

Unit 5 Genetics Review

Tuesday, March 25, 2014

Welcome! 3/25/14

- **OBJECTIVE:** Students will practice Genetics concepts in preparation for the Benchmark exam by doing station activities.
- **CATALYST:**
 1. Look at your grade sheet. Complete the "Beginning of the Week Check In"
 2. A rare disorder is caused by changes in a gene. Parents of individuals with the disorder have only normal copies of this gene. Which of these most likely causes this disorder?
A. Mitosis B. gene splicing C. mutation D. replication
 3. A scientist cloned a goat. Which of these is a true statement about the cloned goat?
A. It has new genes and traits.
B. It lacks the genes for reproduction.
C. It has genes that are identical to the original goat.
D. It looks the same as the original goat but has different genes.
- **HOMEWORK:**
 - Unit 5 Genetics Portfolio and Folder DUE Friday
 - 3rd Quarter ENDS Friday, March 28th
 - Unit 5 Exam TOMORROW

Catalyst—Model RUBIES

2. A rare disorder is caused by changes in a gene. Parents of individuals with the disorder have only normal copies of this gene. Which of these most likely causes this disorder?

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- C. Mutation
- D. Replication

3. A scientist cloned a goat. Which of these is a true statement about the cloned goat?

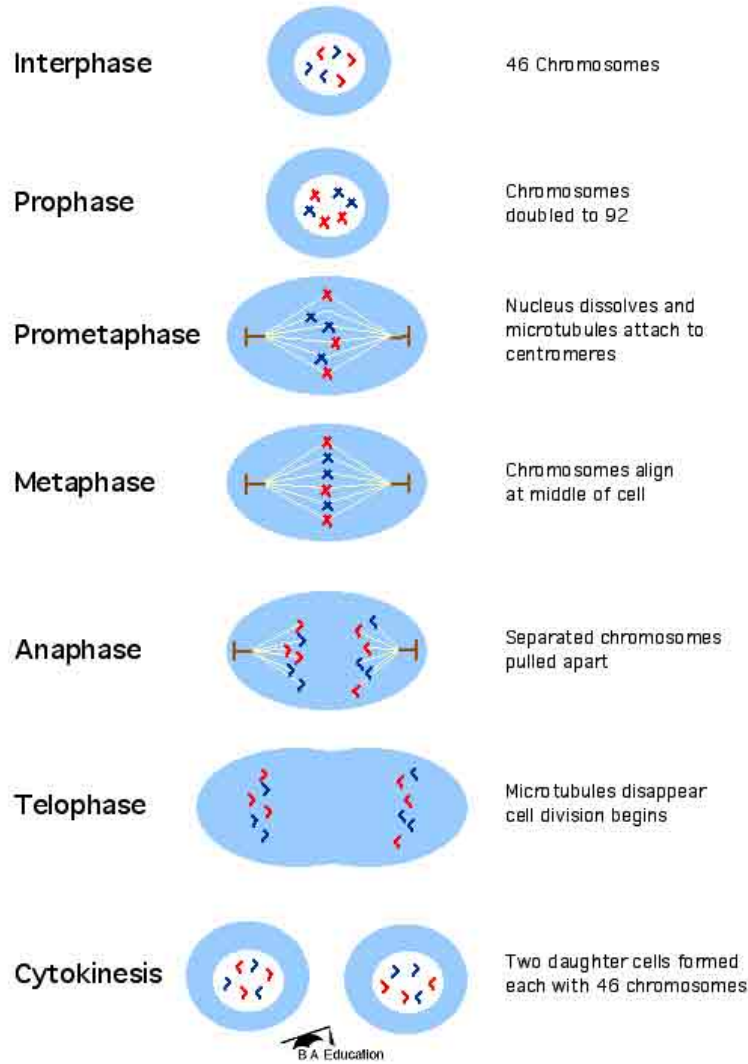
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Genetics Review

