

SUBITISING PROBE

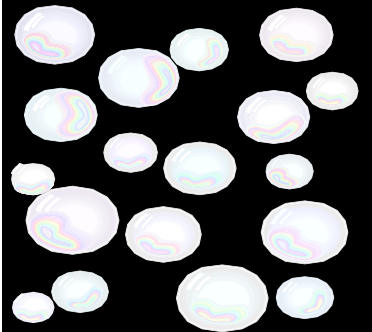
When to use?

Student shows some ability to recognize collections without counting.



What it shows?

Students' ability to recognize numbers without counting referred to as 'subitising'.



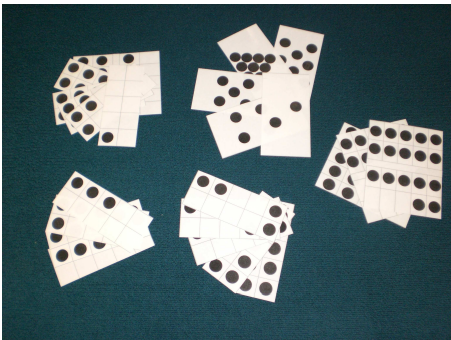
Why use it?

Subitising is an essential pre-requisite for establishing part-part-whole number knowledge, that is, that 7 can be recognized as a 5 and 2, 3 and 4 etc.

