

Maths and History

Medieval Realms

The webaddress for this activity is:

<<http://www.collaborativelearning.org/historymaths1.pdf>>

This activity was last updated 29 th September 2002

COLLABORATIVE LEARNING PROJECT

Project Director: Stuart Scott

Supporting a cooperative network of teaching professionals throughout the European Union to develop and disseminate accessible teaching materials in all subject areas and for all ages.

17, Barford Street, Islington, London N1 0QB UK Phone: 0044 (0)20 7226 8885

Website: <http://www.collaborativelearning.org>

BRIEF SUMMARY OF BASIC PRINCIPLES BEHIND OUR TEACHING ACTIVITIES:

The project is a teacher network, and a non-profit making educational trust. Our main aim is to develop and disseminate classroom tested examples of effective group strategies across all phases and subjects. We hope they will inspire you to use similar strategies in other topics and curriculum areas. We run teacher workshops, swapshops and conferences throughout the European Union. The project publishes a catalogue of activities plus lists in selected subject areas, and a newsletter available by post or internet: "PAPERCLIP".

*These activities were influenced by current thinking about the role of language in learning. They are designed to help children learn through talk and active learning in small groups. They work best in mixed classes where children in need of language or learning support are integrated. They are well suited for the development of speaking and listening. They provide teachers opportunities for assessment of speaking and listening and other formative assessment.

*They support differentiation by placing a high value on what children can offer to each other on a particular topic, and also give children the chance to respect each other's views and formulate shared opinions which they can disseminate to peers. By helping them to take ideas and abstract concepts, discuss, paraphrase and move them about physically, they help to develop thinking skills.

*They give children the opportunity to participate in their own words and language in their own time without pressure. Many activities can be tried out in mother tongue and afterwards in English. A growing number of activities are available in more than one language, not translated, but mixed, so that you may need more than one language to complete the activity.

*They encourage study skills in context, and should therefore be used with a range of appropriate information books which are preferably within reach in the classroom.

*They are generally adaptable over a wide age range because children can bring their own knowledge to an activity and refer to books at an appropriate level. The activities work like catalysts.

*All project activities were planned and developed by teachers working together, and the main reason they are disseminated is to encourage teachers to work effectively with each other inside and outside the classroom. They have made it possible for mainstream and language and learning support teachers to share an equal role in curriculum delivery. They should be adapted to local conditions. In order to help us keep pace with curriculum changes, please send any new or revised activities back to the project, so that we can add them to our lists of materials.

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Medieval Realms

I would welcome your help in providing some more accurate information for completing the problems in this activity. It is designed for use with KS2 -3. I would also be very pleased if you could come up with some more problems. Ideally the activity would work well if each group of four or five had four to six different problems to investigate and feed back to the other groups. Some of the problems can be doubled up between groups, but I am aiming to produce about 25 problems.

If it works well in class, I am planning to produce some more similar activities on other periods of history. It might also work around citizenship issues. The final version will be posted in pdf form on our website and your contributions will of course be acknowledged.

Since we started this activity we have been told that BEAM produced a calendar last year with slightly simpler historical maths questions aimed at KS2: eg with questions on Vikings, Tudors, Victorians etc.

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Instructions

Take a look at the problems. And this stage we are not asking you to solve them. First we would like you to sort them into three piles.

1.

I think we can solve this problem using only mathematical skills.

2.

I need to find the answers to a few questions and then I will be able to solve this problem.

3.

This problem may be impossible to solve unless we find out more information via archaeology.

Now you can either have a go at solving the problems in the first pile or if you prefer you can begin to list the questions you need to ask to solve the problems in the second pile, or if you really enjoy history you could come up with some interesting guesswork for the answers to the problems in the third pile.



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At the battle of Hastings/ Agincourt?? 300 archers can each shoot 3 arrows in one minute. They are shooting into a group of 100 knights on horses who cover an area 300 metres by 100 metres. How many arrows are likely to land on each knight?

The Lord's wheatfield is ready to cut. It is ? square metres large. Fifteen men and women are going to cut it with sickles. It takes ? minutes for one person to cut one square metre. How long does it take to cut all the wheat.

Fleas on black rats carry plague. In the winter there are six? fleas on each rat. When the weather gets warmer they double in number and like to jump off onto human beings. Six rats live in Edward's house. There are five in his family. How many fleas may jump on each person?

Pigs love acorns and pigs that have eaten acorns are very tasty to eat. Alison, aged nine, takes three pigs into the forest every day except Sunday. She needs to drive them along slowly at half and mile an hour to make sure they get enough to eat. How far do they walk in eight hours.

Eleanor bakes once a week. She has to feed a family of ten and bakes twenty loaves. The loaves are made of a mixture of wheat, barley and pea flours. How many will she bake in a year?

The warren attached to the castle contains 50 rabbits. The lord has three villeins who collect extra green stuff and crushed oats to feed them. This means the rabbits produce enough young to provide 12 rabbits a week for eating. How many rabbits does the warren produce in a year.

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Richard makes chainmail for rich knights. He can forge 30 links in an hour. A chainmail vest has 500 links. How long will he take to make one vest? At 1 penny a day how much should he charge for it?

Henry has the right to gather dead branches from the forest for firewood. It takes two hours to gather all she can carry. She needs to walk about three miles. With this load of wood she has enough to cook two meals of pottage or heat up the bread oven on bake days. How often does she need to visit the forest in a week?

Elizabeth has only left the village once this year. She walked five miles to the next village to see her married sister. She drives pigs or geese so she does walk about four miles six days and week. Grace walks half a mile to school. She has had holidays in Hong Kong, Switzerland and Bristol. She travelled by car, train and bus. How much further has she travelled than Elizabeth?

Thomas helps his family to clear a field for ploughing. He carries stones to the edge of the field where others are building a wall. Each stone weighs on average 3 kilograms. It takes five minutes to carry each stone. What weight of stones does he carry from 5am (dawn) till 7pm (dusk)? He takes two half hour breaks for bread.

In the middle ages sheep were half the weight of sheep nowadays. They only produced a quarter as many lambs. However, they had to provide meals for many more people. How much meat would people eat in a year?

How many people would be needed to produce a bushel of wheat in 1500, 1850 and 2002?



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Edwin is the village potter. He makes all the pots in the village from a clay pit about a mile away. He makes mainly cooking pots, bowls and jugs. The villagers don't use plates; they use wooden trenchers. Unfortunately his kiln overheats and 25% of the pots he puts in crack. He throws 650 bowls and 430 jugs every year. How many can he sell to the villagers.

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