**High Leverage Mathematics Instruction Practices**

These are nine research-affirmed instructional practices that correlate with high levels of student achievement and that should be incorporated into all mathematics instruction at all levels.

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| **Practices** | **Comments/observations** |
| 1. Effective teachers of mathematics respond to most student answers with “why?”, “how do you know that?”, or “can you explain your thinking?” |  |
| 2. Effective teachers of mathematics conduct daily cumulative review of critical and prerequisite skills and concepts at the beginning of every lesson. |  |
| 3. Effective teachers of mathematics elicit, value, and celebrate alternative approaches to solving mathematics problems so that students are taught that mathematics is a sense-making process for understanding why and *not* memorizing the right procedure to get the one right answer. |  |
| 4. Effective teachers of mathematics provide multiple representations – for example, models, diagrams, number lines, tables and graphs, as well as symbols – of all mathematical work to support the visualization of skills and concepts. |  |
| 5. Effective teachers of mathematics create language-rich classrooms that emphasize terminology, vocabulary, explanations and solutions. |  |
| 6. Effective teachers of mathematics take every opportunity to develop number sense by asking for, and justifying, estimates, mental calculations and equivalent forms of numbers. |  |
| 7. Effective teachers of mathematics embed the mathematical content they are teaching in contexts to connect the mathematics to the real world. |  |
| 8. Effective teachers of mathematics devote the last five minutes of every lesson to some form of formative assessments, for example, an exit slip, to assess the degree to which the lesson’s objective was accomplished. |  |
| 9. Effective teachers of mathematics demonstrate through the coherence of their instruction that their lessons – the tasks, the activities, the questions and the assessments – were carefully planned. |  |