TEXAS SCIENCE

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Mc Graw Hill

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Mc Graw Hill

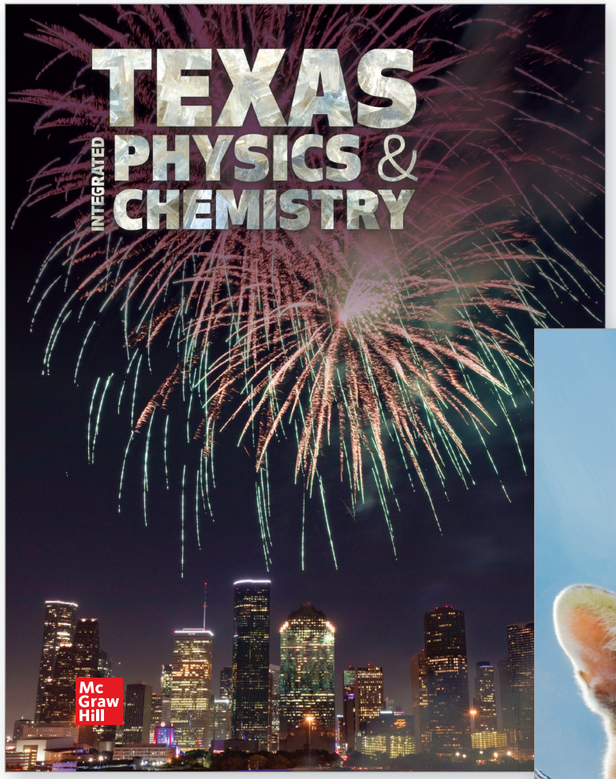
TEXAS SCIENCE

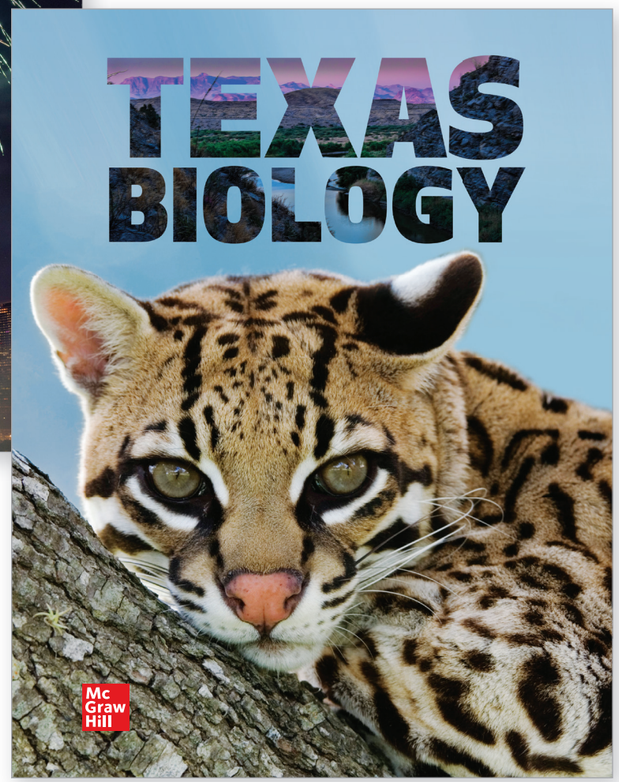
Program Overview

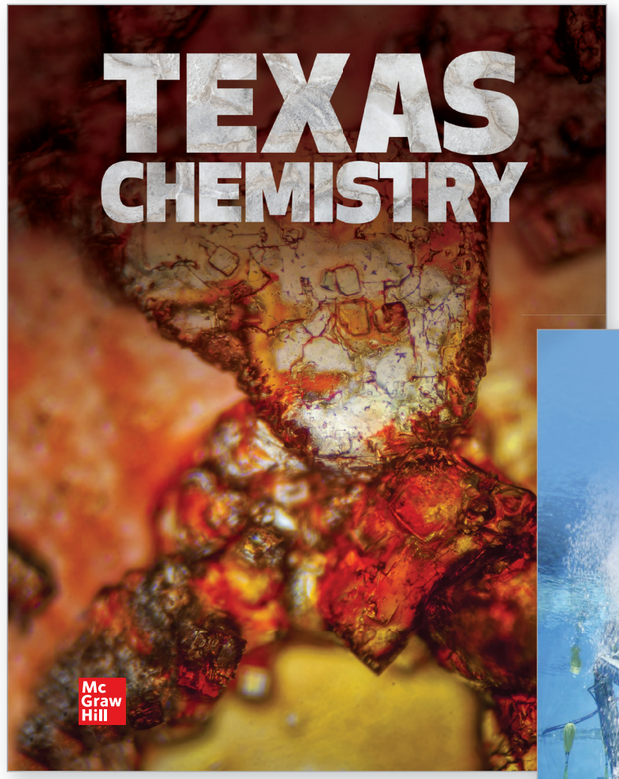
Grades 9–12

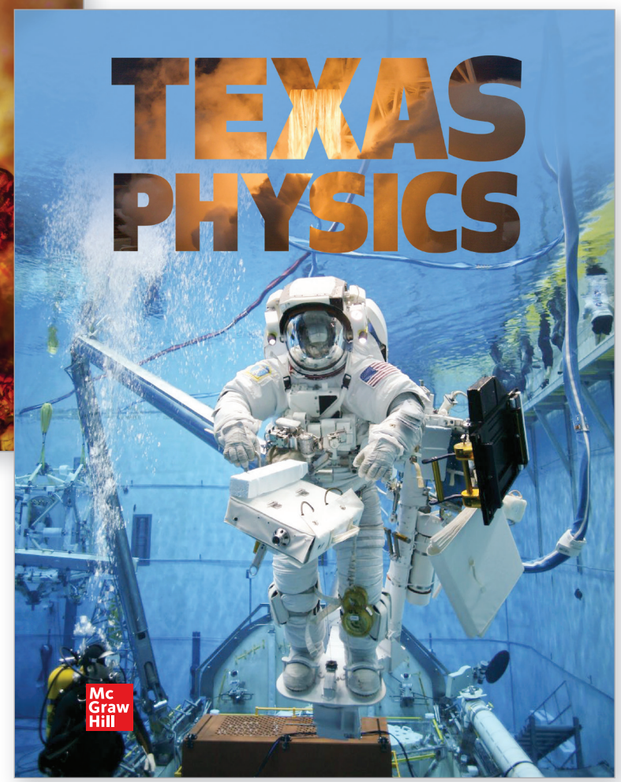
Curiosity Starts Here

With course content in biology, chemistry, and physics, the *Texas Science* high school curriculum takes a uniquely Texas approach to science learning and discovery. The high school collection is the final piece in our K-12 series, bookending the *Texas Science* experience and thoroughly preparing students to start the next chapter in college or the workforce.









