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Introduction

ICT for primary maths is intended to be used as a flexible resource, fitting easily into any mathematics programme. Each CD features ready-to-go activities.

The structure of the lessons

This book contains:

- a teacher page for each activity providing the core information that you need to deliver an ICT component to your mathematics lesson.
- resource sheets for some activities to guide the students through using the programs. Older students will be able to use the programs independently, but younger students might need help in loading and using programs.
- activity sheets for most of the lessons. These can be used in one of the following ways:
 - to give the students practice and /or allow them to record answers before working on-screen
 - to record answers and give questions for the students to tackle whilst using the computer as a tool
 - to give extension work to complete after working on-screen.

Programs

Applications include multimedia, spreadsheets and branching databases. The CD provides ready-to-go activities based in both pre-loaded software and in applications that you are already using. This mixture offers the opportunity to introduce the students to new software and extend their skills in programs they are already familiar with.

The Main program – HyperStudio®

The CD contains all the files needed to run HyperStudio and it can be installed quickly on to a single computer or network of computers. Once installed and loaded, click on 'Activities' to access all the HyperStudio activities and view the contents for all the programs. Activities include drag and drop work, multi-choice questions, and data

logging. From here you can also access the teaching activities (see below). You need to install Quicktime 3.0 or higher to run this. This can be installed from www.apple.com/quicktime/download

Branching database

All the branching databases are available in HyperStudio.

Spreadsheets

The spreadsheets require Microsoft Excel. To open the Excel spreadsheet programs follow these steps:

1. click on My computer
2. click on C drive
3. click on program files
4. click on ICT for Primary Maths Year 3
5. click on Excel files
6. select the worksheet by clicking on it

Teaching Activities

Each CD includes different multimedia teaching tools appropriate for the year group. These are flexible tools for direct interactive maths teaching. They include clocks, number lines and squares, money and flip numbers for place value. No specific lesson activities are given with these as they can be used flexibly within any maths lesson, including projecting on to a white board.

Installation

If you wish to evaluate the contents of the CD-ROM, please be advised that you may install the software on a single, stand-alone PC only and not on a server.

Once you have purchased the product on firm sale, you are entitled to network the software or use it concurrently on more than one machine.

If you decide not to keep the product after inspecting it, you are obliged to uninstall the software from the single PC. This can be done simply by going to the relevant maths ICT folder in Program Files and double-clicking on Unwise.exe

Lesson Plan

Title

File needed

Indicates the name and type of file needed for the activity. The files are either Main program (HyperStudio) or spreadsheets (Excel).

Activity

A description of the CD activity.

Ordering Numbers

Activity 1

The activity

This activity involves dragging sections of a number line into place as an on-screen jigsaw puzzle. It has three levels, 1–10, 1–20 and 1–30. Working collaboratively, the students select the appropriate level and complete the number lines. The screens can be printed by pressing Ctrl and P.



Learning objectives

Each lesson identifies the learning area.

Learning objectives

- Order numbers and position them on a number line.

Prior knowledge

Indicates maths and specific ICT knowledge that the students will need. It is assumed that the students have a basic knowledge of MS Windows including using a mouse to click and drag.

Prior knowledge

- Familiarity with numerals to 20 and 30.

Expected outcomes

- ◆ Most students will order numbers to 20.
- ▶ Some students will order numbers to 30.
- Some students will order numbers to 10.

Expected outcomes

Shows expected outcomes for:

- ◆ most students
- ▶ more able students
- less able students

Resources

'Ordering Numbers'
'What's Wrong with the Order?'
'What Comes After?' is an extra extension sheet.
A number line or 100 square may be useful to support this activity.

Vocabulary

order	beside
biggest	above
smallest	below
before	in front
after	behind
between	next to

Answers

'What's Wrong with the Order?'	'What Comes After?'	
4. 6 and 3	1. 6	6. 2
5. 6 and 4	2. 7	7. 4
6. 6 and 5	3. 8	8. 2
7. 8 and 5	4. 9	9. 1
8. 8 and 5	5. 8	

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Resources

This includes 'resource sheets' and 'activity sheets'.