Materials:

[Video examples - contol and click to view](#)

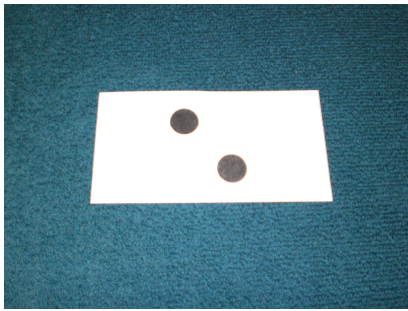
- Set of 5 Subitising Cards (attached)



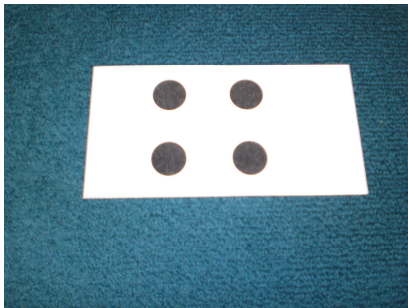
- Record Sheet (attached)

How:

- Say to student : I'm going to show you some cards with black dots, like this
- Show student the first card of Set 1 for approximately 2 seconds

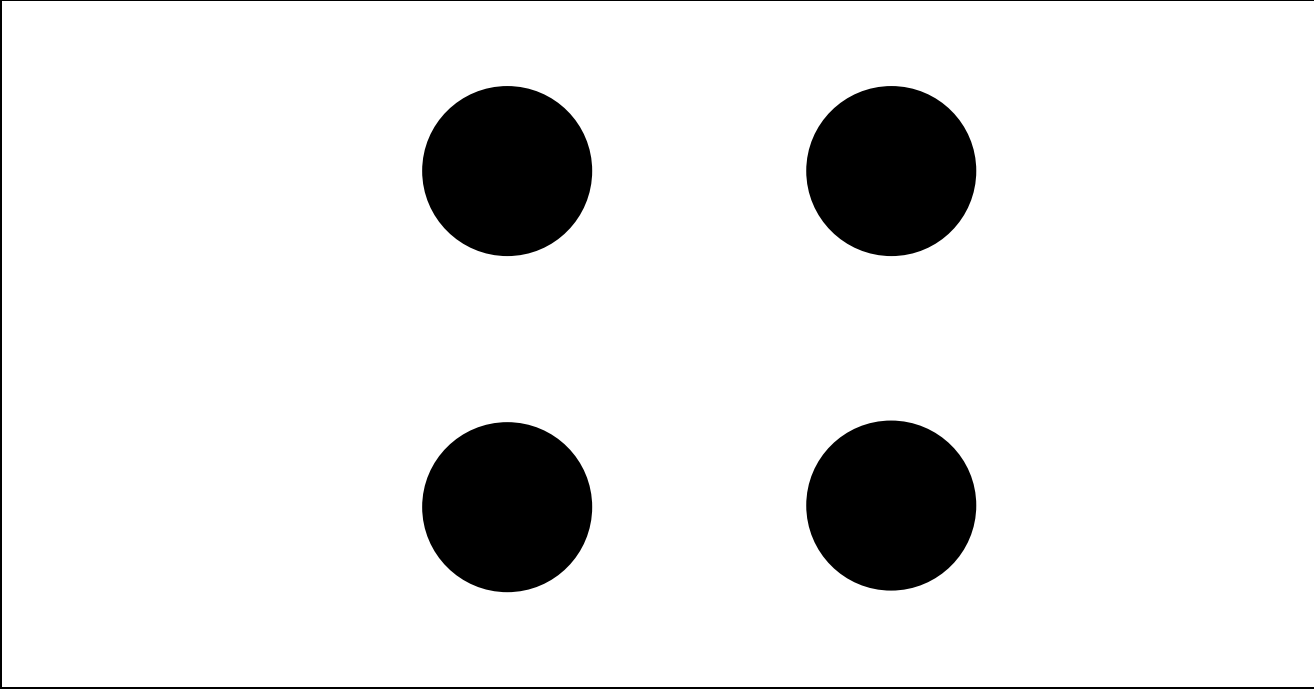
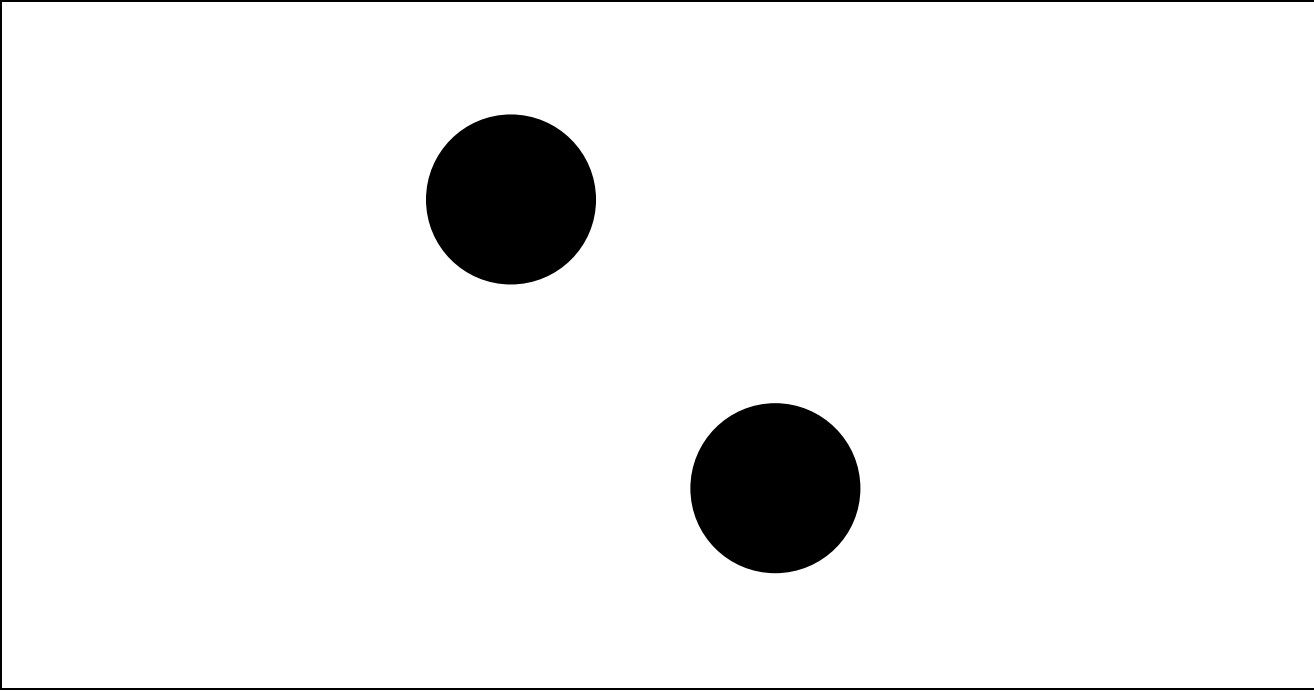


