



# 2024

## DYNAMIC BIOLOGY

Empowering ALL Texas Learners to Reach their Summit

**Built By Texas Educators  
For Texas Educators**

Texas based publisher with curricula  
created by over 75 current and former  
Texas educators

**Built for Texas  
TEKS-SEPs-RTCs-ELPS**

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Learn More?**

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# Kate the Chemist

## K-12 Video Series



Summit K12 has teamed up with UT Austin Professor and best-selling science author, Dr. Kate Biberdorf, to create Phenomena-based videos specifically for the 2024 Science TEKS.

- K-12 Phenomena-Based Videos
- Teacher Pre-Lab Prep Videos
- Student Pre-Lab Videos
- Full Length Virtual Science Lab Videos

## K-12 Texas Virtual Field Investigations

ALL K-12 students will have the opportunity to investigate phenomena throughout dozens of the most popular state parks and engineering marvels in Texas.

The 2024 TEKS Virtual Field Investigations series was created specifically for the Texas Science Adoption.



# Hands on Investigations and Virtual Labs

Comparative, Descriptive, and Experimental Investigations to engage students and support sensemaking.



Back

Guided Practice    Workspace

Level 5  
Level 4  
Level 3  
Level 2  
Level 1

Two heterozygous black mice are crossed. In these mice, black fur ( $B$ ) is dominant over white ( $b$ ). What are the expected genotypes and phenotypes of their offspring?

Father's Genotype:  $B$   $b$

Mother's Genotype:  $B$   $b$

	$B$	$b$
$B$	$BB$ 	$Bb$ 
$b$	$Bb$ 	$bb$ 

Genotypes  
 $BB$     $Bb$     $bb$   
25%   50%   25%  
1 : 2 : 1

1 2 3 4 5 6  
Use dominance to drag the correct phenotype to each box of the Punnett square.

☒ Check   ☒ Help  



Includes Summit  
K12 Lab Guides  
developed to  
support the 2024  
Science TEKS.

# Concise and Complete Teacher Supports

**BIOLOGY RC 4**

**Reporting Category 4: Biological Processes and Systems**

Unit	Lesson Name	Lesson Guide	PowerPoint	Study Guide and Key	E-Poster	Interactive E-Poster
<b>B.11A</b>	<b>Matter and Energy Flow in Photosynthesis and Respiration</b>					
6.8B	Energy Transfers and Transformations					
<b>B.11B</b>	<b>Role of Enzymes</b>					
<b>B.12A</b>	<b>Interactions Among Animal Systems</b>					
7.13A	Functions of Human Body Systems					
<b>B.12B</b>	<b>Interactions Among Plant Systems</b>					
8.6C	Behavior of Water					

**TEKS Scaffold**

**TEXAS—High School**

**BIOLOGY RC 4**

**Body System Interactions**

how our systems work together to achieve regulation, nutrient absorption, reproduction and defense

<b>nervous</b> coordinates all body processes and systems	<b>circulatory</b> transports nutrients, gases, hormones and wastes	<b>respiratory</b> carries out gas exchange	<b>reproductive</b> produces gametes and offspring	<b>endocrine</b> regulates body processes through hormones	<b>digestive</b> obtains nutrients from food; removes wastes	<b>muscular</b> provides structure and support; allows for movement	<b>integumentary</b> provides protection and regulates body temperature	<b>skeletal</b> supports and protects
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**TEKS B.12A**

**TEXAS—High School**

## Interactive E-Poster Example

### Teacher Supports Include:

- Lesson and Lab Guides
- Scope and Sequence
- Pacing Guides
- Reports and Dashboards
- Anchoring Phenomena Table
- 3D Teaching and Learning
- Image Bank
- Assessment Bank
- Formative Assessments
- Year-Round Responsive Support
- Asynchronous Online Teacher Training
- Zoom and Onsite Professional Learning

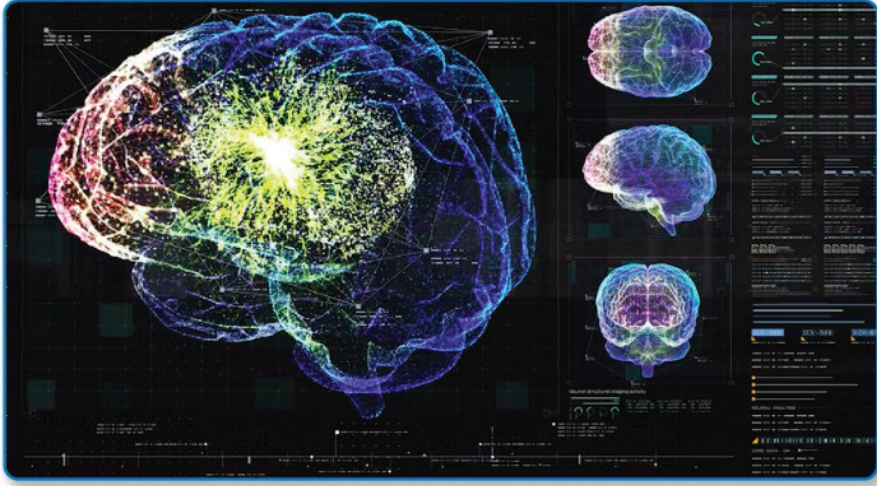


# High Quality TEKS Lesson Videos

**BIOLOGY RC 4** **TEKS B.12A**

## Nervous System

The nervous system processes information, responds to stimuli, and regulates and coordinates life's functions.