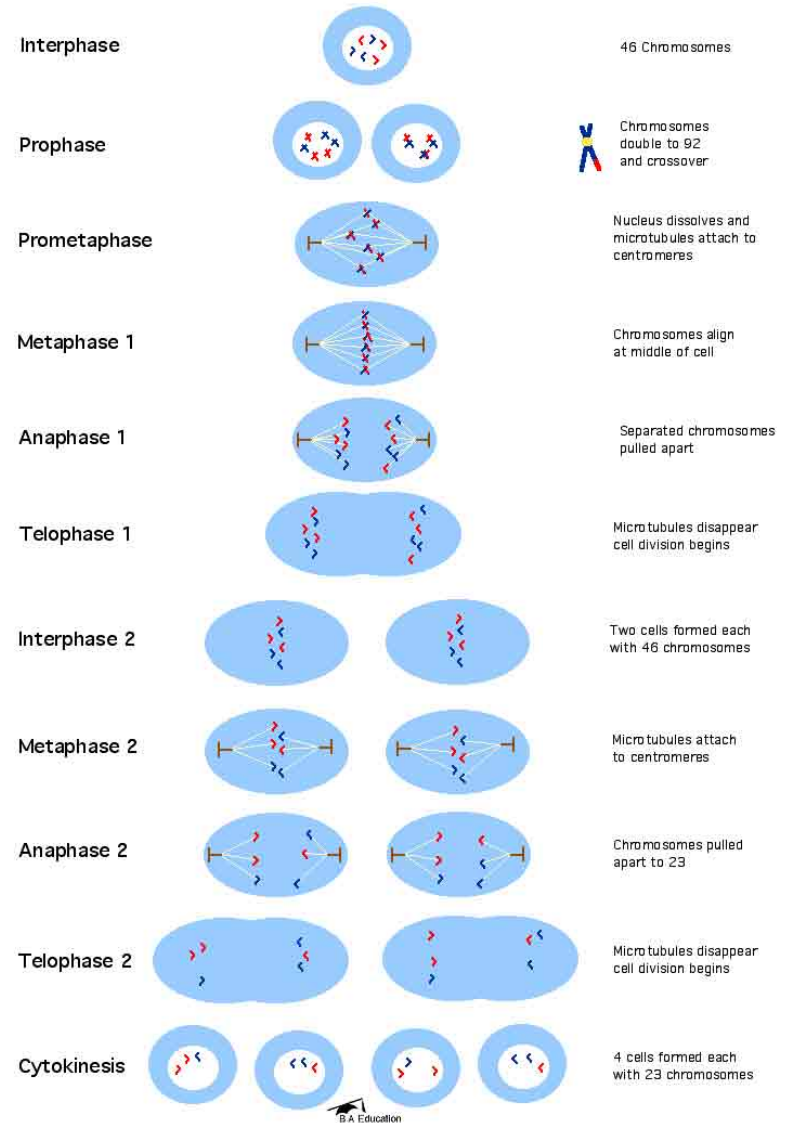
- What are the "Big ideas" we have learned so far in Genetics?
- What are the main topics?
- What do we need to understand from this unit in order to do well on the Benchmark?