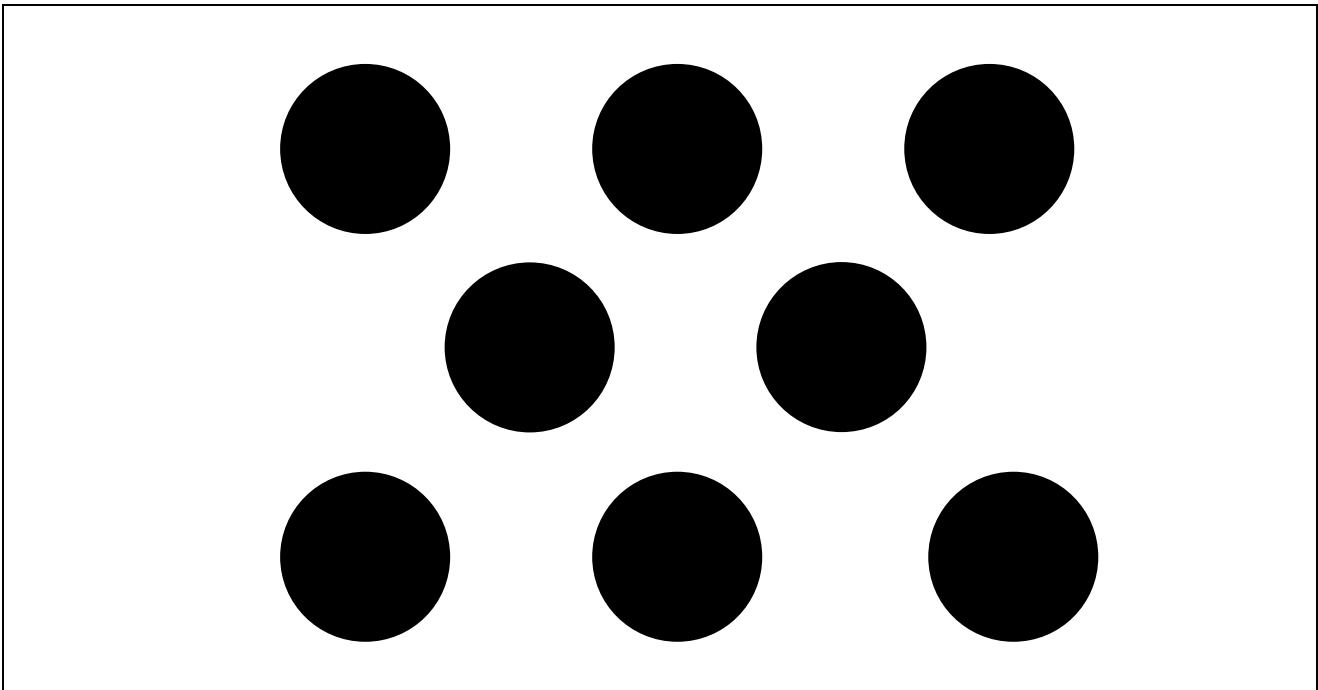
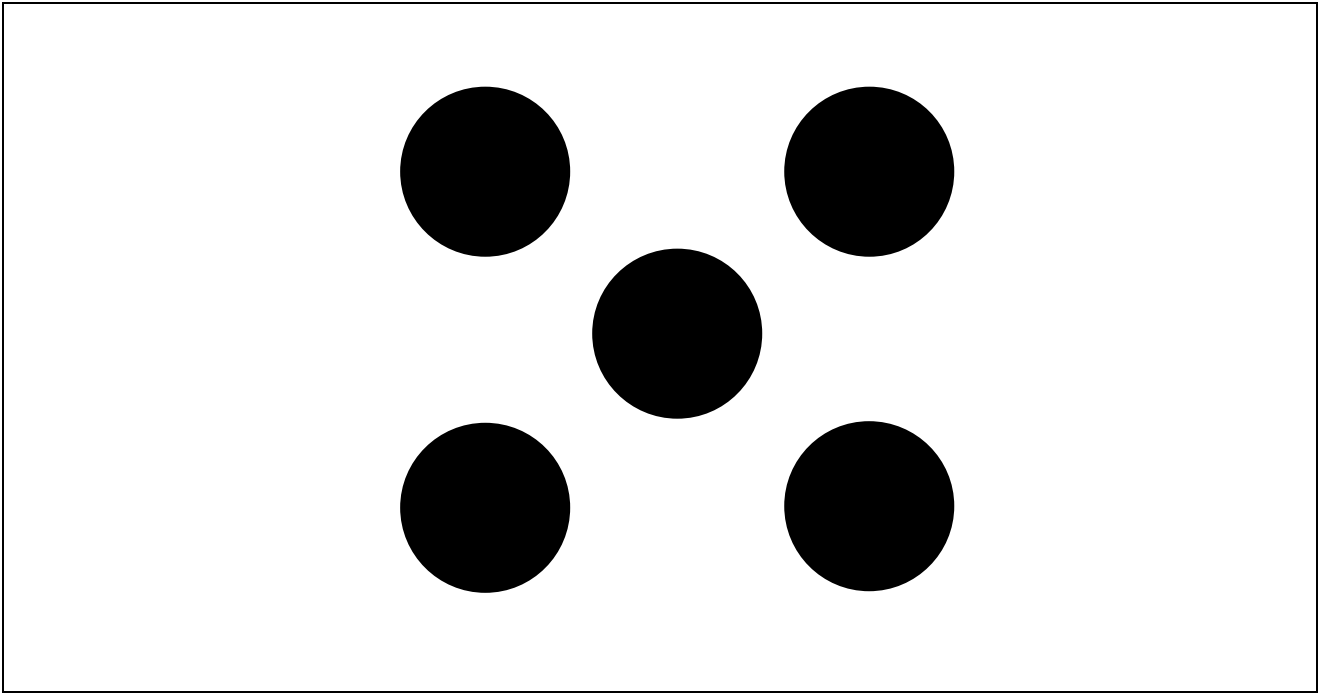
- *Say to student :* When I show them to you, tell me as quickly as you can, the number of dots on the card
- Show each card for approximately 2 seconds (long enough for you to count “one and two and” in silence. Do not count out loud as this will distract the student).
- Be careful not to cover any dots with your fingers as you flash the card in front of the student.
- Continue on with the second card from Set 1. Do not make any comments as the student responds.

