Working with the national curriculum

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If you are interested in working with school groups, a good way into the classroom is to align your activity or resource with the national curriculum. Time-strapped teachers often find it easiest to allow school children out of classes if the activity enhances their everyday learning.



Working with the national curriculum

Does your research match part of the National Curriculum?

- Your research could be a real world example of something on the curriculum, or could go into more detail on a certain topic.
- Find out more about the curriculum at different ages.

Have you talked to teachers to see what support or resources they need?

- Involving teachers in the design process will ensure that your activity or resource is useful and classroom ready.
- There are lots of different ways to engage with teachers.
- Education Liaison can suggest ways to make contact.

Have you decided what kind of resource or activity to create?

- You could create a workshop for you to deliver in-class, lesson plans, printed resources, digital content and much more.
- Find out more about some of the pros and cons of each.

Are you aware of (and using) key terms and phrases?

- Students are expected to use these in exams. Exam boards highlight them on each syllabus.
- The key exam boards in the UK are AQA, EDEXCEL and OCR.

Have you shown your resource or activity to someone else?

- Someone who is not a researcher in your field will have a good insight into how clear your activity is.
- An outreach/PE professional in your school or a teacher make good proof readers.

Have you thought about issues of accessibility and equality?

- Your activity or resource should be accessible to as many people as possible.
- If you are unsure about any aspect of your activity, get in touch with QM's diversity team.

Want to learn more? More in-depth advice can be found by clicking the hyperlinks above, and on the reading list here.



The National Curriculum, Syllabuses and Key Stages

The National Curriculum is set by the government and sets out which subjects all students in England must cover. Different exam boards then set their own syllabuses, which describe in detail what students need to know to gain qualifications. Different schools use different exam boards for the same subjects.

Fee-paying schools, free schools and academies do not have to follow the national curriculum.

Subject	Key Stage 1 (Age 5-7)	Key Stage 2 (Age 7-1)	Key Stage 3 (Age 11-14)	Key Stage 4 (Age 14-16)
English	✓	✓	✓	✓
Maths	✓	✓	✓	✓
Science	✓	✓	✓	✓
Art and Design	✓	✓	✓	Optional
Citizenship			✓	✓
Computing	✓	✓	✓	✓
Design and Technology	✓	✓	✓	Optional
Languages		✓	✓	Optional
Geography	✓	✓	✓	Optional
History	✓	✓	✓	Optional
Music	✓	✓	✓	Optional
Physical Education	✓	✓	✓	✓

Not all subjects are taught at all ages. This table shows the subjects which will be compulsory in English schools from September 2014.

Key learning outcomes in reading, writing and mathematics up to age 14 are shown on the next page.



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Key learning outcomes for Key Stages 1-3

Key stage	Age	Reading	Writing	Maths
Key Stage 1	5-7	Read aloud, sound out new words, understand and discuss material	Spell common words, write simple sentences, plan sentences out loud. Simple corrections.	Count to 100, add and subtract 1-2 digit numbers. Use basic fractions, and understand measurement and units. Tell the time within 5 minutes. Recognise common shapes and their properties. Use pictograms, tally charts and tables.
Lower Key stage 2	7-9	Read silently, justify views on material. Read a range of fiction and non-fiction	Write ideas down in structured paragraphs, using headings. Correcting their work and others.	Count beyond 1000. Add and subtract 4 digit numbers. Times tables up to 12. Estimation and rounding. Add, subtract and compare fractions with the same denominator. Solve problems involving money. Tell the time to the minute. Convert measurement units. Interpret and present data in bar charts and time graphs.
Upper Key Stage 2	9-11	Read most words effortlessly, summarise plots, modulate tone for effect when reading aloud	Write ideas quickly, legibly and accurately, with grammar and punctuation. Spell new words.	Use numbers beyond 10,000,000. Interpret negative numbers. Use prime numbers and factors to 100. Use square and cube numbers. Multiply fractions. Convert decimals to fractions. Recognise percentages. Understand equivalences between metric and imperial units. Use simple formulae to represent missing number problems (up to 2 unknowns). Use pie charts and line graphs. Calculate the mean.
Key Stage 3	11-14	Read pre-1914 and world literature, including Shakespeare. Read critically, understanding plot, language etc. Critically compare texts.	Write accurately and effectively at length (including structured essays). Write for a wide range of purposes.	Combine mathematical ideas to develop competence in solving more difficult, multi-step problems, including those in other subjects. Use algebraic notation and graphs, including linear and quadratic functions. Use real roots and powers. Work interchangeably with fractions and decimals. Use a calculator. Devise and apply formulae to solve geometrical problems. Use Pythagoras' Theorem. Understand probability. Use scatter graphs in observational; and experimental contexts.

Dialogue with teachers

Method	Comments
Teacher steering/advisory group	A fixed group of teachers who can advise and consult on a project throughout it's lifecycle. Best for longer-term of large projects, as convening and arranging this kind of group can be time consuming
Pilot exercise	Test activities or resources in a small number of situations. Especially useful to rehearse workshops or test to see how easy resources are for teachers/pupils to use.
Focus group	Gathering a group of teachers into a room for a one-off meeting can be a productive way of getting feedback from many people. This can cost though, as it may be necessary to pay for travel expenses and catering.
Web chat	Either a live session where multiple teachers join in, or a conversation on a teacher-specific mailing list or forum. tes is a popular teachers forum. There are also many subject-specific forums – for example history and chemistry.
One-off interactions	For example an email exchange or a one-off meeting. Can be useful to get quick informal feedback, or for troubleshooting.



Options for schools-based resources

Option	Pros	Cons
Classroom workshop delivered by QM staff and students	• Exposes school pupils to researchers • Researcher gets instant feedback • Two-way engagement facilitated	• Time consuming • Limited reach, especially if there I only one staff member • Possible continuity problems if key staff leave
Lesson plans for teachers to deliver	• More pupils can benefit from the activity • Sustained contact with teachers can improve school-university relations	• Issues with quality control • Can be difficult to track usage • Difficult to collect evaluation data
Printed resources (information booklets etc)	• Can reach teachers nationally • Resources can stay in the classroom for a long time • Lots of information can be packed into a magazine or booklet	• Can be expensive to print and post • Can be to ensure that they are used if they are not built into lesson plans
Digital resources	• Can have a global reach • Can be cheap to produce • Easy to track visitor data	• Can be very costly, especially if interactive content needs to be built • Harder to get in-depth feedback from users
Audiovisual resources (eg, YouTube)	• Very visually appealing • Can break content into small chunks which are useful in multiple contexts	• Some schools may block video platforms • Can be costly to have videos produced to a professional-looking standard
Social media	• Uses platforms that pupils already find engaging • Good for quick responsiveness and short-term interactions	• Not all schools will allow access to all platforms • Raises privacy and child protection issues