Designed for Texas. Built for the Future.

We know that students are natural problem-solvers and innovators. Fueled by curiosity, they approach each day with a sense of wonder and drive to discover. We built *McGraw Hill Texas Science* to empower them to ask questions, pose hypotheses, conduct hands-on investigations, and communicate their findings.

Drawing on feedback from Texas teachers, we set forth to create a program where inquiry lays the foundation for deep understanding of science, where a spirit of discovery improves students' reading and writing skills, and where the ultimate goal is TEKS mastery and a lifelong love of learning.

For Every Learner

Texas Science empowers students to take ownership of their learning through hands-on activities, science probes that elicit and build upon student preconceptions, and personalized learning opportunities. Combined with equitable resources, targeted TEKS review assignments, and leveled content that meets students where they are, our program ensures every student can be a scientist.

For Every Scenario

Students have access to real-world content and hands-on activities with examples that tie science concepts into tangible, everyday life experiences.

For Every Teacher

Texas Science offers flexible pathways for you to teach the TEKS—either following the recommended path or selecting from the wide collection of resources to deliver content in the way that best fits your unique classroom.

Texas Science Is for You

Embedded with Texas-based phenomena and a stringent focus on the TEKS, the *Texas Science* program provides every Texas student with the tools they need to succeed in science. *Texas Science* was made by Texas too—drawing on feedback from teachers and administrators like you, our program centers the needs of today's Texas science classrooms.

Guided by TEKSperts

Our authors and contributors are proud TEKSperts committed to engaging students throughout their learning experience:

Julie Jackson, Ph.D.

Creator of Interactive Word Walls, Dr. Jackson draws on expertise in vocabulary, language acquisition, and the TEKS to facilitate student understanding and acquisition of science vocabulary.

Dinah Zike

Creator of NEW! Foldables and interactive notebooking, Dinah Zike focuses on helping students understand difficult new concepts and facilitating engagement.

Science Bob (Bob Pflugfelder)

With a vast social media following numbering in the hundreds of thousands, hyper-engaging science teacher Science Bob specializes in creating experiments and demos beyond the limits of the everyday classroom.

Cindy Guerrero, Ph.D.

Dr. Guererro utilizes her expertise in English-language development to maximize the program's ELPS support.

Science Bob Videos

A Program Built for the New TEKS

Our team explicitly designed *McGraw Hill Texas Science* for the new TEKS standards and the modern Texas science classroom. This program combines the new TEKS with feedback from our most trusted collaborators—Texas teachers and administrators—and offers the tools to help every student achieve success in science.

TEKS Progression Breakdown

Every lesson in the *Texas Science* program begins by using prerequisite TEKS as a launch pad—seamlessly building up to the lesson-level TEKS concepts. To help gauge student abilities and understanding, each lesson comes with resources to pre-assess and remediate students learning as needed.

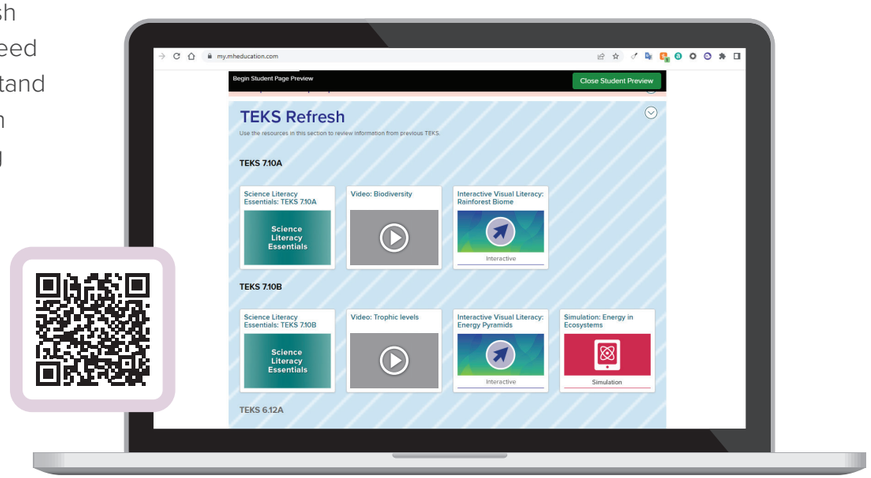
Cognitive verbs (investigate, distinguish, evaluate, etc.) help unpack complex TEKS, clearly defining the extent to which topics must be covered to meet each standard.

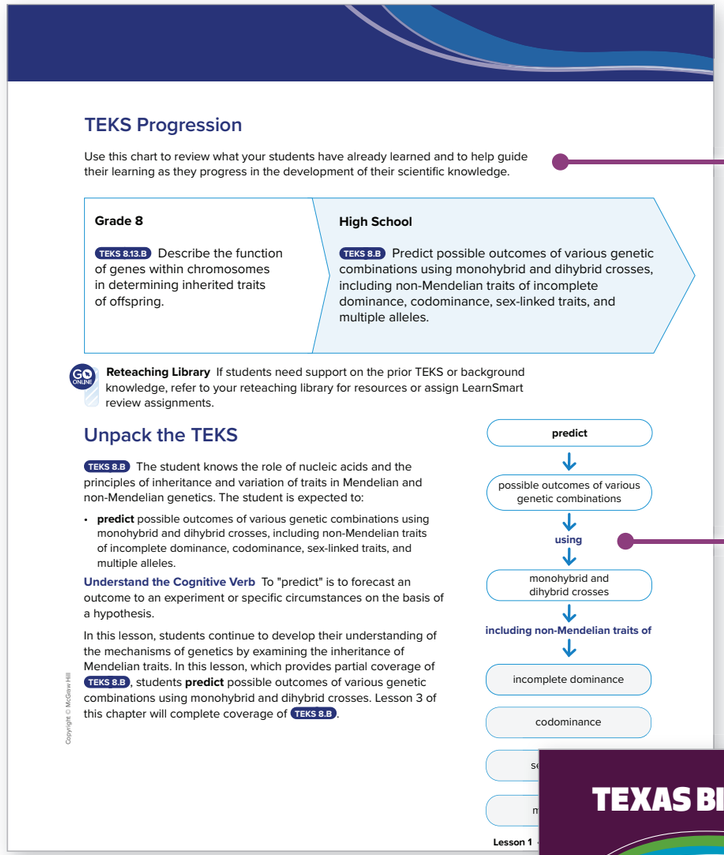
TEKS Assessment Guide for Biology

Online and printable guided practice tests are available to help students prepare for state assessments. Each practice test includes rigorous, high-level thinking questions and answers so students can check their work.

