Interpreting for Cancer Genetics

Cynthia E. Roat, MPH

National Consultant on Language Access in Health Care

Galen Joseph, PhD

Professor, University of California, San Francisco

Mari Gilmore, CGC

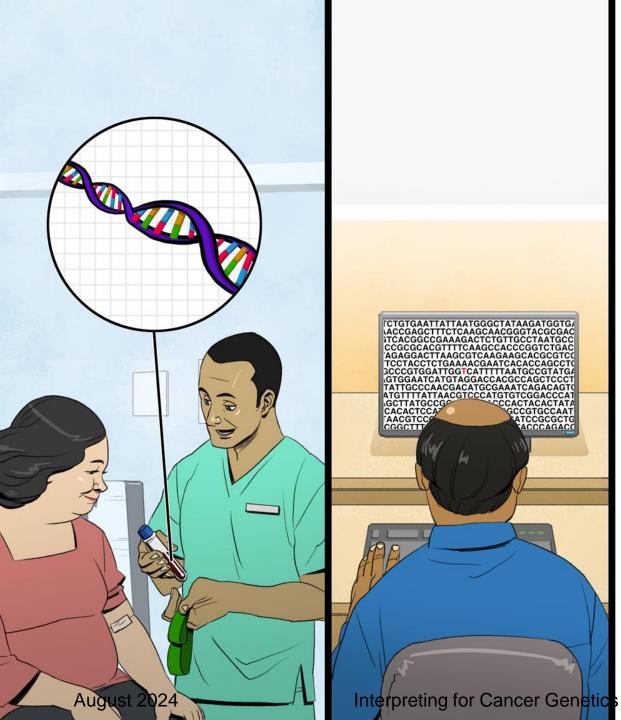
Licensed Certified Genetic Counselor

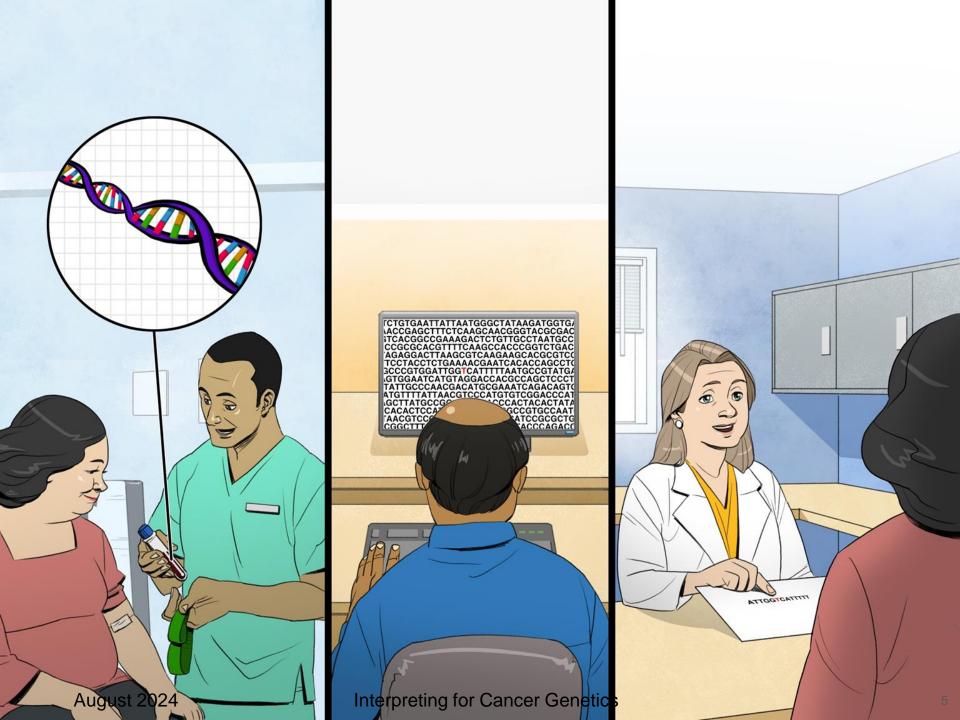
1

Developed 2024, revised 2024



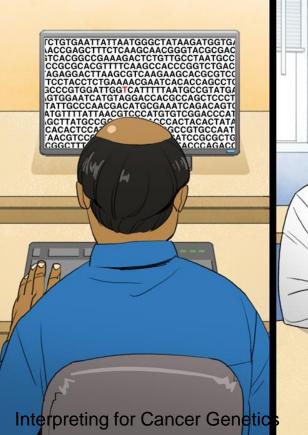




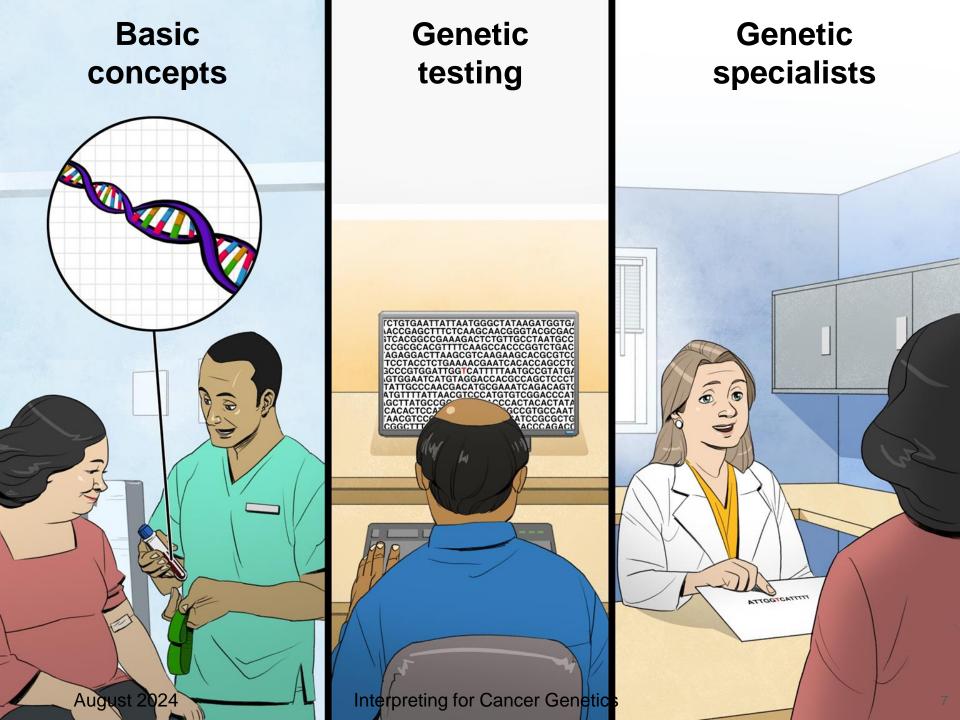


Genetics





ATTGGTCATTTT



What to expect today

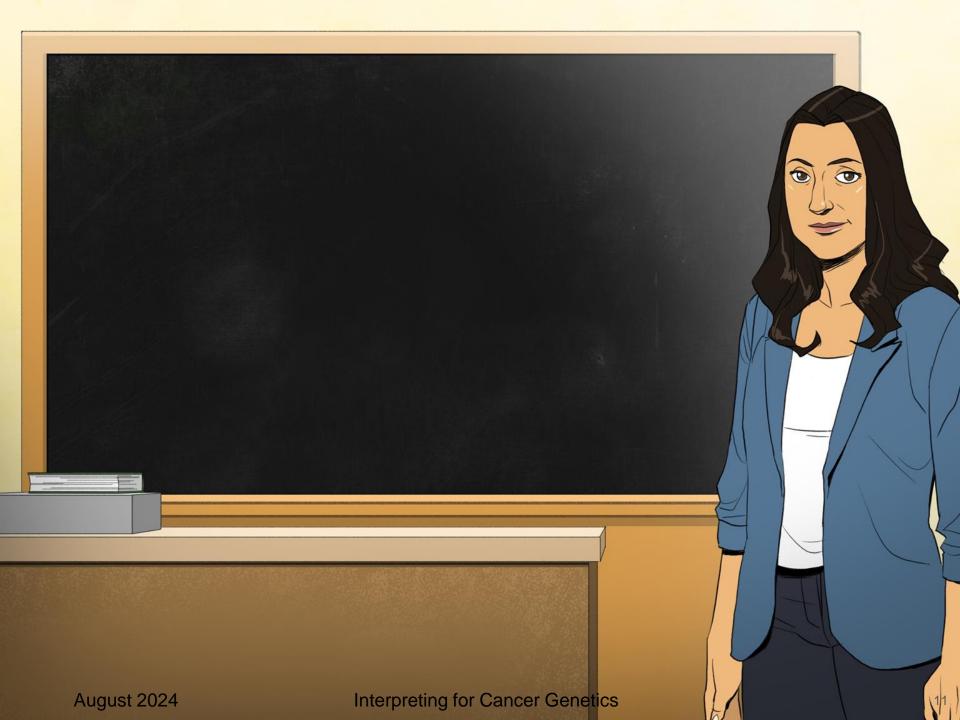
- 1. Short pre-test.
- 2. Introduction to Cancer Genetics

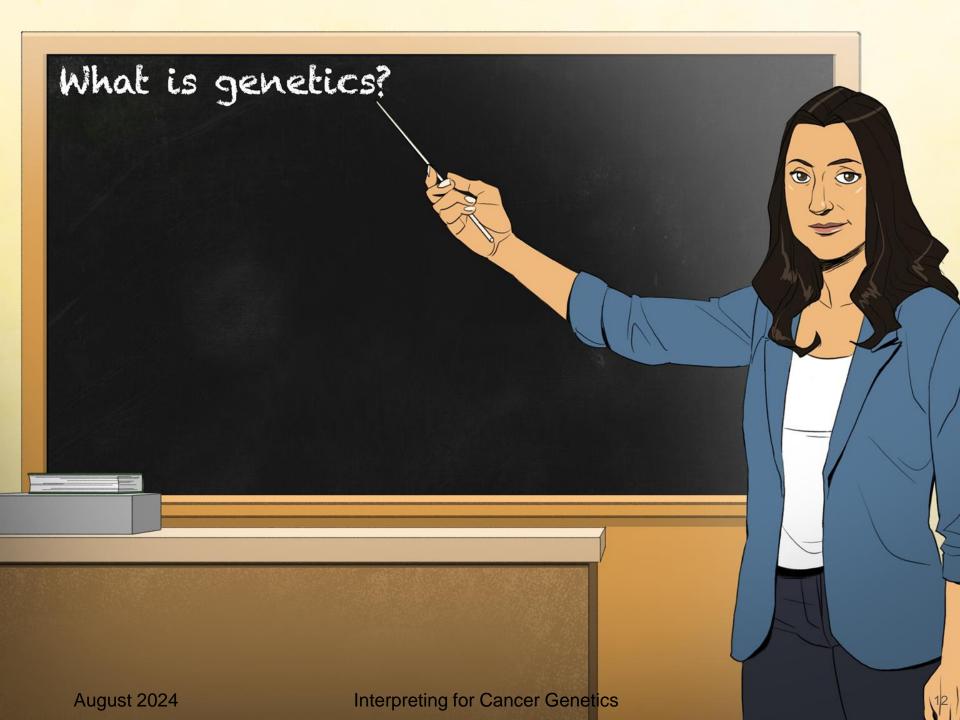
What to expect next week

- 1. Challenges for interpreters
- 2. Vocabulary exercises in English
- 3. Conversion exercises

4. Posttest

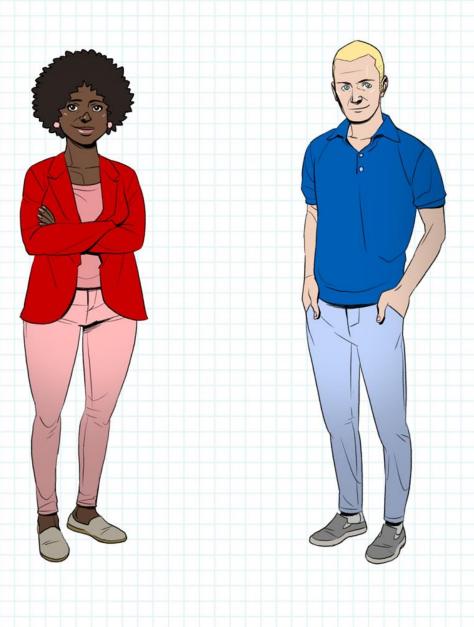
So, what do you know already?





What is genetics?

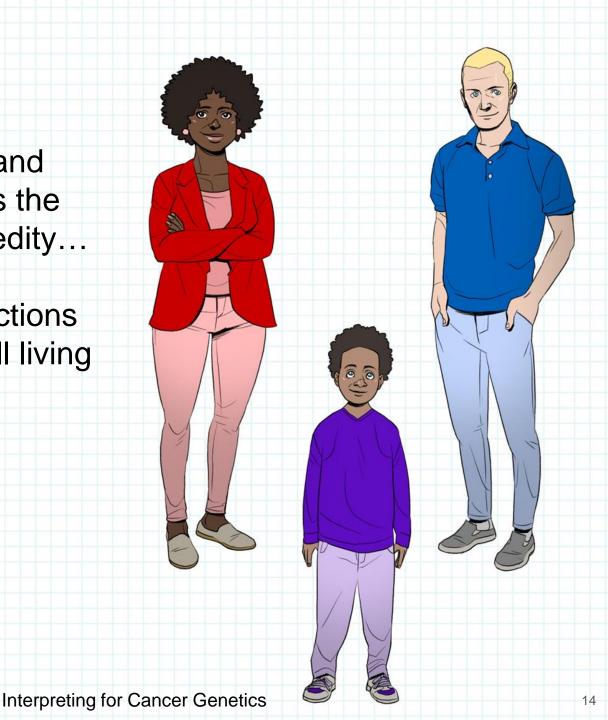
The field of science and medicine that studies the biologic basis of heredity...

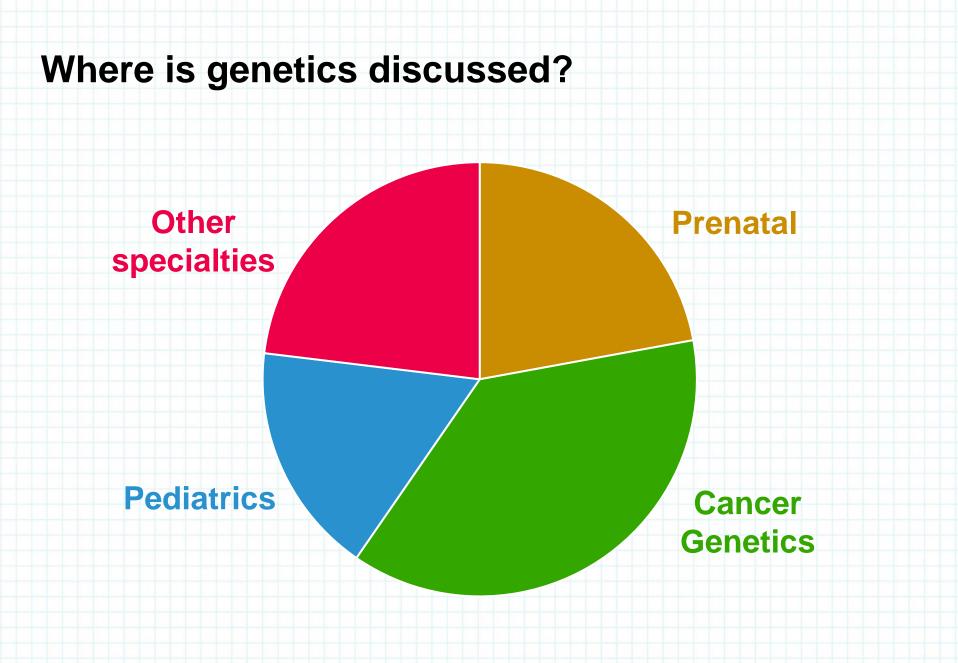


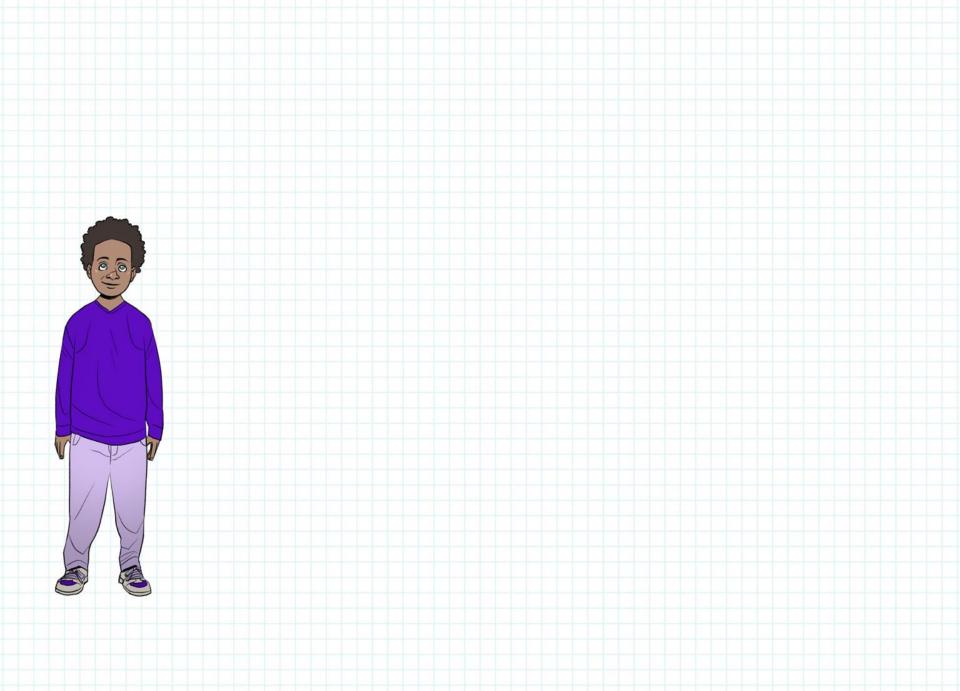
What is genetics?

