50 GREAT WEBSITES FOR MATHS TEACHERS

Andrew Jeffrey

Introduction

Firstly, thank you visiting my website, and for taking the trouble to download this e-book. I hope you find it useful.

My name is Andrew Jeffrey, and I was a teacher of mathematics for twenty years, as well as being a professional magician in and around the city of Brighton. In the summer of 2007 I left the classroom and my deputy head's job, (*and salary and pension!*) in order to take the message that '*maths is fun and worthwhile and you can do it'* to as wide an audience as possible.

This e-book is written with a very specific purpose in mind. How many times have you asked yourself (or others) '"I *wonder whether or not there are any good websites for…?"* If you are anything like me, you tend to come across websites just AFTER you have taught a particular topic, and then forget about them until the next year, when you suddenly remember the site and once again it's too late…

Good news – this need never happen again, as you are now in possession of an electronic list of 50 websites that *I can personally recommend.* Every website listed here has 4 vital things in common, which will make this a real time-saving resource for busy teachers:

- ✓ **I have visited each and every one of them**
- ✓ **They are all 'live' sites that actually work (*at the time of writing*)**
- ✓ **They are 100% free to use***
- ✓ **They are of benefit to teachers and students.**

Of course, like any other resource, the only real benefit will come from the way in which you make use of these websites. Simply getting children to log on and follow blindly through is a recipe for disaster, as is using a website as a teaching tool before checking that you know your way round it thoroughly.

For ease of use, the websites are divided into two sections: section 1 is a list of sites that are aimed more at teachers, while section 2 is a list of sites that are aimed more at pupils. In some cases, sites are possible to categorise a site in either section; in such cases, I have tended to put it in section 1.

Good luck; if I have missed your favourite site, please email it to me. I am planning a follow-up e-book (50 more sites!) in the summer of 2008, and would love to include recommendations – I can't pay you, unfortunately, as these e-books are free, but your name will go in a 'thank you' page!

Happy Surfing! Andrew Jeffrey, December 2007

* *I have included a few sites which have resources for sale, but ONLY if they are of good quality and also have free resources available*.

Section 1: Teacher Resources

In this section, you will find websites full of lesson ideas, printable resources, live demos, and more.

Each site has been selected for its potential usefulness to teachers planning or delivering lessons. You will see that under each link is a handy description to help you decide which sites to visit and which are not for you. It is hoped that as the list grows (with subsequent updates) it will be worth further categorising into topics or strands.

Just click on the links in here, or type the exact URL into address bar on your web browser. Note that some browsers will allow you to miss out the 'http' or the 'www' or, in some cases, both, but they are both given for the sake of completeness.

1. http://web.apolloparkps.vic.edu.au/Content/Curriculum/mathematics/maths_trail/Maths_trail_overview.html

This site is a crystal clear example of how easily you can create a maths trail around your school site. Particularly useful is the fact that it is so well differentiated. Aimed at Infant and Primary age range.

2. http://www.iwb.org.uk

Fantastic range of resources, attractively designed and uncluttered and easy to use. Slightly annoying copyright pop-up each time you use a programme but a small price to pay.

3. http://www.nwnet.org.uk/pages/maths.html

Another great site, part of the government's Primary Strategy, and crammed full of great resources for use with an interactive whiteboard. Even contains example of lesson and unit plans which use the IWB to enhance the learning. From Foundation Stage up to Year 6, but probably of interest to lower secondary as well.

4. http://www.kangaroomaths.com/free_resources/infinity/index.html

A site which sells stuff, but this random question generator looks and feels great to use, and can be downloaded completely free. Upper KS2 up to A-level!

5. http://www.simonsingh.net/

I count myself very fortunate to know Simon Singh, and he is a really great advocate for the wonder and excitement of mathematics. An authority on codes and cryptography, Simon is well known for his enigma machine and book about of Andrew Wiles, describing how Wiles finally proved Fermat's Last Theorem. A website full of original resources, including a free download of the enigma machine simulation.

6. http://www.mathsinspiration.com

The brainchild of Rob Eastaway, a truly inspirational speaker and mathematician, and, at the time of writing, President of the Mathematical Association. A site outlining details of shows for Year 11 and Sixth Form pupils. I know many of the people who are speakers at these events, and they are highly informative and entertaining. Does what it says on the tin.

7. http://www.curriculumonline.gov.uk/Subjects/Ma/Subject.htm

This site gets included not just because of the range of resources it holds, but because of the powerful search facility. You can search by Key Stage, Topics, resource type, topic and more. Recommended.

8. http://www.peda.com/poly/

for teaching 2D nets and how they fold to 3D shapes - with more shapes than I knew existed! Very, very visual – you need to download a piece of software but it is very fast and simple to use. Once done you can see the shape rotating and you can choose how far to 'wrap' or 'unwrap' the shape to/from its net.