TEKS Refresh

After conducting pre-assessments, you can assign TEKS Refresh activities to students who need them, ensuring they understand and remember content from middle school before diving into new material.





TEKS Progression

Use this chart to review what your students have already learned and to help guide their learning as they progress in the development of their scientific knowledge.

Grade 8

TEKS 8.13.B Describe the function of genes within chromosomes in determining inherited traits of offspring.

High School

TEKS 8.B Predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

GO ONLINE **Reteaching Library** If students need support on the prior TEKS or background knowledge, refer to your reteaching library for resources or assign LearnSmart review assignments.

Unpack the TEKS

TEKS 8.B The student knows the role of nucleic acids and the principles of inheritance and variation of traits in Mendelian and non-Mendelian genetics. The student is expected to:

- **predict** possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

Understand the Cognitive Verb To "predict" is to forecast an outcome to an experiment or specific circumstances on the basis of a hypothesis.

In this lesson, students continue to develop their understanding of the mechanisms of genetics by examining the inheritance of Mendelian traits. In this lesson, which provides partial coverage of TEKS 8.B, students **predict** possible outcomes of various genetic combinations using monohybrid and dihybrid crosses. Lesson 3 of this chapter will complete coverage of TEKS 8.B.

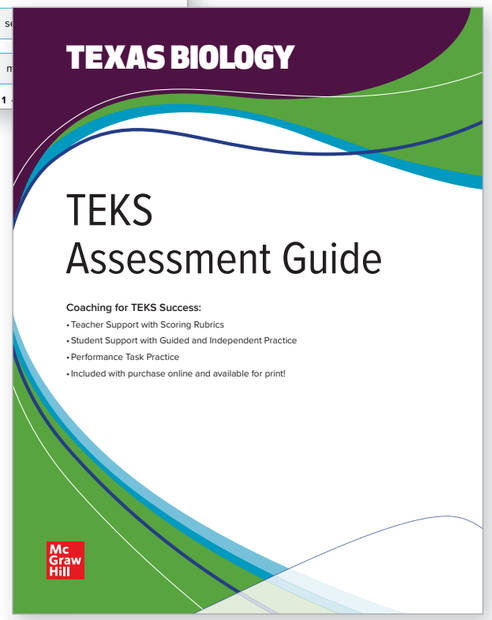
predict → possible outcomes of various genetic combinations → using → monohybrid and dihybrid crosses → including non-Mendelian traits of → incomplete dominance → codominance → s… → n…

Lesson 1

TEACHER FAVORITES!

Every chapter includes an easy-to-use **TEKS Progression**, which shows the vertical alignment of the TEKS.

Unpack the TEKS breaks down what's needed to effectively cover each standard.



TEKS Assessment Guide

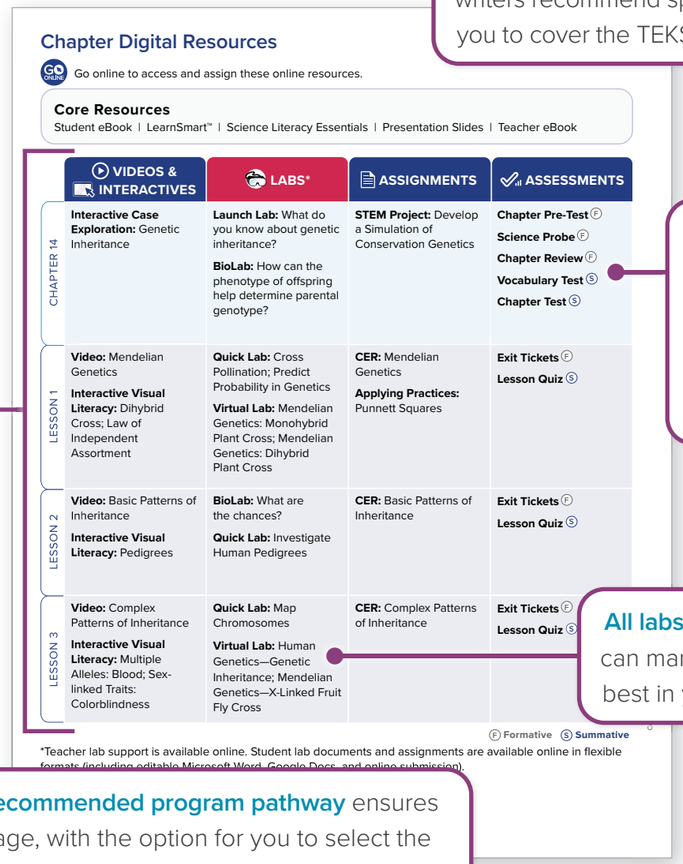
Optimized for Teachers

Structured for flexibility, *Texas Science* allows teachers to follow a recommended lesson path or adapt instruction as needed. Whichever you choose, you can feel confident your students are getting a comprehensive science education aligned to the TEKS.

As a teacher, you need a science program that allows you to seamlessly juggle the needs of students and administrators along with your own. *Texas Science* offers the freedom and flexibility to make the program your own—all while ensuring critical TEKS coverage.

PROGRAM FEATURE!

Resource Overviews in every chapter and lesson can help curriculum writers recommend specific resources for you to cover the TEKS.



Chapter Digital Resources

Go online to access and assign these online resources.