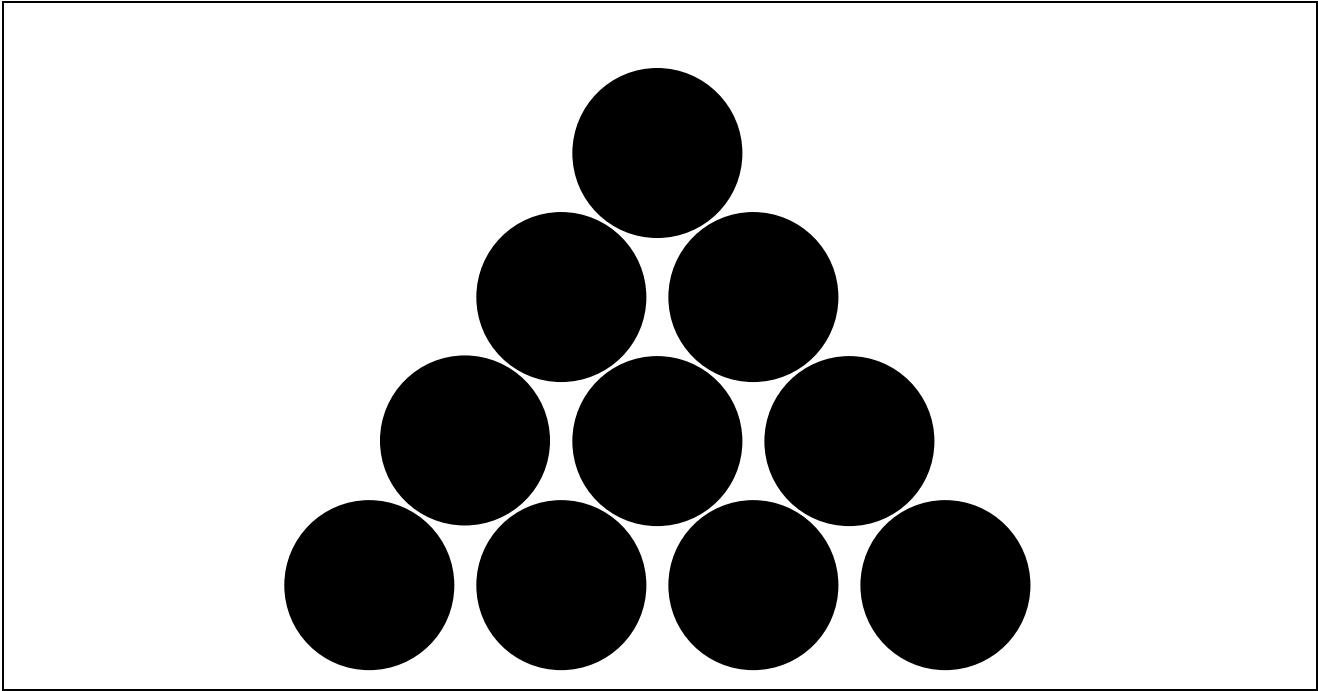


- *Say to student :* How many dots did you see?
- If the student responds correctly place the card face down on your left (Pile A)
- If no response or incorrect place the card face down on your right (Pile B) together with any remaining cards and proceed to the next card set. As soon as the student is unable to respond place the remaining cards in that set in Pile B and continue to the next set.
- Continue to show the cards in the following order:
 1. Card Set 1: Single Digits (2, 4, 5, 8, 10)
 2. Card Set 2: Ten-Frame Doubles (1, 3, 4, 6, 9)
 3. Card Set 3: Ten-Frame To Five (3, 6, 8, 0)
 4. Card Set 4: Ten-Frames Random (2, 4, 5, 7, 10)
 5. Card Set 5: Two Ten-Frames (12, 14, 17, 19)

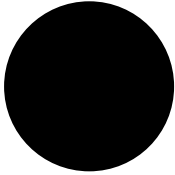
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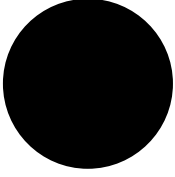
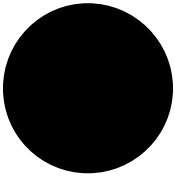
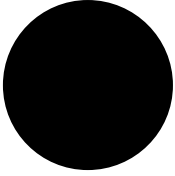


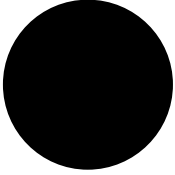
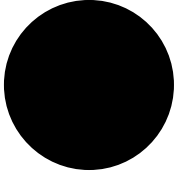
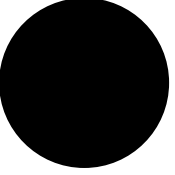
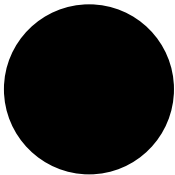


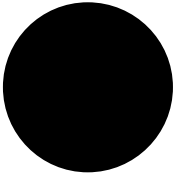
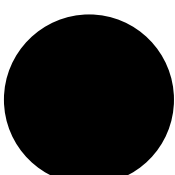
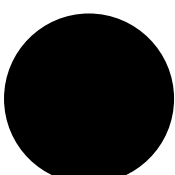
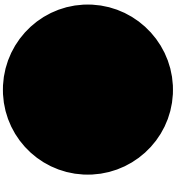
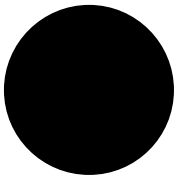
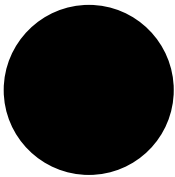


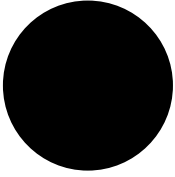
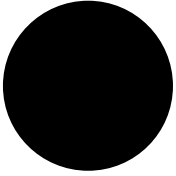
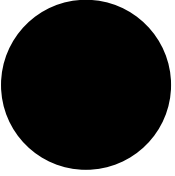
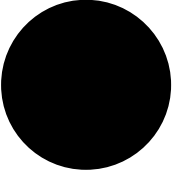
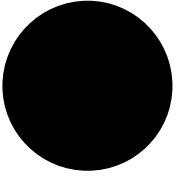
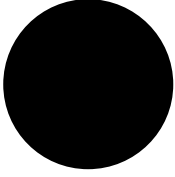
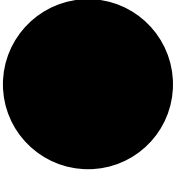
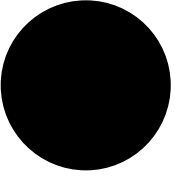
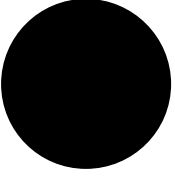
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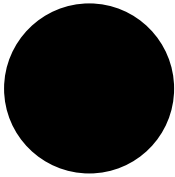
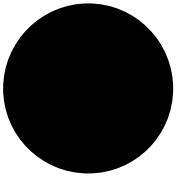
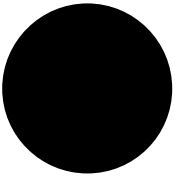
				
				

