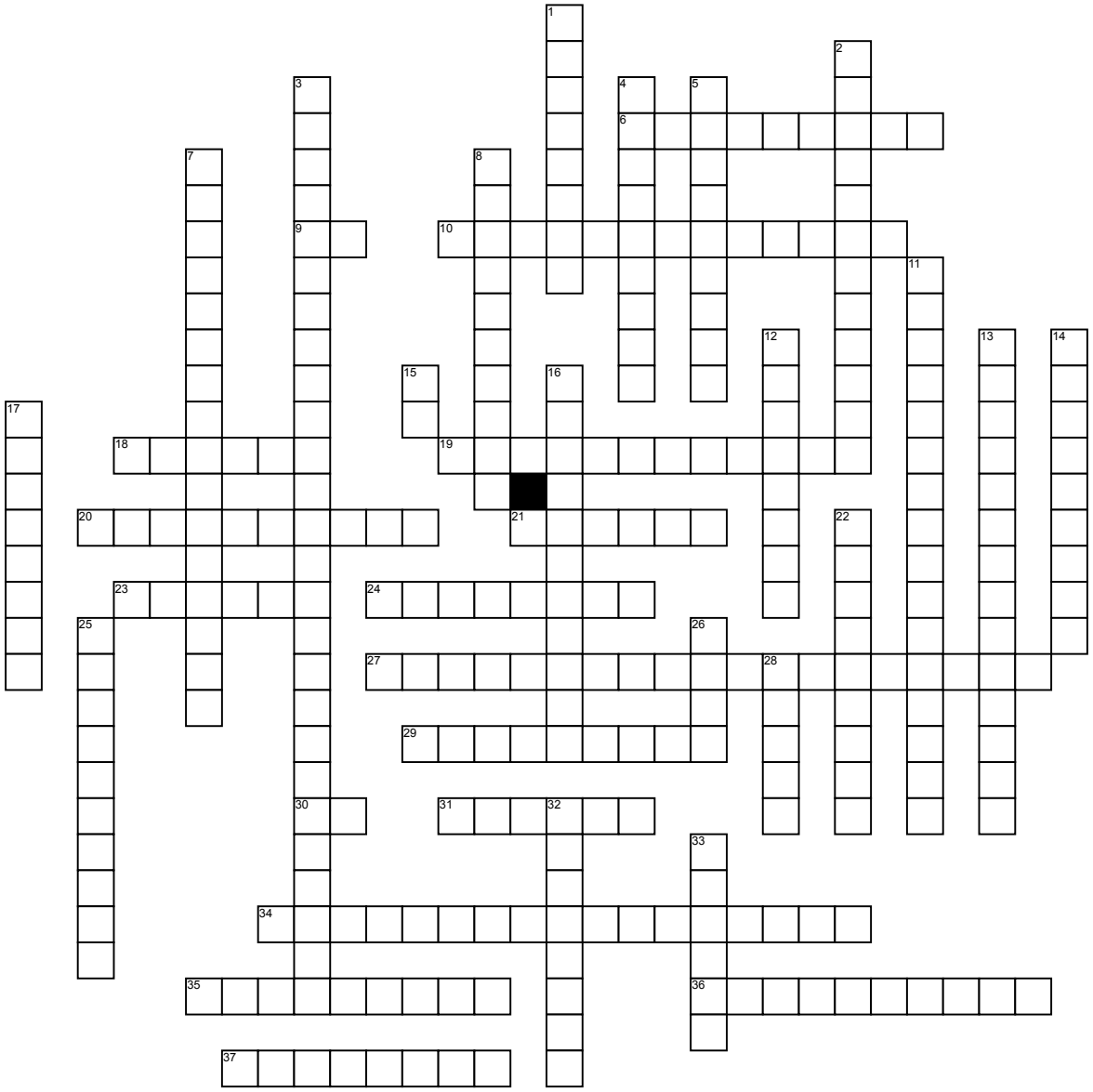
Genetics Crossword



Across

6. The physical and physiological traits of an organism determined by its genetic makeup.

9. Offspring resulting from interbreeding of the hybrid F1 generation.

10. A diagram used in the study of inheritance to show the results of random fertilization in genetic crosses.

18. Alternative versions of a gene that produce distinguishable phenotypic effects.

19. Having two different alleles for a given gene.

20. Proteins secreted by plasma cells that binds to a particular antigen and marks it for elimination; also called immunoglobulin.

21. Fine powdery substance consisting of microscopic grains discharged from the male part of a flower or from a male cone. Each grain contains a male gamete that can fertilize the female ovule.

23. Pollen-producing reproductive organ of a flower, consisting of an anther and filament.

24. A diagram of a family tree showing the occurrence of heritable characters in parents and offspring over multiple generations.

27. The situation in which the the phenotypes of both alleles are exhibited in the heterozygote.

29. Breeding of an organism of unknown genotype with a homozygous recessive individual to determine the unknown genotype.

30. A protein antigen on the surface of red blood cells designated Rh-positive. If an Rh-negative mother is exposed to blood from an Rh-positive fetus, she produces anti-Rh antibodies of the IgG class.

31. Who published a theory of inheritence that helps explain genetic variation?

34. Fertilization of plants and some animals invertebrate animals by their own pollen or sperm rather than that of another individual.

35. Small enucleated blood cells important blood clotting; derived from large cells in the bone marrow.

36. An organism that is heterozygous with respect to a single gene of interest.

37. an organism that is heterozygous with respect to two genes of interest.

Down

1. Macromolecules that elicits an immune response by lymphocytes.

2. Red blood cells; containing hemoglobin, which functions in transporting oxygen in the circulatory system.

3. Mendel's second law states that each pair of allele segregates independently during gamete formation; applies when genes for two characters are located on different pairs of homologous chromosomes.

4. A type of gene interaction in which one gene alters the phenotypic effects of another gene that is independently inherited.

5. An allele whose phenotypic effect is not observed in a heterozygote.

7. In angiosperm, the transfer of pollen from an anther of a flower on one plant to the stigma of a flower on another plant of the same species.

8. White blood cells; typically functions in immunity, such as phagocytosis or antibody production.

11. Mendel's first law states that each allele in a pair separates into a different gamete during gamete formation.

12. The genetic makeup of an organism.

13. An error in meiosis or mitosis, in which both members of a pair of homologous chromosomes or both sister chromatids fail to move apart properly.

14. Chromosomes that are not directly involved in determining sex, as opposed to a sex chromosome.

15. The first filial, or hybrid, offspring in a series of genetic codes.

16. Ability of a simple gene to have multiple effects.

17. Cultivated varieties or cultivars of an animal species, achieved through the process of selective breeding.

22. Tending to be associated with one sex or the other.

25. Having two identical alleles for a given gene.

26. Most commonly the small spherical seed or seed-pod of the pod fruit Pisum sativum.

28. In flowers its the portion of a carpel in which the egg-containing ovules develop. In animals the structure that produces female gametes and reproductive hormones.

32. An allele that is fully expressed in the phenotype of a heterozygote.

33. Liquid matrix of blood in which the cells are suspended.