

Spider's workout

Activity 1

Focus of activity: Adding and subtracting 10 using a 1-100 grid.

Working together: conceptual understanding

- Place a plastic spider (or card cut out one) on 45 on a 1-100 grid. Write $45 + 10$. *Spider is going to work out this addition. How can she do this?* Remind children that instead of counting on in ones, Spider can just move to the number below. Complete the addition: $45 + 10 = 55$.
- Write $55 - 10$. *Now Spider is going to work out this subtraction. How can she do this?* Remind children that instead of counting back in ones, Spider can just move to the number above. Complete the addition: $55 - 10 = 45$. *She's got back to where she started!*
- Repeat for $25 + 10$ and $98 - 10$.
- Now ask children to show some Secret Spider calculations. Ask a child to place Spider on number 38. Write $38 + 10$ on a card and show the child but not the rest of the group. The child moves Spider down a square. *What has Spider done?* Do children see that she has added 10? Write the addition.
- Ask another child to place Spider on 82. Write $82 - 10$ on a card and show the child but not the rest of the group. The child moves Spider up a square. *What has Spider done?* Do children see that she has subtracted 10? Write the subtraction.
- Repeat other Secret Spider calculations, adding and subtracting 10.
- Point out how the 10s digit changes when we add or subtract 10, but the 1s digit does not.

Up for a challenge?

Show Spider adding 20 on the grid. *What do you think Spider was adding this time?* Record the corresponding addition. *How do you think Spider might subtract 20?*

Now it's the children's turn:

- Children play in pairs. One child places Spider on 45 on the grid. The other child rolls the dice. If it shows +10, the first child moves Spider down a square, if it shows -10 they move Spider up a square. They record the addition/subtraction. Can Spider reach the top or bottom row?
- Go round the group and check that children are moving Spider in the correct direction. Watch out for children who think that moving Spider down means she is subtracting, because down sounds like moving to a lower number, and up sounds like moving to a higher number.

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

If children cope well, ask them to work out $36 + 10$ and $72 - 10$ without using the 1-100 grid. They can then check their answers on the grid.

Things to remember

Remember that we can add 10 by moving down a square on the 1-100 grid and subtract 10 by moving up a square. The 1s digit always stays the same. Did any spiders reach the top or bottom row of the grid? Spider had a very good work out today!

You may want to add something that has emerged from the activity. This may refer to misconceptions or mistakes made.

Resources	Outcomes
<ul style="list-style-type: none">• Large 1-100 grid• Plastic spider (or cut-out card one, see child instructions)• Blank dice with +10 and -10 written on sides• Spider for each pair (see child instructions)	<ol style="list-style-type: none">1. Children can add and subtract 10 using a 1-100 grid.2. Children begin to add and subtract 10 without a 1-100 grid.

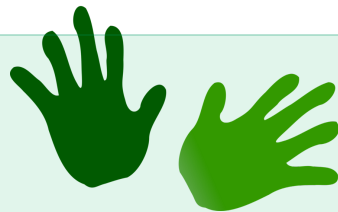
Spider's work out

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Work in pairs

Things you will need:

- A pencil
- A dice with +10 and -10



What to do:

- One person puts Spider on 45 on the grid.
- The other person rolls the dice.
 - If it shows +10, move Spider down a square.
 - If it shows -10, move up a square.
- Write the number sentence.
- Can Spider reach the top or bottom row?

<input type="radio"/>	
<input type="radio"/>	
<input type="radio"/>	$45 + 10 = 55$
<input type="radio"/>	$55 + 10 = 65$
<input type="radio"/>	$65 - 10 =$
<input type="radio"/>	
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S-t-r-e-t-c-h:

Can you work out $36 + 10$ and $72 - 10$ without using the 1-100 grid?
Check your answers on the grid.

Learning outcomes:

- I can add and subtract 10 using a 1-100 grid.
- I am beginning to add and subtract 10 without a 1-100 grid.

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1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

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