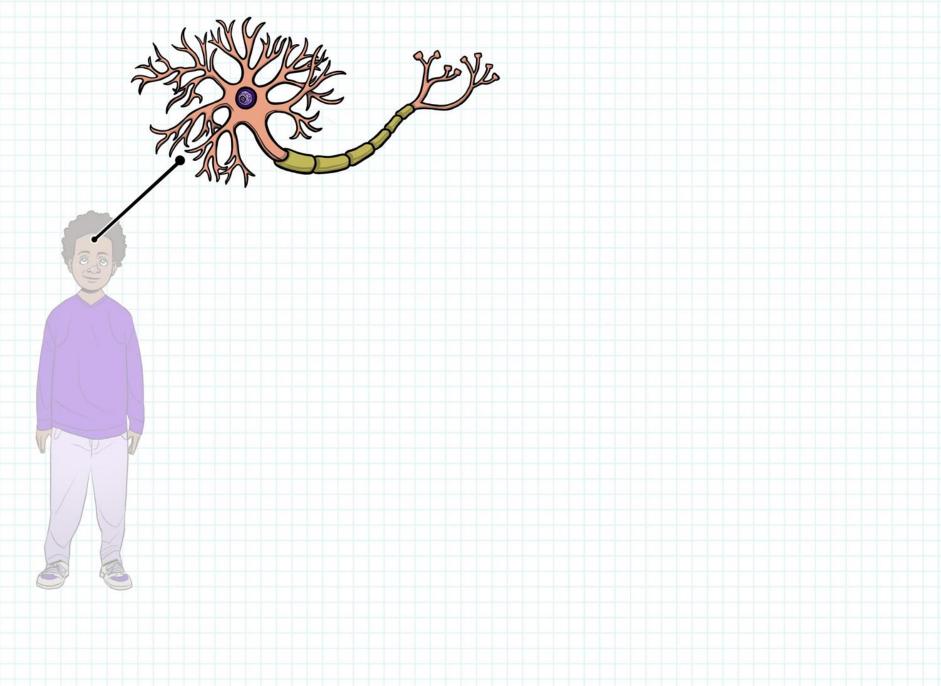
The field of science and medicine that studies the biologic basis of heredity...

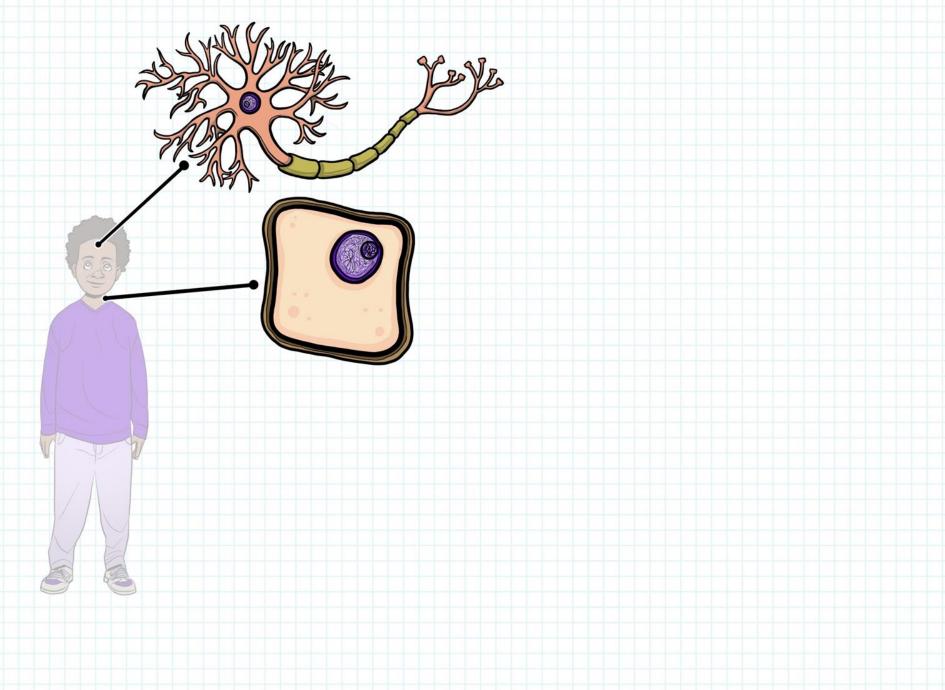
...and how the instructions for life are used by all living organisms.