Core Resources
Student eBook | LearnSmart™ | Science Literacy Essentials | Presentation Slides | Teacher eBook

	VIDEOS & INTERACTIVES	LABS*	ASSIGNMENTS	ASSESSMENTS
CHAPTER 14	**Interactive Case Exploration:** Genetic Inheritance	**Launch Lab:** What do you know about genetic inheritance? **BioLab:** How can the phenotype of offspring help determine parental genotype?	**STEM Project:** Develop a Simulation of Conservation Genetics	**Chapter Pre-Test** (F) **Science Probe** (F) **Chapter Review** (F) **Vocabulary Test** (S) **Chapter Test** (S)
LESSON 1	**Video:** Mendelian Genetics **Interactive Visual Literacy:** Dihybrid Cross; Law of Independent Assortment	**Quick Lab:** Cross Pollination; Predict Probability in Genetics **Virtual Lab:** Mendelian Genetics: Monohybrid Plant Cross; Mendelian Genetics: Dihybrid Plant Cross	**CER:** Mendelian Genetics **Applying Practices:** Punnett Squares	**Exit Tickets** (F) **Lesson Quiz** (S)
LESSON 2	**Video:** Basic Patterns of Inheritance **Interactive Visual Literacy:** Pedigrees	**BioLab:** What are the chances? **Quick Lab:** Investigate Human Pedigrees	**CER:** Basic Patterns of Inheritance	**Exit Tickets** (F) **Lesson Quiz** (S)
LESSON 3	**Video:** Complex Patterns of Inheritance **Interactive Visual Literacy:** Multiple Alleles: Blood; Sex-linked Traits: Colorblindness	**Quick Lab:** Map Chromosomes **Virtual Lab:** Human Genetics—Genetic Inheritance; Mendelian Genetics—X-Linked Fruit Fly Cross	**CER:** Complex Patterns of Inheritance	**Exit Tickets** (F) **Lesson Quiz** (S)

(F) Formative (S) Summative

*Teacher lab support is available online. Student lab documents and assignments are available online in flexible formats (including editable Microsoft Word, Google Docs, and online submission).

Editable admin test banks give you a head start to build out chapter tests and EOC prep.

All labs are editable so you can manipulate them to fit best in your classrooms.

The clear, recommended program pathway ensures TEKS coverage, with the option for you to select the content that will best resonate in your classroom.

Inspiring New Teacher Confidence

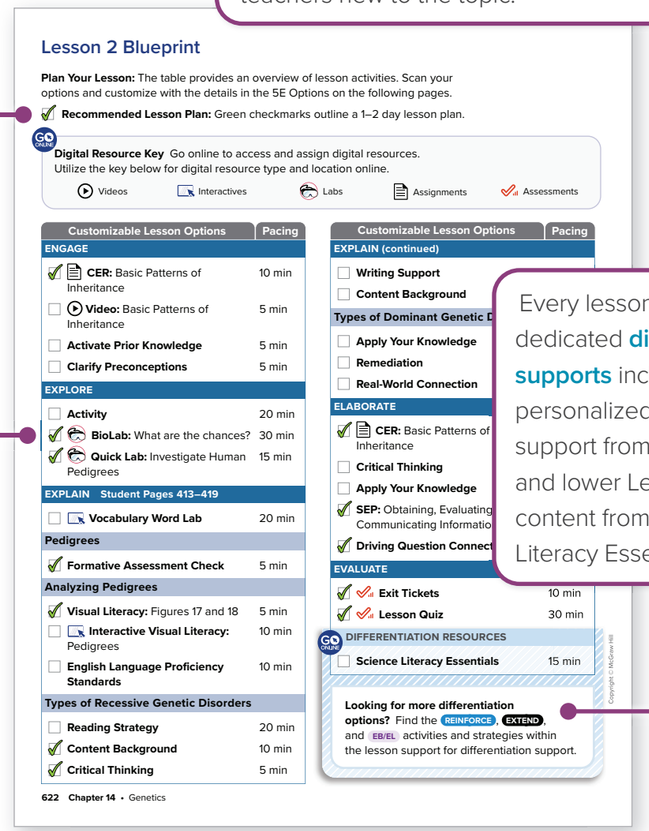
Built to support the influx of new teachers across the state, *Texas Science* provides a clear path for you to cover the TEKS. Supports throughout the Teacher's Edition deliver additional tools to ensure teacher success and student content mastery.

As a new teacher, stepping into a new classroom or subject area can be daunting—but it doesn't have to be. With structured supports aimed at new teachers, you can feel confident and prepared to drive scientific achievement in your classrooms.

The Recommended Lesson Plan offers a prescriptive path at the lesson level with indicators throughout the planning page to ensure all TEKS are covered.

PROGRAM FEATURE!

Science Backgrounds open each lesson with a high-level content overview, conveniently front-loading the information for teachers new to the topic.



Lesson 2 Blueprint

Plan Your Lesson: The table provides an overview of lesson activities. Scan your options and customize with the details in the 5E Options on the following pages.

Recommended Lesson Plan: Green checkmarks outline a 1–2 day lesson plan.

Digital Resource Key Go online to access and assign digital resources. Utilize the key below for digital resource type and location online.

Videos | Interactives | Labs | Assignments | Assessments

Customizable Lesson Options	Pacing
ENGAGE	
CER: Basic Patterns of Inheritance	10 min
Video: Basic Patterns of Inheritance	5 min
Activate Prior Knowledge	5 min
Clarify Preconceptions	5 min
EXPLORE	
Activity	20 min
BioLab: What are the chances?	30 min
Quick Lab: Investigate Human Pedigrees	15 min
EXPLAIN Student Pages 413–419	
Vocabulary Word Lab	20 min
Pedigrees	
Formative Assessment Check	5 min
Analyzing Pedigrees	
Visual Literacy: Figures 17 and 18	5 min
Interactive Visual Literacy: Pedigrees	10 min
English Language Proficiency Standards	10 min
Types of Recessive Genetic Disorders	
Reading Strategy	20 min
Content Background	10 min
Critical Thinking	5 min

Customizable Lesson Options	Pacing
EXPLAIN (continued)	
Writing Support	
Content Background	
Types of Dominant Genetic D	
Apply Your Knowledge	
Remediation	
Real-World Connection	
ELABORATE	
CER: Basic Patterns of Inheritance	
Critical Thinking	
Apply Your Knowledge	
SEP: Obtaining, Evaluating Communicating Informatio	
Driving Question Connect	
EVALUATE	
Exit Tickets	10 min
Lesson Quiz	30 min
DIFFERENTIATION RESOURCES	
Science Literacy Essentials	15 min

Looking for more differentiation options? Find the REINFORCE, EXTEND, and EB/EL activities and strategies within the lesson support for differentiation support.

622 **Chapter 14** • Genetics

Every lab (both hands-on and virtual) has **dedicated teacher support** to ensure success even if you haven't performed the lab previously.

Every lesson contains dedicated **differentiation supports** including personalized learning support from LearnSmart and lower Lexile-level content from Science Literacy Essentials.

Embedded Professional Development Tools are available online and customizable PD plans are available for districts!

