

# Beyond the **Textbook**



**DISCOVERY EDUCATION  
SCIENCE TECHBOOK™**

A comprehensive digital program that replaces traditional textbooks, fuels digital transformation and supports Provincial expectations.



# Beyond the Textbook



**Discovery Education Science Techbook™** provides unrivaled content that helps teachers transition to the exciting world of digital resources. Science Techbook™ ignites curiosity and enhances learning via a powerful, simple-to-use program that substantially lowers district costs.

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THE POWER OF THREE



THE POWER OF THREE: Discovery Education's Unique Approach to Increasing Student Achievement



# The Power of Three

A complete replacement for traditional textbooks, Discovery Education's Science Techbook™ is a dynamic digital resource that empowers students to take ownership of their own learning. **Compatible with any hardware your district employs**—iPads, tablets, laptops or desktops—Techbook™ elevates student achievement through a combination of three critical elements.

- 1 Exclusive content from Discovery Channel**, Discovery Education and 100 other publishers that captures student attention.
- 2 Inquiry-based instructional design**, tied to custom, on-going professional development, that makes students think, act and communicate like scientists.
- 3 Powerful, simple to use technology** that saves teachers' time and eases transition to digital resources.

## THE CONVERGENCE OF ALL THREE ELEMENTS

It is the convergence of all three elements that makes Science Techbook™ truly unique. Supported by deep, on-going professional development for teachers, Science Techbook™ connects today's digitally native students with a powerful new educational resource that brings transformational change to the classroom. The result is a marked increase in student engagement, learning and achievement.

1. EXCLUSIVE DIGITAL CONTENT



EXCLUSIVE DIGITAL CONTENT:  
Only from Discovery





# Only from Discovery

From *MythBusters*, to *LIFE*, to *FROZEN PLANET*, and much more, Science Techbook™ is packed with captivating content found only from the world's number one non-fiction media company. Custom built and aligned to Provincial expectations, Science Techbook™ incorporates content from Discovery Channel, Animal Planet, The Science Channel and more than 100 other respected educational publishers such as PBS, including custom content produced by Discovery Education specifically to reach 21st century learning objectives.

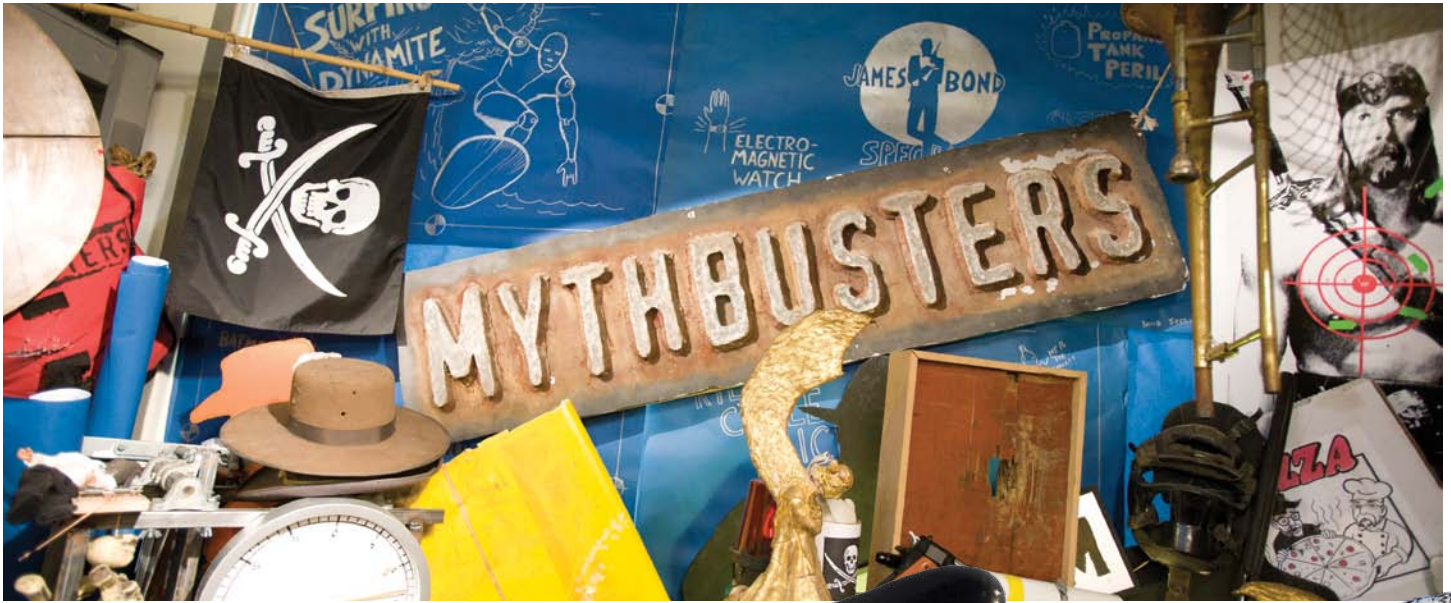


## ALWAYS UP-TO-DATE CONTENT

Traditional textbooks are outdated the moment they are printed. Science Techbook™ is updated in real-time, so new scientific discoveries are automatically included in the program at no additional cost.

Information and imagery from natural and man-made disasters, such as catastrophic oil spills, devastating earthquakes or nuclear reactor calamities, are available to students soon after the events occurred.





