Basic Terminology

- Probability = likelihood
- Sample space
- Trial
- Event

Calculating Probability of Events

1. Equally likely outcomes
   - Trial: Roll a dice (fair 6-sided dice)
   - $A = \text{even outcome} = \{2, 4, 6\}$

   - $B = \text{outcome } \leq 2 = \{1, 2\}$
2. Non-equally likely outcomes & weighting
   o Trial: Roll a loaded 6-sided dice where

<table>
<thead>
<tr>
<th>Outcome</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>3/8</td>
<td>1/8</td>
<td>1/8</td>
<td>1/8</td>
<td>1/8</td>
<td>1/8</td>
</tr>
</tbody>
</table>

   A = even outcome

   B = outcome ≤ 2

   o Trial: Without looking inside, pick an item out a box containing: 1 pecan, 2 almonds, 3 cashews, and 5 peanuts. What is the probability of getting an almond at random?