What Mathematicians Do:

- **Estimate/Try Numbers Out –** get a sense of what the answer is going to be, make a guess and then refine it.

- **Work Carefully and systematically** - keep work neat, use labels and work in an organized way (use tables and steps); have a plan

- **Believe that math makes sense** - or that it will make sense eventually but that it takes work to get there.

- **Explain Thinking Using Common Language** – a lot of math is talking to others about what you see and think. Shared vocabulary is important.

- **Look for Patterns** – watch for things that happened before, test to see if they happen again.

- **Make Connections** – Look for connections among math ideas.

- **Create Models** – look for ways to make sense of the numbers and situations; draw, build, graph, visualize, act out…

- **Ask "What If"** – once you understand something, push on it. What would happen if you changed a part or used a different kind of number.

- **Work Together** – mathematicians check in with each other. Many minds are stronger than one!.

- **Extend Ideas (Make conjectures)** – if something works once, does it always work? How can you know? Mathematicians try to make general rules.

- **Prove Ideas** – If something *does* work all the time…how do you know? Can you prove it?

This is an incomplete collection, based on the work of Kenneth Levasseur and Al Cuoco among others.