Learning in Three Dimensions

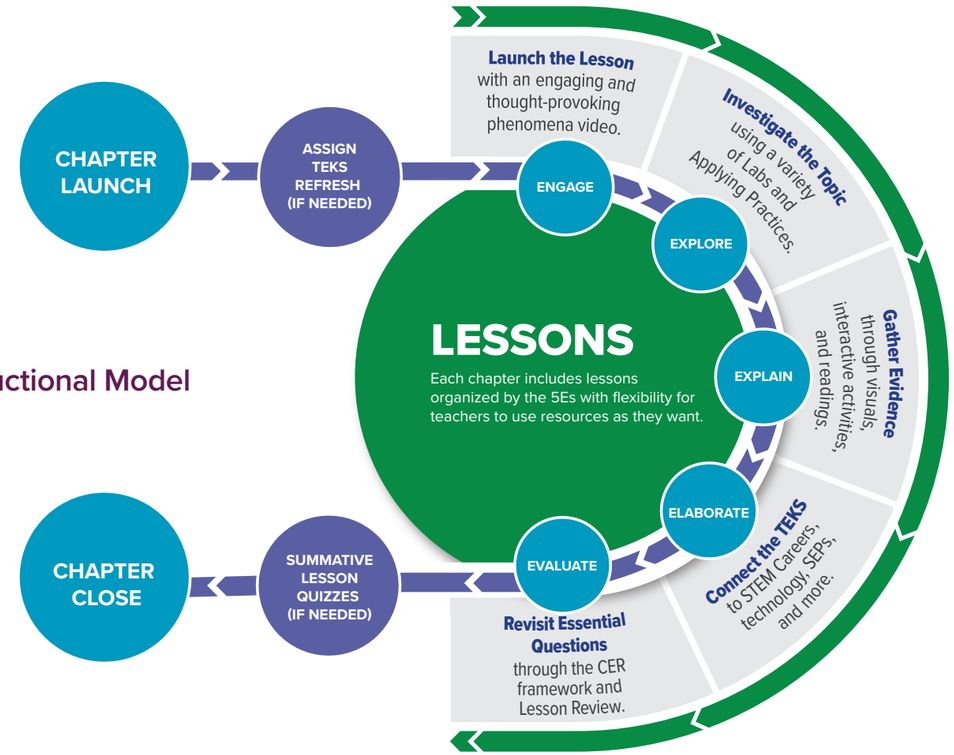
Rooted in a three-dimensional learning framework, *Texas Science* takes an application-based approach to learning. Each dimension works together to nurture deep understanding and prepare students for any challenge.

Phenomena in *Texas Science*

Every lesson starts with a phenomena-focused driving question, video, or image—piquing students' curiosity and prompting them to ask questions. As the lesson progresses, students will accrue new knowledge to help explain the anchoring lesson phenomena.

The TEKS

TEKS are at the foundation of science classrooms across the state. By honing their abilities and understanding in accordance with these rigorous standards, students are well-prepared to succeed in college and the workforce.



5E Instructional Model

Scientific and Engineering Practices

Woven throughout every chapter and lesson, SEPs teach students how to investigate the natural world like real scientists and engineers. By learning how engineers design and build models and systems and how scientists use inquiry and experimentation to construct new theories, students gain insight into the real-world applications of the material.

By mastering the SEPs, students will be able to:

- **Ask** questions based on observations.
- **Plan and conduct** investigations.
- **Use** appropriate safety equipment and practices.
- **Use** appropriate scientific tools.
- **Collect** quantitative and qualitative data as evidence.
- **Construct** appropriate tables, graphs, maps, and charts.
- **Develop and use** models.
- **Distinguish** between scientific hypotheses, theories, and laws.

SEPs and RTCs are identified at point of use in the Teacher's Edition.

Recurring Themes and Concepts

Science is a complex and wide-ranging discipline. To achieve holistic understanding, students must be able to identify recurring themes and draw connections between overarching scientific concepts. Piecing these connections together, students gain a more comprehensive view of the scientific discipline and how it connects to external fields of study, such as math or English language arts.

Recurring themes and concepts include:

- Patterns
- Cause and Effect
- Scale, Proportion, and Quantity
- Systems and Models
- Energy and Matter
- Structure and Function
- Change and Stability

Hands-On Labs, Real-World Investigations

Real scientists get their hands dirty. By conducting hands-on investigations, students can apply their scientific knowledge to exciting real-world contexts. Accessible materials and engaging instructional videos prepare teachers and students alike to get the most out of each investigation.

- **Claim, Evidence, Reasoning (CER)** writing prompts help students make meaning from their investigation.
- **STEM Projects** aligned to each strand of the multi-dimensional learning model allow students to bring their own creativity to design solutions for science and engineering challenges and investigate their world.

Whether jotting down lab notes or clicking through digital investigations, students have access to an array of rigorous hands-on activities through *Texas Science*. With 100% TEKS-aligned labs, the program prompts every student to dive deep into the lesson content and observe new concepts in action.

- **Launch Labs** introduce lessons with hands-on activities, giving students the chance to ask questions as they explore new concepts.
- **Full-Period Labs** like BioLAB give students the opportunity to lead their own investigation from start to finish, alongside the explanation of the content.
- **Teacher-driven Quick Demos** spark student curiosity and encourage them to ask questions and find explanations.
- **Virtual Labs** allow students to explore content beyond the limits of the classroom and as representations of real-world experiences.

Credit is: zizou7/Shutterstock

Boundless Science Learning

Transport students beyond the walls of your classroom with cutting-edge digital content, including interactives, simulations, videos, and more. Fun and easy to use, these features align with lesson topics to spark scientific curiosity, support discussion, enhance review, and deepen understanding.

Scan the QR codes to explore these engaging online resources!

Interactive Case Explorations take traditional case studies to the next level, kickstarting lessons by having students solve real-world problems tied to new content.

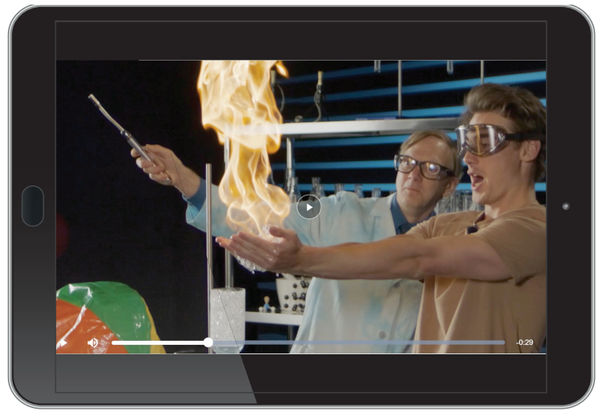
Explore Simulations allow students to manipulate variables in a scenario beyond the limits of the classroom.

Science Bob Videos showcase ultra-engaging, content-related examples of science in real life.

Example Problem Videos and **Interactive Example Problems** demonstrate how to solve math problems within the chemistry and physics content.

