



**PURPOSE AND  
PROMPTS**

This will help children to revise doubles and the associated language.

This will help children to partition and double two-digit numbers.

**UNIT 1 SUPPLEMENTARY TEACHING SEQUENCES**

**SEQUENCE 1**

**Doubling using partitioning**

**RESOURCES:**

Place value cards (photocopiable page can be found on page 80 of the *Springboard 5* folder)

**STEP 1**

Ask children to double some numbers between one and ten and then to double some multiples of ten.

Use range of vocabulary associated with doubling – ‘double’, ‘twice’ and ‘multiply by 2’.

**Q** If I know that double 6 is 12, how can I use this fact to find double 60?

**Have children grasped the relationship between numbers 1–10 doubled and multiples of 10 (up to 100) doubled?**

**STEP 2**

Explain to the children that they are going to partition numbers to help with doubling.

Give children a calculation such as  $84 \times 2$ . Ask children for some different ways of saying this.

**Do the children use ‘double’, ‘multiply by 2’, ‘times 2’ as ways of saying what this means?**

Now demonstrate 84 using place value cards to show 84 is  $80 + 4$ .

Demonstrate partitioning and doubling each part of a number:

$$84 = 80 + 4$$

$$\begin{aligned} \text{Double } 84 &= 160 + 8 \\ &= 168 \end{aligned}$$

Now give children a calculation such as  $78 \times 2$  and repeat the process above.

### PURPOSE AND PROMPTS

### UNIT 1 SUPPLEMENTARY TEACHING SEQUENCES

Children can then try a variety of numbers to double.

**Double**  
32

$41 \times 2$

**Twice**  
26

**Double**  
38

$49 \times 2$

**Double**  
53

**Twice**  
67

**Double**  
72

Can children explain how they double?  
Are children able to total the two parts mentally?  
e.g.  $120 + 14 = 134$

### SEQUENCE 2

#### Halving using partitioning

##### RESOURCES:

None required

This will help children to revise halves and the associated language.

#### STEP 1

Ask for halves of some even numbers between 2 and 20 and then of multiples of 10 between 10 and 100.

Ask children to suggest different ways of asking the questions.

**Do children know that finding half, halving and dividing by 2 are different ways of asking the same question?**

**Q If I know half of 8 is 4, how can I use this fact to find half of 80?**

**Have children grasped the relationship between even numbers to 10 halved and even multiples of 10 halved?**

#### STEP 2

Explain to the children that they are going to look at different ways of partitioning numbers to help with halving.

**PURPOSE AND PROMPTS**

This will help children to see that there are various ways in which numbers can be partitioned. *Children need to be able to partition in different ways to meet the needs of different situations.*

This will help children to partition and halve two-digit numbers.

*Halving numbers with an odd number of tens sometimes causes problems.*

*It is important that children feel comfortable with the method they are using; it is not about using one particular method.*

**UNIT 1 SUPPLEMENTARY TEACHING SEQUENCES**

Ask children to make a range of two-digit numbers using place value cards. Now demonstrate 74 using place value cards to show 74 is  $70 + 4$ .

Explain that a different partition of 74 is  $60 + 14$ . Ask for other partitions of 74 that involve multiples of 10.

Ask the children to write down some of the partitions of 97 that involve multiples of 10 (e.g.  $97 = 50 + 47$   
 $= 70 + 27$ )

Ask the children to work in pairs, to choose a number from the list below, partition their number in three different ways and report back to the class. Before they begin, discuss how they might record their partitions.

64    73    95    48    56    78

**Can children explain how they partitioned their numbers?**

Demonstrate partitioning then halving each part of a two-digit number:

$$84 = 80 + 4$$

$$\text{Half of } 84 = 40 + 2$$

$$= 42$$

Point out that halving numbers that have an even number of tens is easier than halving numbers that have an odd number of tens.

Ask the children to halve 76 using each of the following two partitions:  $76 = 70 + 6$  and  $76 = 60 + 16$

Discuss which they found easier.

**STEP 3**

Children can then try a variety of numbers to halve.

**Half of  
32**

**$84 \div 2$**

**Halve  
74**

**$\frac{1}{2}$  of 96**

**$\frac{1}{2}$  of 48**

**Halve  
38**

**Half of  
54**

**$72 \div 2$**

#### PURPOSE AND PROMPTS

This will help children to double three-digit numbers and to halve three-digit numbers with an even tens digit.

This will help children to halve three-digit numbers with odd tens digits.

This will help children to halve three-digit numbers with odd hundreds digits greater than 1.

#### UNIT 1 SUPPLEMENTARY TEACHING SEQUENCES

Ask children to discuss, in pairs, two of the numbers they have halved. Discuss the methods of halving with the whole group.

**Q** How do you decide which method to use?

#### SEQUENCE 3

#### Doubling and halving three-digit numbers

##### RESOURCES:

Place value cards

##### STEP 1

Sequences 1 and 2 can be extended to partitioning, doubling and halving three-digit numbers. Use place value cards in a discussion about the partitioning of three-digit numbers, leading to doubling and halving.

e.g.

$$124 = 100 + 20 + 4$$

$$\begin{aligned}\text{Double } 124 &= 200 + 40 + 8 \\ &= 248\end{aligned}$$

$$124 = 100 + 20 + 4$$

$$\begin{aligned}\text{Half of } 124 &= 50 + 10 + 2 \\ &= 62\end{aligned}$$

##### STEP 2

Discuss the halving of numbers such as 156, using the  $40 + 16$  partition for 56:

$$156 = 100 + 40 + 16$$

$$\text{Half of } 156 = 50 + 20 + 8 = 78$$

Ask for different ways of partitioning 578 in order to halve it. Some possibilities are:

$$578 = 500 + 70 + 8 \text{ or } 500 + 60 + 18 \text{ or } 400 + 100 + 60 + 18$$

With the children, work through halving these different partitions.

Give the children a set of three-digit numbers with odd hundreds and tens digits, and even units digits. Ask them to partition.

Discuss which method they preferred and then ask them to use their preferred procedure on several other examples and then halve.

# Unit 1

## SUPPLEMENTARY TEACHING SEQUENCES

### PURPOSE AND PROMPTS

### UNIT 1 SUPPLEMENTARY TEACHING SEQUENCES

#### Can children total the halved parts mentally?

Sequences 2 and 3 address halving of one-, two- and three-digit even numbers. If you want to progress children to halving odd numbers, the stages can be repeated. Halving odd numbers to 10 would need to be addressed in sequence 2 step 1.