**TEXAS—High School**

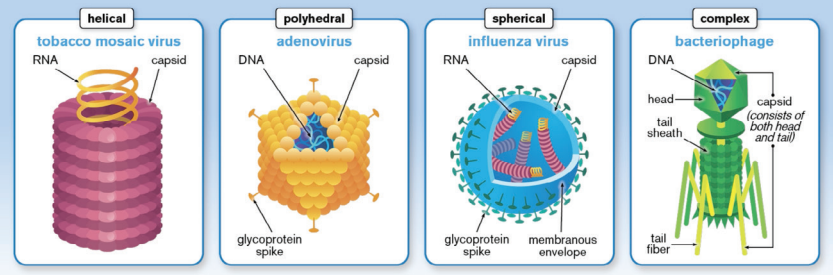
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- 100% of the Biology Content TEKS and SEPs are supported with high quality Lesson Videos
- 100% of the Videos were specifically created for 2024 K-12 Science TEKS by Texas Science Educators and authors along with a team of Professional Documentary Film Editors and storytellers

**BIOLOGY RC 1** **TEKS B.5D**

## Viruses and Diseases

### Viral Structures and Shapes



**helical**  
tobacco mosaic virus  
RNA  
capsid

**polyhedral**  
adenovirus  
DNA  
capsid  
glycoprotein spike

**spherical**  
influenza virus  
RNA  
capsid  
glycoprotein spike  
membranous envelope

**complex**  
bacteriophage  
DNA  
head  
tail sheath  
tail fiber  
capsid (consists of both head and tail)

AIDS antiviral bacteriophage capsid common cold HIV host influenza  
latent virus lysis lysogenic cycle lytic cycle vaccine virulent virus virus

**TEXAS—High School**

0:04 / 15:13

# Formative and Summative Assessments and Assessment Bank

## Create a Custom Assessment

Assessment Name:

Number of Items:

Select Item Types:

Select TEKS to include:

% Dual-coded:

RC1	RC2	RC3	RC4	RC5
B.5A	B.7A	B.9A	B.11A	B.13A
B.5B	B.7B	B.9B	B.11B	B.13B
B.5C	B.7C	B.10A	B.12A	B.13C
B.5D	B.7D	B.10B	B.12B	B.13D
B.6A	B.8A	B.10C		
B.6B	B.8B	B.10D		
B.6C				

Select Options, then Create

Create

The NEW Assessment appears in the table and is ready to assign to your class



Assessment Bank

Date Created	Custom Assessment Name	Avg. Score	PLD	Assign
9/28/24	Biomolecules Pre-Assessment	65%	Approaches	
11/4/24	Cell Cycle and DNA Replication Benchmark	87%	Meets	
12/4/24	Disruptions of the Cell Cycle Extra Credit	92%	Masters	
1/12/25	Outcomes of Genetic Combinations	81%	Meets	
2/3/25	New STAAR 2.0 Item types practice	90%	Masters	
3/2/25	Dr. Kate's Natural Selection B.10A quiz	Start		

Create New

## Includes the NEW STAAR® EOC 2.0 Items

QUESTION 1

The chart below describes how biomolecules function in cellular structures. Match the name of the biomolecules to a corresponding statement. Move ONE correct answer to each box. [B.1F]

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Provide structural support in cells	Store genetic information in the nucleus of eukaryotes	Main component of the cell membrane	Found in the cell walls of plants
<input type="text" value="Proteins"/>	<input type="text" value="Lipids"/>	<input type="text" value="Carbohydrates"/>	<input type="text" value="Nucleic Acids"/>

QUESTION 2

The fluid mosaic model describes the structure of the cell membrane. Two of the structures that make up this model are labeled A and B in the diagram. What are the names of the two macromolecules labeled A and B? Select TWO correct answers. [B.3A]

☐ a. Nucleic Acids

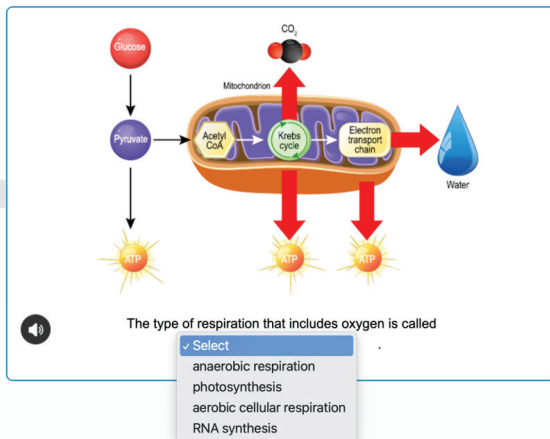
☐ b. Lipids

☐ c. Carbohydrates

☐ d. Proteins

# Vocabulary Mastery

TEKS Content Vocabulary | Science Tools Vocabulary |  
SEPs & RTCs Vocabulary | Science Cognates

