Name: _____ Block: _____ Date: _____

Dragon Genetics – Punnett Square Challenge

Key Vocabulary:

Allele - *One part of a pair or genes, for example:* ***E***
Dominant trait- *A trait that will be seen if one or both alleles are dominant, for example:* ***Ee, EE***
Recessive trait*- A trait that will only be seen if both alleles are recessive, for example:* ***ee***
Genotype *– A pair of alleles, for example:* ***Ww, ee*** *or* ***FF***
Phenotype *– The trait that will be seen, for example:* ***wings*** *or* ***no wings*** *or* ***breathes fire***
Heterozygous *– When the genotype is made of different alleles, for example:* ***Ww*** *or* ***Ff***
Homozygous - *When the genotype is made of the same alleles, for example:* ***ww*** *or* ***FF***

Directions: Figure out the answer to each of the dragon genetics questions using the information in the problems. Complete a Punnett Square to show your work!

1. In dragons, the allele for fire breathing is dominant. Dragons can be fire breathers (F), or non fire breathers (f). Show the genotypes and phenotypes of all possible dragons:

2. If a heterozygous fire-breathing dragon is crossed with one that does not breathe fire, what is the probability of the offspring being fire breathers?

3. If two heterozygous dragons are crossed, what is the probability of the offspring NOT being fire-breathers?

4. Also in dragons, wings are a dominant trait (W). If you crossed two wingless (w) dragons, what is the probability of their offspring having wings?

5. Two winged dragons produce an offspring that does not have wings. What are the genotypes of the parents?

6. If a purebred winged dragon is crossed with a purebred wingless dragon, how many of their offspring will be winged and what is their genotype?

7. A dragon with wings (Ww) is crossed with ones that does not have wings. What percentage of their offspring will be wingless?
