# Grade 7 - Math Rubric – Probability

| Assessment Category | Level 1 | Level 2 | Level 3 | Level 4 |
|---|---|---|---|---|
| **Knowledge and Understanding**<br><br>**The student…** | | | | |
| – solves real-world probability problems using fractions, decimals and percents (e.g. lotteries, weather forecasts, elections) | Limited Knowledge | Some Knowledge | Considerable Knowledge | Thorough Knowledge |
| – makes predictions when given a probability (e.g. likelihood of choosing a certain colour marble) | | | | |
| **Thinking**<br><br>**The student…** | | | | |
| – demonstrates mathematical thinking through reflecting on and monitoring thinking to help clarify understanding while investigating and solving problems (e.g., by proposing alternative approaches, by judging the reasonableness of results, by verifying solutions, by asking questions, justifying answers) | Limited Effectiveness | Some Effectiveness | Considerable Effectiveness | High Degree of Effectiveness |
| – deconstructs problems to determine necessary information (e.g. highlighting key information, re-reading) | | | | |
| – uses problem solving skills (e,g. develop, select, apply and compare strategies) | | | | |
| **Communication**<br><br>**The student…** | | | | |
| - explains mathematical thinking orally, visually and in writing (e.g. journals, open ended questions, what I notice/wonder) | Limited Effectiveness | Some Effectiveness | Considerable Effectiveness | High Degree of Effectiveness |
| - represents outcomes in a variety of ways (e.g. tree diagrams, tables, models or systematic lists) | | | | |
| - uses appropriate vocabulary and terminology (e.g. theoretical probability, experimental probability, possible outcomes, independent outcomes) | | | | |
| **Application**<br><br>**The student…** | | | | |
| - represents all the possible outcomes of a probability experiment involving two independent events and determines the theoretical probability of a specific outcome (e.g. probability of rolling a 4 and spinning red using a number cube and spinner) | Limited Effectiveness | Some Effectiveness | Considerable Effectiveness | High Degree Of Effectiveness |
| - performs a simple probability experiment involving two independent events and compares the experimental probability with the theoretical probability (e.g. drawing counters from a bag) | | | | |