**Questions to ASK That Move Students to Become Mathematically Proficient**

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| 1. **Make sense of problems and persevere in solving them.** | * **How would you describe the problem in your own words? - for younger children ask them to retell the story** * **What do you know?** * **What are you trying to figure out?** * **Could you try this with simpler numbers? Fewer numbers?** * **What tool are you going to use? Could you draw a picture?** * **Does your answer make sense?** |
| 1. **Reason abstractly and quantitatively.** | * **Could you tell me what your numbers represent?** * **Where is the \_\_\_\_ in the number sentence/equation?** * **Could you make up a story for your number sentence?** * **What does it mean when …?** |
| 1. **Construct viable arguments and critique the reasoning of others.** | * **What do you think about what \_\_\_\_ said?** * **Do you agree? Why/why not?** * **Can you explain what \_\_\_\_\_ is saying?** * **Can you explain why his/her strategy works?** * **How is your strategy similar to \_\_\_\_’s?** * **Can you convince the rest of us that your answer makes sense?** * **Defend \_\_\_\_ claim …** |
| 1. **Model with mathematics.** | * **What number sentence represents your drawing/picture/representation?** * **How could we use symbols to represent what’s happening?** * **What number represents \_\_\_\_ in your picture?** |
| 1. **Use appropriate tools strategically.** | * **How did using that tool help you solve the problem?** * **If we didn’t have access to that tool, what other one would you have chosen?** |
| 1. **Attend to precision.** | * **Can you tell me why that is true?** * **How did you reach your conclusion?** * **How does your answer connect to the question? Does it make sense?** * **Can you make a model to show that?** * **Can you convince the rest of us that your answer makes sense?** * **What new words did you use today? How did you use them?** |
| 1. **Look for and make use of structure.** | * **What pattern do you see?** * **Will your strategy work if I change the numbers?** * **How do you know your strategy/rule/equation will always work?** |
| 1. **Look for and express regularity in repeated reasoning.** | * **Is there a shortcut (algorithm) you could use?** * **How do you know which strategy to pick?** |