Learning Reminders

Describe the rule for a sequence.

28, 24, 20

Try to describe the rule for this sequence.

Write it down as well as the next three numbers in the sequence.

The rule is **subtract 4** each time.

Sequences can decrease as well as increase.

28, 24, 20, 16, 12, 8

© Hamilton Trust. Explore more Hamilton Trust Learning Materials at https://wrht.org.uk/hamilton

Learning Reminders

Describe the rule for a sequence.

2, 6, 10

Now look at this sequence. Can you describe the rule?

Write it down as well as the next three numbers in the sequence.

The rule is **add 4** each time.

2, 6, 10, 14, 18, 22

© Hamilton Trust. Explore more Hamilton Trust Learning Materials at https://wrht.org.uk/hamilton

Learning Reminders

Describe the rule for a sequence.

2, 4, 8

Now look at this sequence. Can you describe the rule?

Write it down as well as the next three numbers in the sequence.

The rule is **double** each time.

2, 4, 8, 16, 32, 64

© Hamilton Trust. Explore more Hamilton Trust Learning Materials at https://wrht.org.uk/hamilton

Practice Sheet Mild
What's the pattern?

Write the next three numbers as well as the rule for each sequence.

1. 2, 6, 10, ☐, ☐, ☐.

   Rule: _____

2. 12, 22, 32, ☐, ☐, ☐.

   Rule: _____

3. 48, 40, 32, ☐, ☐, ☐.

   Rule: _____

4. 90, 80, 70, ☐, ☐, ☐.

   Rule: _____

5. 22, 30, 38, ☐, ☐, ☐.

   Rule: _____

6. 45, 40, 35, ☐, ☐, ☐.

   Rule: _____

Challenge

Make up a new sequence of 6 numbers that counts in equal steps. Show your partner the first 3 in the sequence. Can they work out what the next 3 are?

© Hamilton Trust. Explore more Hamilton Trust Learning Materials at https://wrht.org.uk/hamilton

Practice Sheet Hot

What's the pattern?

Write the next three numbers as well as the rule for each sequence.

1. 2, 6, 10, ☐, ☐, ☐. Rule: _____

2. 6, 12, 18, ☐, ☐, ☐. Rule: _____

3. 12, 22, 32, ☐, ☐, ☐. Rule: _____

4. 48, 40, 32, ☐, ☐, ☐. Rule: _____

5. 90, 80, 70, ☐, ☐, ☐. Rule: _____

6. 22, 31, 40, ☐, ☐, ☐. Rule: _____

7. 98, 86, 74, ☐, ☐, ☐. Rule: _____

8. 5, 10, 20, ☐, ☐, ☐. Rule: _____

Challenge

Make up three new sequences of 6 numbers. Show your partner the first 3 in the sequence. Can they work out what the next 3 are?

© Hamilton Trust. Explore more Hamilton Trust Learning Materials at https://wrht.org.uk/hamilton

Practice Sheets Answers

What's the pattern? (mild)

1. 2, 6, 10, 14, 18, 22 — Rule: Add 4
2. 12, 22, 32, 42, 52, 62 — Rule: Add 10
3. 48, 40, 32, 24, 16, 8 — Rule: Subtract 8
4. 90, 80, 70, 60, 50, 40 — Rule: Subtract 10
5. 22, 30, 38, 46, 54, 62 — Rule: Add 8
6. 45, 40, 35 30, 25, 20 — Rule: Subtract 5

Challenge

e.g. 6, 11, 16, 21, 26, 31 — Rule: Add 5

or

56, 50, 44, 38, 32, 26 — Rule: Subtract 6

What's the pattern? (hot)

1. 2, 6, 10, 14, 18, 22 — Rule: Add 4
2. 6, 12, 18, 24, 30, 36 — Rule: Add 6
3. 12, 22, 32, 42, 52, 62 — Rule: Add 10
4. 48, 40, 32, 24, 16, 8 — Rule: Subtract 8
5. 90, 80, 70, 60, 50, 40 — Rule: Subtract 10
6. 22, 31, 40, 49, 58, 67 — Rule: Add 9
7. 98, 86, 74, 62, 50, 38 — Rule: Subtract 12
8. 5, 10, 20, 40, 80, 160 — Rule: Double

Challenge

e.g. 31, 26, 21, 16, 11, 6 — Rule: Subtract 5

55, 62, 69, 76, 83, 90 — Rule: Add 7

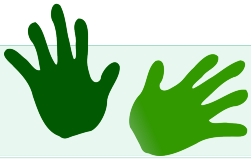
64, 32, 16, 8, 4, 2 — Rule: Halve

© Hamilton Trust. Explore more Hamilton Trust Learning Materials at https://wrht.org.uk/hamilton

A Bit Stuck?
Secret sequences

Work in pairs

Things you will need:
- A pencil



What to do:

The rules for these sequences are:

- add 3 each time
- subtract 2 each time
- add 10 each time
- subtract 5 each time.

a) Can you be a **SEQUENCE SLEUTH** to work out which is which?!

b) Now write the next 5 numbers in each sequence...

4	14	24	34	44					

50	48	46	44	42					

15	18	21	24	27					

57	52	47	42	37	32				

S-t-r-e-t-c-h:

1. **Choose one of the rules. Write your own sequence using that rule but starting at a different number.**
2. **Now you're a SEQUENCING SUPERSTAR, can you create your own, brand-new sequence for a partner to try to describe and continue...?**

© Hamilton Trust. Explore more Hamilton Trust Learning Materials at https://wrht.org.uk/hamilton

Check your understanding

Questions

Write the next four numbers in each of these sequences:

- 4, 8, 12, …
- 13, 63, 113, …
- 8, 16, 24, …
- 100, 96, 92, …
- 341, 441, 541, …
- 601, 551, 501, …

Create a sequence of ten numbers where you count on in 8s from an **odd** number.

Harry says, 'If I count in 4s, starting at 3, I won't say 30, but I will say 303.' Do you agree? Explain your ideas.

Answers on the next page

© Hamilton Trust. Explore more Hamilton Trust Learning Materials at https://wrht.org.uk/hamilton

Check your understanding

Answers

Write the next four numbers in these sequences:

- 4, 8, 12 … 16, 20, 24, 28. (increasing in 4s)
- 13, 63, 113 … 163, 213, 263, 313. (increasing in 50s)
- 8, 16, 24… 32, 40, 48, 56. (increasing in 8s)
- 100, 96, 92… 88, 84, 80, 76. (decreasing in 4s)
- 341, 441, 541… 641, 741, 841, 941. (increasing in 100s)
- 601, 551, 501… 451, 401, 351, 301. (decreasing in 50s)

Create a sequence of ten numbers where you count on in 8s from an odd number.

e.g. 7, 15, 23, 31, 39, 47, 55, 63, 71, 79.

Harry says, 'If I count in 4s, starting at 3, I won't say 30, but I will say 303.' Do you agree? Explain your ideas.

Harry is correct. Counting on in 4s: 3, 7, 11, 15, 19, 23, 27, 31… so he doesn't say 30. Since 100 is a multiple of 4 he will say 103, 203, 303… Children may count on to 103 and then realise that the sequence of 2-digit endings will repeat.

© Hamilton Trust. Explore more Hamilton Trust Learning Materials at https://wrht.org.uk/hamilton