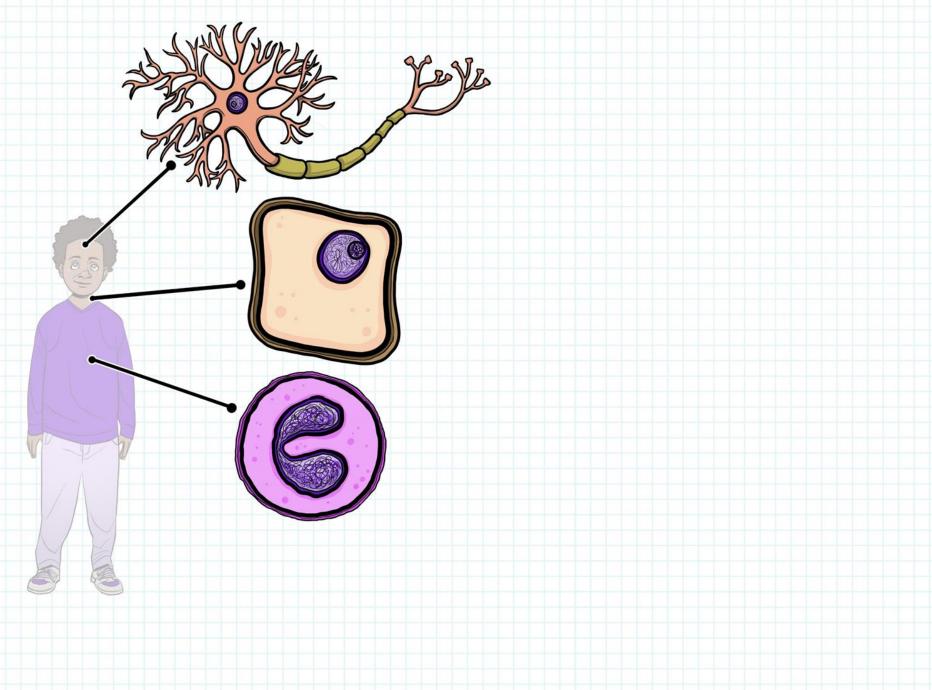


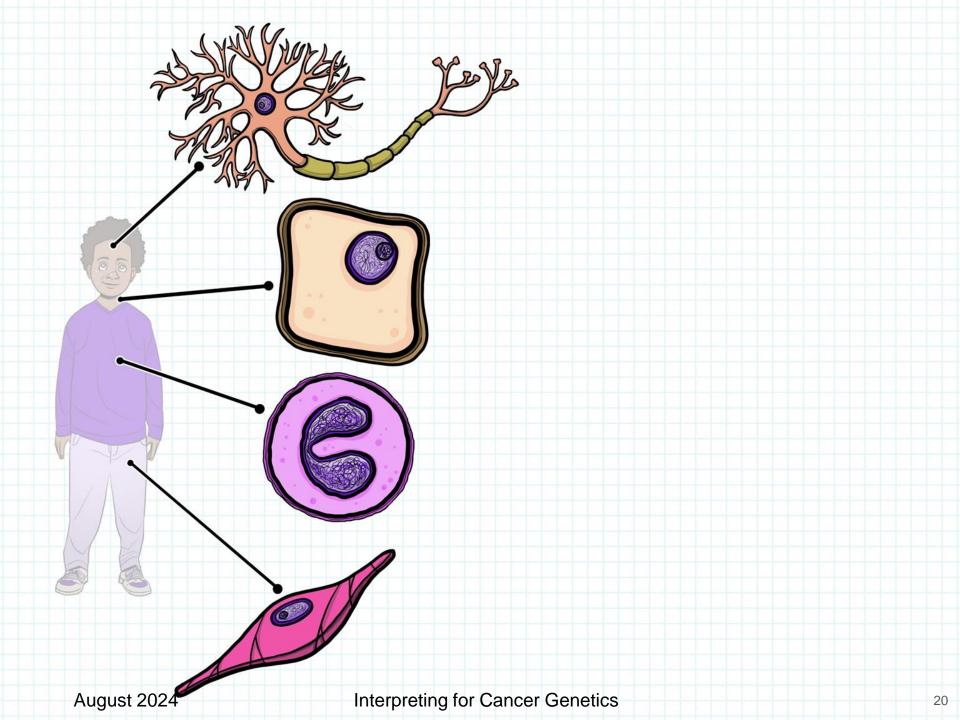


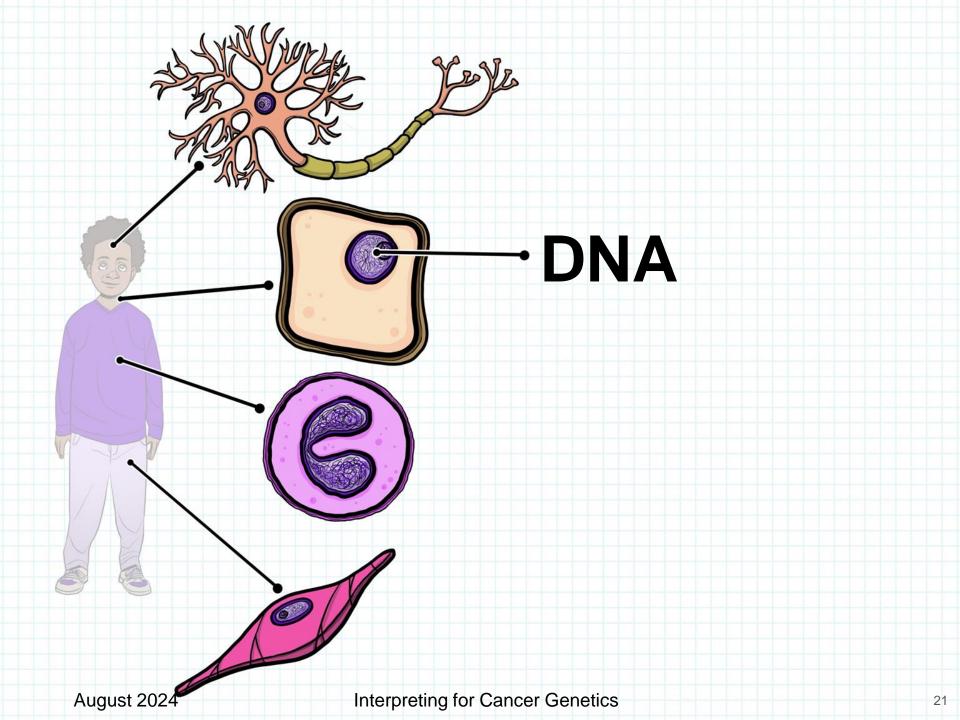


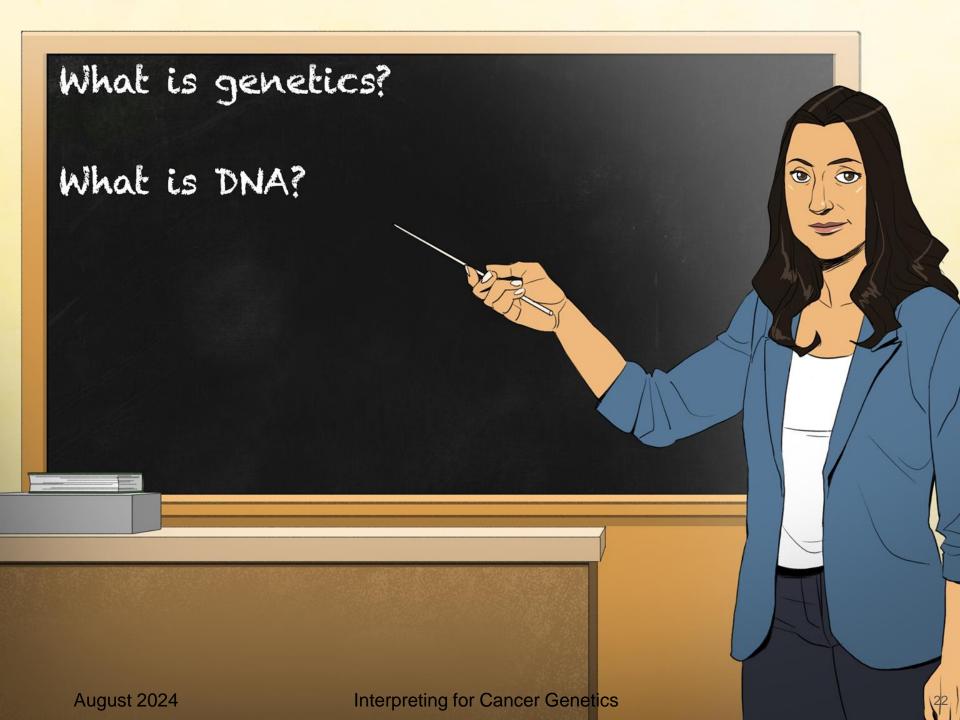


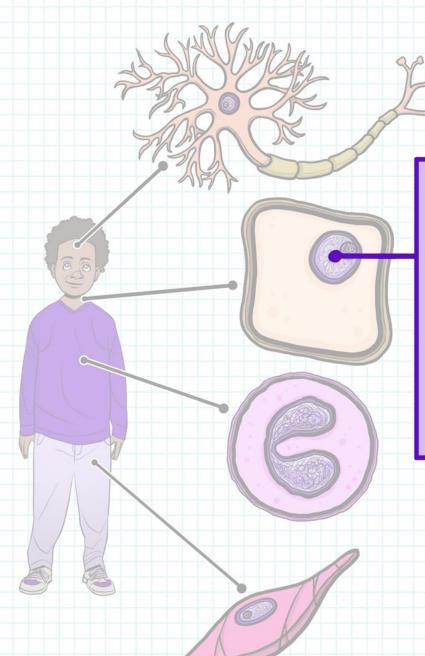


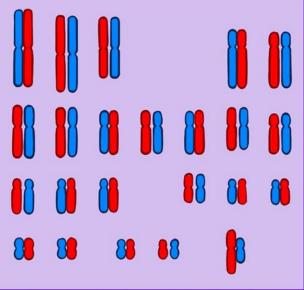


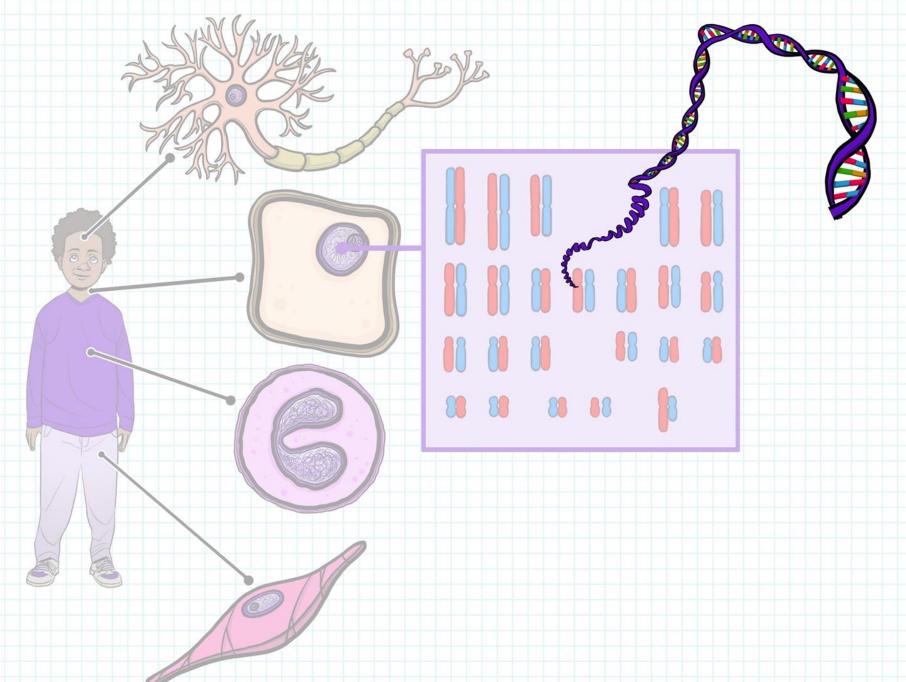


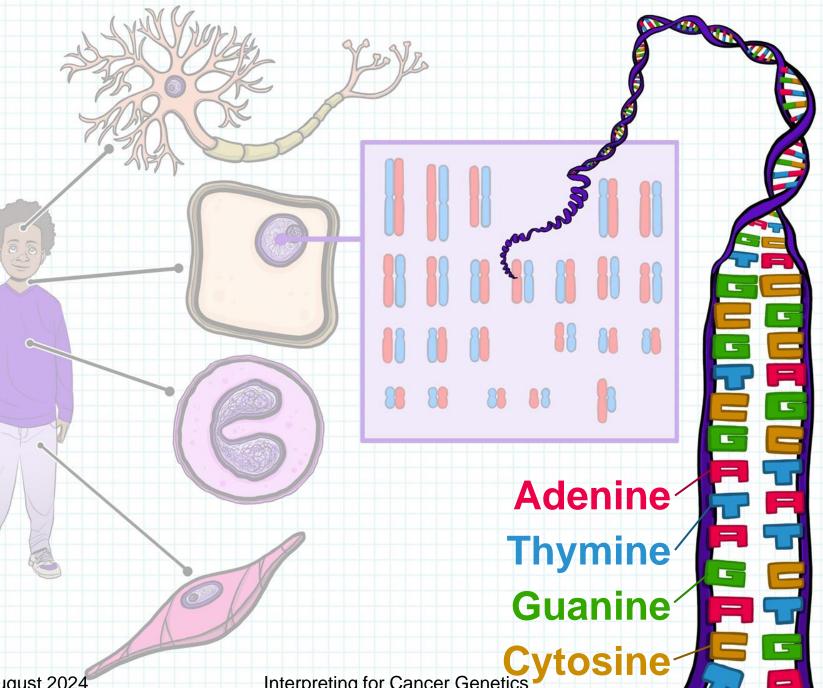










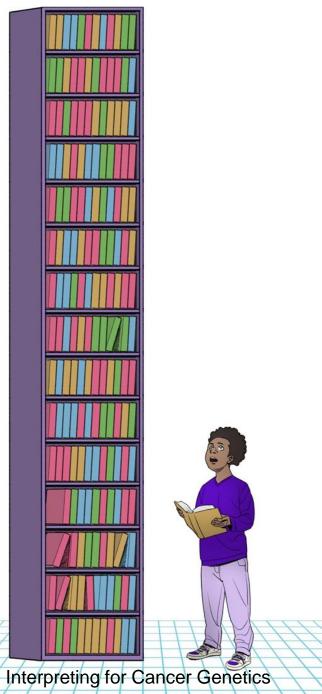


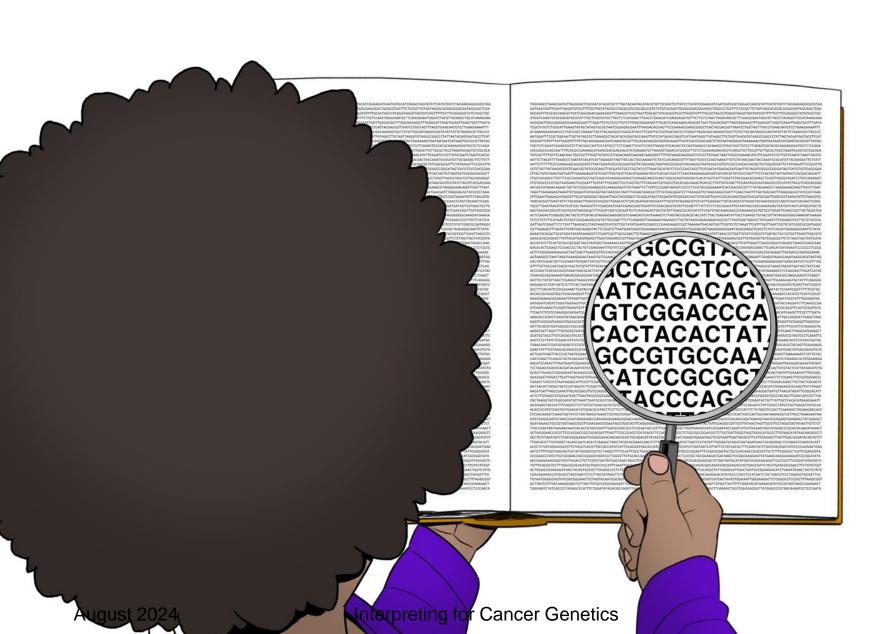
ACGGAGTTGCCGAGGACGAAAGCGACTTTAGGTTCTGCCGTTGTCTTTGGCGGAAAACTTCCACTCAGGAAGCAGACCTGATTGACACGGTTTAGCAGAAGGTTTGAGGATTAGGTCAAATTGAGTGGTTTAATA ATTCTTACATTTAAACCCTAATATCACATCATTAGAGATTAATGCCACTGCCAAAATTCTGTCCACCAGCGTTTAGTCGCCCCAGTAAAGTTGTCTATAACGACTACCGACTATCGGGACTTCTTAT AATTCTTTTTCGTGAGGAGCAGCGGATCTTAATGGATGGCCGCAGGTGGTATGGAAGCTAATAGCGCGGGTGAGAGGGTAATCAGCCGTGTCCACCAACACAACGCTATCGGGCGATTCTATAAGATCCCGCATTG CGTCTACTTATAAGATGTCTCAACGGTATCCCCAACTTGCGATGTGCCTGCTATCCTTAAATGCATATCTCGCCCAGTAGCTTCCCAATATGAGAGCATCATTGTAGATCGGCCCGGGATAGTCATGTCGTCACGGA CITACTGTATGAGTAGTAGTAGTAGTAGTGTCGGTTGCGGGTTCACGGTAAAGGCCCCCCACGCTACCCTCAAGGAAGAGAGCGGTCGTGACATTATCCGTGATTTTCTCACTACTACTACTACTACGGCACGAT CTGTGGCCCCCGTGGTGAGAAGTGCGGATTTCGTATTTGCAGCTCGTCAGTACTTTCAGAATCATGGCCTGCACGGCAAAGTGACGCCTTATTATGGACTTCGACATGGCAATAACGCGTCGTATCTACGTCACGACGAGAG TAACGCAGTTGAGTATTCTACAGAGTTGGCGTACGCGTTGAACACTTCACAGATGATAGGAATTTGCGTATAGAGCGTGTCATTGAGGGCTTATACAGCCGTAGACTACAACGGGCCCAACTCAACAACTCGAG ACTCCAGACTCGGGGCCACTACTCTCATACGTAGAGCAAGGCGTCGAACAGTCATGAAAGTCTTAGTACCGCACGTACCATCTTACTGAGAATATTGCCTGAAGCTGTACCGTTATAGGGGGGCCAAAGATGAAGA AGAATGCACACTGCATCGATACATAAAACGTCTCGATCGCTTGCGCAACTTGTGAAGTGTCTACCATCCCTAAGCCCATTTCCCGCATATTAACCCCCTGATTGTATCGCGCATCTGATCGCTACCGTGGTTGAGTTAGCGTC GCCGTGTCTTCACTGTGCCGCGGCTACCTATCGCCTGAAAACCAGTTGGTGTTAAGGGGTCCCCTGTCAAGGACGCLACGCGTAGTGAGACATACACGTTCGTTGGGTTCACCCGGGTCGAACCAAG ACTTCCAGAGAAGAAGACTACTGACTTGAGCGTTCCCAGCACTTCAGCCOAGGAAGTTACCAATTTTTTGTTTCGGAATGACACGCGTCTCCCTTGCGGGTAGATCGCCGACGACGAAGAACTTACGAGCCAGGGGAAA GCCTTTCACACTCCGCGAAAATTCATACCGCTCATTCACTAGGTTGCGAAGCCTACACTGATATATGAATCCAAGCTAGAGCAGGGCTCTTAAAATTCGGAGTGTGAGATGCTCAATACTCCGATCGGTTTTTCGTG GALGGAAACGLAGAATTATGGTTACTTTTTGGATACGTGAAACATGTCCCATGGTAGCCCAAAGACTTGGGAGTCTATCACCCCTAGGGCCCATTTCTGGATATAGACGCCAGGTTGAATCCGTATTTGGAGGAC GTCAATCAAGCTCGGATTACCGCGTCTTGCGGTTACTCACAAAACTGTAATCCACCACAAGTCAAGCCATTGCCTCTCTGAGACGCCGTATGAATTAATATGTAAACTTTGCGCGGGGTTACTCACAAAACTGTAATCCACCACAAGTCAAGCCATTGCCTCTCTGAGACGCCGTATGAATTAATATGTAAACTTTGCGCGGGGTTACTCCGCATCCG TICAGTCTCGTCCAAGGGCACAATCGAATTCCCATTGTATGTTCGGCTAACTTCTACCCATCCCCGAAGTTTAGCAGGTGTGTAGGAGGCTCTCGTTCATCCCGTGGGGCACATCAAGCTTCGGCCTTGATA WGCACCCCGCTC5GGTGTAGCAGAGAAGACGCCTACTGAATTGTGCGATCCCTCCACCTCAGCTAAGGTAGCTACCAATATTTAGTTTTTTAGCCTTGCGACAGAACCTCCTACTTAGATTGCCALGCATTGAGCTAGC GCATGCTACGTTGCTACGTCGTACACTGCTCGAAAGTAAATATGGGAAGCGCGGGGCCCGGCCCGAGGGCGTTCCGCCGCGCCGCCGCGCGCTGTTCGTTGATCGGTGGCACATAAGCAATACCGTAGTCCCTCAAAT AGC/CTGTTATCTCGAGCGTTATGTGTCAGAATGGCGTAGAACGGGATTGACTGTTTGACACTAGCTGGTGGTGGGTAACGGAGAATCTGTGGGGGCTATGTCACTAATACTTTCGAAACGGCCCCGTACCGATGC TGAACAAGTCGATGCAGGCTCCCGTCTTTGAATAGGGGTAAACATACAAGTCGATAGAAGATGGGTAGGGGCCTCCAATTCATCCAACACTCTACGCCTTCTCCAAGAGCTAGTAGGGGCACCCTGCAGTTGGAAAG NCTCGATGAGTTACCCGCTAATCGAACTGGGCGAGAGATCCCAGCGCTGATGCACTCGATCCCGAGGCCTGACCCGGACATATCAGCTCAGACCAGGGCTGTTGACGTTTGGGGTTGAAAAAATCTATTGTAC GCCGCAATACACAGTTTACCGCATCTAGACCTAACTGAGATACTGCCATAGACGACTAGCCATCCCTCTGGCTCTTAGATAGCCCGATACAGTGATTTTGAAAGGTTTGCGG GCACAGCTATGAC GTGTGAGGGAAGGAACTITTGCGTATTTGTATGTTCACCCGTCTACTACGCATGCGGGCAGATTATGTAGGTTGAGAGATGCGGGGAGAAGTTCTCGACCTTCCCGTGGGACG TTCGAGCATGGCAGTAAGTACGCCTTCTCAATTGTGCTAACCTTCATCCCTATCAAAGCTTGGAGCCAATGATCAGGGTTATTCCCTTGGGACAGACTTCCTACTCACAGT CTTCAGCTTGACCCGGTCTGTTGGGCCGCGATTACGTGAGTTAGGGCCCCGGACTGCGCTGTATAGTCGATTCTCATCCGGCCCCCACATCTGGAAACCCCAACTTATTTAGAT CGTGTCCACCGTGGAGTCCTCCCCGGGTGTCCCCTCCTTCATTTGACGATAAGCAGCGGCTACCACCATTGATTAACAACAAGGAACGGTGATGTTAACATAGATTCGGCACATT CTTC AGCCCTCTTGTCGTCGGCGATGTGTGTAAAATGGCGTTGATGTGGATGGGATGGGATCGACTCTATAAAGGTATCTACTGGTGGGGAGATCCGGAATCTATTGGCCTATGTCACTGAAACTATCCAA TCGATACTGAACGTATCGACGCATACCTCCTTCCTTGAAAAACGCACAATCATACAACTGGGCACATAATGCGTACGCCCATCTAGTACACCCATCTCTGTGGGTCCAGTTCAAGAGCTGGAAGAGC STCAAGTGGTATCCTGGTAAGGTAAGCTCGTGATCGTGATTCATGCGACAGGGGTAAGACCATCAGTAGGAGGATAGTGCCAAAACCTCACCACTGCCAATAAGGGGTCCTTACCTGAAGAATAA NOT GOND OF THE CONTRACT AND A THE CONTRACT OF CONTRACT OF THE NCTAATGAGAACAACCACACCACAGGGGATTTGACGGGGGGCGCCGGGAATACCGTTTCAGGAGGGGCTTGGTAAGGGCCATCGGGAATACCAGGTATCGTGTAAGTAGCGTAGGGCGGGA ACCGCGTTTCCACGGCCGGTGCACGATTTAATTTCGCCGACGTGATGACATTCCAGGCAGTGCCTCTGCCGCCGCCGGACCCCTCTGTGATGGGTAGCTGGACATGCCCTTGTAAGATAT SATCTCACGGCGAAAGTCGGGGGAGACAGCAGCGGCTGCAGACATTATACCGCAACAACACTAAGGTGAGATAACTCCGTAATTGACTACGCGTTCCTCTAGACCTTAAGTCGG GGTTACAGCAATCACATCCAAGACTGGCTATGCACGAAGCAACTCTTGAGTGTTAAAATGTTGACCCCTGTATTTGGGATGCGGGTAGTAGATGAGTGCAGGGACTCCGAG GGGTTCTAGATCAGGTTACCACLATATCATCGAGCATGACACCATCTCCGCTGTGCCCATCCTAGTAGTCATTATTCCTATCACCATCTGCTGGTGGCGGAATATCCCC CAGTCATATTGGGGTGCTCCTAAGCTTTTCCATTGGCTGGGGCAGCTAGGCTAGGCTGCCGGGGGCGTTGGGGGGCAGTGCGCCGACGCCGGCGCCTGTCTTGGGGGGGCCCTAA TACACCTGTTCGTGTGGTATCGGTAAATAGCCTCGCGGAGCCTTATGCCATACTCGTCCGCGGGAGCACTCTGGTAATGCATATGGTCCACAGGACATTCGTCGCTCCGGG CAGATIGETGGECAECATTTAAATTAGAGGAETCEAEATETGTAAGGTCEGGECAEGGAACGAEAGAEGAEGAEGAECAETGAEGGAETAECTGAAEGGEAAECTTETG LAGTGECGECTTAEAGECEETETGTEGECGGECGAEGTETGTAGTCTAGECTEATTATGATGEAEGCATTGAAGGEATTGAETGATGECGGAAGAEATETGAATGAAETGG CTCCTTAGTGTAGGTTCTGACCGATTCGTGGCTTCGTTGAGAACTCACATTTTAACAACAGAGGACATATGCCCTACCTCCATGATCTACTGACGTCCCTGAGGCTGCAATT TCCTAGTGCAATGGCGGTTTTTTACCCTCGTTCTGAAGAAGAGGCGACGCGGGTGCGGTCATCACTAATGTGGGAAATTTGGGAAGACTCTCGGGCCTCCGCCTTTAGG TTCTGGATATAGACGCCAGGTTGAATCCGTATTTGGAGGTACGATCCGGAGAGACGGGCTTCAAAGCTGCCTGACGACGGTTGTGGGCCCCGTAACAAATCCTCCCAAT