Genetics Review

Unit 4—Reproduction



Mitosis



Meiosis

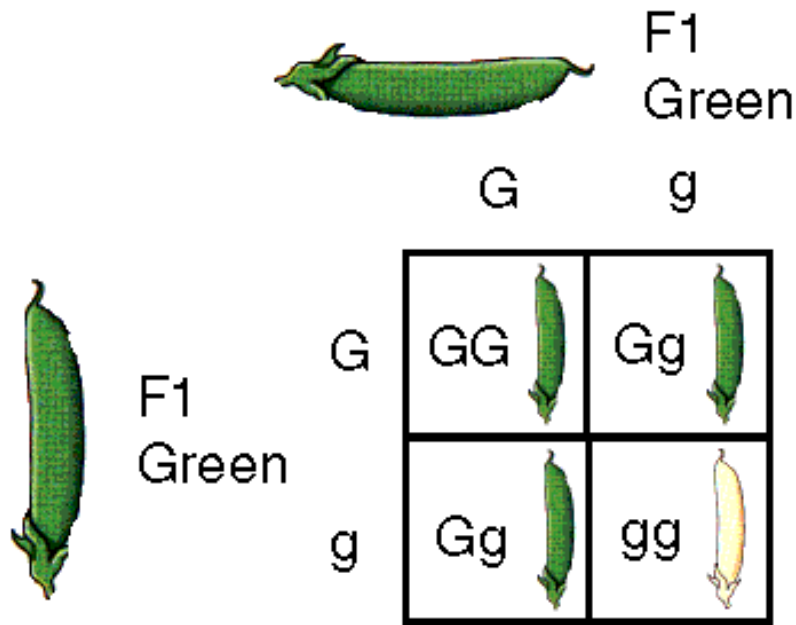
Unit 4—Mitosis vs. Meiosis

	Mitosis	Meiosis
Type of cells made	Somatic	Gametes
Cells are...	1. Identical 2. Diploid (2n)	1. Unique 2. Haploid (n)
Type of reproduction	Asexual	Sexual
Purpose	Growth Repair Replacement	Cuts chromosomes in half to make unique sex cells
# of cell divisions	1	2
# of daughter cells made	2	4
		Egg + Sperm → Zygote

Unit 5—Genetics

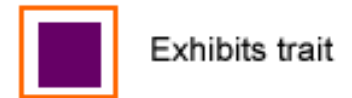
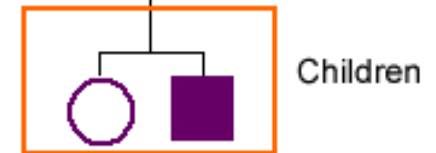
Term	Definition	Example
Genotype	What the genes say	GG, Gg, gg
Phenotype	What you can see	Blue eyes, brown eyes
Gene	Segment of DNA that codes for a trait	
Allele	A version of a gene	G or g
Homozygous	Two of the same allele	GG, gg
Heterozygous	Two different alleles	Gg
Dominant	Shows up when present	G
Recessive	Need 2 to show	g
Autosomal	Normal trait, use regular letters	Gg
Sex-linked	Found on the X chromosome, males have 1, females have 2	X^BX^b