Word Labs give flashcards a modern twist with flexible, student-driven, scientific word exploration.

Interactive Visual Literacy features prepare students to identify visual representations of scientific phenomena.



Science Bob Video

Fuel Innate Curiosity: The Print Student Experience

Grounded in powerful visuals of Texas phenomena, *Texas Science* print materials connect scientific concepts to everyday life and individual experience. Interwoven with hands-on, inquiry-based activities, the program encourages students to launch investigations and explore science right outside their door.

Phenomena images from across the state of Texas help students see STEM reflected in the world around them.

The McGraw Hill K–12 Portal App gives students access to their content anywhere, anytime, even **offline**.

Driving Questions at the start of every chapter put students into a scientific mindset and introduce an overarching problem for them to consider throughout the lesson.

Digital learning options allow students to kick off the chapter with engaging videos or Interactive Case Explorations.

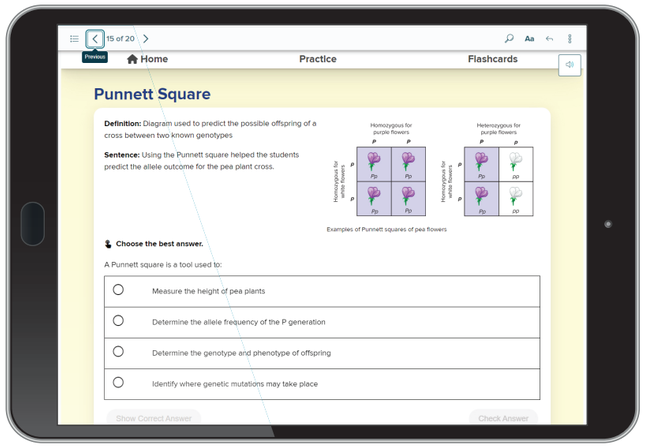
Vocabulary TEKSpertise

Strengthening Science Vocabulary and Communication with Dr. Julie Jackson's Word Walls

From renowned author and educator Dr. Julie Jackson, Interactive Word Walls bring science vocabulary to life so that students can build meaningful relationships to TEKS concepts rather than simply memorize them. Throughout the Teacher's Edition, embedded supports describe how to build Interactive Word Walls that maximize learning by sparking curiosity, promoting engagement, and contextualizing new terms and concepts.

Dr. Jackson's *Texas Science* innovations include:

- **Science language information** in every chapter that highlights target vocabulary, including—
  - Prior-knowledge words
  - Lesson words
  - Academic vocabulary support
  - SEP/RTC language
- **Pre-made Interactive Word Wall Guides** that provide visual relationships between new concepts.
- **Word Labs** that provide interactive practice with content vocabulary terms. Each lab combines visuals, definitions, and examples of vocabulary words with opportunities to explore word origins, affixes, multiple-meaning words, and words in context



Example Interactive Word Wall

Science Literacy TEKSpertise

A renowned reading expert, Dr. Fisher helped create our new and improved Science Literacy Essentials to foster reading comprehension.

Dr. Doug Fisher, Ph.D.

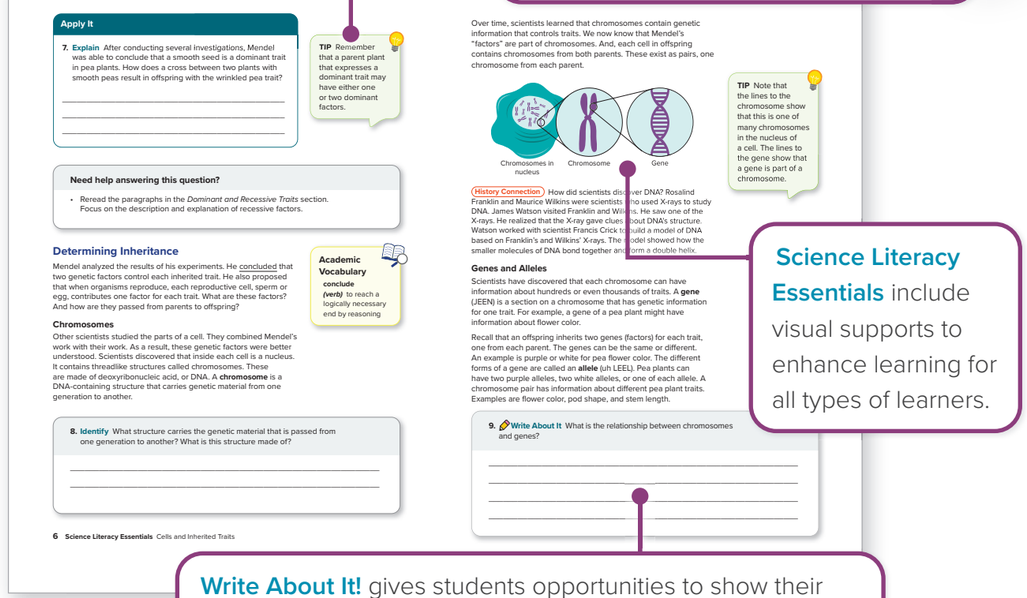
Texas Science empowers all students to succeed in science—no matter their starting point. The new **Science Literacy Essentials** provide reading and writing support for students in need of a little extra help, including:

- **Content written two Lexile levels lower** than the on-level content.
- **Teacher tips** to provide ample student support.
- **Writing space** for students to practice explaining their understanding.
- **Print, digital, and Spanish-language versions** of the text.

Tips provide support for students at point of use.

PROGRAM FEATURE!

Science Literacy Essentials are also available in Spanish!



Science Literacy Essentials include visual supports to enhance learning for all types of learners.

Write About It! gives students opportunities to show their understanding through rigorous open-response questions.

All Students Can Be Scientists

Each student enters the classroom with different strengths, interests, and abilities. Eliminate guesswork and get to the heart of their learning needs with adaptive, comprehensive differentiation. For students performing below grade level, emergent-bilingual (EB) learners, and those ready to extend their learning, embedded scaffolding strategies and leveled texts nurture scientific understanding, literacy, and writing skills at an appropriate pace.

