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| **Realness** | **Responsibility** | **Rigor** |
| **Concrete** – the real thing in their hands, a real experience of the idea, tangible | **Student Centered** – Students do the thinking, gather the facts, make the connections | **Top Create/Evaluate/Synthesis** – students come up with new ideas, processes, hypotheses, explanations |
| **Abstract** – all in words, reading/telling about it, vocabulary, symbols, numbers | **Teacher Centered** – teachers do the telling, provide the knowledge, show the connections and processes | **Bottom Knowledge/Understand** – students state or restate the facts, students carry out repetitions of the process |

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| **Option 1** |
|  | **Teacher Does** | **Student Does** | **Realness** | **Responsibility** | **Rigor** |
| **Elicit****Engage** | Guides Discussion | Share answers to “What happens to the cells in your finger when you get a paper cut?” |  |  |  |
| **Explore** | Gives guidelines, supplies, and support | Figures out best method for dividing model cells |  |  |  |
| **Explain** | Calls on groups to shareShow PP <https://drive.google.com/file/d/0B8HuIwbzhEntaEo0TU9VY3ZkYUU/view?usp=sharing> | Share their versionsTake notes |  |  |  |
| **Extend** | Provides paper, checks order before glue | Glue example cells in order of mitosis, label parts |  |  |  |

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| **Option 2** |
|  | **Teacher Does** | **Student Does** | **Realness** | **Responsibility** | **Rigor** |
| **Elicit****Engage** | Guides Discussion | Share answers to “What happens to the cells in your finger when you get a paper cut?” |  |  |  |
| **Explain** | Show PP http://www.slideshare.net/farrellw/mitosis-powerpoint-11179257 | Take notes |  |  |  |
| **Extend** | Provides rubric and materials | Make a model of mitosis using craft supplies |  |  |  |