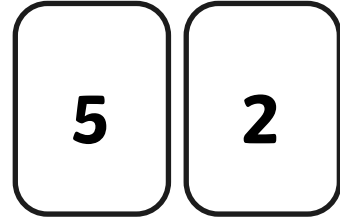# Doubling and Halving

> I can use halving and doubling as a strategy for mental multiplication and division.

1. Double it
- You will need a set of digit cards 0-9.
- Turn over two cards to make a two-digit number.
- Double it.
- Write out the calculation in full like the one below:
  52 × 2 =
  (50 × 2) + (2 × 2) =
  100 + 4 = 104
- Repeat this activity ten times.

5 2

2. Halve it
- You will need a set of digit cards 0-9.
- Turn over two cards to make a two-digit number. The ones digit must be even, so keep turning cards over until your two-digit number ends with 0, 2, 4, 6 or 8.
- Halve it.
- Write out the calculation in full like the one below:
  64 ÷ 2 =
  (60 ÷ 2) + (4 ÷ 2) =
  30 + 2 = 32
- Repeat the activity ten times.

6 4
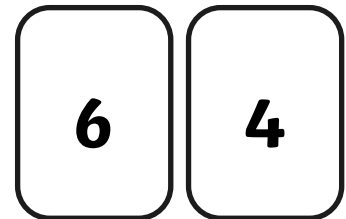
3. Sequences

Fill in the missing number boxes to complete the sequences.

a) 128, 64, ☐ , 16, ☐ . Did you halve or double? _____

b) 160, 80, ☐ , 20, ☐ , 5. Did you halve or double? _____

c) 2, 4, ☐ , 16, ☐ , 64, 128. Did you halve or double? _____

d) 3, 6, ☐ , 24, ☐ , 96. Did you halve or double? _____

Doubling and Halving **Answers**

1. Double it

   Multiple answers possible.

2. Halve it.

   Multiple answers possible.

3. Sequences

   Fill in the missing number boxes to complete the sequences.

   a) 128, 64, **32**, 16, **8**. Did you halve or double? **Halve**

   b) 160, 80, **40**, 20, **10**, 5. Did you halve or double? **Halve**

   c) 2, 4, **8**, 16, **32**, 64, 128. Did you halve or double? **Double**

   d) 3, 6, **12**, 24, **48**, 96. Did you halve or double? **Double**

REGENT STUDIES
Focused education on life's walk!
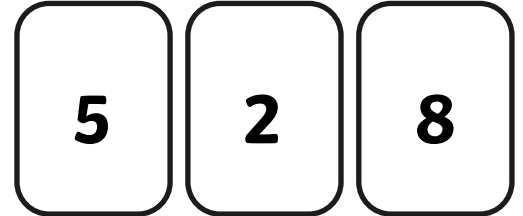www.regentstudies.com

Doubling and Halving

I can use halving and doubling as a strategy for mental multiplication and division.

1. Double it

- You will need a set of digit cards 0-9.
- Turn over three cards to make a three-digit number.
- Double it.
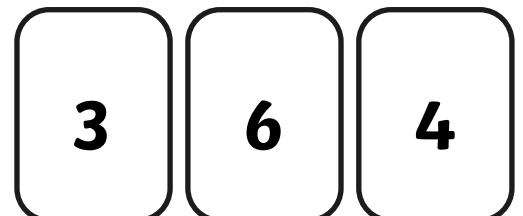- Write out the full number sentence e.g.

5 2 8

528 × 2 =

(500 × 2) + (20 × 2) + (8 × 2) =

1000 + 40 + 16 = 1056

- Repeat this activity ten times.

2. Halve it

- You will need a set of digit cards 0-9.
- Turn over three cards to make a three-digit number. The ones digits must be even, so keep turning cards over until you get a 0, 2, 4, 6 or 8.
- Halve it.
- Write out the full number sentence e.g.

364 ÷ 2 =

(300 ÷ 2) + (60 ÷ 2) + (4 ÷ 2) =

3 6 4

150 + 30 + 2 = 182

- Repeat this activity ten times.

Doubling and Halving

3. Sequences

Fill in the missing number boxes to complete the sequences.

a) 256, ⬚ , 64, ⬚ , 16, ⬚ . Did you halve or double? _____

b) 320, ⬚ , 80, ⬚ , 20, ⬚ , 5. Did you halve or double? _____

c) 2, 4, ⬚ , 16, ⬚ , 64, 128 ⬚ . Did you halve or double? _____

d) 3, 6, ⬚ , 24, ⬚ , 96 ⬚ . Did you halve or double? _____

Doubling and Halving **Answers**

1. Double it

   Multiple answers possible.

2. Halve it.

   Multiple answers possible.

3. Sequences

   Fill in the missing number boxes to complete the sequences.

   a) 256, **128** , 64, **32** , 16, **8** . Did you halve or double? **Halve**

   b) 320, **160** , 80, **40** , 20, **10** , 5. Did you halve or double? **Halve**

   c) 2, 4, **8** , 16, **32** , 64, 128 **256** . Did you halve or double? **Double**

   d) 3, 6, **12** , 24, **48** , 96, **192** . Did you halve or double? **Double**

REGENT STUDIES
Focused education on life's walk!
www.regentstudies.com

Doubling and Halving

I can use halving and doubling as a strategy for mental multiplication and division.

1. **Double it**
   - You will need a set of digit cards 0-9.

   - Turn over one card.

   - Start a doubling sequence. Keep going until the numbers get beyond four digits.
     For example, if you turned over a **5**, the sequence would be:
     5, 10, 20, 40, 80, 160, 320, 640, 1280, 2560, 5120

   - Repeat this activity with five different start numbers.

2. **Halve it**

   Halve these numbers, continuing the sequence until you get down to a one-digit number.

   a) 1024

   b) 3072

   c) 1280

   d) 2304

   e) 7168

REGENT STUDIES
Focused education on life's walk!
www.regentstudies.com

Doubling and Halving **Answers**

1. Double it

   Multiple answers possible.

2. Halve it.

   Halve these numbers, continuing the sequence until you get down to a one-digit number.

   a) 1024, **512, 256, 128, 64, 32,16, 8, 4, 2, 1**

   b) 3072, **1536, 768, 384, 192, 96, 48, 24, 12, 6, 3**

   c) 1280, **640, 320, 160, 80, 40, 20, 10, 5**

   d) 2304, **1152, 576, 288, 144, 72, 36, 18, 9**

   e) 7168, **3584, 1792, 896, 448, 224, 112, 56, 28, 14, 7**

REGENT STUDIES
Focused education on life's walk!
www.regentstudies.com