Tees Valley Primary Science Capital Guide

Teacher CPD Activities

Science Capital

Skills

Reputation

STEM Careers

Community

Raising Aspirations

Ambassadors

Staff Development

CPD Activity 1

Understanding science capital

Discussion: A school's journey – what next?

Can you suggest possible actions for this school?
Teachers say they 'do science capital' by engaging in Science Week and visiting a museum every year
Most staff indicate on an anonymous questionnaire that they don't fully grasp the meaning of science capital
A pupil voice survey indicates that children are not able to name many jobs which use science skills
Teachers feel more could be done to promote science learning at home and through events/organisations in the local community
Teachers report that though many children enjoy science learning some are disengaged; particularly those from less advantaged backgrounds
One teacher feels that children in her class perceive that a specific group of boys are the ones who are good at science
Each science topic has a 'key scientist' assigned to it but staff have commented there is a lack of diversity

CPD Activity 3

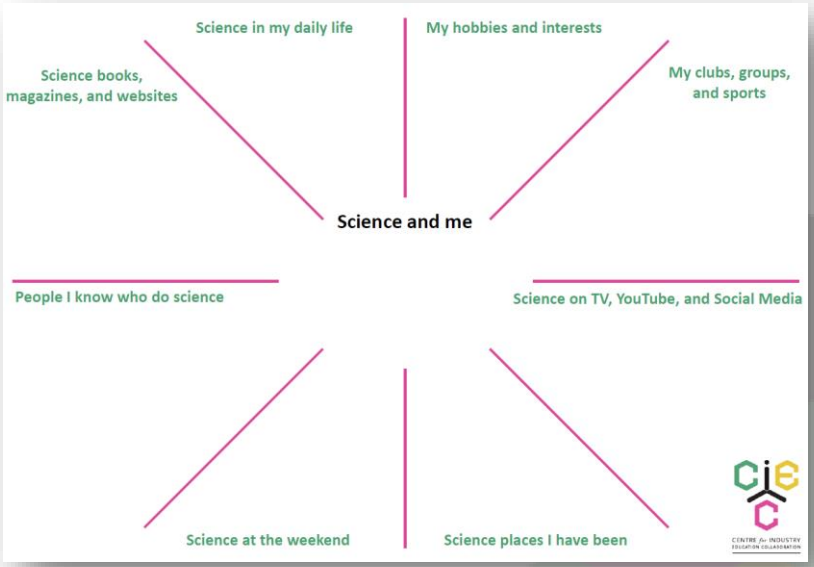
Science capital topic planning

Science capital topic planning

Share Activity sheet 2: Science and me (topic focus)

Using the medium term plan for your next science topic, include:

- Your responses
- Information you know about your students



CPD Activity 4

Who uses science?

Skills cards: Who does science?

Share pre-cut cards from Handout 4: Science skills cards activity

Discuss these jobs, interests, and hobbies. Sort cards to identify where links could be made to the science curriculum

Sports/fitness/training	Fashion/textiles/sewing	Hair and beauty
Gardening/floristry	Uniformed service	DIY
Nursing assistant and personal care	Animal care	Cookery and baking
Electrician	Construction worker	Joiner/carpenter
Doctor/nurse/physio	Chef/catering/hospitality	Mechanic
Personal trainer	Photographer/graphics	Painter/decorator
Musician/DJ	Pharmacist/first aid	Driver/transport

<u>Example:</u> Sports fan

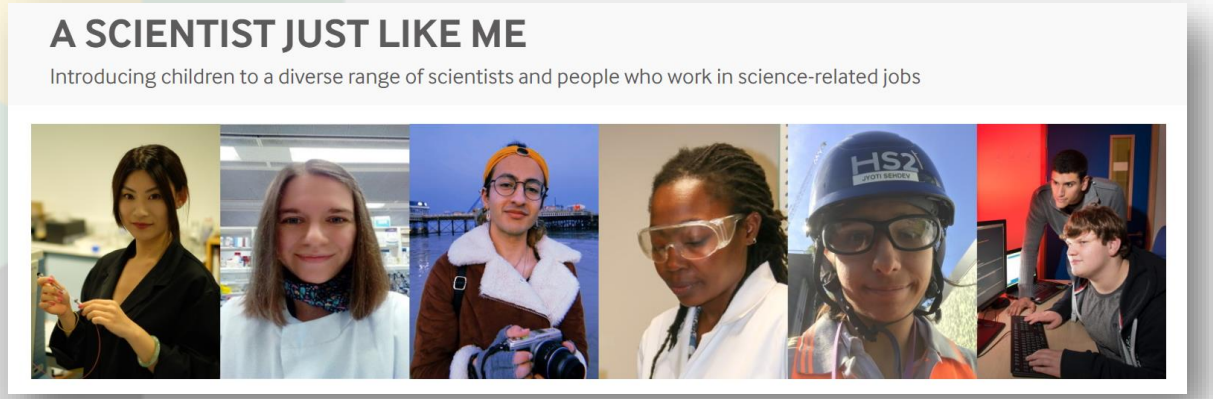
- Use of friction in design of specialist clothing, footwear, equipment, and surfaces e.g. running track, ice rink, skate ramp
- Properties of materials for sports clothing
- Nutrition required for optimum performance
- Exercise required to keep fit and build/maintain muscle strength
- Heart rate monitoring to keep track of athlete's health/fitness level
- Conditions for growth of grass on pitch

