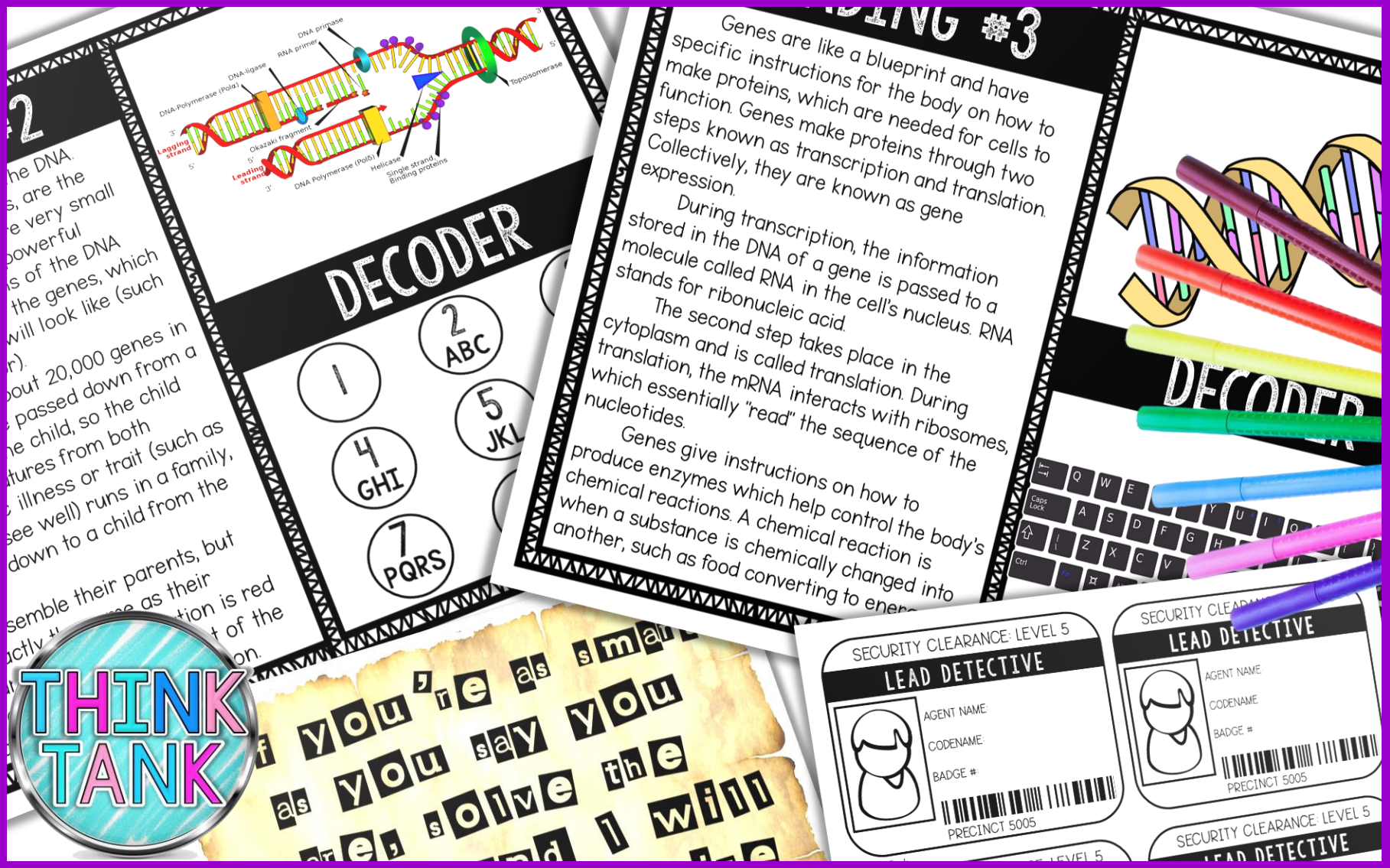
