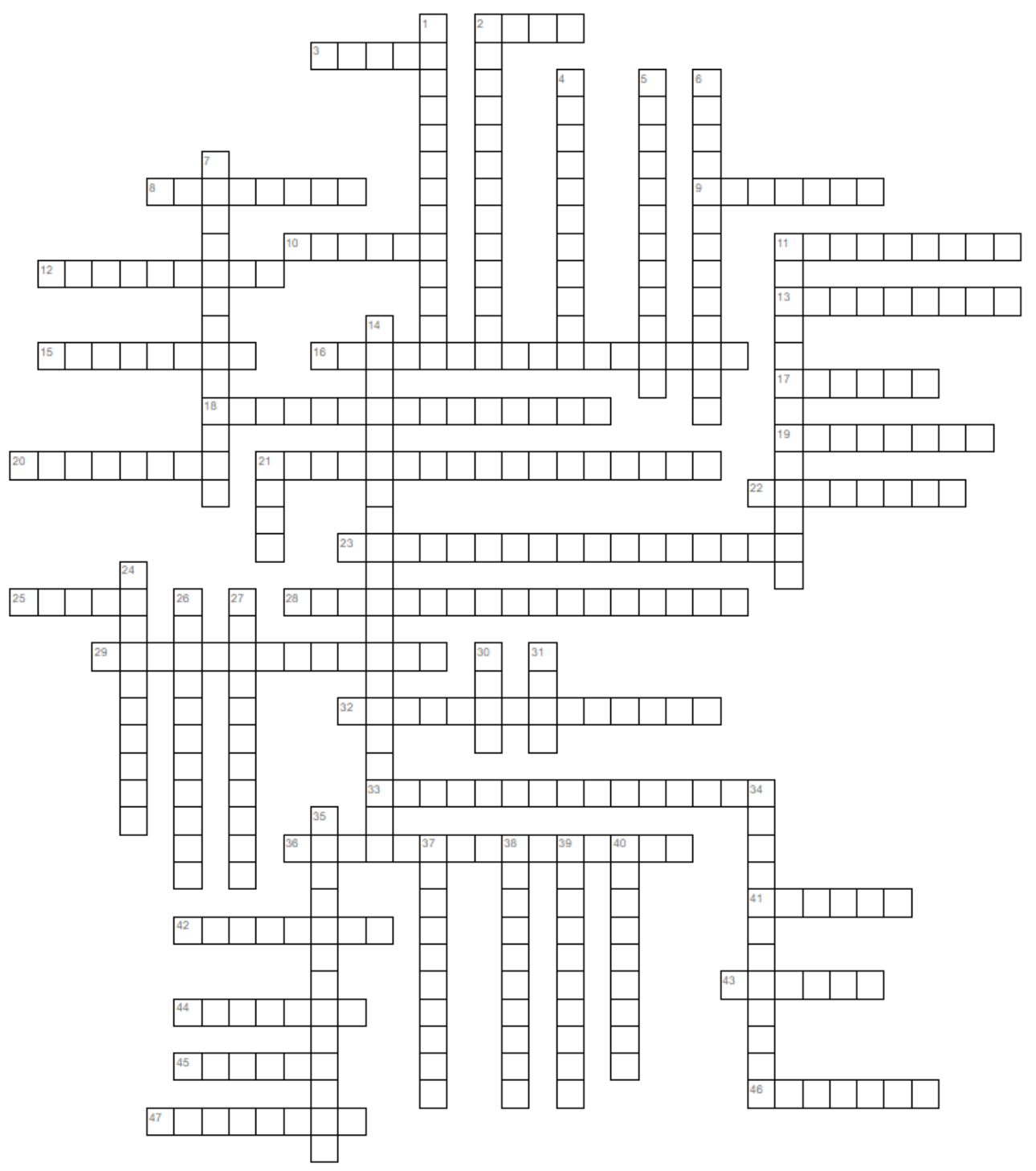


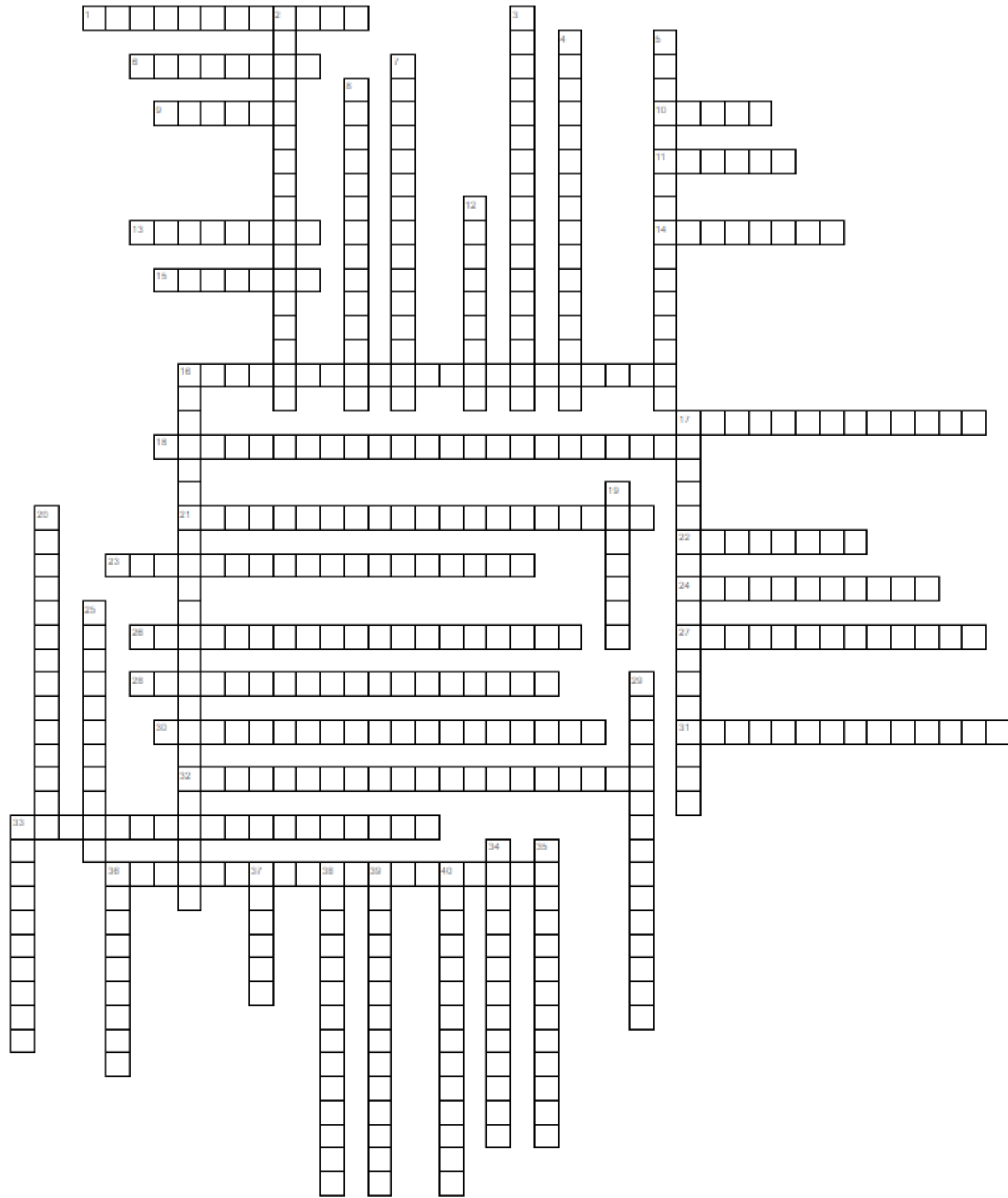
Slides 1-62



- Across**
- 2 works with mRNA in translation by delivering correct amino acid (abbreviation)
 - 3 set of three bases that code for an amino acid
 - 8 found that the nucleotides are not present in equal amounts as Levene said.

- Down**
- 1 main enzyme involved in formation of RNA from DNA to make mRNA
 - 2 process of producing RNA from DNA
 - 4 in genetics, the process of copying DNA