TIGGARCT AARCATOTIGGGARCT COLDINGT AND THE THE TAKAN A CALL TO THE COLDINGT AND THE COLDING

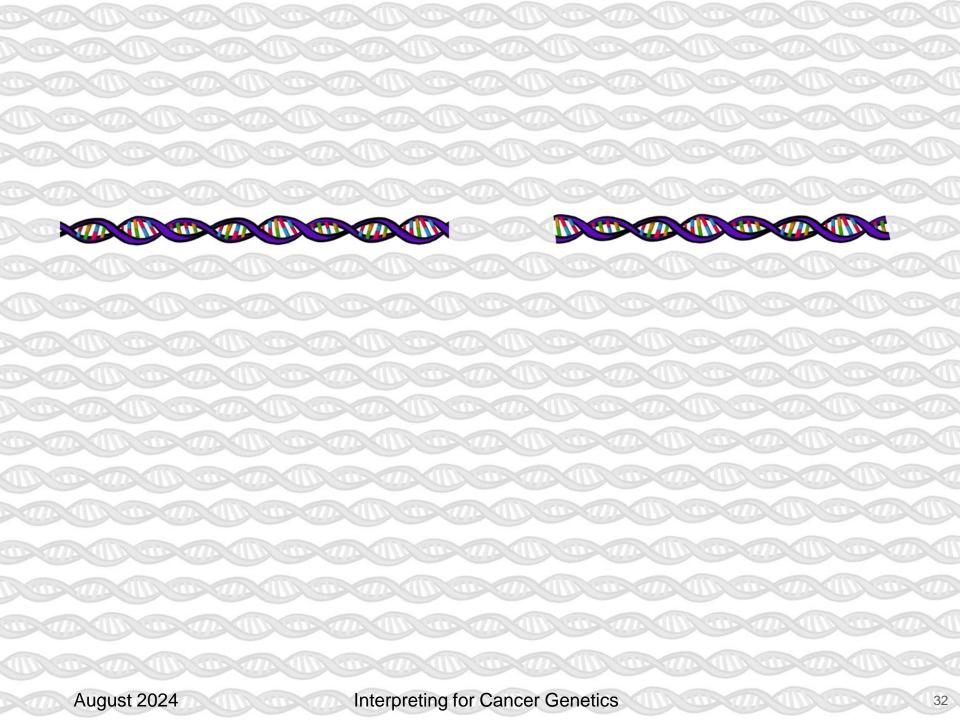
Interpreting for Cancer Genetics

August 2024





ATTTCTCATTTCAGGCATACCCAGTCCGTCGAAGGCGGCAGCGACATGGCGACTAAGT(CGCTGCCACCTTCGTATTCCGAGTTGCCTGTGGGCCGTGGGAACGATTCCTAGAAGGA CTGCACTACTATATACGCCGGCAAGTCTAAAAAGCGAAGTTGGCATACACAACGGAG/ GTCTCCGATCCGCCCCCACAATAACCGTCGACTTTCCAGGTCTCAAGCACCTAAATTTGG GAACTGGCGGACGTGGAACACGTTTCTTACTGTGTACGTTGCTAGGACCCTGGGAGAC CCTTTTGCGACATGAGGTACTCAAGAGAGGTTGAACTAACCTTCCGCAGAACCTTCACG FACCTGCGCGGATCCACTATTAACGTCCCATGTGTCGGACCCATCACGCCTTGCCTCAC ACTCAGTCAATTCGACACACATAGTCAAGACAGCGTAAGAGTCGCGCTGAAACATGGO GTCGGTAAAAGCTTATGCCGGCTTTGTACCCACTACACTATACCCAGACCACCTACAAC ſĠŦĂŦŦĂĊĠŦĊŦĠŦĠĠŦĊŦĠŦĠĂĂŦŦĂŦŦĂĂŦĠĠĠĊŦĂŦĂĂĠĂŦĠĠŦĠĂŦĂĂĊĂĂĊĠŦŦŎ CCCCGTCAGCAGAGCAACCGAGCTTTCTCAAGCAACGGGTACGCGACTCCCGAGCGA/ CCACGGAGGCTGATCGTCACGGCCGAAAGACTCTGTTGCCTAATGCCTTCATTGTAGT/ CCACTCCGGCTAGTTGCCGCGCGCACGTTTTCAAGCCACCCGGTCTGACGGCTCGGCCC/ GTGATAGTACCCGGGTAGAGGACTTAAGCGTCAAGAAGCACGCGTCCACTCTGCGTG/ GATCCTTTTCGTTCCCTTCCTACCTCTGAAAACGAATCACCAGCCTCAATAGTTGCAG GGTGGGCCGGTGGAGGCCCGTGGATTGGTCATTTTTAATGCCGTATGAGAAATCGTCA/ CATCGGAGTCCCCGCAGTGGAATCATGTAGGACCACGCCAGCTCCCTGCGAGGCTCC/ ACTTTTTTGTTCACTCCTATTGCCCAACGACATGCGAAATCAGACAGTGTTCCATCACGO CGCCGTATTGACTAAAATGTTTTATTAACGTCCCATGTGTCGGACCCATCCGCGCTGAA/ CATGGGGTCGGTAAAAGCTTATGCCGGCTTTGTACCCACTACACTATACCCAGACCATA ACAGATTGCCCCAGGTCACACTCCATAGGGTCGCGGGCCGTGCCAATCTTGCGAATTTC FCATTTCAGGCATAATTAACGTCCCATGTGTCGGACCCATCCGCGCTGAAACATGGGG⁻ CGGTAAAAGCTTATGCCGGCTTTGTACCCACTACACTATACCCAGACCACCCAGTCCG CGAAGGCGGCAGCGACATGGCGACTAAGTCCGCTGCCACCTTCGTATTCCGAGTTGCC⁻ GTGGGCCGTGGGAACGATTCCTAGAAGGACCTGCACTACTATATACGCCGGCAAGTCT/ **AAAAGCGAAGTTGGCATACACAACGGAGAGTCTCCGATCCGCCCCACAATAACCGTCC** ACTTTCCAGGTCTCAAGCACCTAAATTTGGTGAACTGGCGGACGTGGAACACGTTTCTT/ CTGTGTACGTTGCTAGGACCCTGGGAGACTCCTTTTGCGACATGAGGTACTCAAGAGAG GTTGAACTAACCTTCCGCAGAACCTTCACGTACCTGCGCGGATCCACTATTAACGTCC ATGTGTCGGACCCATCACGCCTTGCCTCACACTCAGTCAATTCGACACACATAGTCAAC ACAGCGTAAGAGTCGCGCTGAAACATGGGGTCGGTAAAAGCTTATGCCGGCTTTGTACC CACTACACTATACCCAGACCACCTACAAGTGTATTACGTCTGTGGTCTGTGAATTATTA/ GGGCTATAAAGATGGTGATAACAAQGITTCCCCCCGTCAGCAGCAGCACCGAGCTTTCTC/ ATTTCTCATTTCAGGCATACCCAGTCCGTCGAAGGCGGCAGCGACATGGCGACTAAGTC CGCTGCCACCTTCGTATTCCGAGTTGCCTGTGGGCCGTGGGAACGATTCCTAGAAGGAC CTGCACTACTATATACGCCGGCAAGTCTAAAAAGCGAAGTTGGCATACACAACGGAG/ GTCTCCGATCCGCCCCACAATAACCGTCGACTTTCCAGGTCTCAAGCACCTAAATTTGG GAACTGGCGGACGTGGAACACGTTTCTTACTGTGTACGTTGCTAGGACCCTGGGAGAC1 CCTTTTGCGACATGAGGTACTCAAGAGAGGTTGAACTAACCTTCCGCAGAACCTTCACG FACCTGCGCGGATCCACTATTAACGTCCCATGTGTCGGACCCATCACGCCTTGCCTCAC ACTCAGTCAATTCGACACACATAGTCAAGACAGCGTAAGAGTCGCGCTGAAACATGGC GTCGGTAAAAGCTTATGCCGGCTTTGTACCCACTACACTATACCCAGACCACCTACAAG **FGTATTACGTCTGTGGTCTGTGAATTATTAATGGGCTATAAGATGGTGATAACAACGTT** CCCC**GTCAGCAGAGCAACCGAGCTTTC**TCAAGCAACGGGTACGCGACTCCCGAGCGA/ CCACGGAGGCTGATCGTCACGGCCGAAAGACTCTGTTGCCTAATGCCTTCATTGTAGTA CCACTCCGGCTAGTTGCCGCGCGCACGTTTTCAAGCCACCCGGTCTGACGGCTCGGCCC/ GTGATAGTACCCGGGTAGAGGACTTAAGCGTCAAGAAGCACGCGTCCACTCTGCGTG/ GATCCTTTTCGTTCCCTTCCTACCTCTGAAAACGAATCACCAGCCTCAATAGTTGCAG GGTGGGCCGGTGGAGGCCCGTGGATTGGTCATTTTTAATGCCGTATGAGAAATCGTCA/ CATCGGAGTCCCCGCAGTGGAATCATGTAGGACCACGCCAGCTCCCTGCGAGGCTCC/ ACTTTTTTGTTCACTCCTATTGCCCAACGACATGCGAAATCAGACAGTGTTCCATCACGO CGCCGTATTGACTAAAATGTTTTATTAACGTCCCATGTGTCGGACCCATCCGCGCTGAA CATGGGGTCGGTAAAAGCTTATGCCGGCTTTGTACCCACTACACTATACCCAGACCAT ACAGATTGCCCCAGGTCACACTCCATAGGGTCGCGGGCCGTGCCAATCTTGCGAATTTC [CATTTCAGGCATAATTAACGTCCCATGTGTCGGACCCATCCGCGCTGAAACATGGGG] CGGTAAAAGCTTATGCCGGCTTTGTACCCACTACACTATACCCAGACCACCCAGTCCG CGAAGGCGGCAGCGACATGGCGACTAAGTCCGCTGCCACCTTCGTATTCCGAGTTGCC GTGGGCCGTGGGAACGATTCCTAGAAGGACCTGCACTACTATATACGCCGGCAAGTCT/ **AAAAGCGAAGTTGGCATACACAACGGAGAGTCTCCGATCCGCCCCACAATAACCGTCC** ACTTTCCAGGTCTCAAGCACCTAAATTTGGTGAACTGGCGGACGTGGAACACGTTTCTT/ CTGTGTACGTTGCTAGGACCCTGGGAGACTCCTTTTGCGACATGAGGTACTCAAGAGAG GTTGAACTAACCTTCCGCAGAACCTTCACGTACCTGCGCGGATCCACTATTAACGTCC ATGTGTCGGACCCATCACGCCTTGCCTCACACTCAGTCAATTCGACACACATAGTCAAC ACAGCGTAAGAGTCGCGCTGAAACATGGGGTCGGTAAAAGCTTATGCCGGCTTTGTACC CACTACACTATACCCAGACCACCTACAAGTGTATTACGTCTGTGGTCTGTGAATTAT TAA FGGG August 2024ATGGTGATAA CInterpreting for Cancer Genetics CAGAGCAACCGAGCTTTCT30/ ATTTCTCATTTCAGGCATACCCAGTCCGTCGAAGGCGGCAGCGACATGGCGACTAAGTC CGCTGCCACCTTCGTATTCCGAGTTGCCTGTGGGCCGTGGGAACGATTCCTAGAAGGAC CTGCACTACTATATACGCCGGCAAGTCTAAAAAGCGAAGTTGGCATACACAACGGAG/ GTCTCCGATCCGCCCCACAATAACCGTCGACTTTCCAGGTCTCAAGCACCTAAATTTGG GAACTGGCGGACGTGGAACACGTTTCTTACTGTGTACGTTGCTAGGACCCTGGGAGAC1 CCTTTTGCGACATGAGGTACTCAAGAGAGGTTGAACTAACCTTCCGCAGAACCTTCACC FACCTGCGCGGATCCACTATTAACGTCCCATGTGTCGGACCCATCACGCCTTGCCTCAC ACTCAGTCAATTCGACACACATAGTCAAGACAGCGTAAGAGTCGCGCTGAAACATGGC GTCGGTAAAAGCTTATGCCGGCTTTGTACCCACTACACTATACCCAGACCACCTACAAG **FGTATTACGTCTGTGGTCTGTGAATTATTAATGGGCTATAAGATGGTGATAACAACGTT** CCCC**GTCAGCAGAGCAACCGAGCTTTC**TCAAGCA**ACGGGTACGCGACTCCCGA**GCGA/ CCACGGAGGCTGATCGTCACGGCCGAAAGACTCTGTTGCCTAATGCCTTCATTGTAGTA CCACTCCGGCTAGTTGCCGCGCGCACGTTTTCAAGCCACCCGGTCTGACGGCTCGGCCC/ GTGATAGTACCCGGGTAGAGGACTTAAGCGTCAAGAAGCACGCGTCCACTCTGCGTG/ GATCCTTTTCGTTCCCTTCCTACCTCTGAAAACGAATCACCAGCCTCAATAGTTGCAG GGTGGGCCGGTGGAGGCCCGTGGATTGGTCATTTTTAATGCCGTATGAGAAATCGTCA/ CATCGGAGTCCCCGCAGTGGAATCATGTAGGACCACGCCAGCTCCCTGCGAGGCTCC/ ACTTTTTTGTTCACTCCTATTGCCCAACGACATGCGAAATCAGACAGTGTTCCATCACGO CGCCGTATTGACTAAAATGTTTTATTAACGTCCCATGTGTCGGACCCATCCGCGCTGAA/ CATGGGGTCGGTAAAAGCTTATGCCGGCTTTGTACCCACTACACTATACCCAGACCATA ACAGATTGCCCCAGGTCACACTCCATAGGGTCGCGGGCCGTGCCAATCTTGCGAATTTC [CATTTCAGGCATAATTAACGTCCCATGTGTCGGACCCATCCGCGCTGAAACATGGGG] CGGTAAAAGCTTATGCCGGCTTTGTACCCACTACACTATACCCAGACCACCCAGTCCG CGAAGGCGGCAGCGACATGGCGACTAAGTCCGCTGCCACCTTCGTATTCCGAGTTGCC1 GTGGGCCGTGGGAACGATTCCTAGAAGGACCTGCACTACTATATACGCCGGCAAGTCTA **AAAAGCGAAGTTGGCATACACAACGGAGAGTCTCCGATCCGCCCCACAATAACCGTCC** ACTTTCCAGGTCTCAAGCACCTAAATTTGGTGAACTGGCGGACGTGGAACACGTTTCTT/ CTGTGTACGTTGCTAGGACCCTGGGAGACTCCTTTTGCGACATGAGGTACTCAAGAGAG GTTGAACTAACCTTCCGCAGAACCTTCACGTACCTGCGCGGATCCACTATTAACGTCC ATGTGTCGGACCCATCACGCCTTGCCTCACACTCAGTCAATTCGACACACATAGTCAAC ACAGCGTAAGAGTCGCGCTGAAACATGGGGTCGGTAAAAGCTTATGCCGGCTTTGTACC CACTACACTATACCCAGACCACCTACAAGTGTATTACGTCTGTGGTCTGTGAATTAT ΤΑΛ FGGG August 2024ATGGTGATAA CInterpreting for Cancer Genetics CAGAGCAACCGAGCTTTCT31/



Quiz!

- What is the function of DNA in our bodies?
- What is a chromosome?
- What is a gene?

What is genetics?

What is DNA?

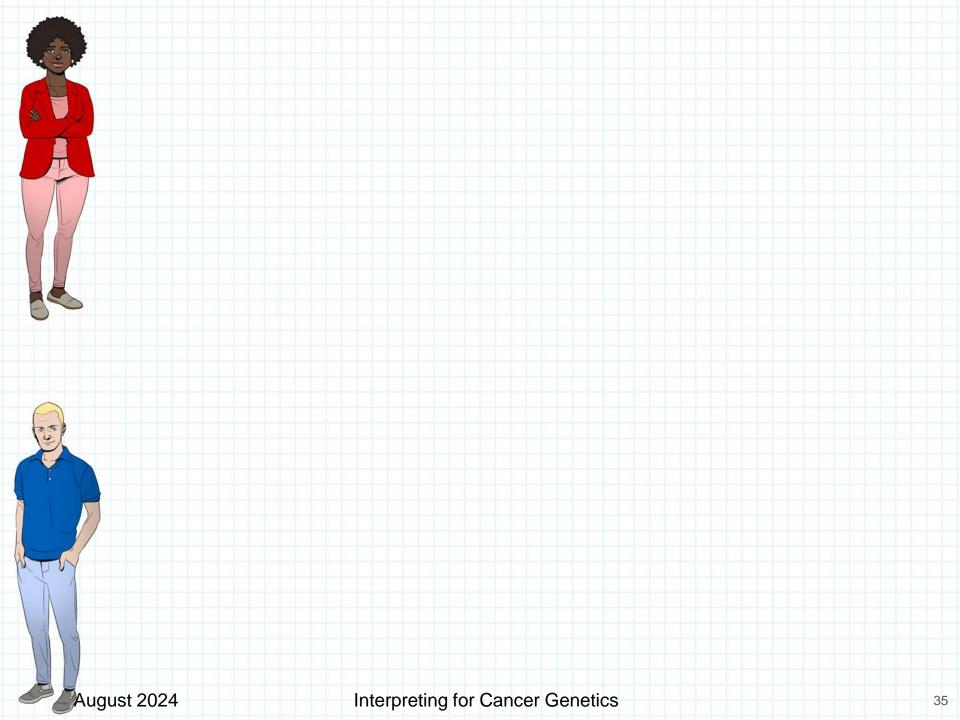
How do we pass on DNA?

