

CGI Questioning: Moving Students Thinking Along the Continuum

Direct Modeling to Counting	Counting to Derived Facts	Derived Facts to Invented Algorithm
Explain/Elaborate	Explain/Elaborate	Explain/Elaborate
<ul style="list-style-type: none"> ▪ What does this represent? ▪ How did you get this? ▪ What do you know about this number? ▪ What did you do first? Second?... ▪ What's happening in this problem? ▪ What do you need to figure out? ▪ Show me how you counted it. ▪ How do you know that? 	<ul style="list-style-type: none"> ▪ Can you show me how you solve this? ▪ How did you count this? ▪ What in the problem are you counting? ▪ Can I hear you count? ▪ Show me your counting. 	<ul style="list-style-type: none"> ▪ How did you solve this? ▪ What do these numbers mean in the problem? ▪ Can you prove it? ▪ Why does this work?
Extend	Extend	Extend
<ul style="list-style-type: none"> ▪ Is there a more efficient way to count this? ▪ Can you organize this so that you can count more efficiently? ▪ How many 5's/10's in _____? ▪ Can you show me using a different tool, or less tools? ▪ Can you show this without the tools? ▪ Can you take what you know about small numbers and use it for larger numbers? ▪ Can you take what you know about whole numbers and use it for fractions? ▪ What number sentence matches your thinking? ▪ Can you write out the steps for how you solved this? 	<ul style="list-style-type: none"> ▪ What do you know about this number? ▪ What math facts can help you? ▪ How many groups of _____ are in this number? ▪ Since you know that there are _____ in _____, how many _____ are in _____? ▪ Is this number close to a friendly number? ▪ Can this number be decomposed into easier parts? ▪ Can you take what you know about small numbers and use it for larger numbers? ▪ What number sentence matches your thinking? ▪ Can you write out the steps for how you solved this? 	<ul style="list-style-type: none"> ▪ Does this work in all situations? ▪ Does this work if I change _____? ▪ Can you prove this using a different strategy? ▪ Can you write a conjecture? ▪ Is there a rule or pattern about this type of problem that we could use? ▪ Can you take what you know about small numbers and use it for larger numbers? ▪ What number sentence matches your thinking? ▪ Can you write out the steps for how you solved this?

*Collaboratively created by Alvarado, Cotsen, and UCLA Center X