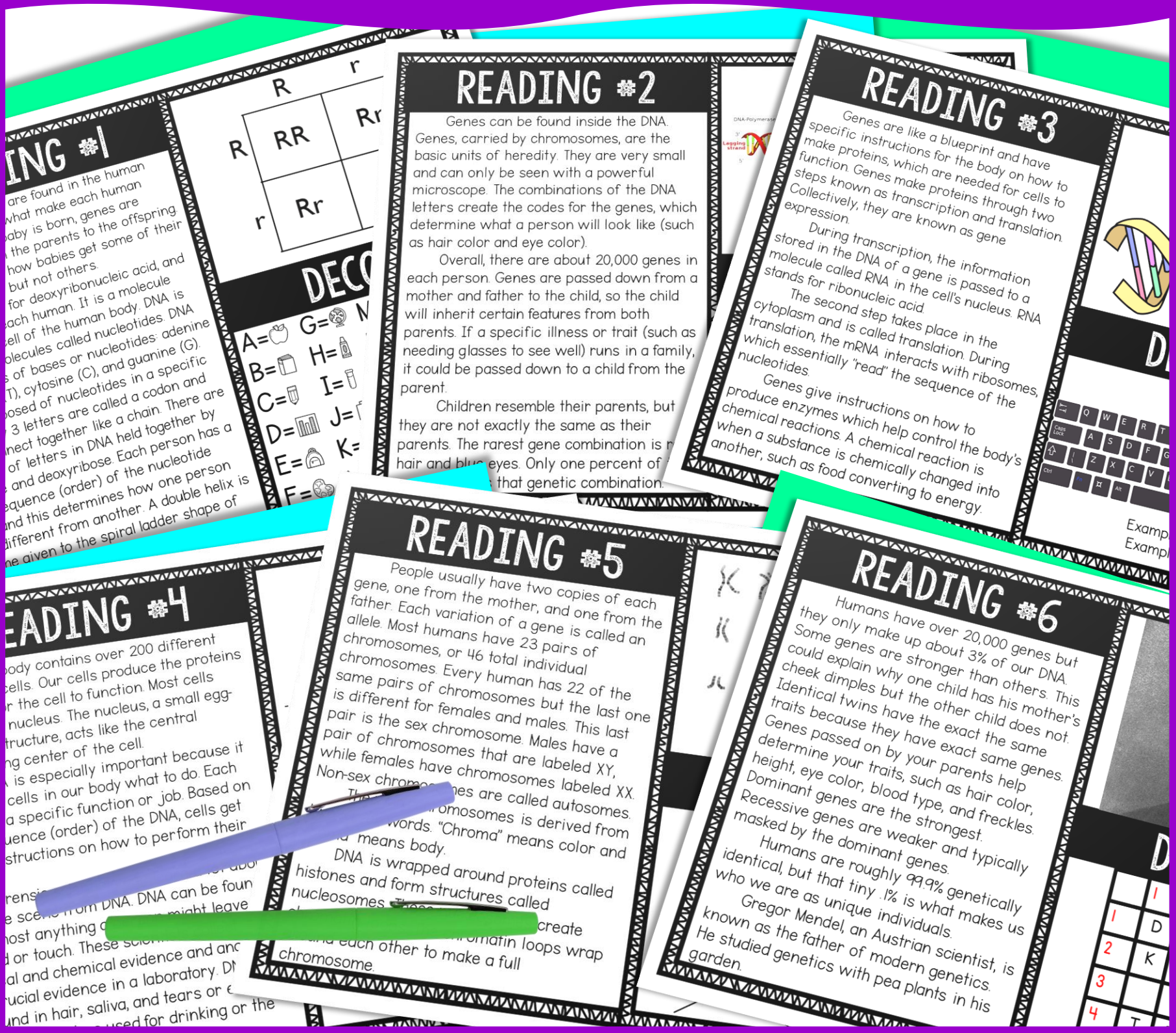
GENETICS AND DNA