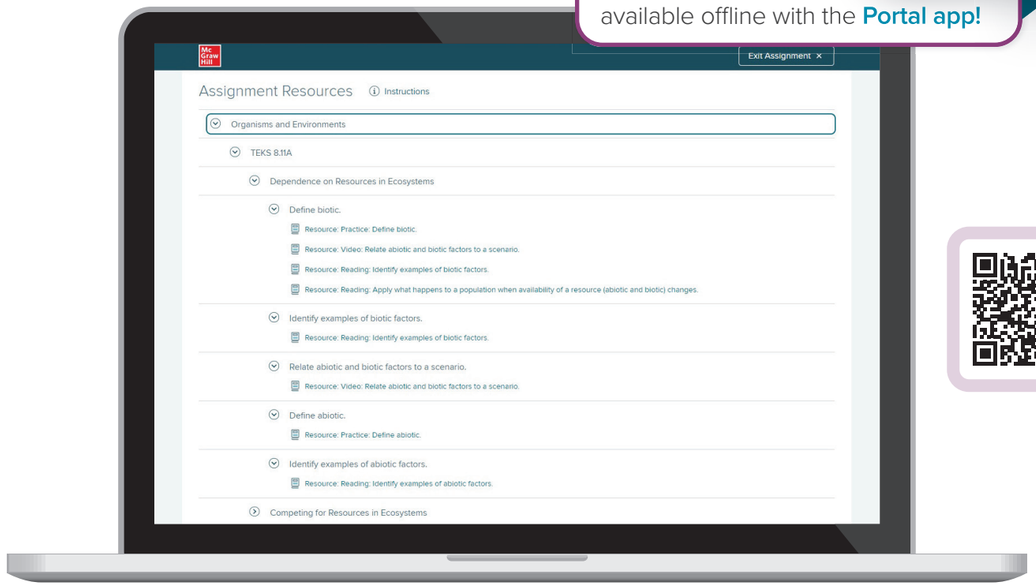
LearnSmart®

LearnSmart uses smart, adaptive technology and multiple-choice questions to help gauge student understanding. To ensure STAAR success, LearnSmart focuses solely on questions covering the TEKS. When students answer a question incorrectly, they can access built-in supports to review relevant material in different formats:

- **Short, focused texts, articles, and examples**
- **Lesson Opener Videos, Content Videos, Science Videos, and more**
- **Quick interactives and manipulatives**

PROGRAM FEATURE!

LearnSmart is also available offline with the **Portal app!**



You can assign LearnSmart questions tailored to individual TEKS standards, ensuring students master the content needed.

Foster Multilingual Connections

Every student deserves access to a rich, robust, and challenging science curriculum leveled to their needs and abilities. *Texas Science* applies the best pedagogical practices for teaching emergent bilinguals, complete with authentically translated print and digital texts and an array of diverse scaffolding tools.

Reading Comprehension and Multilingual Support

Texas Science supports reading comprehension and English Language Proficiency Standards (ELPS) using a variety of innovative tools and scaffolds:

- Both the core text and Science Literacy Essentials are **available in Spanish** online in a printable format.
- **Google Translate** is available for students where needed.
- The **multilingual glossary** offers key vocabulary definitions in over 10 different languages.

Google Translate

biomass energy	طاقة الكتلة الحيوية	نتج عن إحراق المواد العضوية كالخشب والكحول.
biomass	الكتلة الحيوية	تجددة تؤخذ من النباتات والحيوانات، مثل الخشب ت. والتي يمكن إحراقها بغرض التدفئة.
biomes	المواطن البيئية	شاسعة متشابهة من حيث الظروف المناخية والنظام التندرة والتايغا والصحاري والغابات الموسمية المعتدلة ة المعتدلة والغابات الاستوائية المطيرة والمراعي.
biosphere	الغلاف الحيوي	عم الحياة على الأرض ويشمل ذلك الجزء العلوي من والغلاف الجوي وكل المناطق التي بها مياه على سطح
biotic	الحيوية	ية أو التي كانت حية يومًا ما.
black hole	الثقب الأسود	تطور نجم هائل الحجم حيث تنفجر كتلة المركز مخلفة الجاذبية بشكل كبير بحيث لا يمكن حتى للضوء الإفلات
bladder	المثانة	ن يحمل البول بداخله إلى أن يخرجه الجسم عبر مجرى
boiling point	نقطة الغليان	تي يكون عندها ضغط بخار السائل مساويًا للضغط على سطح السائل.
brain stem	جذع الدماغ	حبل الشوكي. ويتألف من الدماغ الأوسط والجسر ونخاع
breaker	الموجة المتكسرة	ا. وتتكون في المياه الضحلة ثم تنكسر على الشاطئ.
bronchi	الشعبيات	ب القصيرة تنبعان من الجزء المنخفض من القصبة ل الهواء إلى الرئتين.
budding	التبرعم	التوالد اللاجنسي حيث ينمو كائن حيّ على جسم والده.
budding	البرعمة	التوالد اللاجنسي حيث يولد كائن حيّ من كائن حيّ آخر الصفات الوراثية للكائن الأصلي.
buffer	المحلول الداري	على أيونات تتفاعل مع الحمضيات أو القواعد ويقلل من ة الحموضة.
buoyancy	الدفع المائع	أو السائل أو الغاز على إحداث قوة دفع للأعلى على جسم لغمر.
by-product	المُنتَج الثانوي	عن عملية تصنيع أو تفاعل كيميائي.
caldera	فوهة البركان	هيئة دائرية تتشكل عند انفجار أحد البراكين.

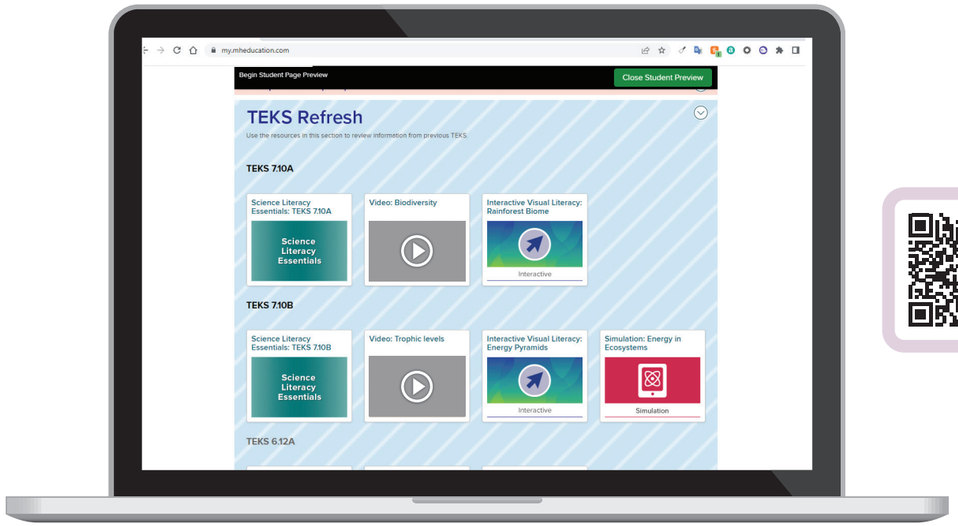
Multilingual Glossary

Assess and Address Learning Needs

Chart the path to TEKS mastery with a suite of easy-access tools aimed at gauging student understanding, identifying learning gaps, and targeting misconceptions throughout each lesson and chapter. Formal exam practice, personalized and adaptive study tools, and a curated selection of learning assets ensure STAAR success and deep comprehension for all students.