Unit 5—Punnett Squares and Pedigrees

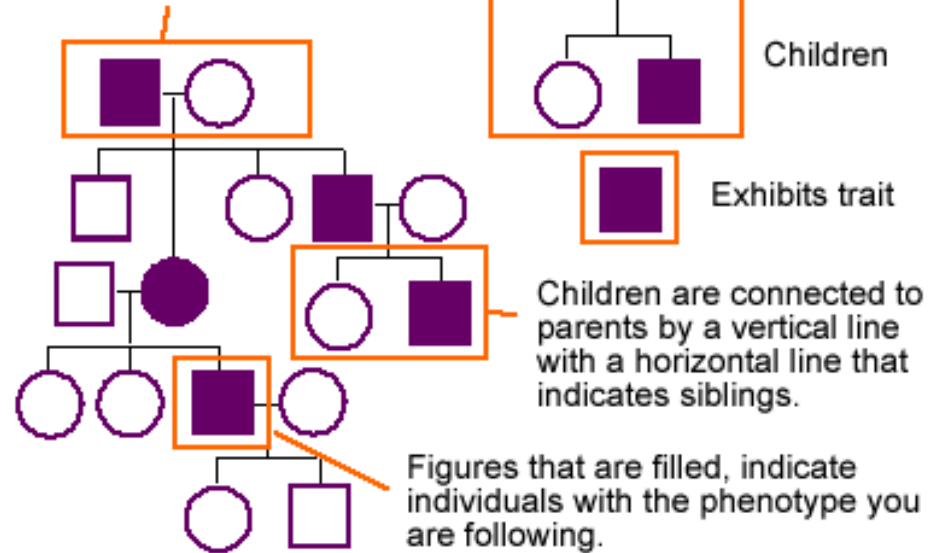


Key to simple pedigree charts

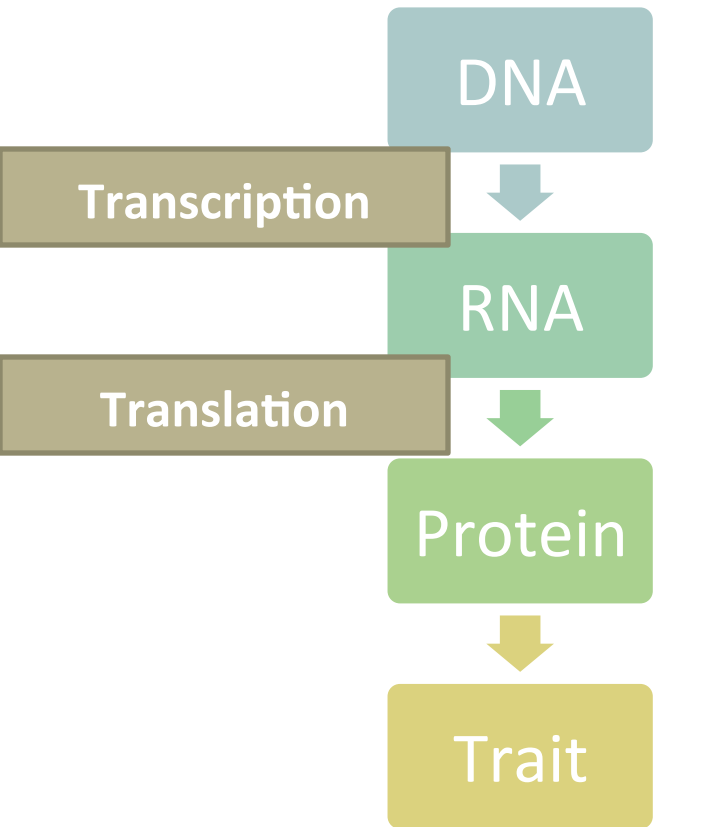
Parents are connected directly by a horizontal line. Men are squares; women are circles.



