- ***3.6 Evaluate and improve teaching program – Highlighted in yellow***

LESSON PLAN

Lesson Topic/ Focus: Vertical format- 3 by 3 multiplication problems **Date:** 26/06/14

AusVELS Domain(s): Mathematics **Year Level:** 5

AusVELS strand(s): Number and Algebra **Duration:** 60 mins

AusVELS sub-strand(s): Number and Place Value

Learning Standard(s)/Outcome(s): Students will learn how to work out 3 digit by 3 digit multiplication problems by using the vertical format.

Assessment:

- Students will solve the equations the teacher puts on the board.
- Students will demonstrate that they know how to carry the tens and hundreds column effectively and are aware that they put the number zero in the unit's column because they are not multiplying the unit's column by a number, and put a zero in the tens column as they aren't multiplying in the tens column.

Teaching focus:

My associate teachers focus for me in this lesson is to clearly use the language of multiplication. Eg: Carry the 20 over and also to make sure students understand why we put a zero in the units and tens column.

.

Background to the learning:

Teacher

- Planning with the maths coordinator
- AusVELS

Student

- Students are learning about multiplication this unit.
- Students have learnt how work out 2 by 1 and 2 by 2 digit multiplication problems vertically.
- Students are given timetables for homework each week.

Lesson resources:

- Whiteboard
- Students maths books
- Students laptops

Lesson content:

Introduction **5 mins**

Think, Pair, Share

Place one 2 by 2 digit on the whiteboard horizontally (24x32) and ask students to work it out using the vertical format.

Get students to pair up with a partner and share how they worked it out.

Development **15 mins**

1. Put the equation 24x38 on the whiteboard; represent it in the vertical format. Ask students how to work it out.

F.Q: Who would like to work out this equation for me using the vertical format?
F.Q: Why do we have to put a zero in the unit's column?
2. Teacher puts a 3 by 3 digit multiplication number on the whiteboard.
F.Q: Does anybody know how to work out this 3 by 3 digit?
F.Q: Can someone explain to me how you would work it out?
3. Make sure students understand why we need to put two zero's, one in the units column and one in the tens column.
F.Q: Who can tell me why we need to put a zero in the units column and a zero in the tens column?
4. Practice a couple more equations on the whiteboard with the students until they get used to the steps.
F.Q: Who would like to work out this equation?
5. Ask students if they understand it, if not work out a few more equations on the whiteboard.
F.Q: Does everyone understand how to work out 3 by 3 multiplication problems using the vertical format?

Consolidation, practice, extension **35 mins**

- **Students will be split up into three groups. Students will be given the choice of what group they would like to work in.**

Group one: Working on solving 2 by 2 equations
Group two: Solving 3 by 3 equations
Group three: Solving 3 by 3 equations with decimal numbers.

1. Teacher will put 2 by 2, 3 by 3 and multiplication equations with decimals on the whiteboard for students to work out in their maths books.
2. The teacher will rove around the classroom while the students are completing their work to make sure students are on the right track.

Extension activity: The students will go onto study ladder where they can practice doing multiplication problems.

Closure **5 mins**

1. Revise the lesson by asking the students what they have learnt? What they found difficult/easy about using the vertical format?
2. Allow an opportunity for question time.

.

Comment [JV1]: 3.6 Evaluate and improve teaching program.

For this lesson I have split the class into three groups, as after evaluating previous lessons I realised that students were at different levels with their learning.

Group one needed further assistance solving 2 by 2 equations, group two needed to be extended so they were given 3 by 3 multiplication problems and group three needed a challenge. Group three were given 3 by 3 multiplication equations with decimals.

It is vital that teachers differentiate tasks to meet the needs of all students.

EVALUATION OF LESSON
Jessica Vella

Date: Thursday 26th June 2014
Time: 9:00am – 10:15am
Subject: Maths – Multiplication
Teacher: Mrs Liz Cutajar

Notes:

- The associate teacher and Jessica planned the lesson together.
- Jessica delivered the lesson.

Introduction (tools session):

- Jessica explained to the students that they would be split into three groups. Each group will be completing different activities about multiplication.

Whole Class:

- Jessica split the grade into three groups – the students who found multiplication challenging, students who needed extended and two students who really needed to be challenged.
- The associated teacher worked with the students who found multiplication challenging. Jessica worked with the other two groups.
- Jessica did extremely well setting tasks for the two groups to ensure she gave herself enough time to work with each child in both groups.
- Jessica gave very good prompting questions to the students to extend their thinking and understanding about multiplication.
- It was evident that Jessica had researched the topic before she taught it, as she was aware of how to multiply decimal numbers together confidently.

Activity:

- Students completed the tasks allocated by Jessica.
- All groups were challenged by the activity, yet they were able to complete the tasks by the end of the session.
- It was very pleasing to see all students succeeding in their group. Students were very engaged and achieved a lot. The way they switched groups throughout the session demonstrated their learning.

End of Lesson:

- Jessica gathered the students together and asked each group to give feedback.
- She asked each group some questions to prompt their thinking.
    - What did you learn in this lesson?
    - What are some of the discoveries that your group made?
    - What did you find challenging?
    - What did you find easy? Fun?

A great session in Maths! The students were very engaged and each students' ability was challenged. However, each students succeeded in their activity.
Well done!