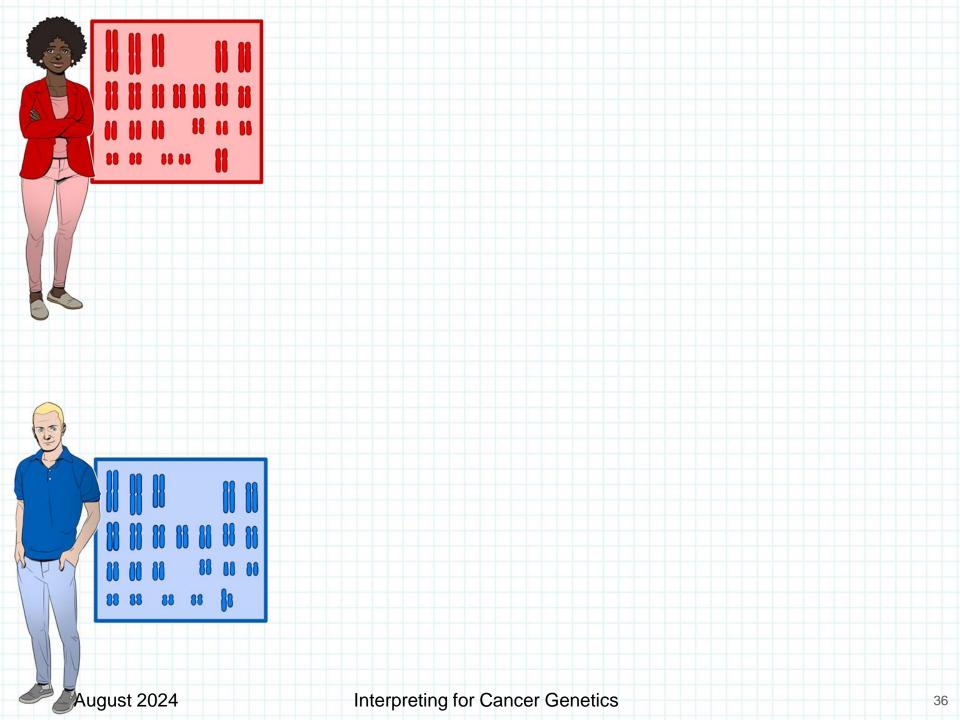
August 2024

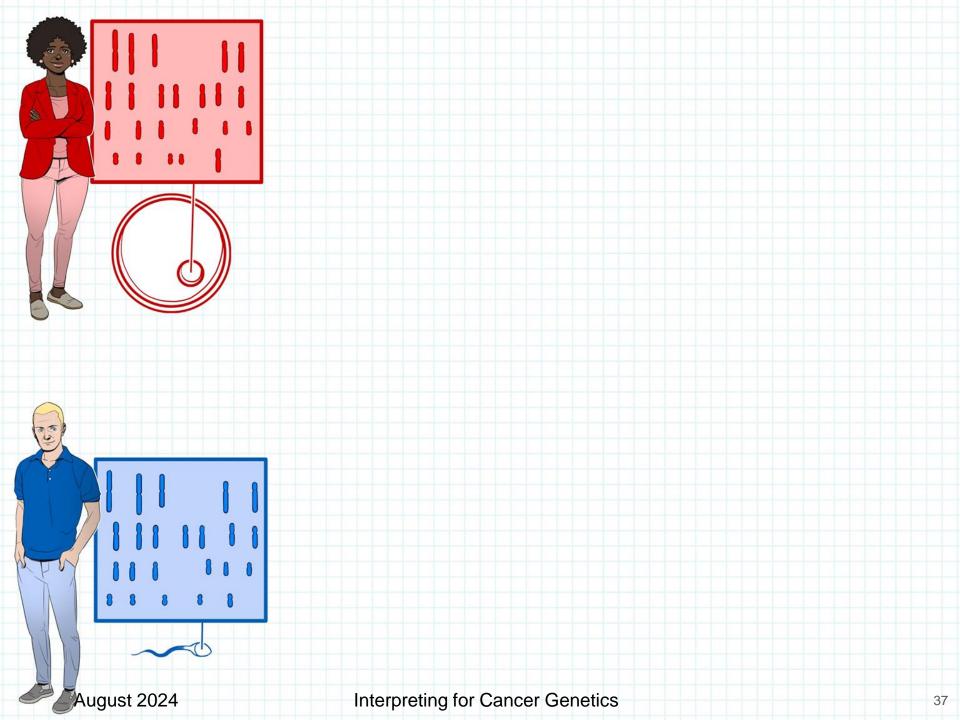
Interpreting for Cancer Genetics

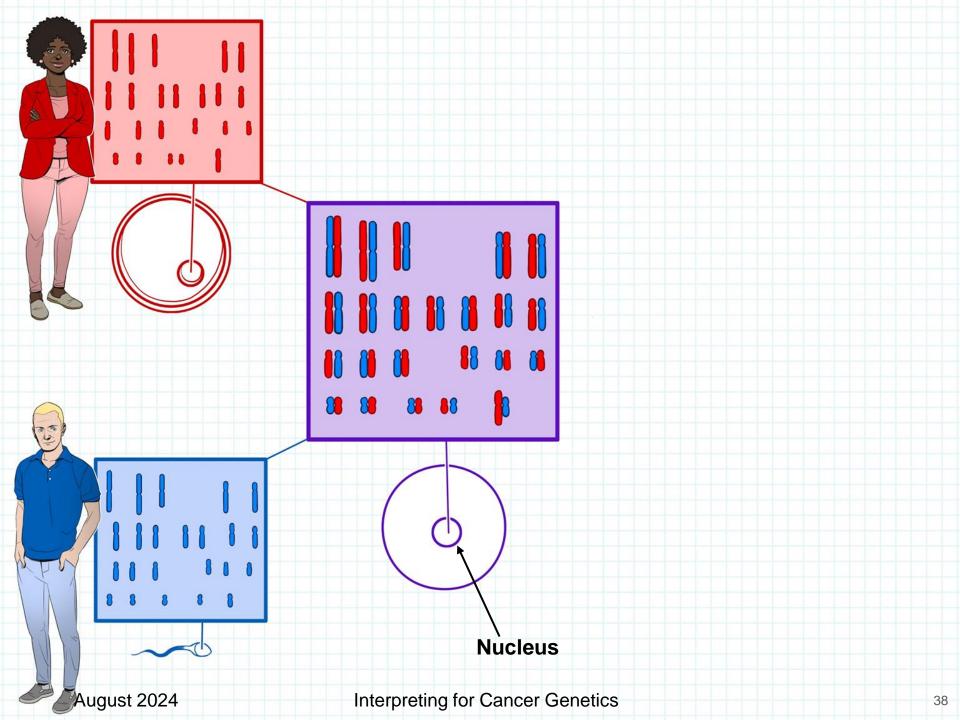
0

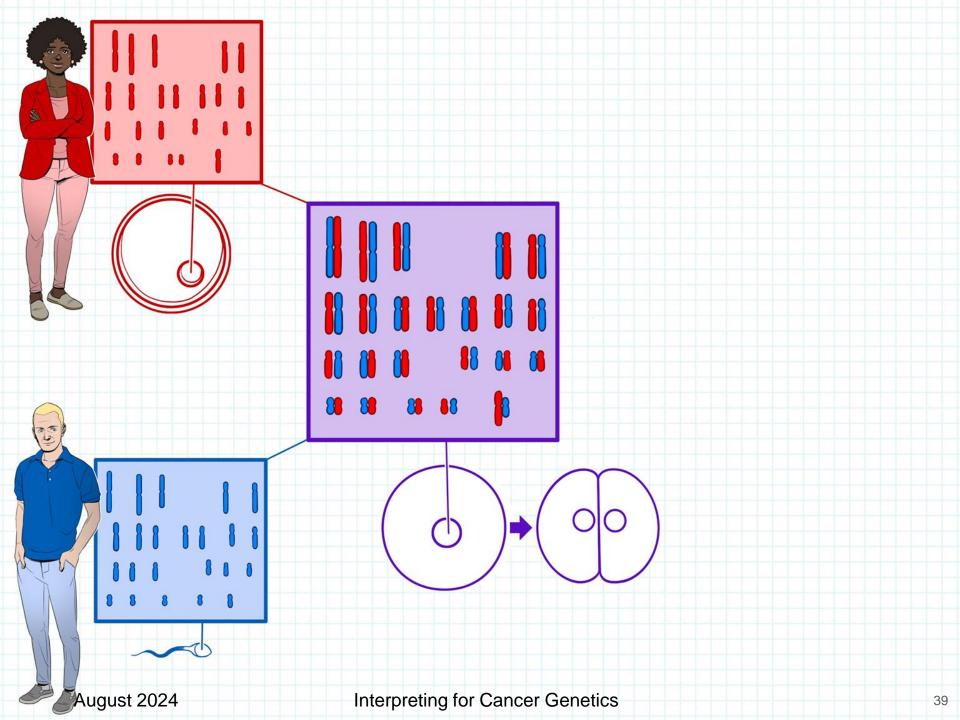
0

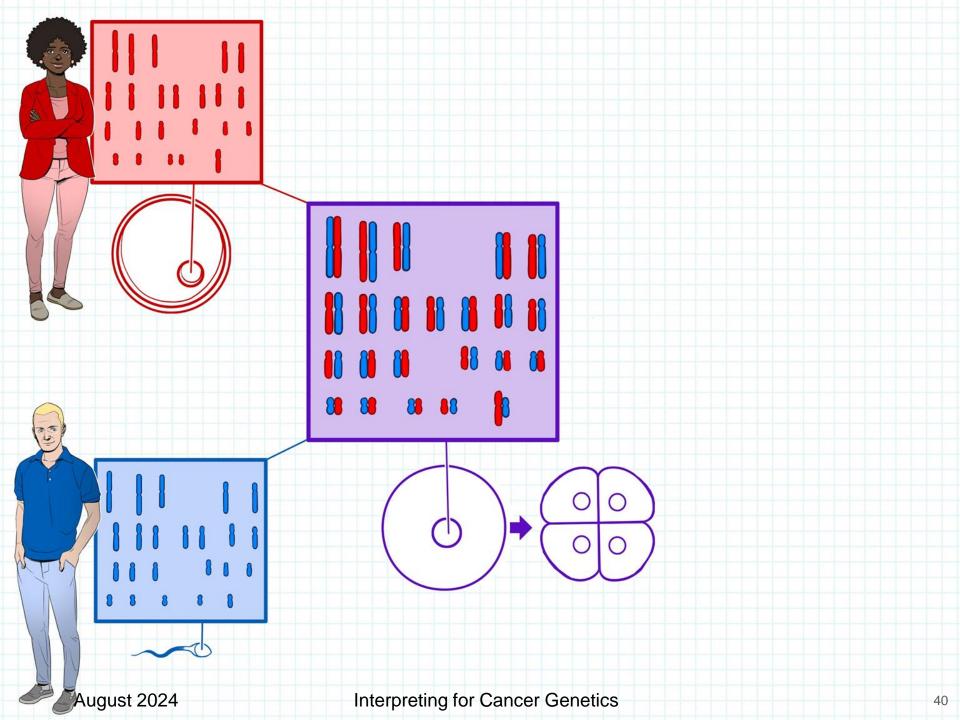


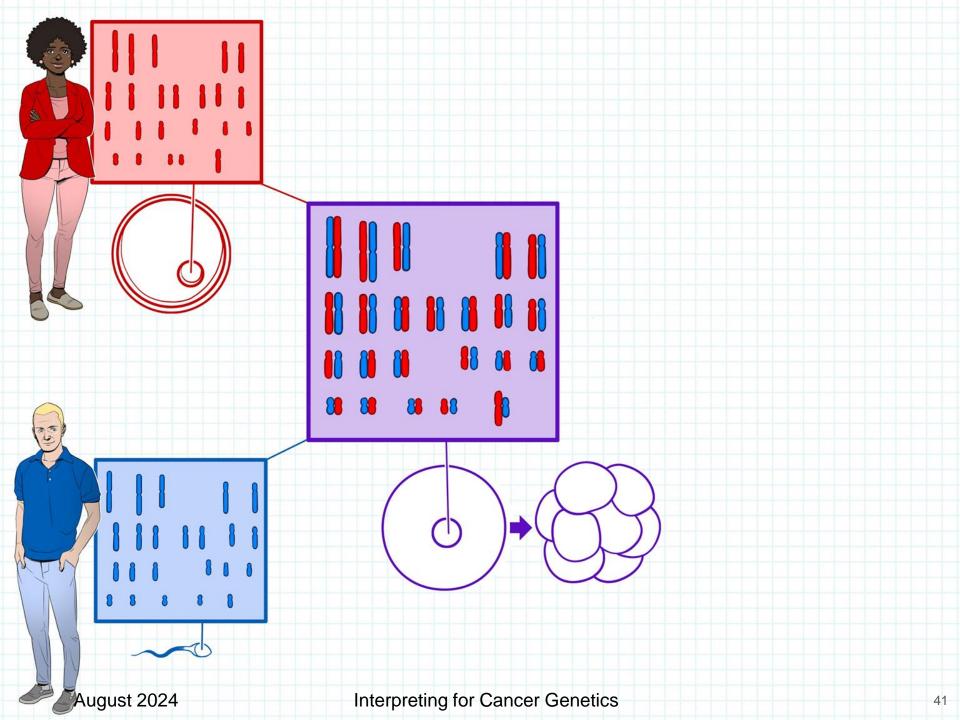


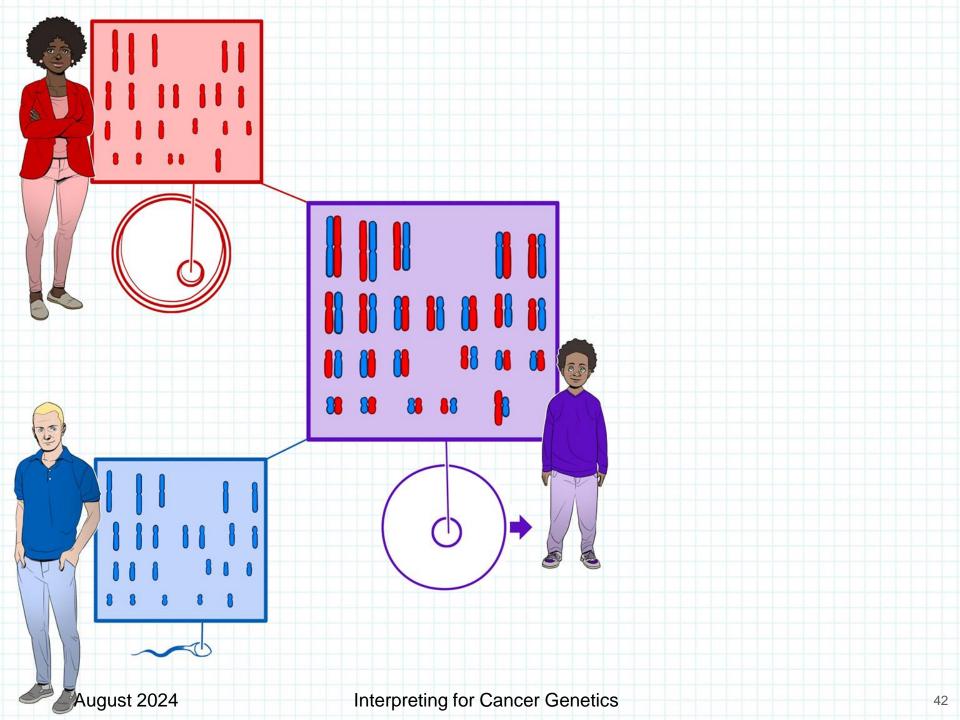


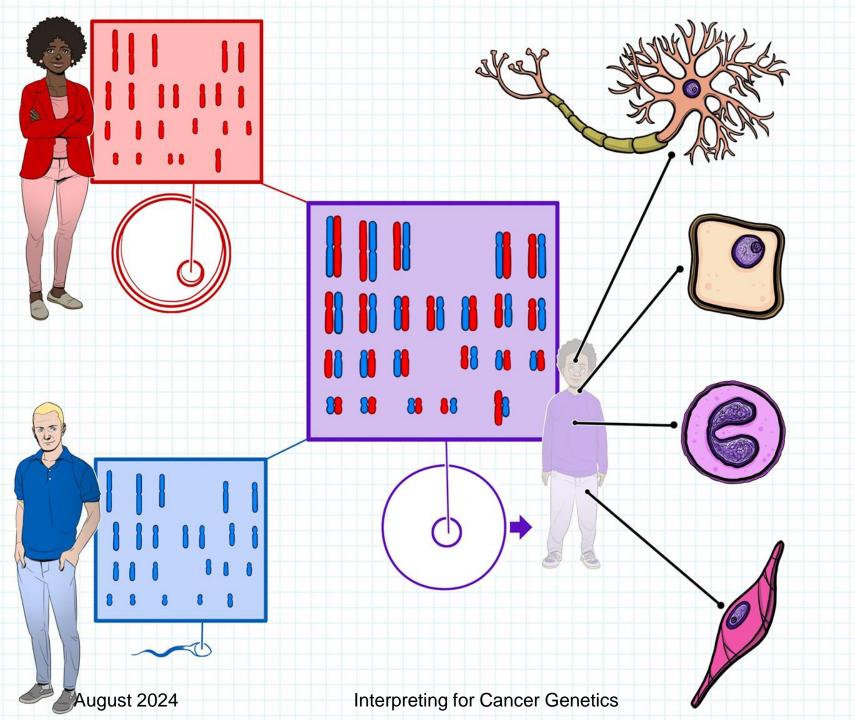


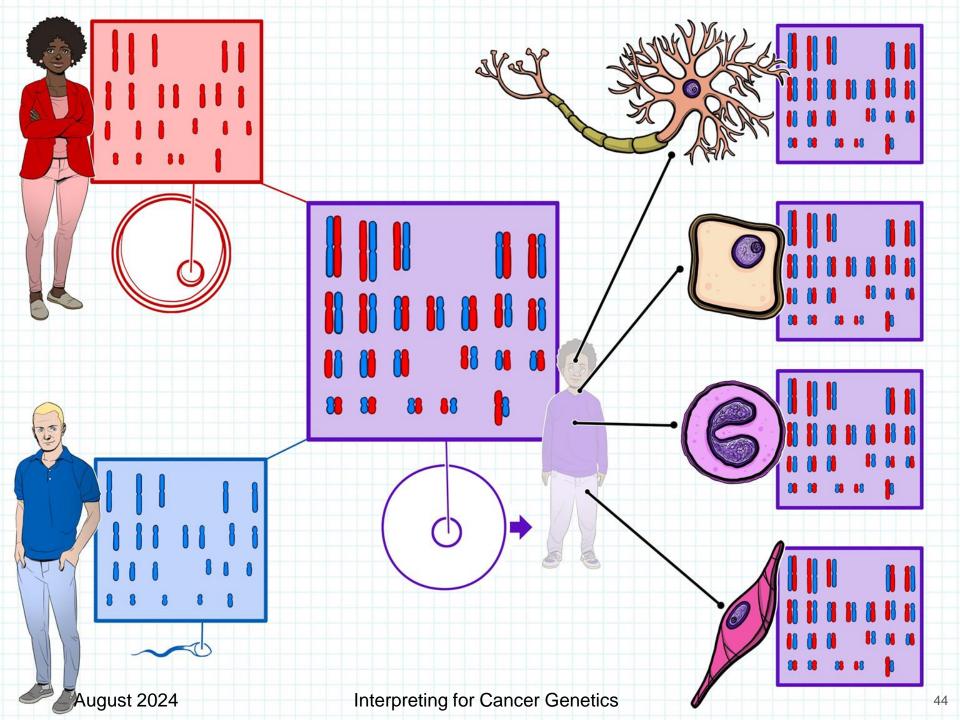








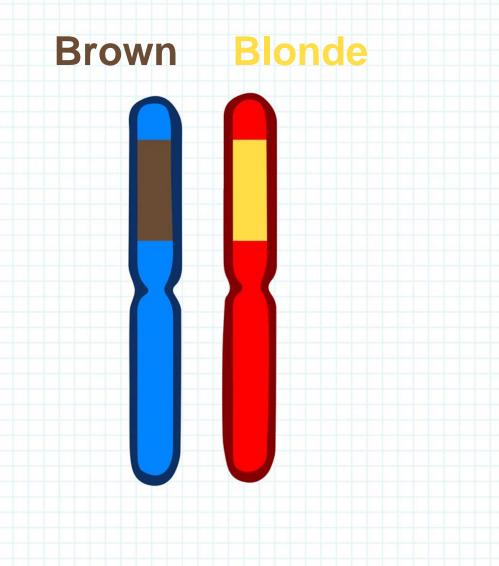


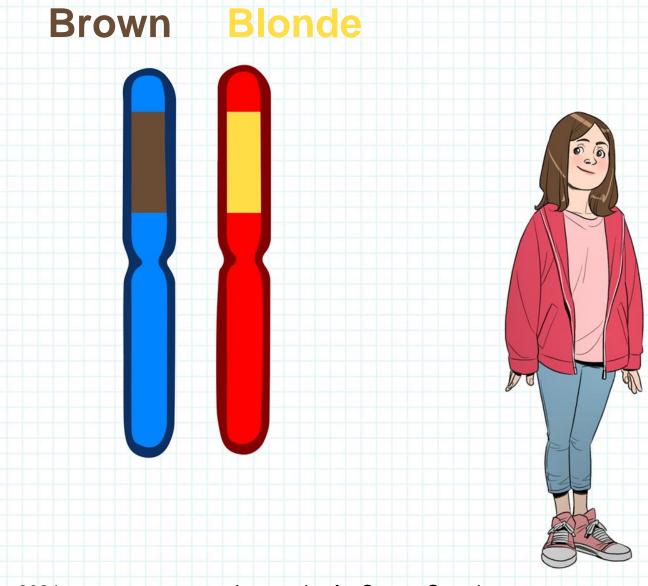


DOMINANT

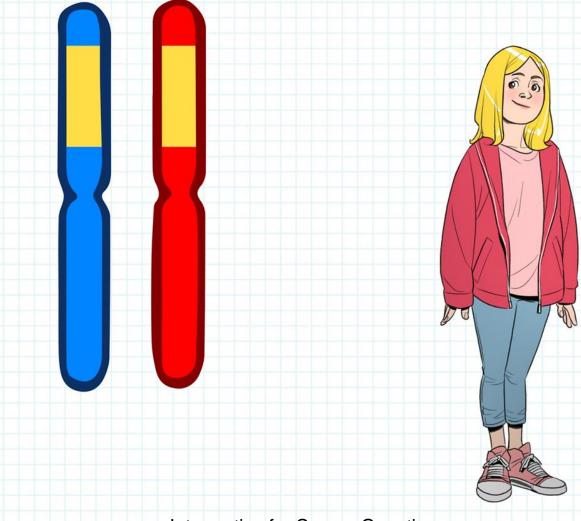
recessive

August 2024





Blonde Blonde



Quiz!

- How many chromosomes does a person typically have?
- How many chromosomes does an egg or sperm have?
- What does "replicate" mean?
- What does it mean if a gene is "dominant" or "recessive?"

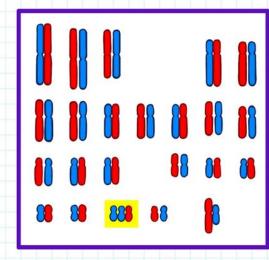
What is genetics?

What is DNA?

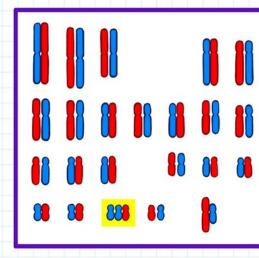
How do we pass on DNA?

How can DNA change unexpectedly?

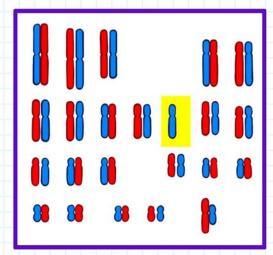
August 2024



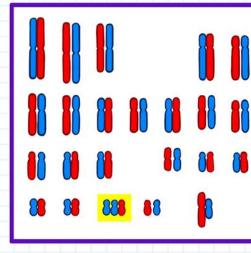
Extra chromosome



