**Carnival Game Tycoon Lecture Notes: Lesson 1 Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Delta College STEM Explorer **Hour**:\_\_\_\_\_\_

1. **Introduction to Probability**

Defined: Probability is the study of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. Early Mathematicians: \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Desired to use concepts of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to make \_\_\_\_\_\_\_\_\_\_\_.
3. Probability is represented as a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. \_\_\_\_\_= impossible, \_\_\_\_\_=certainty
5. Random Events
6. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is any activity with \_\_\_ or more possible outcomes in which there is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ about which will occur.
7. \_\_\_\_\_ basic chance experiments: a \_\_\_\_\_\_\_\_\_\_ flip, a \_\_\_\_\_\_\_\_\_ of a die, and picking a \_\_\_\_\_\_\_\_\_\_\_ from a deck.

* Activity 1: Coin Flip

1. Sample Space: A set of \_\_\_\_\_ possible \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in a chance experiment.
   1. Coin Flip:
   2. Rolling a Die:
   3. Card Draw:
2. \_\_\_\_\_\_\_\_\_\_\_\_\_: a \_\_\_\_\_\_\_\_\_\_\_\_\_ of outcomes from a sample space.
   1. Ex. \_\_\_\_\_\_\_\_\_\_\_\_ on a coin flip.
   2. Ex. Rolling a \_\_\_\_ on a die.
   3. Ex. Picking a \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ from a full deck of cards.
3. **Calculating \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

A. If all the outcomes in a sample space (S) are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then the probability (P) of the event E is:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

B. Examples: Probability of:

1. tails on a coin flip:

2. 6 on a coin roll:

3. Ace of Spades on a card draw:

4. 1 or 2 on a die roll:

5. Face card on a draw:

Remember: The \_\_\_\_\_\_\_\_\_\_\_\_\_\_ we get to \_\_\_\_, the higher the likelihood of the event.