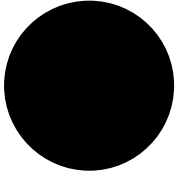
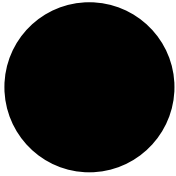
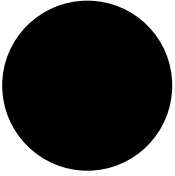
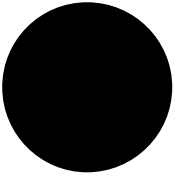
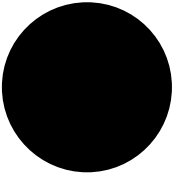
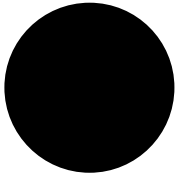
				
				

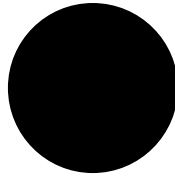
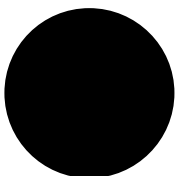
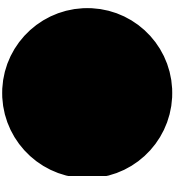
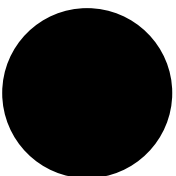
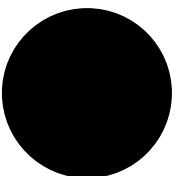
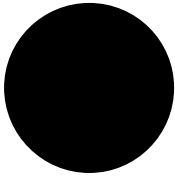
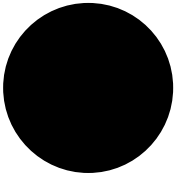
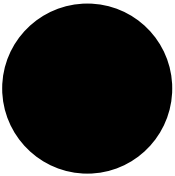
				
				

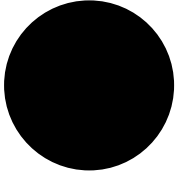
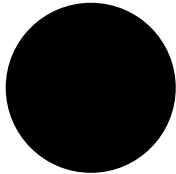
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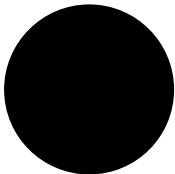
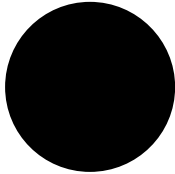
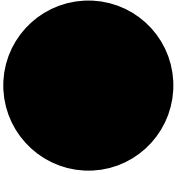
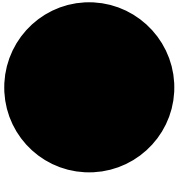
				

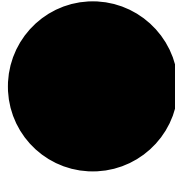
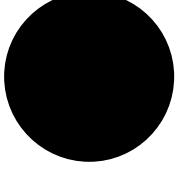
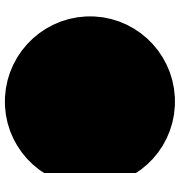
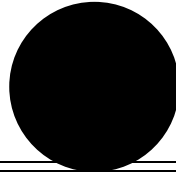
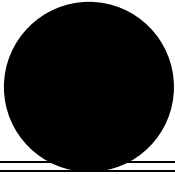
				
				

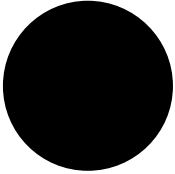
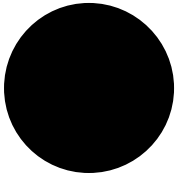
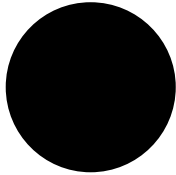
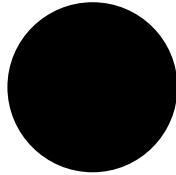
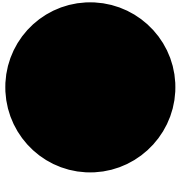
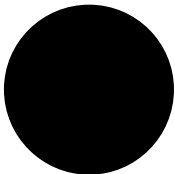
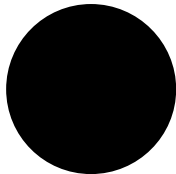
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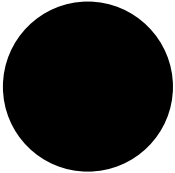
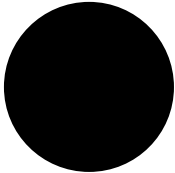
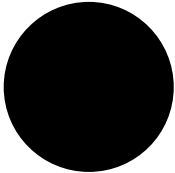
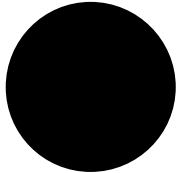
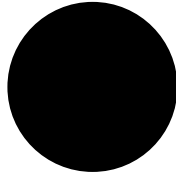
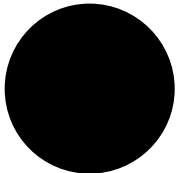
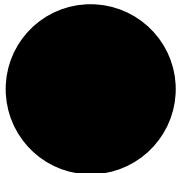
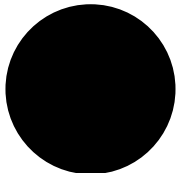
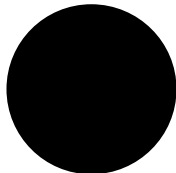
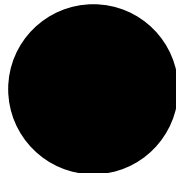
				
				