9. http://www.grumbles.me.uk
Excellent site for Year 6 teachers with lots of revision materials. Please do not spend weeks and weeks overusing practice SATs though – resist the pressure! Invest the time earlier on with a strong focus on UNDERSTANDING and concept images and you will give children a much better chance of long-term success.

10. http://www.clusterweb.org.uk/ask/curriculumsubjects/ask_cs_maths_teach_rsc.cfm
Not the catchiest of URLs, but a rich source of material. I liked the tessellating Christmas angels – very useful, educational, and great display potential.

11. http://www.e-gfl.org/index.cfm?s=1&m=213&p=15,index&zs=n
Another LEA site from Essex, whose pupil resources particularly impressed me. Check out their puzzles and their tables games.

12. http://www.ncetm.org.uk
One of my most visited sites, full of expertise and great information. Aimed at delivering and supporting excellence in maths lessons; fast growing into the biggest resource for maths teachers in the UK. Also contains forums with stimulating debate and ideas.

13. http://www.freewebtown.com/weddell/mw/division/division%20on%20number%20line%20-%20contents.html
Very visual representation of how division by chunking works, but using a numberline rather than a 'bus-stop' style. Very good for IWB work, and a transition between the two main methods of teaching division.

14. http://www.ictgames.co.uk
This site is maintained by James Barrett, an infant teacher, and has both numeracy and literacy games. Can be used with whole class or group.

15. http://del.icio.us/mathslinks
A super free resource form Chris de Cordova, with lots of useful maths links. I have not checked them all, however, so cannot guarantee that they are all still live. The ones I have looked at are good, though.

16. http://www.beam.co.uk/about/MoM/MoM.html
Although I should certainly declare an interest (I am a consultant who runs INSET training for BEAM) I have no hesitation in recommending this 'Maths of the Month' section of their site. Also useful is the monthly newsletter, which keeps you in touch with what is happening in the world of mathematics education, particularly at Primary level.

17. http://www.tes.co.uk/section/staffroom/list_threads.aspx?path=/mathematics
*I **love** the TES forums! (fora?!) So many kind, helpful and thoroughly resourceful people on here, who are always willing to help a genuine questioner. I also visit the Primary one several times a week, as there are some great ideas on there too. Definitely worth registering, and it's free.*

18. http://www.kangaroomaths.com/index.html
A well indexed and easy to navigate site. Particularly worth checking out are the Excel files, downloadable for free, in the 'Maths to Infinity' section. Some resources for sale as well which I have never tried so can't comment.

19. http://illuminations.nctm.org/
An American site which aims to support 'math' teachers with lesson plans and ideas, good resources, and a few items for sale but these are not 'hard sell'. Most use for KS2 and above probably.

20. http://www.blinkx.com/videos/maths
What do you get when you cross Google and YouTube? You get this site. Blinkx searches for videos on any given subject. Outstanding resource. Danger – possible to waste time on here!

21. http://www.schoolslinks.co.uk/resources_numeracy.htm
This site has a huge range of colourful and good quality posters, mental maths tests, and more. Lots of it is completely free, but the quality is high nevertheless.

22. http://nlvm.usu.edu/en/nav/vlibrary.html
Excellent, American, but requires Java to get it running. Worth it though – I particularly like the algebra manipulations. Free trials, then optional paid version.

23. http://www.btinternet.com/~mathsanswers/html/bob_s_list.html
It's called Bob's list because someone called Bob has tried to do what we all want to do but don't have the time!

24. http://www.emaths.co.uk/
Mark McCourt's site is a must, and definitely top ten for high-quality resources both in terms of teaching and documentation. Also the front page contains links to the major government education websites.

25. http://www.learning.luton.gov.uk/index.cfm?res=y&s=1&m=256&p=76%2Cindex&kw=starter&el=
This site is worth visiting even if you are not from Luton. Not to be copied per se but some good ideas to get you thinking.

26. http://www.wirral-mbc.gov.uk/maths/Merseyside-Unit-Plans/Year2/Y2%20mental%20and%20oral.pdf
I suspect the author of this document has been to my starters lecture (this is just an immodest way of saying that these Y2 starters are FAB; well worth downloading in you teach in Y2; may be useful to Y1 and Y3 teachers too.

27. http://trinityeducational.co.uk
This site is created by teachers for teachers. A wide range of ideas, links and resources, with things for sale as well. For Infant, Primary and Middle schools.