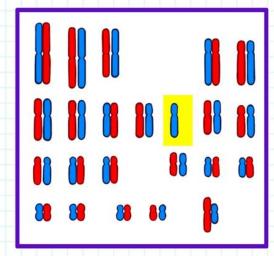
Extra chromosome



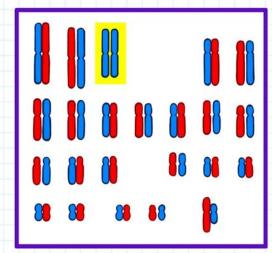
Missing chromosome



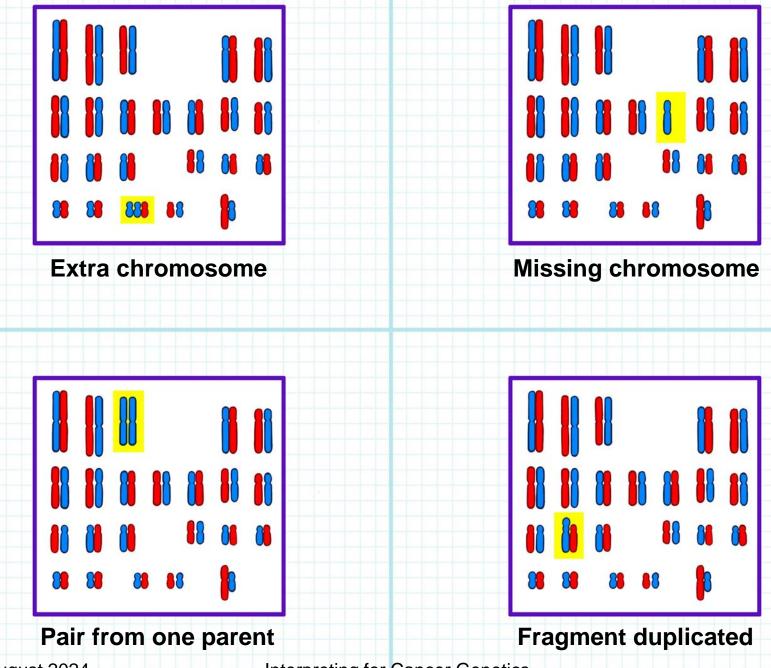
Extra chromosome



Missing chromosome



Pair from one parent



August 2024



In genetics, a change at the gene-level is called a <u>variant</u>.

August 2024

Interpreting for Cancer Genetics

August 2024

Interpreting for Cancer Genetics

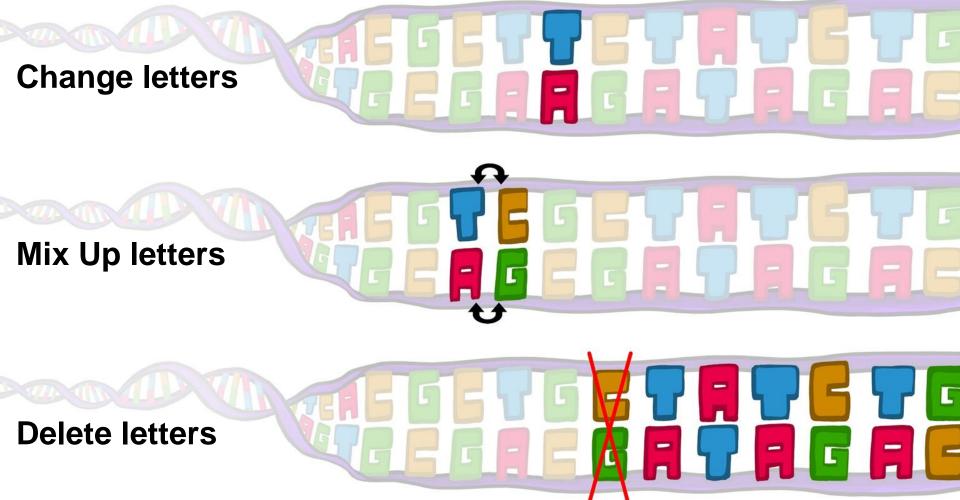
-



-

Mix Up letters

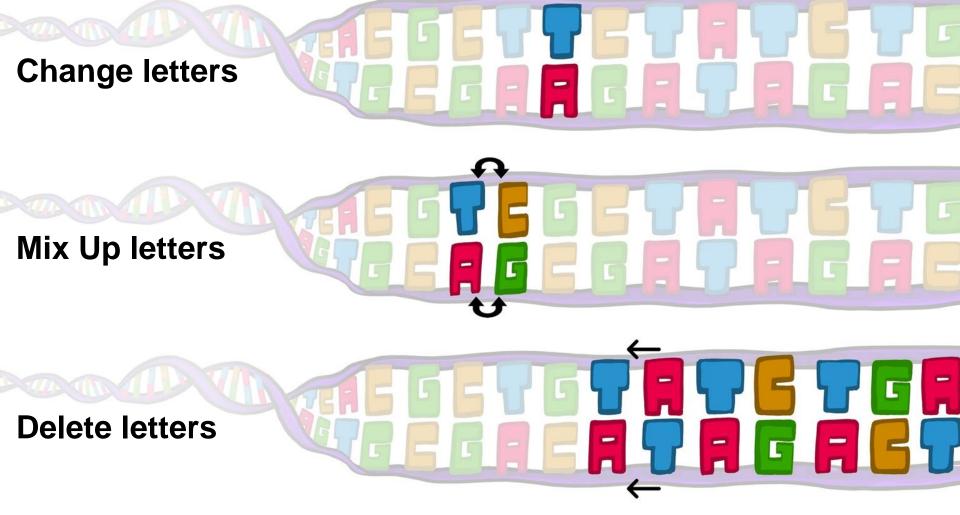
















Delete letters

Add letters

August 2024

Interpreting for Cancer Genetics

G

-

F

-

-

-

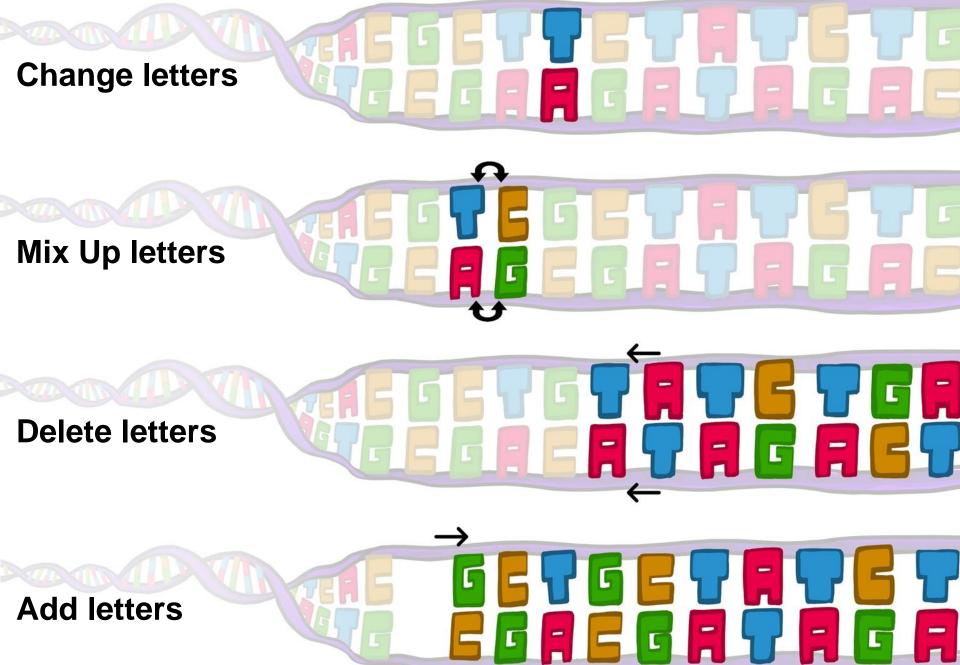
-

-

C

 \leftarrow

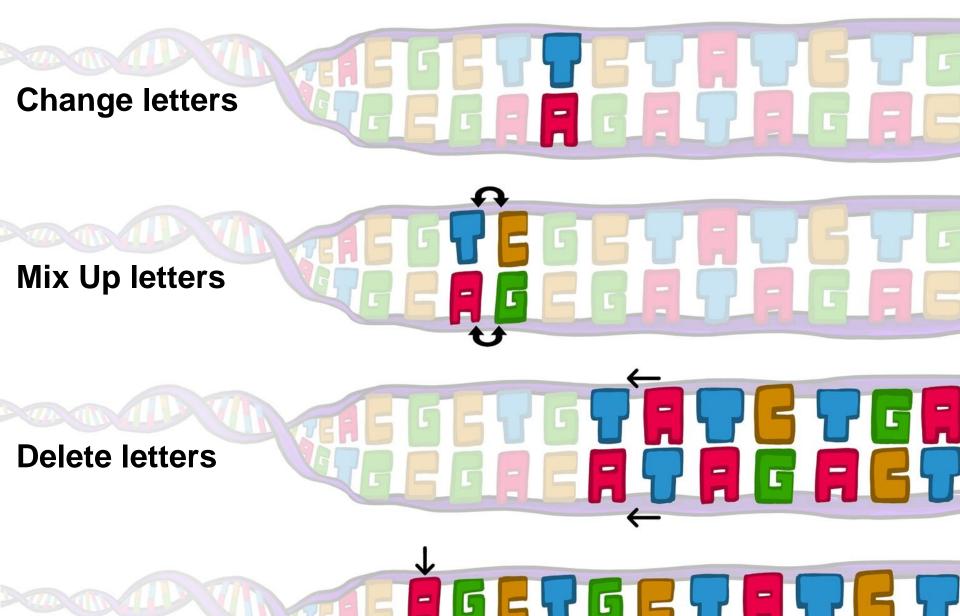
-



August 2024

Interpreting for Cancer Genetics

64



Add letters

August 2024

Interpreting for Cancer Genetics

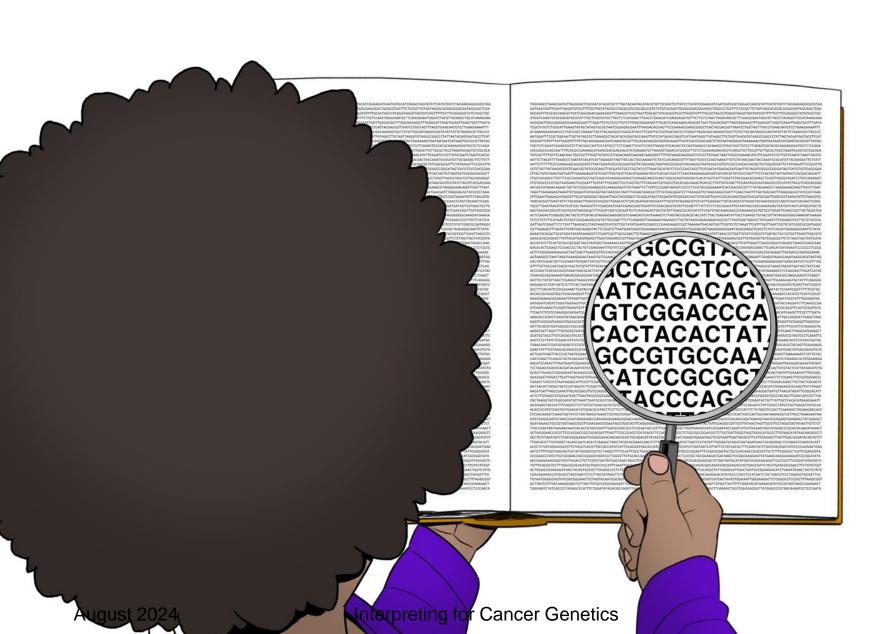
B

C

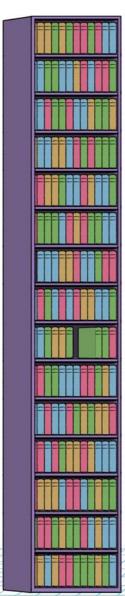
-

65

-

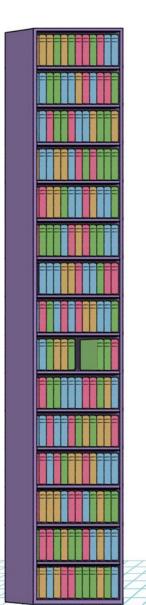


"Benign" Variant but no harm



August 2024

"Benign" Variant but no harm



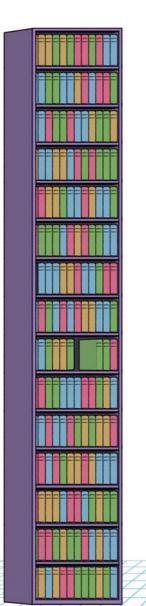
"Deleterious" or "Pathogenic"