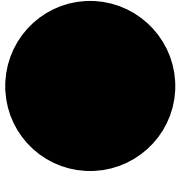
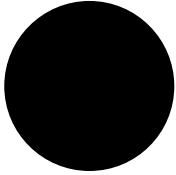
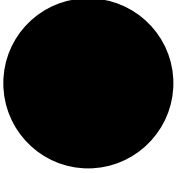
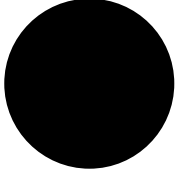
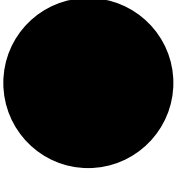
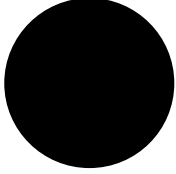
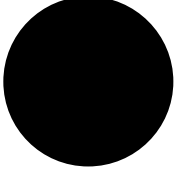
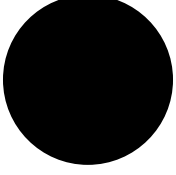
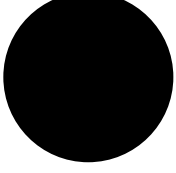
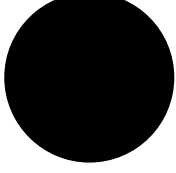
				
				

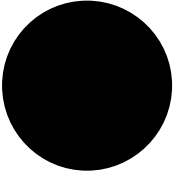
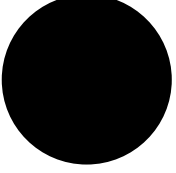
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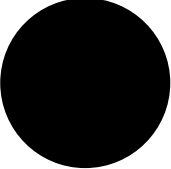
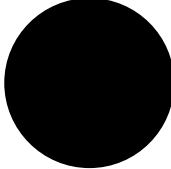
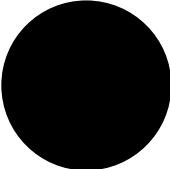
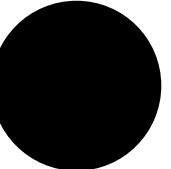
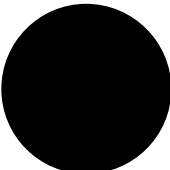
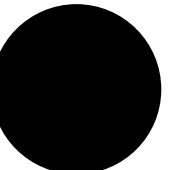
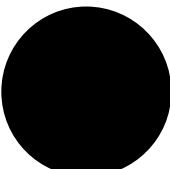
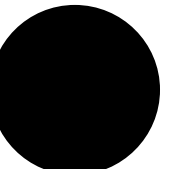
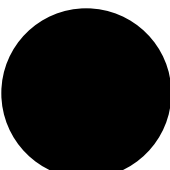
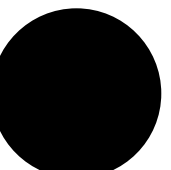
				
				

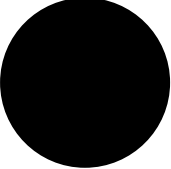
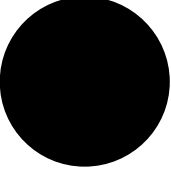
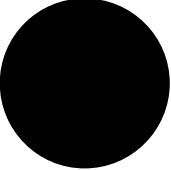
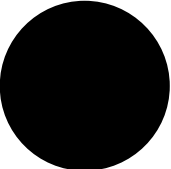
				
				

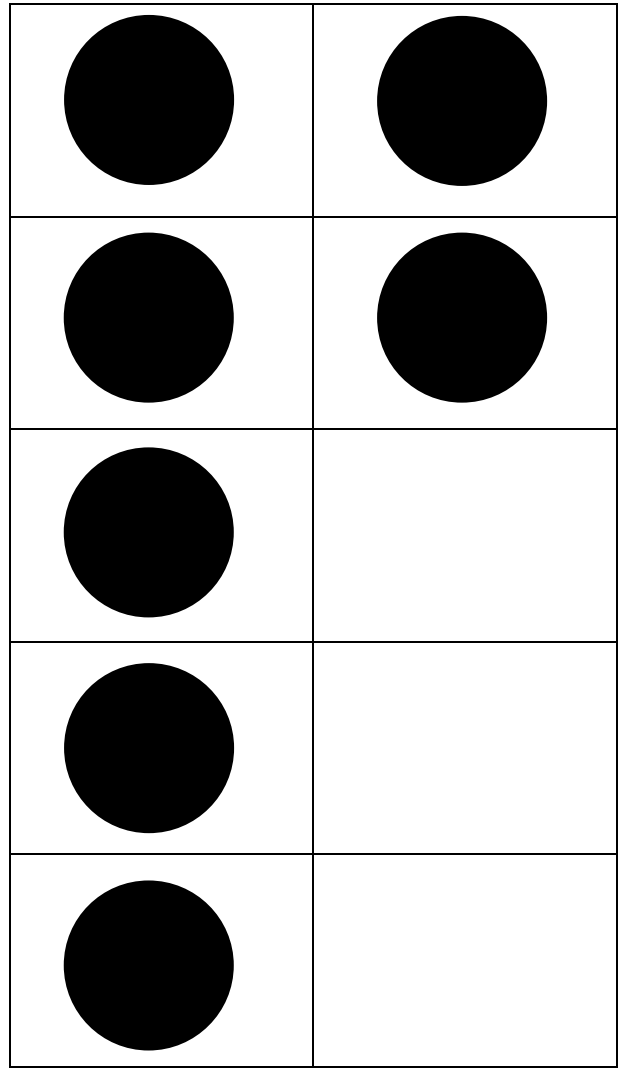
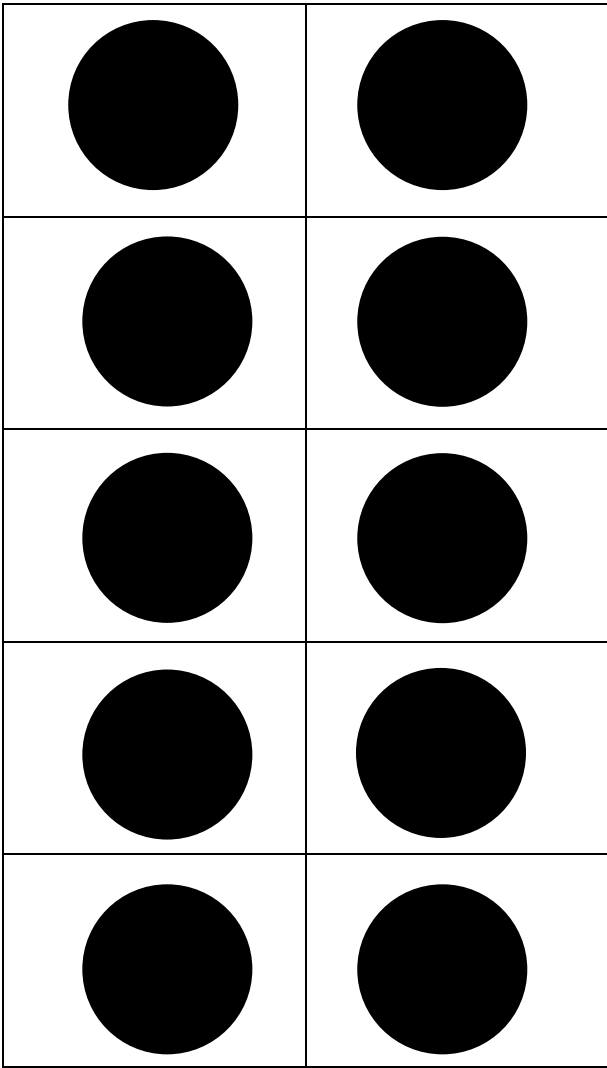
Card Set 5:

