist with funding



Outcome

- Newly inspired, motivated and confident teachers
- Inspire and motivate students
- Communicate with their colleagues
- Communicate with the general public
- Act as ambassadors for science, physics, particle physics, CERN

**Excellent examples among
the many teachers who
have attended our
programmes**



Arthur C. Clarke

Author of 2001 : A Space Odyssey

- “When a distinguished but elderly scientist states that something is possible, he is almost certainly right. When he states that something is impossible, he is very probably wrong.” •
- “The only way of discovering the limits of the possible is to venture a little way past them into the impossible.”
- “Any sufficiently advanced technology is indistinguishable from magic.”

**Our goal, with the help of teachers, is to
bring a little of the magic of CERN into the
classroom**



Thank You

- JINR
- Sponsors
- Physicists + engineers
 - Lecturers, guides, demonstrators
- Programme Coordinators/Organisers
- CERN colleagues
- YOU !
 - Interest, enthusiasm, energy, and dedication to students

Congratulations

CERN is proud of the educational links that are being consolidated through this programme with participating countries

I am very proud to be a member of each country team