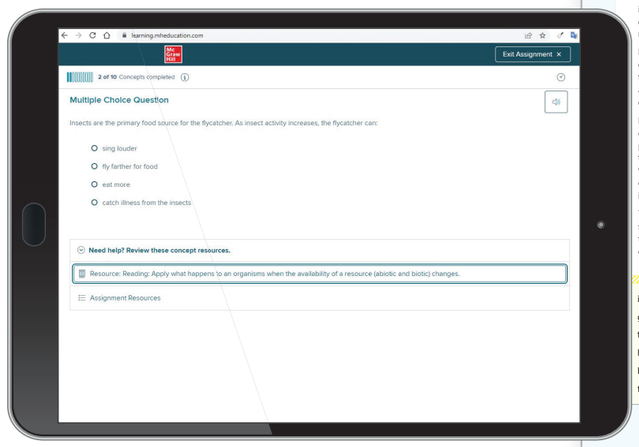
Formative Assessment Tools

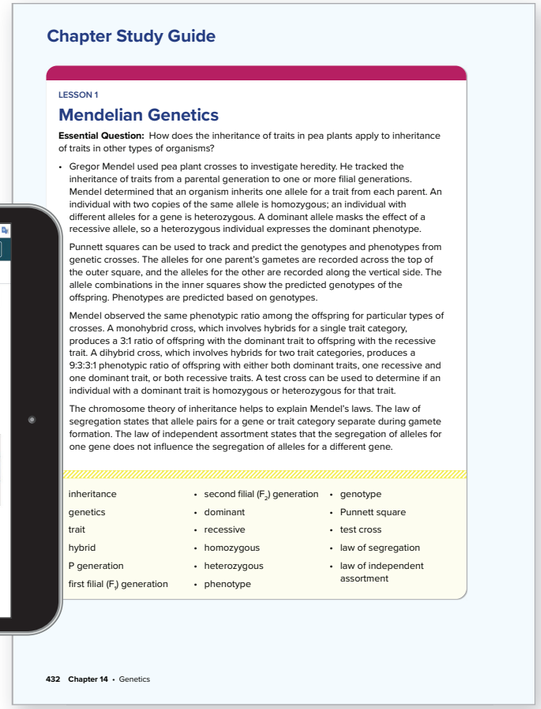
- **Chapter pre-tests** are available online to kick off lessons by evaluating current student understanding.
- **TEKS Refresh** allows you to assign students resources and questions to help close foundational knowledge gaps.
- Throughout the Teacher's Edition, **Checks for Understanding** provide guidance to help you track student comprehension.
- **Kahoot!** uses fun, game-show-like quizzes to help students review important material in an engaging way.
- **LearnSmart** for the new TEKS gives students a chance to take learning into their own hands while granting you insight into their knowledge and abilities.
- **Ask Yourself** questions throughout the readings allow students to assess how well they understand the new content.



Summative Assessment Tools

- **Exit Tickets** quiz students at the end of every lesson to assess understanding—available in print and digital formats.
- **Chapter study guides** give students the tools to check their own understanding as they prepare for upcoming tests.
- **The TEKS Assessment Guide for Biology** provides STAAR-aligned assessment questions to prepare students for the end-of-course exam.
- **Vocabulary tests** at the end of each chapter assess students' understanding of key TEKS vocabulary.
- **Chapter tests** are available for assignment online, as are chapter review assignments to help students prepare.
- **STEM Projects** allow students to demonstrate their understanding through creative, hands-on applications of the material.





Chapter Study Guide

LESSON 1

Mendelian Genetics

Essential Question: How does the inheritance of traits in pea plants apply to inheritance of traits in other types of organisms?

- Gregor Mendel used pea plant crosses to investigate heredity. He tracked the inheritance of traits from a parental generation to one or more filial generations. Mendel determined that an organism inherits one allele for a trait from each parent. An individual with two copies of the same allele is homozygous; an individual with different alleles for a gene is heterozygous. A dominant allele masks the effect of a recessive allele, so a heterozygous individual expresses the dominant phenotype.

Punnett squares can be used to track and predict the genotypes and phenotypes from genetic crosses. The alleles for one parent's gametes are recorded across the top of the outer square, and the alleles for the other are recorded along the vertical side. The allele combinations in the inner squares show the predicted genotypes of the offspring. Phenotypes are predicted based on genotypes.

Mendel observed the same phenotypic ratio among the offspring for particular types of crosses. A monohybrid cross, which involves hybrids for a single trait category, produces a 3:1 ratio of offspring with the dominant trait to offspring with the recessive trait. A dihybrid cross, which involves hybrids for two trait categories, produces a 9:3:3:1 phenotypic ratio of offspring with either both dominant traits, one recessive and one dominant trait, or both recessive traits. A test cross can be used to determine if an individual with a dominant trait is homozygous or heterozygous for that trait.

The chromosome theory of inheritance helps to explain Mendel's laws. The law of segregation states that allele pairs for a gene or trait category separate during gamete formation. The law of independent assortment states that the segregation of alleles for one gene does not influence the segregation of alleles for a different gene.

- inheritance
- genetics
- trait
- hybrid
- P generation
- first filial (F_1) generation
- second filial (F_2) generation
- dominant
- recessive
- homozygous
- heterozygous
- phenotype
- genotype
- Punnett square
- test cross
- law of segregation
- law of independent assortment

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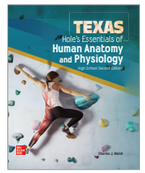

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The student edition is divided into six distinct units, each covering a different systems within the human body. Every chapter includes correlations to the TEKS, vocabulary support, study strategies, critical thinking and clinical application activities, data analysis, Case Studies, and an Engineer a Healthier World project. These projects are designed to help students make connections between advancements in science and the engineering process. APR, the ultimate dissection experience, is available within the digital resources and visually enriches lectures and labs with 3D Interactive Models, engaging animations, and real-life images.

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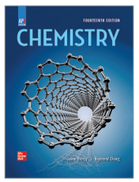

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