Mathematics lesson planning form

# Mathematics lesson planning form

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| Class: 8E2 | | Date of lesson: 12th June | Length of lesson: 1Hour 10 minutes |
| Number in class: | | Girls: 14 | Boys: 12 |
| Topic: Algebra | Curriculum links (including *Curriculum Cymreig* in Wales):  Simplifying and manipulating algebraic expressions by: Expanding the product of two or more bimomials | | Lesson title: Multiplying Two brackets together |
| Context of learning: *(Previous lesson / Next lesson)*  They have multiplied a single term over a bracket previously but did not seem able to explain what they were doing when they had a go last lesson. Next lesson we will try and formalise the method. | | | |

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| Pupil learning objectives  To understand the meaning of multiplying brackets | Learning outcomes   1. To understand the meaning of terms in brackets 2. To know why each term in one bracket has to be multiplied by the terms in the other bracket 3. To be able to multiply one bracket by another and explain why each action is taken |
| Collaborative work with other adults  No TA in this lesson | Cross-curricular links |
| Homework  How to multiply two brackets together” - give an example that they make up | **Health and Safety**  Nothing particular – remind about no rushing about and keeping noise down. |
| **Resources and classroom organisation**  Personal Survival Kit: *Board cleaner, markers, pencils, pens, textbooks, paper, etc.*  Student Resources:  *Manipulatives, mini whiteboards, pens, etc.* mini white boards, pens | |

**Lesson**

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| Time | Teacher activity – *what you will be doing, inc details of questions/dems etc.* | Pupil activity – *what the pupils will be doing in detail* | Assessment opportunities – *during the lesson (e.g. observation, Q&A)* |
| 15 mins | Introduction/Starter  Long multiplication by partician  Show how to set out 43 x 26 as (40 + 3) x (20 +6) ask students to think about how they might use this idea to make the calculation easier | Work in pairs on miniwhiteboards.  When a pair considers that they have a method ask them to write it on the white board.  Discuss what the pair has written: | Ask:  Does it work?  Is it helpful?  Check that the class can use partician and grad method to multiply before continueing. |
| 10 mins | Learning activities *add rows as necessary*  Show two brackets and tell the class we are going to multiply them together – ask how it links to the multiplication does ealier.  . | Find what is the same and what is different about long multiplication by grid method and multiplying two brackets |  |
| 5 mins | Record and discuss all similarities and all differences on board | From those on the board list IMPORTANT similarities and differences | Check that all students have seen the connections by indivual observation of their written work |
| 15 mins | Use grid method to multiply out (2x+6)(3x+4) and simplify on board.  Be in charge but do not DO the thinking or the work. | Ask one pupil at a time to draw the diagram, place the terms, do the multiplication, write the result and simply the answer directed by members of the class. | Ask:  Do you understand every stage?  If not where is it confusing? |
| 15 mins | If they are happy to ask the pupils to multiply (3x+1)(4x+5) – otherwise complete as a class | Pupils draw grid in books and complete the steps still displayed on board – or the class works together | Ask:  Do you understand every stage?  If not where is it confusing? |
| 10 mins | End of lesson plenary | Pupils write in their books  “How to multiply two multiply two brackets together” - Finish for homework and give an example that they make up |  |
|  | Provision for individual needs: *(SEN/EAL/G&T)*  Those that “get it” make up a hard pair of brackets to multiply and an easy pair and then multiply them together |  |  |
|  | Assessment of the learning objectives  *State how you will assess whether or not the learning objectives have been achieved by the pupils*  Observation  Questionning  Homework |  |  |

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| Notes / brief evaluation  Many pupils could not understand the grid method and hence that section took time – but when we started to multiply the brackets they seemed to understand. Much more practice will be needed and I will need to link to “area” so that they begin to understand all about the concepts. |