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

|  |  |
| --- | --- |
| 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?**
 |