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MATHEMATICAL INVESTIGATION

Purpose: To enquire into a mathematical situation and produce a mathematical argument. The stages can occur in different sequences according to the nature of the investigation and the learning style of the investigator.

(Education Department of Western Australia 1994-5 Stepping Out.)

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|  | **Notes** |
| * **Stating the Problem**   Different interpretations, lines of action, identifies different problems |  |
| * **Think Time**   Subconscious thought may lead to new solutions |  |
| * Exploration and Data Collection   Clearly presents relevant information and preliminary calculations |  |
| * Finding Patterns, Conjectures   Patterns suggest generalisation which may apply to other cases |  |
| * Testing Conjectures   Checks consistency of conjecture, obtains data for untried cases/rejects conjecture |  |
| * Verification   Eliminates unsuitable alternative, explains why conjecture will hold for other cases |  |
| * Summary   Pulls investigation into an organised statement, critically reviews, clarifies, reflects. highlights major ideas and phrases |  |

Mount Lawley Senior High School