Variant may cause harm or increase risk



August 2024

"Benign" Variant but no harm



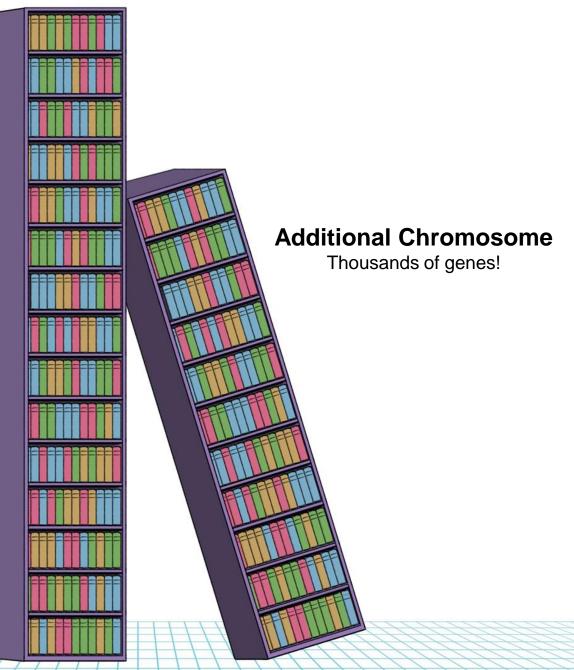
"Deleterious" or "Pathogenic"

Variant may cause harm or increase risk



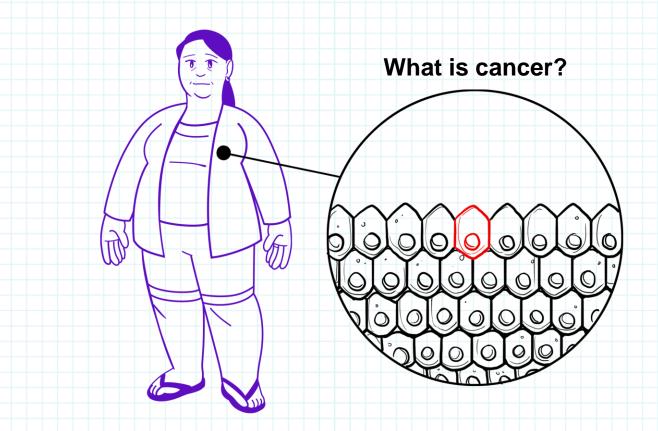
TO

August 2024

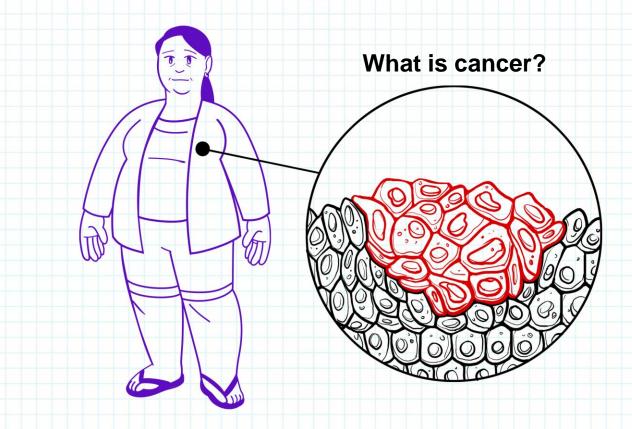


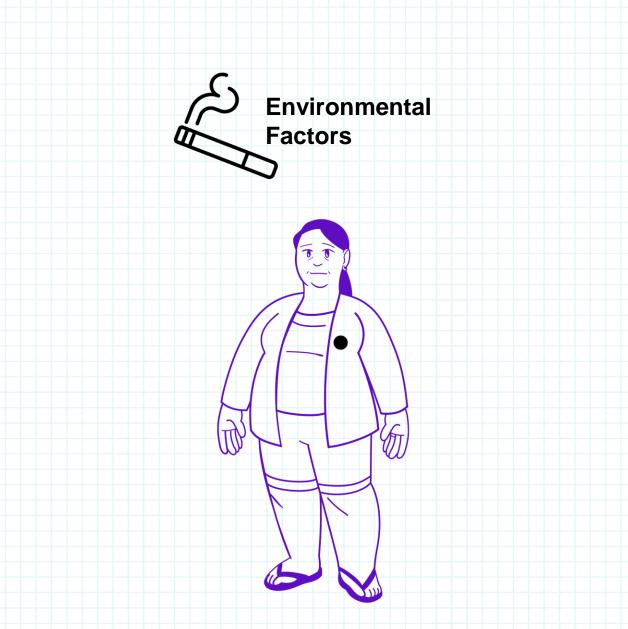
Quiz!

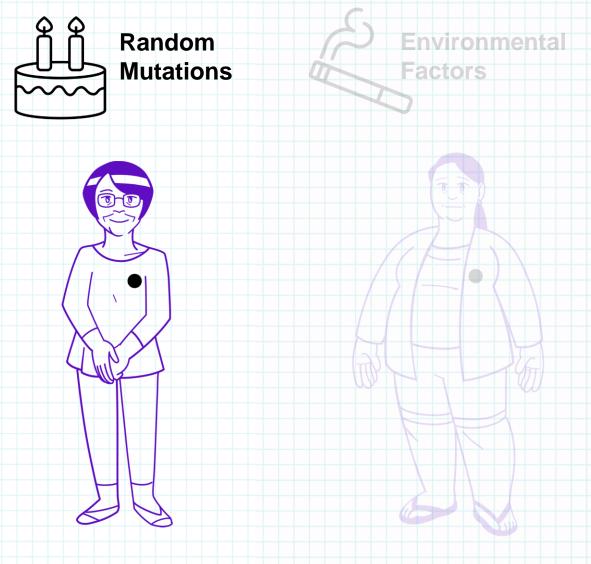
- What is a genetic change at the chromosomal level called?
- What is a genetic change at the gene level called?
- What does it mean if a change is "benign"?
- What does it mean if a change is "deleterious?
- What is a mutation?



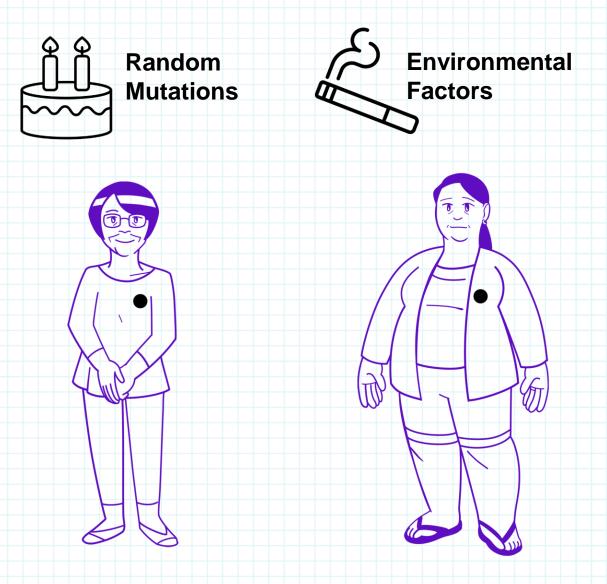
August 2024



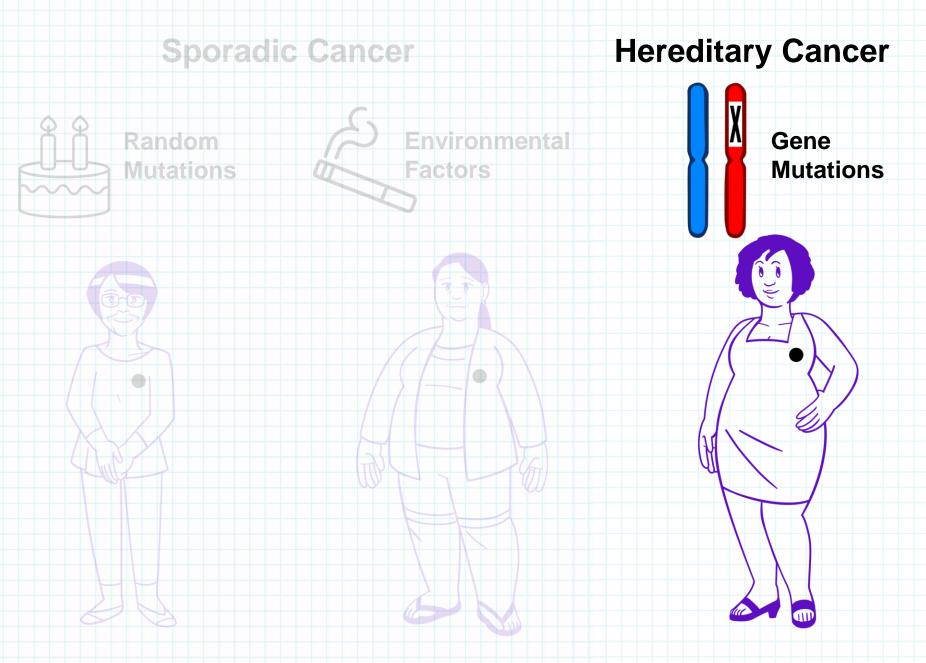


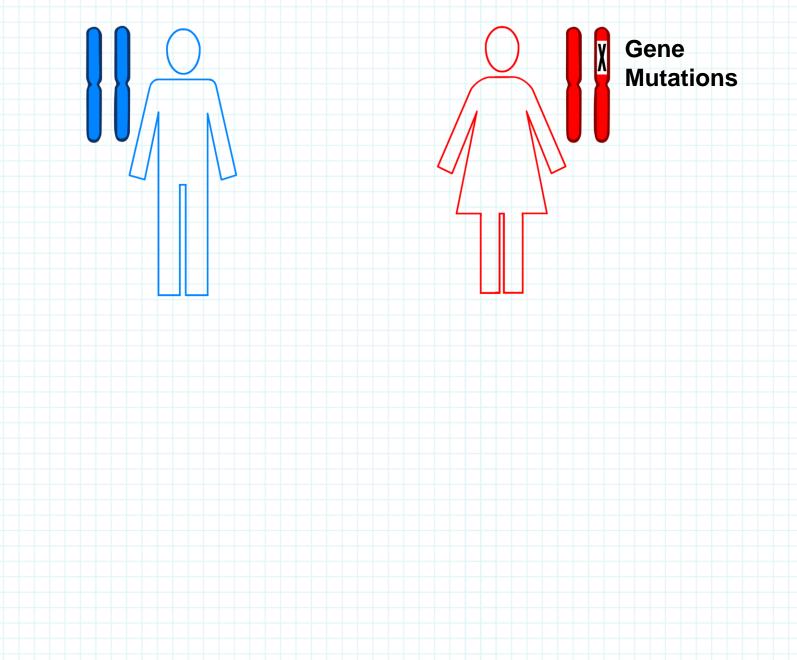


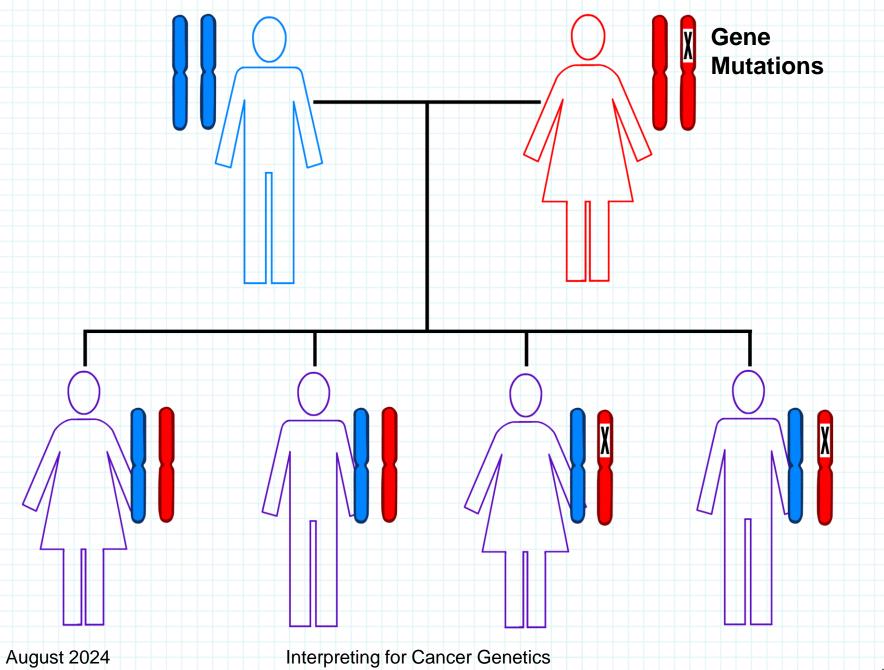
Sporadic Cancer



August 2024







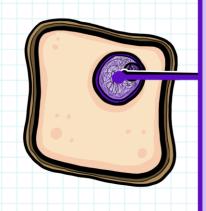
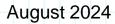