- 9 adenine binds with _____ in DNA
- 10 the total DNA in an organism's cells
- 11 Joins together Okazaki fragments in the lagging strand
- 12 An extra nucleotide or several are inserted into the DNA sequence
- 13 the coding strand is known as the _____ strand
- 15 enzyme that bind to the DNA at the replication origin.
- 16 The theory that genetic information flows from DNA to RNA to protein is often referred to as the "central dogma" of gene expression.
- 17 He isolated two types of nucleic acid.
- 18 Each Y-shaped end of the bubble is called
- 19 He coined the term "nuclein" to describe a weakly acidic, phosphorus-containing substance that he had isolated from the nuclei of white blood cells.
- 20 permanent change to a cell's DNA
- 21 nucleotide sequence where DNA replication begins
- 22 She used X-ray photography to analyze the structure of DNA. Discovered DNA is helical.
- 23 Mutations that occur in reproductive cells are called
- 25 the non-coding strand is known as the _____ strand
- 28 The oval-shaped unwound area is called a
- 29 in a DNA sample, the amount of adenine is about the same as thymine and the amount of cytosine is about the same as guanine
- 32 They published a two-page paper describing a double helix model. blank and blank - include and
- 33 short nucleotide fragments of the lagging strand
- 36 They proved that viral DNA, not viral protein, enters the bacterial cell. blank and blank - include and
- 41 amino acid produced by the DNA strand AAG
- 42 He discovered that the dead pathogenic bacteria had somehow passed on their disease-causing properties to live, non-pathogenic bacteria
- 43 adenine binds with _____ in RNA
- 44 synthesizes an RNA primer to begin the elongation process
- 45 a short strand of RNA, known as a _____, must serve as a starting point for the attachment of new nucleotides.
- 46 Cytosine binds with _____
- 47 consist of a sequence of molecules called amino acids.
- 5 definition that describes how the the two DNA strands run in opposite directions
- 6 substitution, insertion, or deletion of one or very few nucleotides
- 7 in replication, the strand made in segments
- 11 adds new nucleotides to the 3' OH group of an existing nucleotide strand; dismantles the RNA primer; proofreads base pairing. Also does proofreading.
- 14 Mutations that occur in the body cells are called somatic cell mutations.
- 21 RNA associated with ribosomes (abbreviation)
- 24 amino acid produced by the RNA strand UUA
- 26 in DNA replication, the completion of new DNA strands and dismantling of the replication machine
- 27 process of producing a polypeptide based on an mRNA sequence
- 30 a functional sub-unit of DNA that directs the production of one or more polypeptides (protein molecules)
- 31 RNA that carries the genetic code from DNA to protein synthesis machinery (abbreviation)
- 34 Griffith called this phenomenon the _____ principle, because something from the heat-killed pathogenic bacteria must have transformed the living non-pathogenic bacteria to make them disease-causing.
- 35 in replication, the strand made continuously
- 37 in replication, the process of joining nucleotides to extend a new strand of DNA
- 38 repeating unit of nucleic acids; composed of sugar, phosphate, and nitrogenous groups
- 39 a length of DNA and associated protein; condensed form of genetic material
- 40 base triplet on tRNA complementary to mRNA codon



Across

- 1 Disorder: Three copies of chromosome 21
- 6 this mutation that results in an altered but functional protein
- 9 a genetic engineering tool that uses a sequence of DNA and its associated protein to edit the base pairs of a gene.
- 10 the first mammal ever clones was a
- 11 genetically identical organisms
- 13 A nucleotide or several are deleted from a DNA sequence
- 14 a form of skin cancer caused by ultraviolet radiation
- 15 causes an increase in mutation rate in an cell
- 16 is a type of mutation that involves the production of one or more copies of a gene or region of a chromosome.
- 17 process of identifying the nucleotide sequence of a DNA fragment
- 18 is a method widely used to rapidly make millions to billions of copies (complete copies or partial copies) of a specific DNA sample, allowing scientists to take a very small sample of DNA and amplify it to a large enough amount to study in detail.
- 21 Many mutations are caused by molecular interactions that take place naturally within cells. These mutations are known as
- 22 this mutation results in loss of production of a protein
- 23 insertion or deletion that results in a change to the reading frame of a gene
- 24 is the study of how your behaviors and environment can cause changes that affect the way your genes work.
- 26 When a section of a chromosome is deleted
- 27 Disorder: Three copies of chromosome 13
- 28 manipulation of genetic material to alter genes and blend plant, animal, and bacterial DNA
- 30 Disorder: Two copies of the X chromosome and one copy of the Y
- 31 Disorder: Only one sex chromosome a single X
- 32 is the change in the chromosomes as a result of rearranged chromosome parts or changes in the number of individual chromosomes present in the genome.
- 33 tool used to separate molecules according to mass and charge
- 36 If two breaks occur in one chromosome, sometimes the region between the breaks rotates 180 degrees before rejoining with the two end fragments.

Down

- 2 enzyme that catalyzes the cleavage of DNA at specific nucleotide sequences
- 3 bacteria are used to produce antibiotics, vaccines, and medically-useful enzymes.
- 4 animal genetically engineered to contain DNA from another organism
- 5 Mutagens that cause physical changes in the structure of DNA, they are known as
- 7 is a molecule that can enter the nucleus of a cell and induce mutations by reacting chemically with the DNA.
- 8 The use of living cells for environmental remediation is known as
- 12 an individual's set of chromosomes; often represented as a photo
- 16 a segment of one chromosome becomes attached to a different chromosome
- 17 uses gel electrophoresis to distinguish between samples of the genetic material.
- 19 Mutations that are caused by agents outside the cell are said to be
- 20 Disorder: Two copies of the Y chromosome and one copy of the X - known as XXY Syndrome
- 25 radiation, which is present in sunlight, has a lower range of energy levels than X rays, but it is still a powerful mutagen.
- 29 plant genetically engineered to contain DNA from another organism
- 33 is genetically modified to contain nutrients otherwise not found in rice.
- 34 use of biological systems to create new technologies and products
- 35 tool for analysis of gene expression levels using cDNA probes
- 36 cancer-causing agent
- 37 this mutation has no effect on a cell
- 38 Disorder: Three copies of chromosome 18
- 39 failure of homologous chromosomes or sister chromatids to separate in meiosis
- 40 a molecule of DNA that includes genetic material from different sources