|  |
| --- |
| WHAT ARE WE INVESTIGATING? |
| **How do Plates Interact with Each Other?** |
| What did we do? | What did we observe? | What have we figured out so far? | How does this help answer our question? | What additional questions do we have for our DQB? | What questions do we think we have figured out from our DQB? |
| Observed a demonstration of how hot and cold water behave in an aquarium | Hot water (red) rose to the top of the tank, while the cold water (blue) sank. | Hot water is less dense than cold water so it rises to the top |  | How do the plates interact? What elements are in the core?How do metamorphic rocks come to the surface?How long is the process to form a metamorphic rock?How hot is the core compared to the mantle?How fast do the plates move? | What makes the plates move? What heats the mantle material? |
| Observed a demonstration of what happens when water in a tank is heated from beneath the tank | The water under the heat source (red coloring) started to rise, separated and then began to sink back down along the sides of the tankThe water along the edges (blue coloring) moved toward the center to fill in to replace the water that rose to the top. This water began to rise once heated, creating a circular motion of water. Cardboard plates followed the motion of the water.  | The heating created convection currents. SCIENTIFIC PRINCIPLES:**Plates rest on the mantle, a hot, softer rock layer that can move and flow.** **Convection (cycling of hot and cold material) occurs in the mantle as hot material rises, because it is less dense, and cold material sinks, because it is denser.** **Earth’s plates ride on the moving mantle rock.**  | We know that plate movement causes changes and now we understand how plates move.  |  |
| What did we do? | What did we observe? | What have we figured out so far? | How does this help answer our question? | What questions do we think we have figured out from our DQB? |
| Sketched metamorphic rocks | The rocks had stripes, or foliation that look like it had been bent.  |  |  |  |
| Planned an investigation to determine the effect of temperature on silly putty | When heated, the putty became softer, more malleable, stretched easier and even molded to containerWhen cooled, the putty became harder, did not stretch as easily. Was more difficult to mold and form.  | Mantle is not fully solid so convection currents can travel through it. Metamorphic rocks form under heat and pressure.Metamorphic rocks form in the mantleThe core is the heat source. |  |  |

UNIT 1: LESSON 4 SUMMARY TABLE