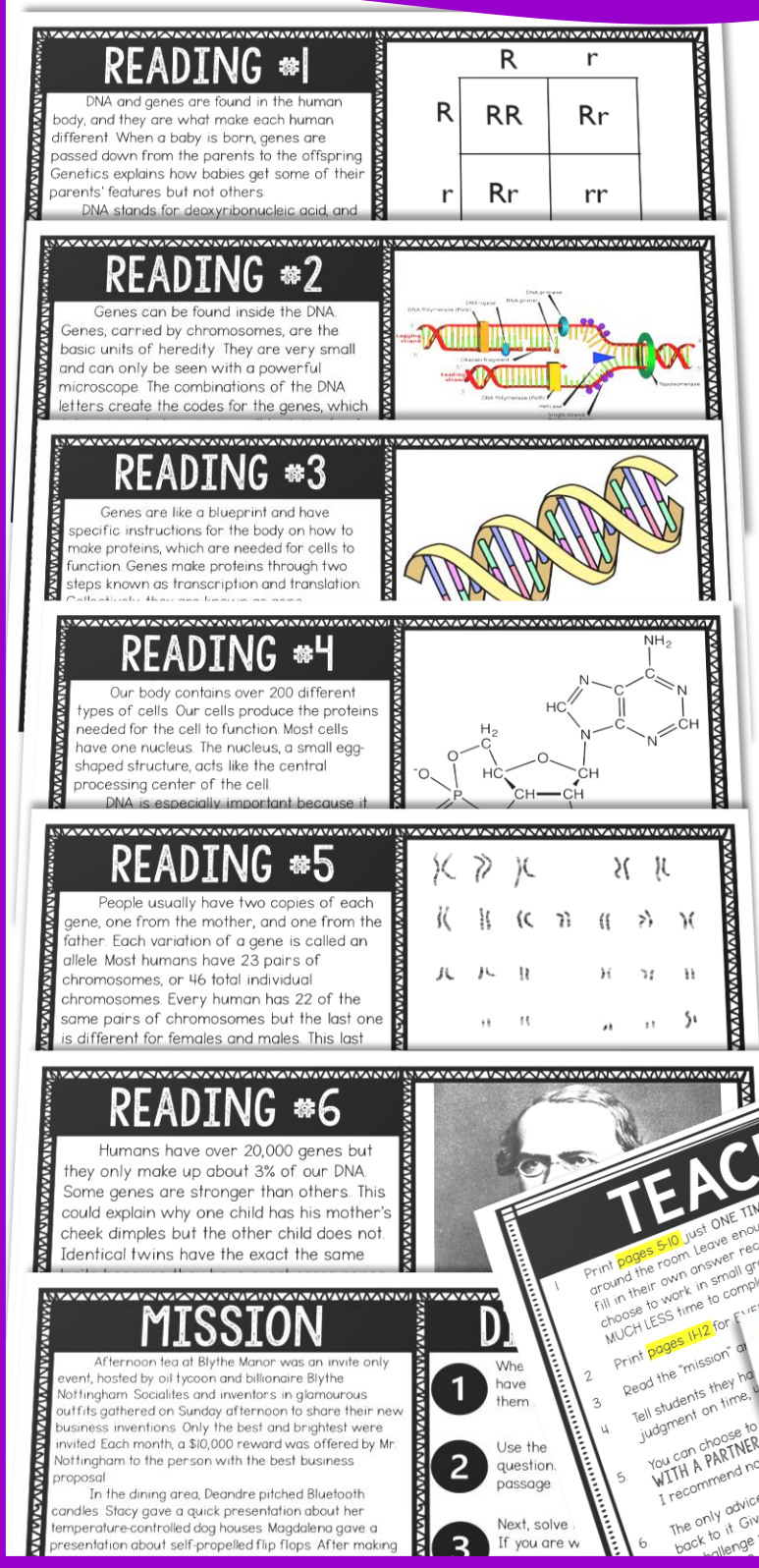
READING ESCAPE



6 PASSAGES

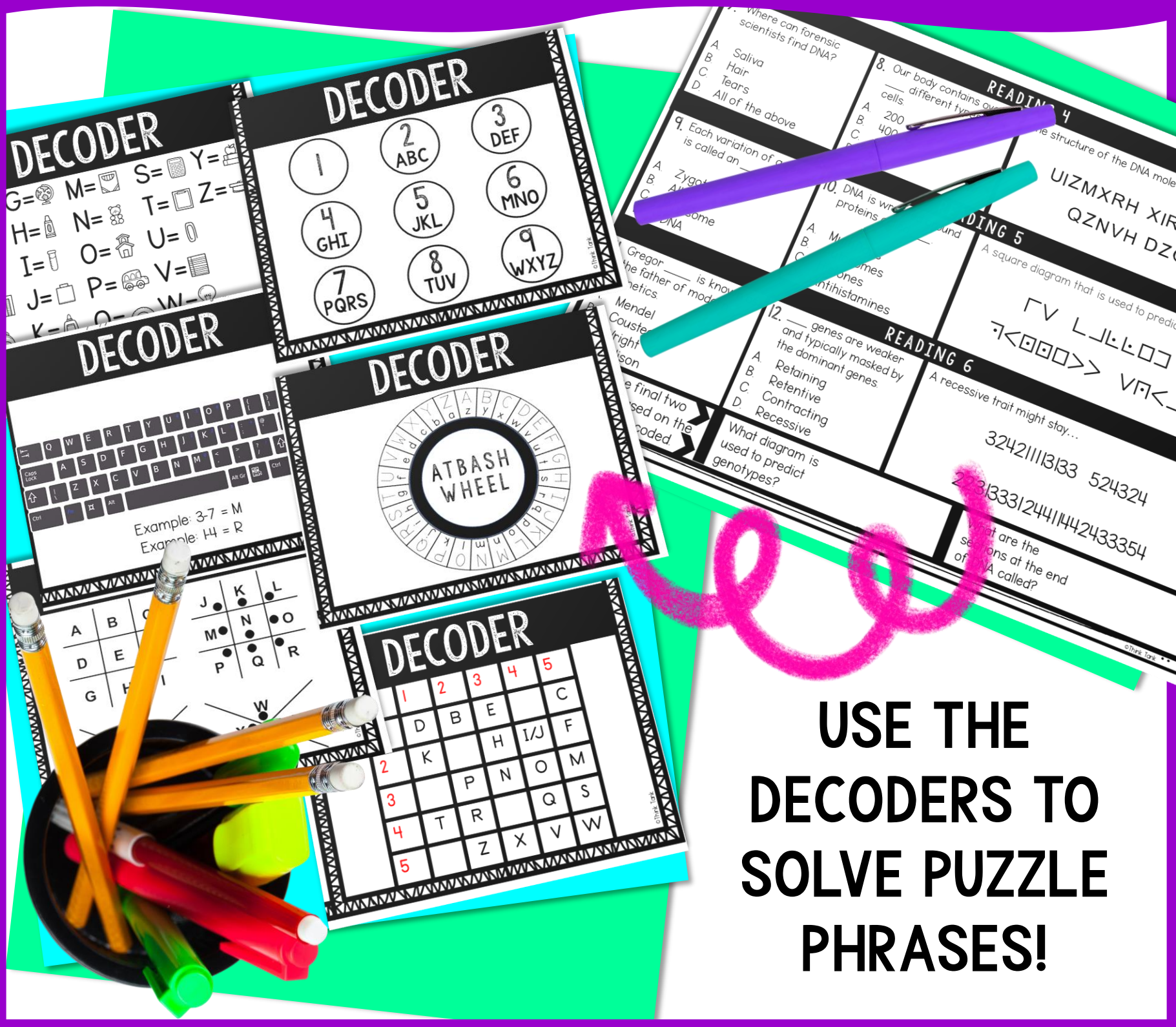

READING #2
Genes can be found inside the DNA. Genes, carried by chromosomes, are the basic units of heredity. They are very small and can only be seen with a powerful microscope. The combinations of the DNA letters create the codes for the genes, which determine what a person will look like (such as hair color and eye color).
Overall, there are about 20,000 genes in each person. Genes are passed down from a mother and father to the child, so the child will inherit certain features from both parents. If a specific illness or trait (such as needing glasses to see well) runs in a family, it could be passed down to a child from the parent.
Children resemble their parents, but they are not exactly the same as their parents. The rarest gene combination is
READING #3
Genes are like a blueprint and have specific instructions for the body on how to make proteins, which are needed for cells to function. Genes make proteins through two steps known as transcription and translation. Collectively, they are known as gene expression.
During transcription, the information stored in the DNA of a gene is passed to a molecule called RNA in the cell's nucleus. RNA stands for ribonucleic acid.
The second step takes place in the cytoplasm and is called translation. During translation, the mRNA interacts with ribosomes, which essentially "read" the sequence of the nucleotides.
Genes give instructions on how to produce enzymes which help control the body's chemical reactions. A chemical reaction is when a substance is chemically changed into another, such as food converting to energy.
READING #4
body contains over 200 different cells. Our cells produce the proteins r the cell to function. Most cells nucleus. The nucleus, a small egg- tructure, acts like the central ng center of the cell.