Image: Second second

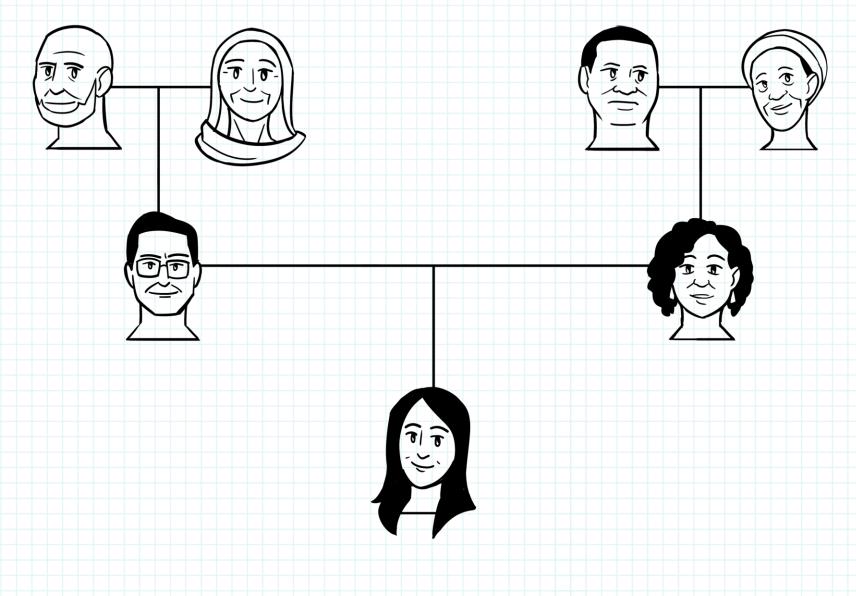
Gene Mutation

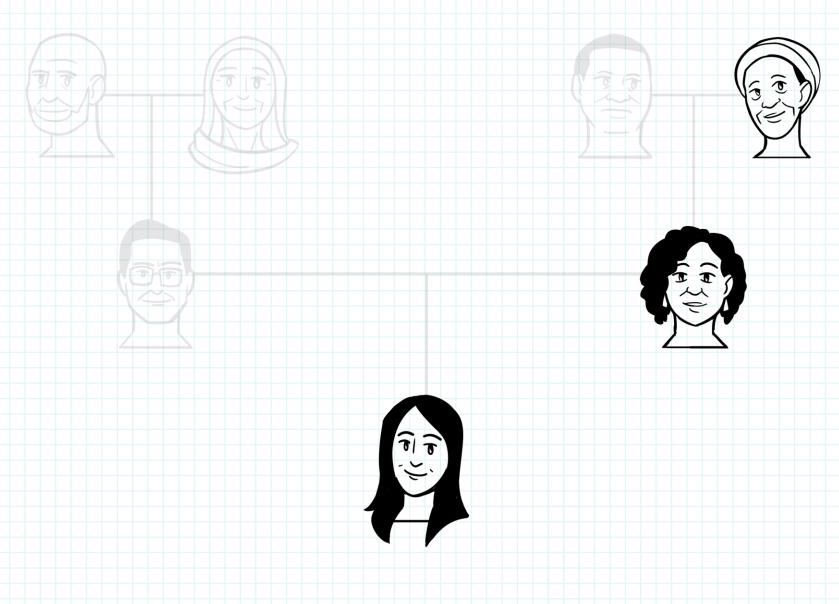


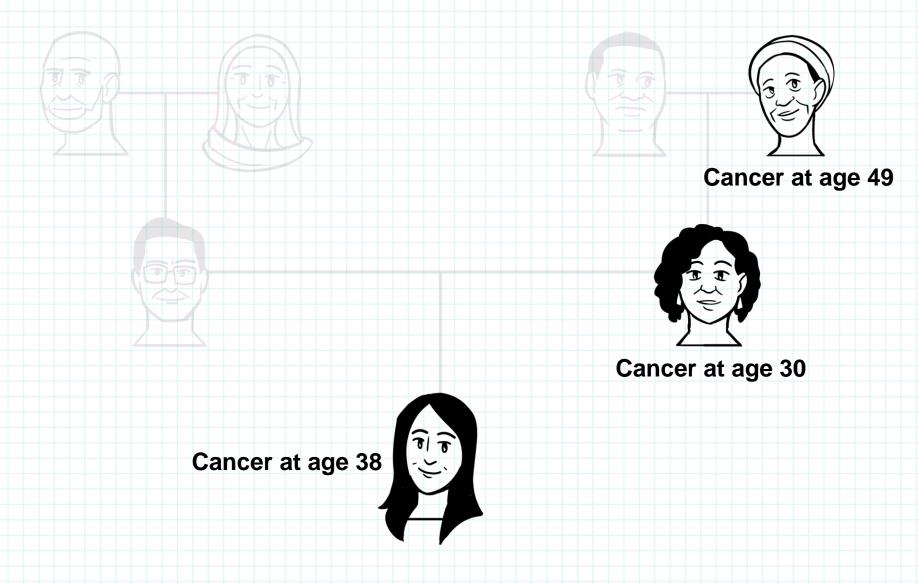


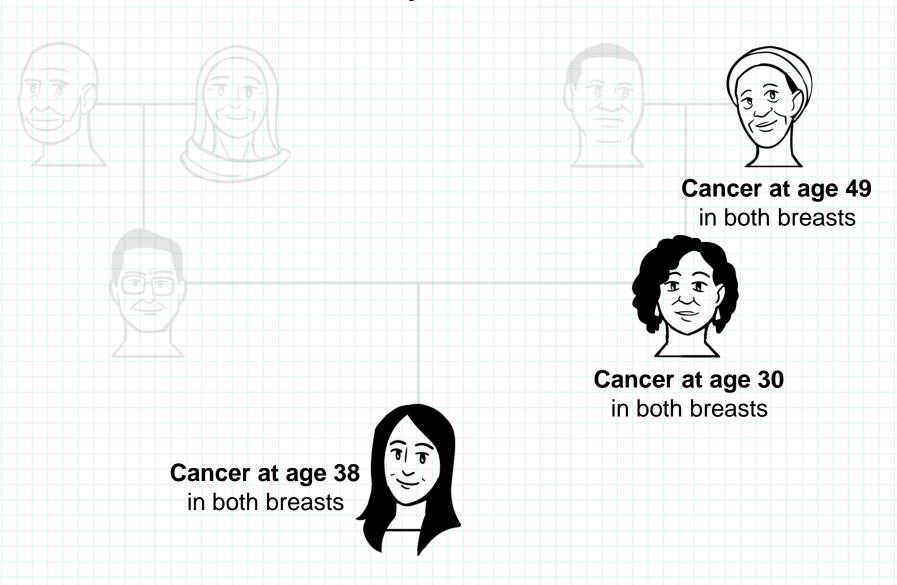
Interpreting for Cancer Genetics

8





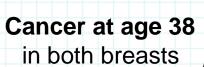




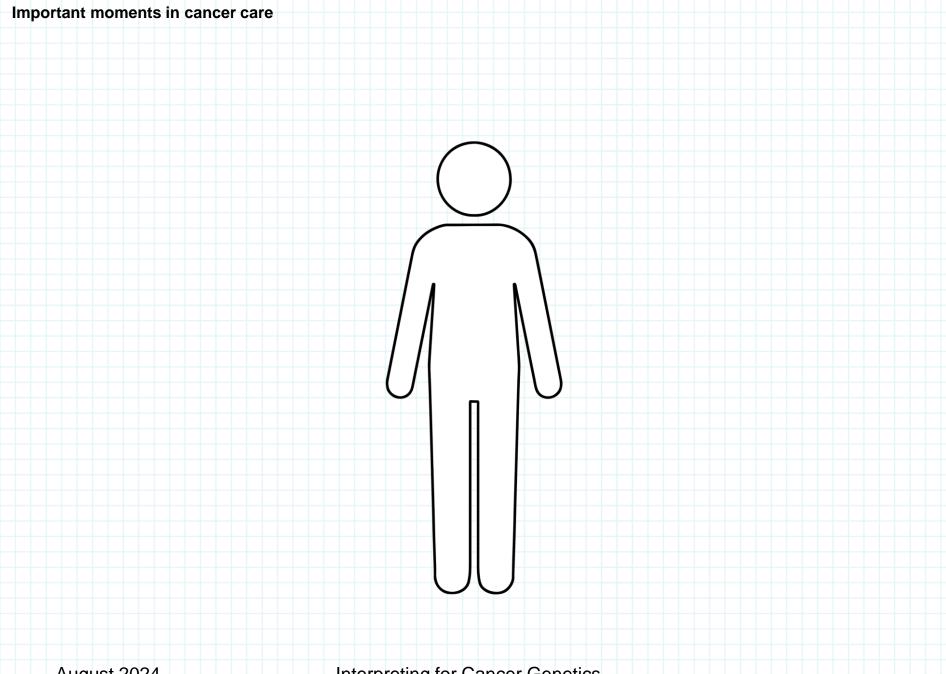


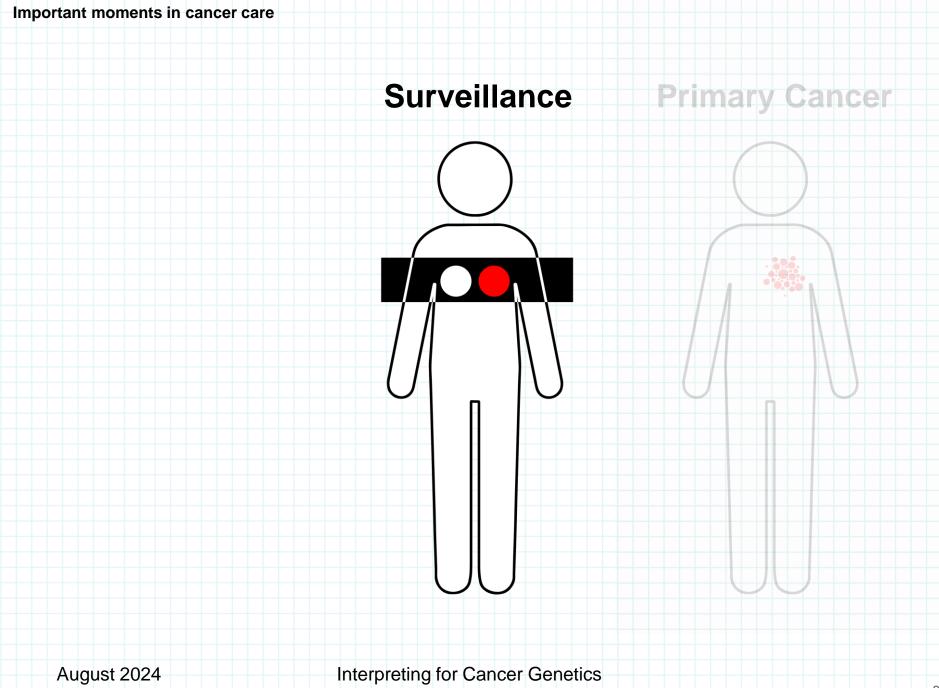
Cancer at age 85 in the lungs

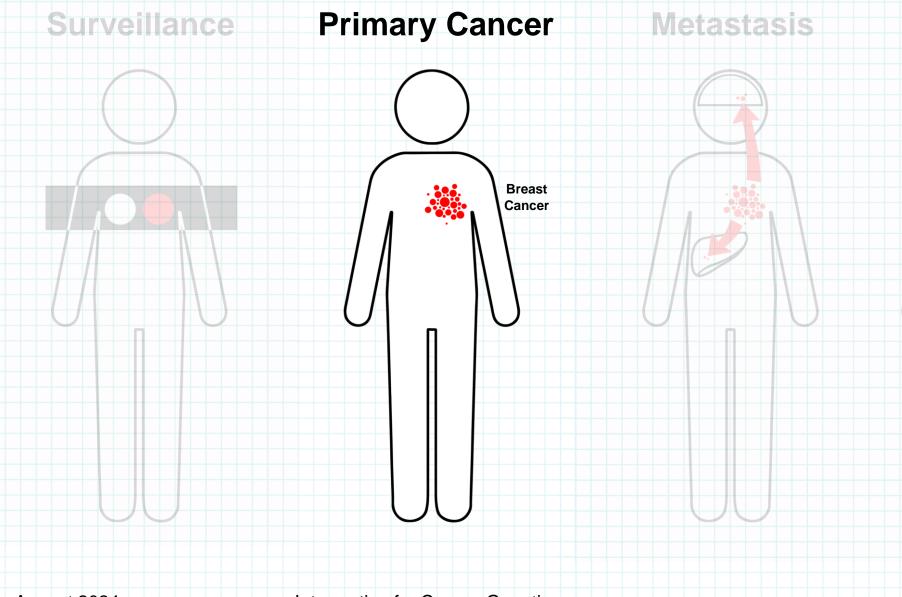


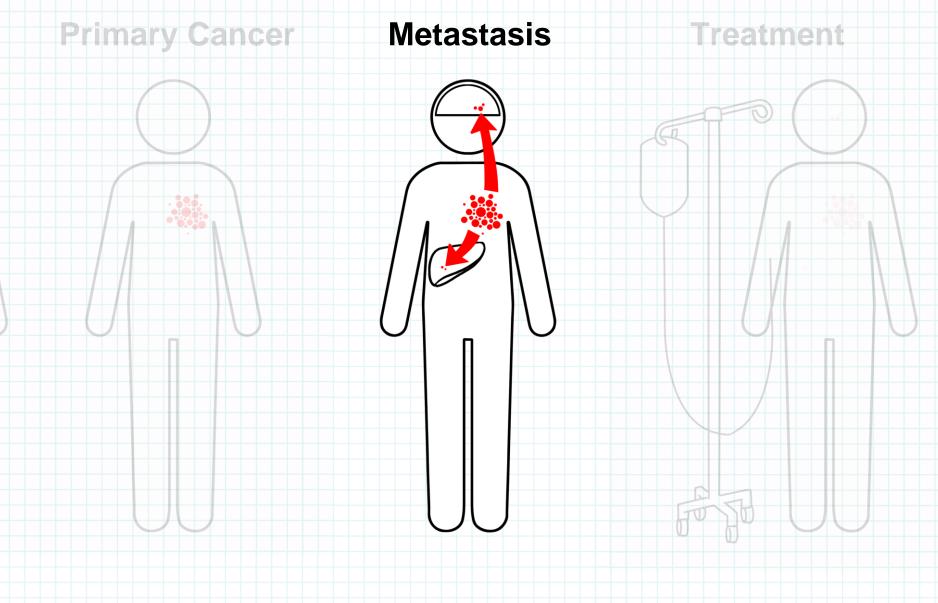


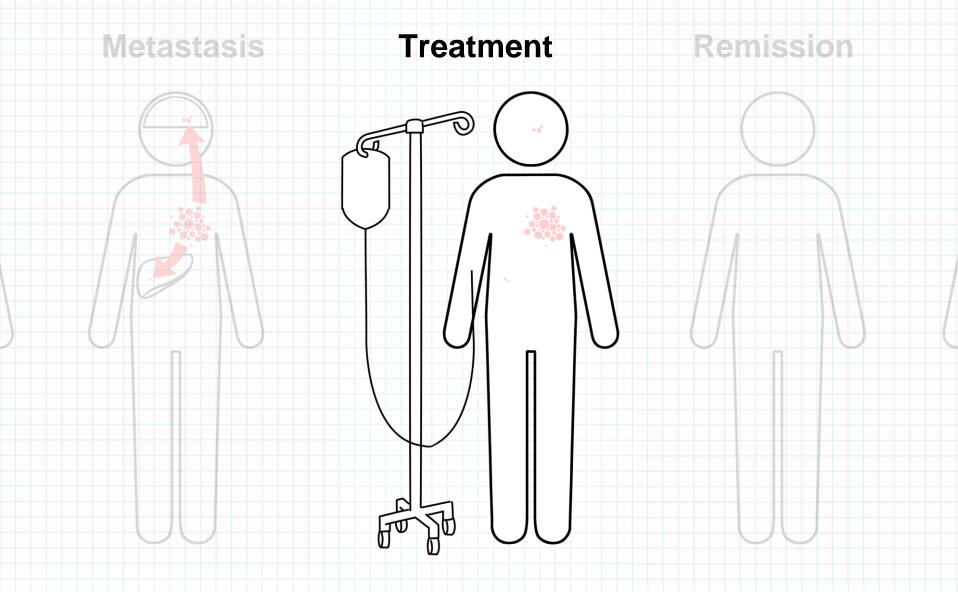




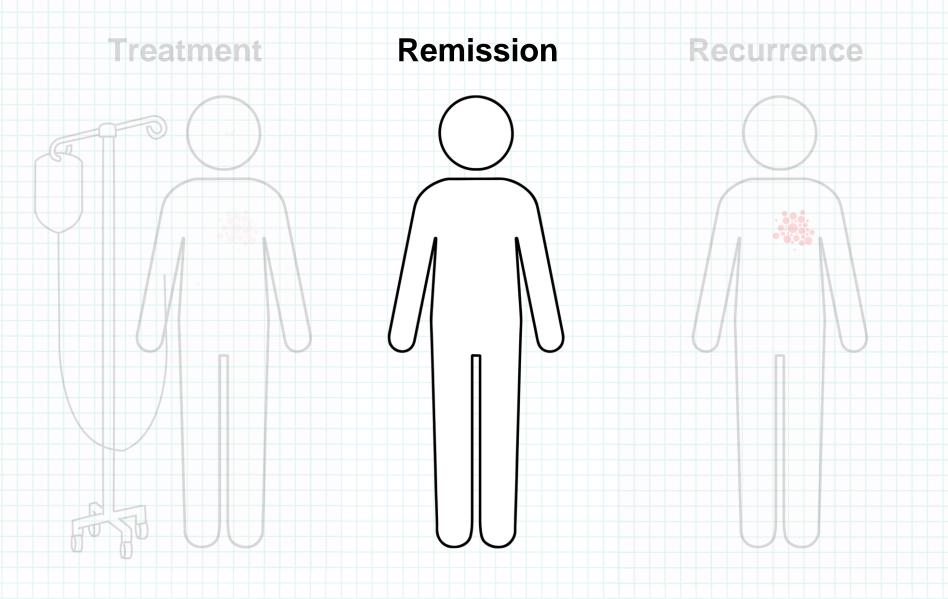


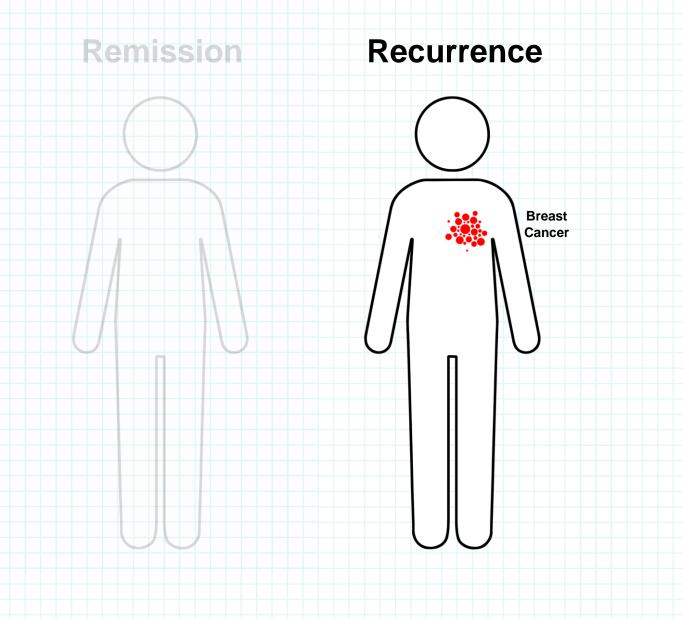


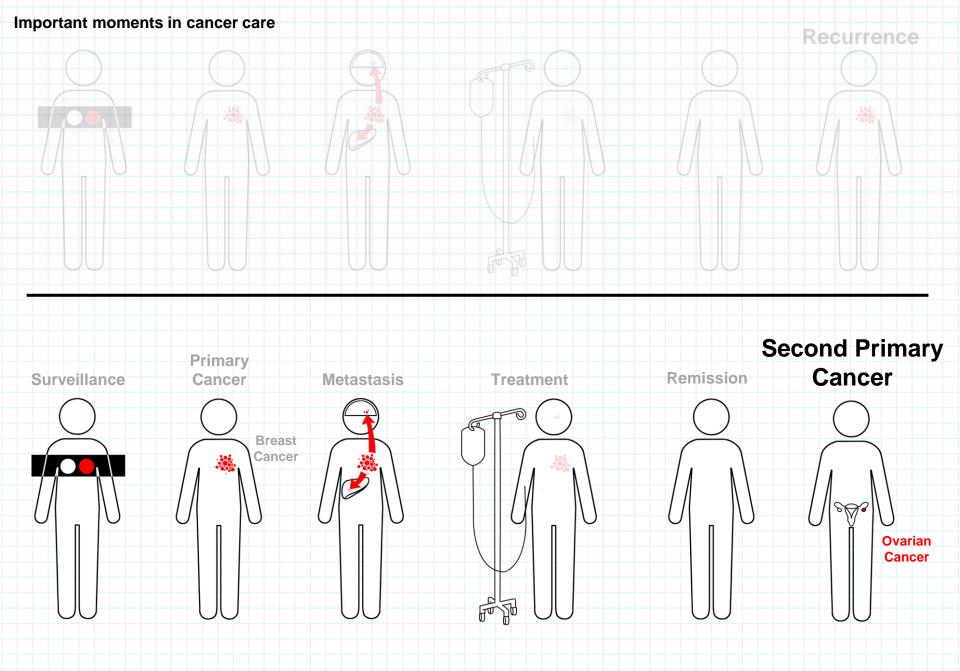












Quiz!

- What is cancer?
- What is the difference between sporadic cancer and hereditary cancer?
- Which is more common?
- What are three red flags that suggest a person might have the gene for hereditary cancer?