Diving into Mastery – Diving

Adult Guidance with Question Prompts

Children should be able to represent numbers to 100 using a range of concrete materials. They should also be able to formally present their work in the correct place value positions and use concrete, pictorial and abstract representations on a place value chart. Children will need an abacus or the **Abacus Template** and counters for this activity.

What do the beads on the tens column represent?

What do the beads on the ones column represent?

Which abacus shows the most/least tens?

Which abacus shows the most/least ones?

Which number has two tens?

When number has one ten?

Which number has six tens?

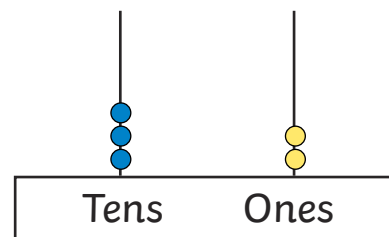Which number has two ones?

Which is the greatest number?

Which is the smallest number?

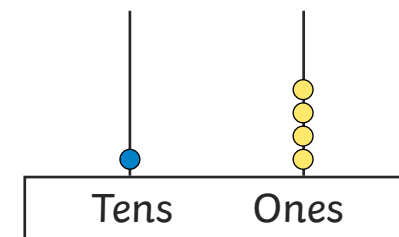Which column do you look at to work out which is the greatest/smallest?

Winning Problems

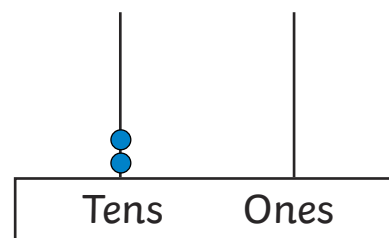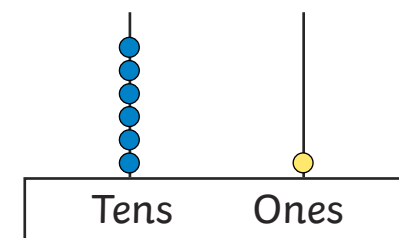Write 2 different calculations for each abacus. The first one has been done for you.

Tens	Ones

30 + 2 = 32

32 - 2 = 30

Tens	Ones

___ + ___ = ___

___ = ___ + ___

Tens	Ones

___ + ___ = ___

___ = ___ + ___

Tens	Ones

___ + ___ = ___

___ = ___ + ___

Fill in the abacus to show this number:

10 + 6 = 16

16 = 6 + 10

Tens	Ones
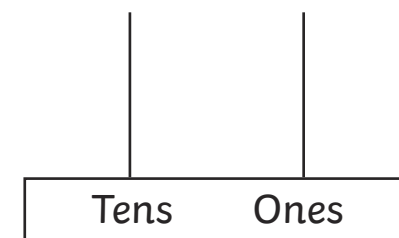
Use an abacus to make some more 2-digit numbers and write number sentences to match.

Diving into Mastery – Deeper

Adult Guidance with Question Prompts

Children should be able to represent numbers to 100 using a range of concrete materials. They should also be able to formally present their work in the correct place value positions and use concrete, pictorial and abstract representations on a place value chart.

What does each bead on the tens column represent?

What does each bead on the ones column represent?

How do you know you have matched the children correctly to the right number?

What other number can you make using the beads?

How do you know that you've worked out all of the possible numbers?

Is the greatest number always made using the most beads?

Winning Problems

The children have forgotten which numbers they made on the abacus. Can you work out which number each person made using the clues?

- Umayyah's number has 5 beads.
- Yasmin's number has 2 beads.
- Pam's number has 1 bead.
- Saul's number has 3 beads.
- Gemma's number has 4 beads.

Tens	Ones

21	5	10	22	11
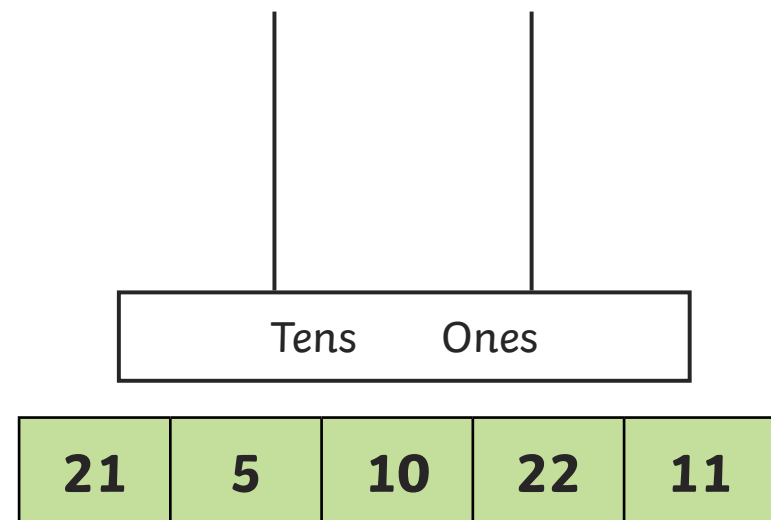
Which other numbers could be made from each number of beads?

Diving into Mastery – Deepest

Adult Guidance with Question Prompts

Children should be able to represent numbers to 100 using a range of concrete materials. They should also be able to formally present their work in the correct place value positions and use concrete, pictorial and abstract representations on a place value chart. Children will need an abacus or the abacus template (from the Resource file) and counters for this activity.

What do the five beads on the tens column represent?

What do the five beads on the ones column represent?

What is the most/least number of beads you could place on the tens column?

What is the most/least number of beads you could place on the ones column?

Can you put ten beads on the same column? Explain why not.

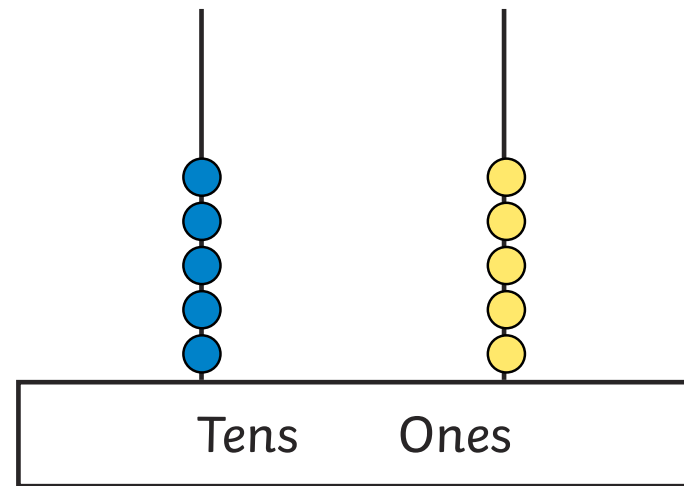How do you know you have found all the possible numbers?

Can you explain any patterns in your answers?

Does a similar pattern form with a different number of beads?

Winning Problems

Emily says, "There are 10 beads on my abacus."

She can make the number 55 by placing 5 beads on the tens rod and 5 beads on the ones rod.

What other numbers can Emily make using 10 beads?

Can you show them on the abacus?

Order your numbers from smallest to greatest.

Explain what you notice about the numbers made.

Can you repeat this with a different total number of beads?