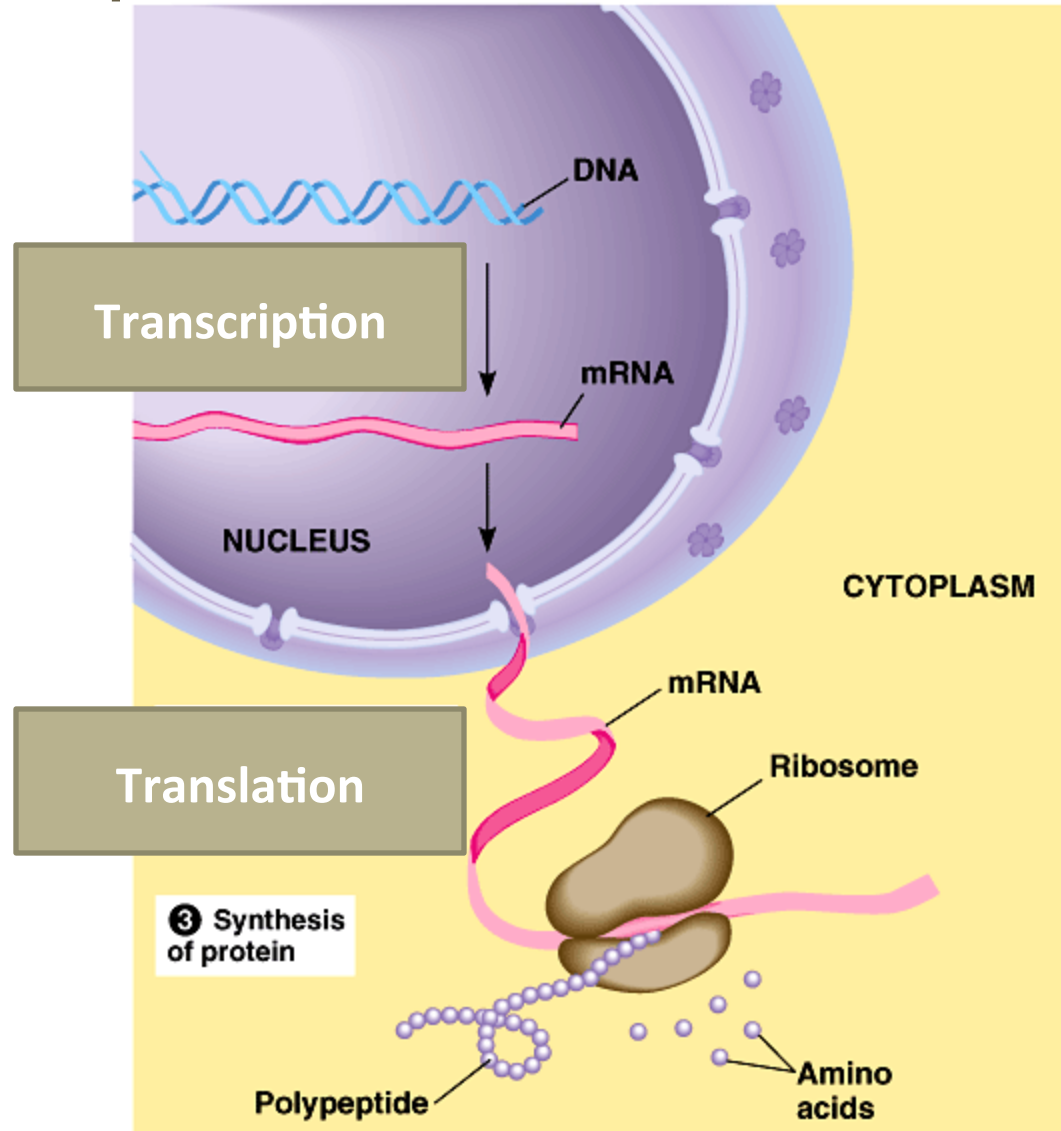
Children are connected to parents by a vertical line with a horizontal line that indicates siblings.



Unit 5—Gene Expression



Gene Expression



Unit 5—Genetic Engineering, Gene Splicing, Recombinant DNA



Set a Goal

- **What is your GOAL for the Unit 5 Genetics Benchmark?**
- Remember that it will be the last test score for 3rd Quarter.
- THIS is what you are working for today!
- *Write your goal at the top of your work organizer in the box labeled “My Goals for the Week”*

Station Expectations

- You have been placed in groups based on your quiz scores and the stations you should visit first.
- You may bring your Red Folder with you for your notes.
- I expect you to...
 - Stay focused and on-task
 - Keep your noise level low
 - Do NOT write on the materials in the bin.
 - If you get stuck:
 - Re-read the directions
 - Look for key-words
 - Ask a partner at your table
 - THEN ask Mrs. Reigel
 - When you finish a station, I will initial your paper and let you check your answers with an answer key.
 - Rotate to an open seat in order.

Station Overview

- Station 1: Genotype Word Sort
- Station 2: Punnett Squares
- Station 3: Chromosome Counting Grab Bag
- Station 4: Sex-Linked Traits
- Station 5: Analyzing Pedigrees
- Station 6: Genetics Word Walk
- Station 7: Modeling Protein Synthesis
- Station 8: Creating Pedigrees

Unit 5 Review Stations

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Objective check

- Did we...
 - Practice Genetics concepts in preparation for the Benchmark exam by doing station activities?
 - Heredity
 - Punnett Squares
 - Counting Chromosomes
 - Sex-Linked Traits
 - Pedigrees

Exit Slip

- Rate yourself...What topics do you need to review most before Thursday's exam? (List at least 3 topics)