is especially important because it cells in our body what to do. Each a specific function or job. Based on uence (order) of the DNA, cells get structions on how to perform their
READING #5
People usually have two copies of each gene, one from the mother, and one from the father. Each variation of a gene is called an allele. Most humans have 23 pairs of chromosomes, or 46 total individual chromosomes. Every human has 22 of the same pairs of chromosomes but the last one is different for females and males. This last pair is the sex chromosome. Males have a pair of chromosomes that are labeled XY, while females have chromosomes labeled XX.
Non-sex chromo es are called autosomes.
omosomes is derived from words. "Chroma" means color and means body.
DNA is wrapped around proteins called histones and form structures called nucleosomes.
create
matin loops wrap each other to make a full chromosome.
READING #6
Humans have over 20,000 genes but they only make up about 3% of our DNA. Some genes are stronger than others. This could explain why one child has his mother's cheek dimples but the other child does not. Identical twins have the exact the same traits because they have exact same genes. Genes passed on by your parents help determine your traits, such as hair color, height, eye color, blood type, and freckles. Dominant genes are the strongest. Recessive genes are weaker and typically masked by the dominant genes.
Humans are roughly 99.9% genetically identical, but that tiny .1% is what makes us who we are as unique individuals.
Gregor Mendel, an Austrian scientist, is known as the father of modern genetics. He studied genetics with pea plants in his garden.

WHAT'S INCLUDED?



- ✓ 6 Half page passages
- ✓ 6 Puzzle decoders
- ✓ 12 Multiple choice Q's
- ✓ Teacher guide
- ✓ Answer key
- ✓ Student directions
- ✓ Hint cards

PUZZLE TYPES



NO PREP!