Answers

Answers are included if applicable. If answers are marked on-screen then these are not included. Only answers to extra questions or non-marked questions are given.

Vocabulary

Key vocabulary has been suggested for the lesson.

Addition and Subtraction

The activity

These two spreadsheets feature addition tables (10 x 10 and 25 x 20). The students will use the spreadsheets to check their own addition and subtraction calculations. Addition and/or subtraction activities may be selected separately and the demands of the tables can be related to a student's current level in maths.



Learning objectives

- Understand that subtraction reverses addition.
- Recognise and use the patterns in an addition table.

Prior knowledge

- Use of number tables such as a spreadsheet and the notion of number cells in some order.
- Printing from a spreadsheet (optional).

Expected outcomes

- ◆ Most students will use the spreadsheets to perform checks on addition and subtraction with numbers up to $50 + 34$.
- ▶ Some students will additionally understand how the tables are limited in themselves, representing a small corner of all numbers.
- Some students will only complete the first part of the activity, dealing with numbers up to $10 + 10$.

Resources

'Addition with an Addition table'
 'Add Them Up'
 'Subtraction with an Addition Table'
 'Subtract Them'

Vocabulary

add equals
 sum subtract
 total difference between

Answers

'Add Them Up'

- | | |
|--------------------|--------------------|
| 1. $2 + 3 = 5$ | 11. $18 + 18 = 36$ |
| 2. $4 + 5 = 9$ | 12. $22 + 15 = 37$ |
| 3. $7 + 9 = 16$ | 13. $16 + 17 = 33$ |
| 4. $8 + 3 = 11$ | 14. $23 + 13 = 36$ |
| 5. $10 + 10 = 20$ | 15. $12 + 15 = 27$ |
| 6. $25 + 15 = 40$ | |
| 7. $24 + 7 = 31$ | |
| 8. $20 + 17 = 37$ | |
| 9. $21 + 12 = 33$ | |
| 10. $18 + 10 = 28$ | |

'Subtract Them'

- | | |
|--------------------|--------------------|
| 1. $29 - 24 = 5$ | 11. $27 - 13 = 14$ |
| 2. $24 - 11 = 13$ | 12. $23 - 7 = 16$ |
| 3. $28 - 13 = 15$ | 13. $36 - 24 = 12$ |
| 4. $27 - 14 = 13$ | 14. $25 - 10 = 15$ |
| 5. $25 - 9 = 16$ | 15. $34 - 19 = 15$ |
| 6. $41 - 23 = 18$ | 16. $29 - 18 = 11$ |
| 7. $33 - 18 = 15$ | 17. $39 - 22 = 17$ |
| 8. $30 - 17 = 13$ | 18. $37 - 21 = 16$ |
| 9. $38 - 24 = 14$ | 19. $38 - 25 = 13$ |
| 10. $36 - 21 = 15$ | 20. $18 - 18 = 0$ |

Addition with an Addition Table

- Open Excel.
- Open the file Y3T1A1A and save it to your personal folder.

You will see a number table with a + sign in one corner showing it as an addition table.

There are red numbers along the edge and black numbers in the middle.

You can use this addition table to check your sums.

- Point to a red number at the top and another on the side then move your fingers along the lines so they meet over a black number. What do you think this black number is?

In the picture, the red numbers 7 and 5 meet at the black number 12. This is because $7 + 5 = 12$.

+	1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10	11
2	3	4	5	6	7	8	9	10	11	12
3	4	5	6	7	8	9	10	11	12	13
4	5	6	7	8	9	10	11	12	13	14
5	6	7	8	9	10	11	12	13	14	15

$7 + 5 = 12$

If you add two numbers you can use the addition table to check your answers.

- Do these in your head and use the addition table to check your answers.

$3 + 4 =$

$4 + 7 =$

$5 + 9 =$

$7 + 4 =$