CPD Activity 5

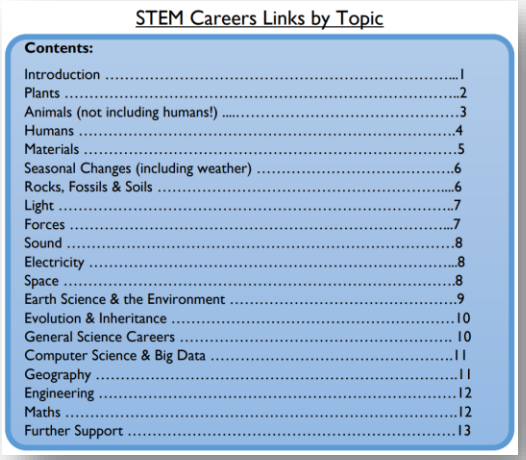
STEM careers learning in the primary classroom

Research STEM careers

Share Handout 6: STEM Careers links to the curriculum

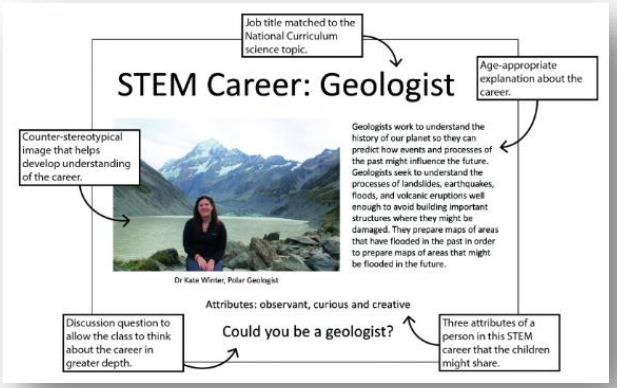


[Primary Science Teaching Trust – A Scientist Just Like Me]

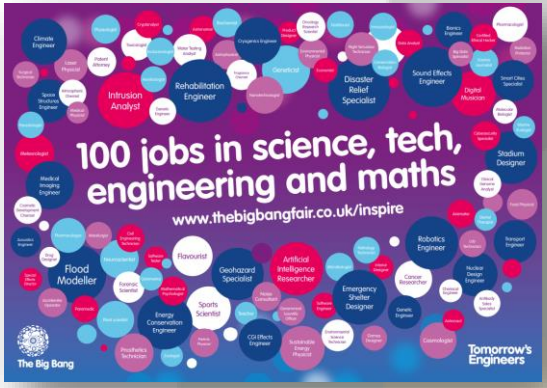

STEM Careers Links by Topic

Contents:

[That Science Lady – STEM Careers Links]



[NUSTEM – Primary Science Careers Tool]



[Neon Futures – 100 jobs in STEM poster]

[Neon Futures – Find your route into engineering (printable postcards)]

CPD Activity 6

Identifying STEM advocates in the school community

Who are your local community STEM advocates?

Children's parents/carers and extended family members	Staff members with previous career experiences
School governors	Staff members' friends and family
Past children now in FE/HE/employment	Local companies
Colleges/Universities/Organisations	Local services e.g. dentist, GP surgery

Make a list

How might your STEM advocates work with you?

Class visit to their place of work	In-person visit to the classroom
Video call Q&A with the class	Pre-recorded videos
Virtual site-visit	Live demonstration
Presentation slides including photographs of the person doing their job	Storyboard depicting a ‘typical’ day in their job

Types of classroom interaction

Initiator of the activity • Set the scene or pose a challenge • Present a 'problem' to the children • Lead a discussion • Role play	**Advisor/consultant** • Share experiences • Support children • Discuss how and why something is done in industry • Compare classroom activities with real life examples
Audience/judge • Test quality of finished products • Evaluate solutions • Comment on the safety aspects • Judge designs, investigations, competitions • Award certificates • Be an audience for presentations	**Provider of information** • Bring equipment • Give examples • Describe/show photos • Offer relevant demonstrations

Responsibilities

Teacher/school	Both	Ambassador
School visit risk assessment Provision of classroom equipment Behaviour management First aid	Agree and keep to time	Activity risk assessment Provision of specialist equipment