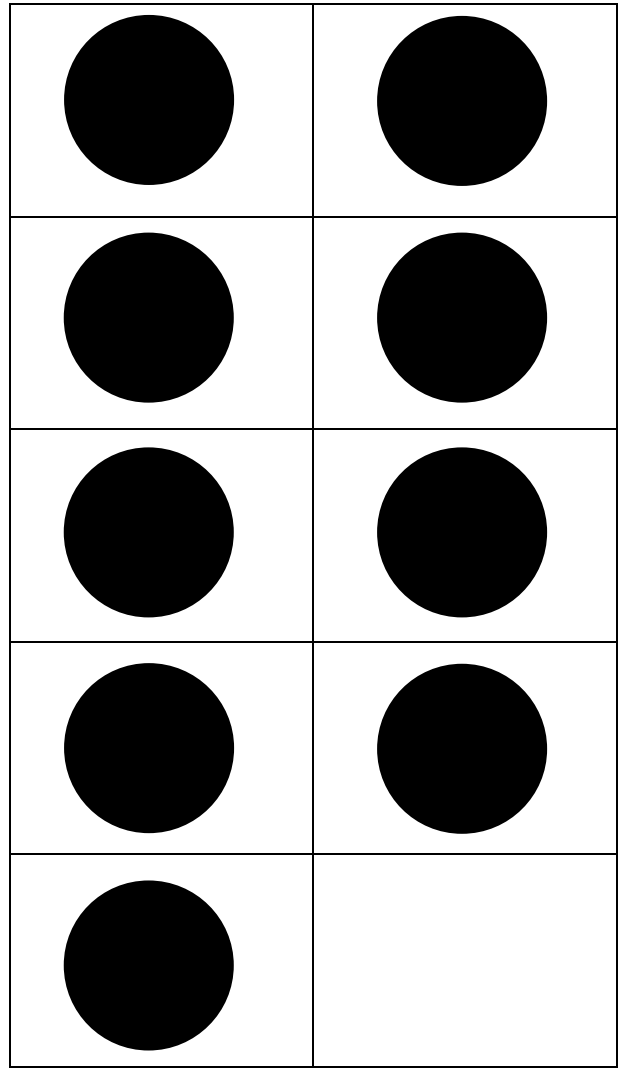
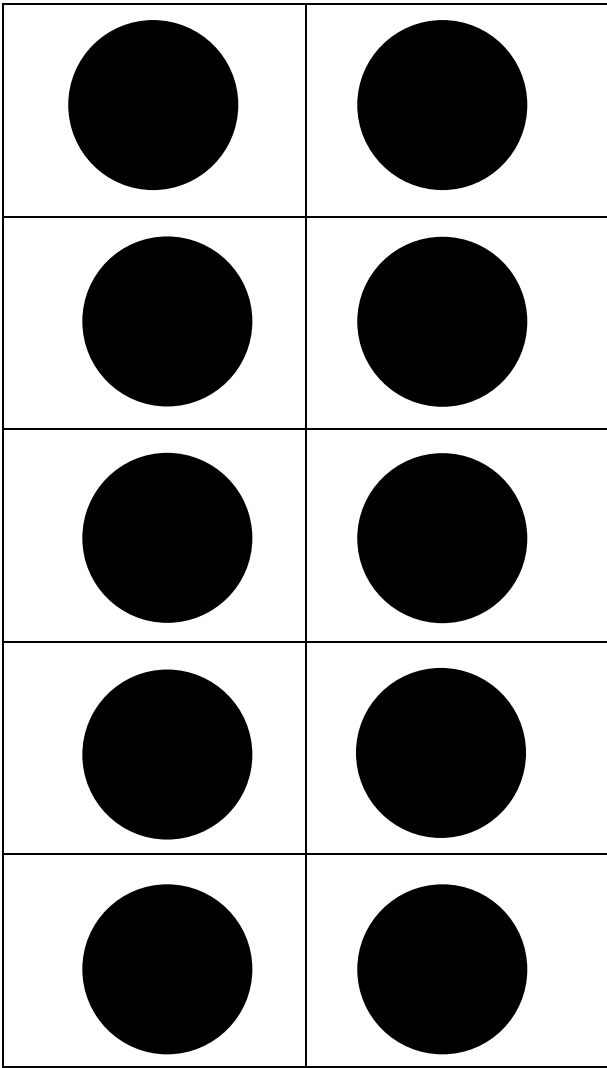
	