28. http://www.leics.gov.uk/index/education/support_for_schools/sips/aandi-supportteams/ais-primaryimprovementstrategy/ais-numeracy/lgfl_numeracy/lgfl_numeracy_teachers/teachers_primary/teaching_ideas/mental_oral_starters.htm
The longest URL I have ever seen! Don't try typing this in; just copy and paste it or launch it from this document! As it suggests, some super ideas for kicking off your lesson effectively.

29. www.slamnet.org.uk/mathematics/teachers/whiteboard/whiteboard.htm
This site requires you to download IWB files in .xbk format. Very easy to navigate, but still under construction. Promising – worth a bookmark, at least.

30. http://www.nwnet.org.uk/pages/maths/yr12/excel.html
A site to complement the National Numeracy Strategy – an excellent first point of call if you have just got an IWB and are wondering what to do with it!

Section 2: Pupil Resources

In this section, you will find sites that are designed for pupils themselves to use, either as a class, individually with a guiding adult, or even simply on their own at home.

As mentioned in the introduction, there may well be some overlap between this and the other section; websites listed in section 1 may very well also be suitable for use by pupils themselves, and vice-versa.

31. http://www.learning-connections.co.uk/questof9/q_intro.html
A clever adventure game, where pupils have to solve mathematical puzzles to pass through certain doors. Suitable for Upper KS2 and KS3. This is a really nostalgic site for me, as I used to love the early text-based adventure games. Anyone remember Zork, and the other Infocom offerings?

32. http://www.bbc.co.uk/schools/ks3bitesize/maths/
Although this is the KS3 section, there is also a primary section with lots of activities to reinforce what pupils have learnt in the classroom. The quality you would expect from the BBC.

33. http://www.topicbox.net/browse.php?subject=Maths
Very clearly laid out (in a citrus colour scheme!) and simple to navigate. Ideal for KS1-2. Plenty of games and activities clearly indexed.

34. http://www.teachers.ash.org.au/jeather/maths/dictionary.html
*Easy to use, free Maths dictionary. Beware that one or two definitions are not quite right; for example, 'perpendicular' is listed as '***at right angles to the horizon.***' Mostly excellent though, and interactive as well. (It's in my favourites)*

35. http://www.mathnstuff.com/papers/tetra/hexa.htm
This site has really clear instructions about how to make a hexaflexagon. If you have ever seen the wonderful Kjartan Poskitt you will want to make one! Kjartan's site also has instructions.

36. http://www.woodlands-junior.kent.sch.uk/maths/
One of the most (if not THE most) famous school websites in the country, and for good reason. Refreshingly clear of bells and whistles, but very, very useful simple stuffl.

37. http://nlvm.usu.edu/en/nav/vlibrary.html
For making things 'work' visually for pupils.

38. http://www.csfsoftware.co.uk/index.htm
For Ten Quick Questions and Countdown as per the TV programme.

39. http://www.transum.org/Software/
Varied site with starters and games. Even has a good adventure game.

40. http://www.oswego.org/staff/cchamber/techno/games.htm
Lots of the Primary Games stuff for free - powerlines is great.

41. http://www.mathsnet.net/jigsaw/index.html
Tarsia Jigsaw formulator - available free from Mathsnet amongst others

42. http://britton.disted.camosun.bc.ca/polymap/jbpolymap.htm
Wow! Earth maps on polyhedra to cut out and make. I've never seen anything like this. A great idea for students who have 'finished' their 3-d shape projects early!

43. http://www.bbc.co.uk/skillswise/numbers
Great selection of games aimed at primary children. Split into number, measure shape and space, FDP, and algebra and data handling. High quality (well it's the BBC after all) and easily navigated. Also contains quizzes and worksheets to test knowledge.

44. http://www.mathsisfun.net
A fabulous free site for all maths fans. Particularly useful for Sudoku fans, excel entrepreneurs, or games fans, and has a very good book list to boot.

45. http://www.nrich.maths.org/
Well-known Cambridge team, Nrich, maintain this very high quality site which promotes thinking skills through the use of problem solving. Its strength is that it is regularly updated and worked solutions are available.

46. http://www.arcademicskillbuilders.com/
How addictive is this?!! I have just spent 5 minutes racing a car using division facts! Try it now!

47. http://www.mathplayground.com/mathtv.html
Source of some great worded problems- good in Upper KS2 or Lower KS3

48. http://random.brendenisteaching.com/loopcards/
A student-teacher wrote this free loopcard generator; you can set some of the variables.

49. http://www.mathcentre.ac.uk/about.php
A very interesting and useful site for anyone studying A-level maths or beyond. Written by a team of lecturers from a range of universities, it has many free self-teach resources, including teaching videos for downloading onto your iPod!

50. http://www.puzzles.com
I found myself spending WAY, WAY too much time on this site when researching this book. The clue is in the title, really! Some classics and some you won't have seen.