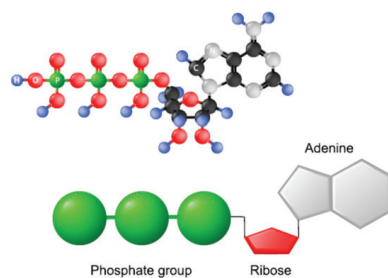


aerobic cellular respiration

respiración aeróbica

noun

The process of breaking down glucose in the presence of oxygen to yield a maximum amount of ATP is aerobic cellular respiration.



The energy molecule made from the conversion of glucose and oxygen, which powers cellular processes, is called

- ✓ Select
- oxygen
- glucose
- carbon dioxide
- ATP (adenosine triphosphate)

ATP (adenosine triphosphate)

trifosfato de adenosina

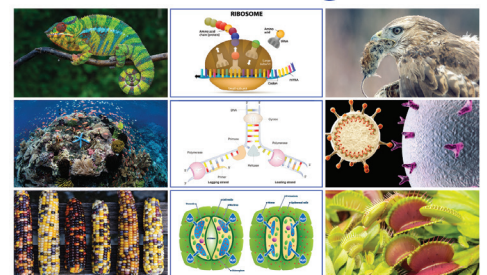
noun

ATP (adenosine triphosphate) is a molecule that provides chemical energy used by cells to power cellular processes.

## Image Bank

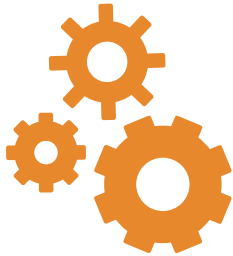
- 500-1,000 images per grade level/subject
- Minimum 15-25 images per content TEKS
- Images for all SEPs Vocabulary Words
- Images for all Science Tools Vocabulary

### Summit K12 Image Bank



# Teaching Science through Phenomena using the 3D Model

## Science TEKS Content Standards



## Scientific and Engineering Practices

## Recurring Themes and Concepts



## TEKS-SEPs-RTCs Crosswalk

Subject	Category	SEPs TEKS	Dynamic Biology TEKS Lessons, Labs, Investigations, and Explore Activities																										Totals by SEPs	
			B.5A	B.5B	B.5C	B.5D	B.6A	B.6B	B.6C	B.7A	B.7B	B.7C	B.7D	B.8A	B.8B	B.9A	B.9B	B.10A	B.10B	B.10C	B.10D	B.11A	B.11B	B.12A	B.12B	B.13A	B.13B	B.13C		B.13D
B	Scientific and engineering practices	B.1A		X				X			X	X	X		X			X	X				X	X	X	X	X	X	X	15
B	Scientific and engineering practices	B.1B	X		X		X		X		X		X	X	X	X		X	X		X		X	X	X	X	X		X	18
B	Scientific and engineering practices	B.1C	X	X	X				X				X		X							X	X		X		X	X	X	12
B	Scientific and engineering practices	B.1D	X		X				X				X		X			X	X			X	X		X		X		X	12
B	Scientific and engineering practices	B.1E	X	X	X	X	X						X	X	X	X		X				X	X		X		X	X	X	16
B	Scientific and engineering practices	B.1F	X	X	X	X	X		X	X	X		X	X	X	X		X	X	X	X	X	X		X	X	X		X	22
B	Scientific and engineering practices	B.1G	X		X			X		X	X			X	X	X		X	X			X	X		X		X		X	15
B	Scientific and engineering practices	B.1H		X					X							X														3
B	Scientific and engineering practices	B.2A	X				X	X		X	X	X	X	X	X	X						X			X		X		X	14
B	Scientific and engineering practices	B.2B			X							X	X			X	X	X	X	X	X	X	X	X	X	X	X		X	16
B	Scientific and engineering practices	B.2C				X			X									X		X						X		X		6
B	Scientific and engineering practices	B.2D	X							X							X						X	X	X		X	X	X	9
B	Scientific and engineering practices	B.3A			X	X	X	X	X	X	X		X	X		X	X	X	X	X		X	X	X	X	X	X	X	X	22
B	Scientific and engineering practices	B.3B	X	X					X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	X	X	20
B	Scientific and engineering practices	B.3C		X		X		X					X			X	X	X	X				X				X	X	11	
B	Scientific and engineering practices	B.4A	X	X	X	X		X	X	X	X	X	X			X		X		X		X		X	X	X	X	X	X	20
B	Scientific and engineering practices	B.4B		X		X			X	X			X				X					X	X			X	X	X	X	12
B	Scientific and engineering practices	B.4C		X		X									X	X							X		X	X		X	8	
B	Recurring themes and concepts		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	27
Totals by Content TEKS			11	11	10	9	6	7	7	12	9	6	14	8	10	14	6	12	11	6	5	11	13	11	14	10	17	10	18	278