

Animal Friends

In a storybook about animal friends, there is a shallow pond in the middle of the woods. The animal friends love to come to the pond on hot days to cool off and visit with one another. On one page in the storybook, there is a picture that shows different kinds of animals standing around in that pond. If you counted all of the various animals' legs in the water, and found that there were 38 animal legs, what are some possible combinations of animals that might be included in that picture? How many legs does each animal have? Make a chart, or draw a picture, and name some possible solutions that could explain how there are 38 legs. What if there were an odd number of legs in the pond? How could you explain that?



<p>Novice</p>	<p>No strategy is chosen or a strategy is chosen that will not lead to a solution. Little or no evidence of engagement in the task. Neither correct reasoning nor justification for reasoning is present. Little or no communication of an approach is evident with mathematical language. No connections are made. No attempt is made to construct mathematical representations.</p>
<p>Apprentice</p>	<p>A partially correct strategy is chosen. Evidence of previous knowledge. Arguments are made with some mathematical basis. Some formal math language is used, and examples are provided to communicate ideas. Some effort is made to relate to own interests and experiences. An attempt is made to construct mathematical representations to record and communicate problem solving.</p>
<p>Practitioner</p>	<p>A correct strategy is chosen. Evidence of applying prior knowledge is present. Arguments are constructed with adequate mathematical knowledge. Systematic approach or correct reasoning is present. Precise math language is used with audience in mind. Mathematical connections are recognized. Appropriate mathematical presentations are used.</p>
<p>Expert</p>	<p>An efficient strategy is used. A correct answer is given. Evidence is used to justify and support decisions. Precise math language is used to communicate to an appropriate audience. Mathematical connections or observations are used to extend the solution. Abstract or symbolic mathematical representations are constructed to analyze relationships, extend thinking and clarify or interpret phenomenon.</p>