	
	
	
	





Record Sheet:

Record which cards are in each pile in a table like the one below for each student:

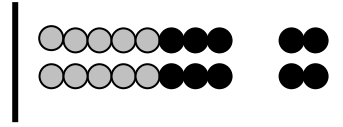
Card Set:	A	B
Set 1. Single Digit (2, 4, 5, 8, 10)		
Set 2. Ten-Frame Doubles (1, 3, 4, 6, 9)		
Set 3. Ten-Frame To Five (3, 6, 8, 0)		
Set 4. Ten-Frames Random (2, 4, 5, 7, 10)		
Set 5. Two Ten-Frames (12, 14, 17, 19)		

What to do next: Teaching Activities

IF	THEN
<p>If Student makes little/no response (eg, identifies first card of each set only), or clearly guessing</p> <p><i>(May not understand task, may not know number names, may not recognise small collections)</i></p>	<p>Then</p> <ul style="list-style-type: none"> • Provide opportunities to make, count, name and record small collections • Practice one-to-one counting with appropriate materials using correct number naming sequence • Support students to read, write and say number names and symbols
<p>If Student consistently recognises numbers up to 5 in 2 seconds or less, can occasionally recognise some numbers larger than 5 in 2 seconds</p> <p><i>(Able to subitise numbers to 5)</i></p>	<p>Then</p> <ul style="list-style-type: none"> • Check that students <i>trust the count</i> for the numbers up to 5, that is that they can work with a given number (said or read as a word or numeral) without having to make that number. • Provide opportunities to <i>count on from hidden</i>, where the collection or numeral hidden is less than/equal to 5 and the number to be counted is represented as a collection • Develop and consolidate <i>part-part-whole number knowledge</i> for numbers to 5 (eg, 5 is 4 and 1, 2 and 3 etc) then build on this to establish this knowledge for numbers to 10 using ten-frames and <i>counting on from</i> with particular attention to 10
<p>If Student consistently recognises numbers up to 5 in 2 seconds or less and most numbers to 10 in less than 2 seconds, may recognise some teen numbers without counting on by ones</p> <p><i>(Able to subitise numbers to 5, suggests part-part-whole knowledge for numbers 1 to 10 generally well established)</i></p>	<p>Then</p> <ul style="list-style-type: none"> • Consolidate <i>part-part-whole number ideas</i> to 10 by providing plenty of practice in recognising numbers displayed quickly, use a variety of flash card displays, eg, various ten-frame representations and cards with separate groups such as a 5 and 3, or a 2, 4 and 3, or a 5, 2, 4 and 3 • Build a <i>sense of numbers beyond ten</i> by using two ten-frames or recognised representations of a group of 10 (eg, last card in Set 1), encourage students to say, “10 and 4 more, 14”
<p>If Student able to recognise all numbers to 10 in less than 2 seconds and most of remaining cards without counting by ones</p> <p><i>(Indicates a well developed capacity to subitise, a sound knowledge of part-part-whole)</i></p>	<p>Then</p> <ul style="list-style-type: none"> • Use this knowledge to scaffold the <i>count-on-from-larger mental strategy</i> for single digit combinations involving 1, 2 or 3, eg, 2 and 7 presented orally, students count on from 7 saying, “7 ... 8, 9” without relying on physical models.

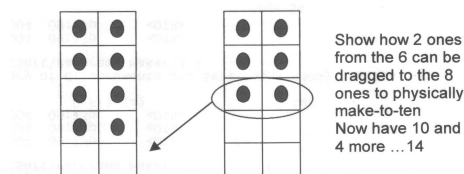
and sense of numbers beyond 10, needs to work on mental strategies for addition to deal with larger numbers)

- Once this is established, use a 2-row (2 coloured) bead frame to build a knowledge of *doubles facts to 20*, eg,

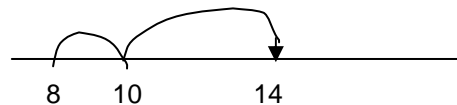


In this case, encourage the thinking: 8 and 8 can be seen as 10 and 6 more (refer to visual image), that is, 16.

- Work initially with ten-frames and concrete materials to demonstrate the use of *part-part-whole knowledge* for adding numbers larger than 5, eg, for 6 and 8, start with larger and physically make-to-ten, eg,



- Extend to working with *Open Number Lines* (lines with no graduations/markings, this is important as the whole purpose of this is to discourage counting by ones)



Eventually, students should be able to do this mentally. Known as the make-to-ten strategy, this is quite difficult as it involves the simultaneous use of *part-part-whole knowledge*, in this case, that 8 is 2 less than 10 and 6 is a 2 and a 4