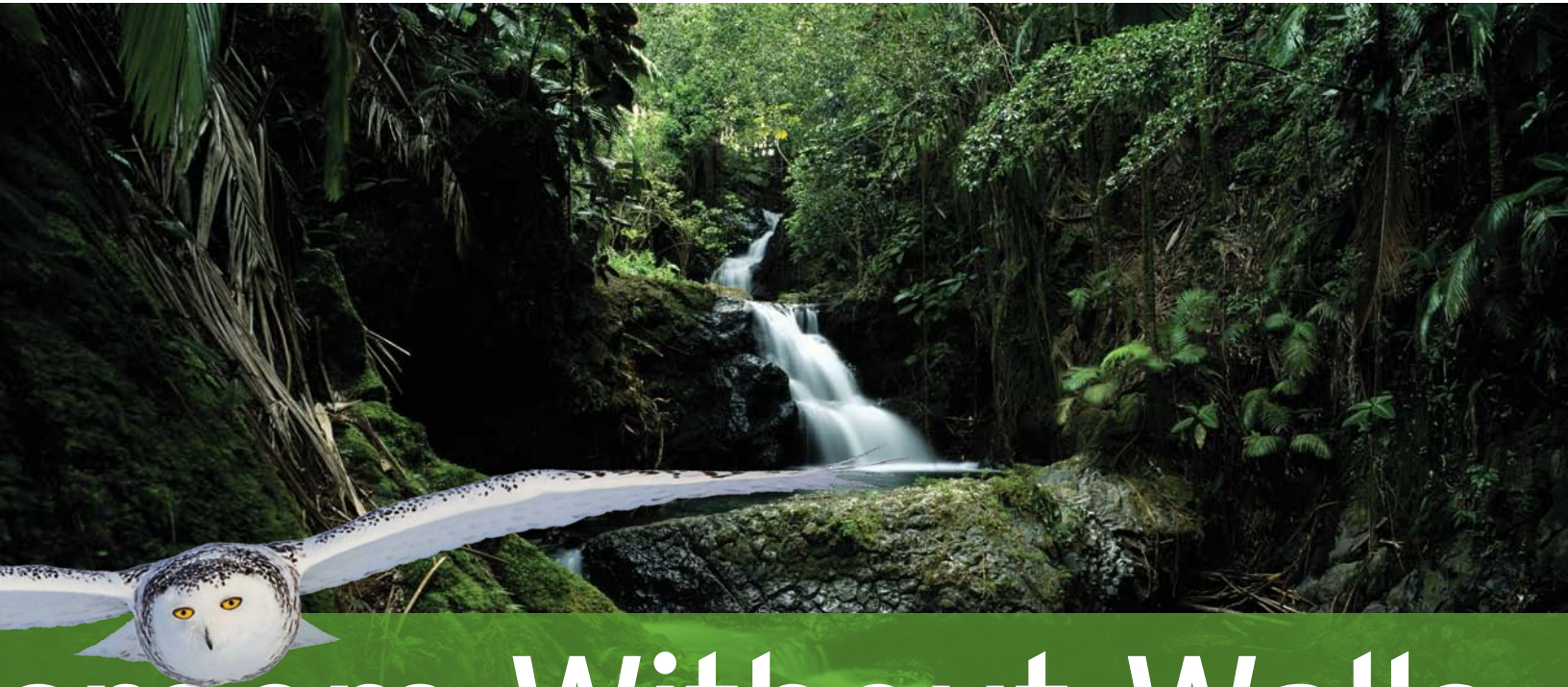
# Imagine

# a Clas



BBC Discovery frozen planet





# Room Without Walls



## 2. INQUIRY-BASED INSTRUCTIONAL DESIGN



INQUIRY-BASED INSTRUCTIONAL DESIGN:  
Builds Critical Thinking and Communication Skills





# A Good Question is the Beginning of Real Learning

Part of the magic behind Science Techbook™ is that it is built around students answering essential questions. This inquiry-based model of instructional design helps students build critical thinking and communication skills. Students “construct” new ideas and concepts by connecting new information to prior knowledge. **Engage, explore, explain, elaborate, and evaluate.** The 5Es describe a learning process that enables students and teachers to experience common activities, build on prior knowledge, construct meaning, and continually assess their understanding of a concept, just as real scientists do.

# Inquiry-Based Learning needs Inquiry-Based Instruction.





# Critical Thinking And Communication Skills

## > ENGAGE

Engage, the initial step in the process, is where students first encounter and identify an instructional task, make connections between prior and present experiences and build the foundation for activities ahead. Science Techbook™ provides teachers with focused “engage” resources, such as high impact video clips with discussion questions, to grab students’ attention and introduce a concept.

## > EXPLORE

In the Explore phase, students have the opportunity to use a variety of Science Techbook™ resources, get directly involved in the inquiry process and probe an essential question. This may take place using a range of instructional techniques including having students work in teams, building a base of common experiences and sharing information with others.

## > EXPLAIN

The Explain phase is where students begin to put the abstract information they have gathered into a more concrete, communicable form. Students are encouraged to

put these explanations into their own words and demonstrate real understanding of a concept. Science Techbook™ incorporates scientific explanations into the program at this phase. These are structured, evidence-based guides to help students think, act, read and write like scientists. From a cross-curricular vantage point, there is a direct connection between reading and communicating in science and Language Arts Provincial expectations.

## > ELABORATE

Elaborate activities encourage learners to expand on the concepts learned, make connections to other related concepts and apply their understandings to the world around them by conducting additional activities.

## > EVALUATE

The Evaluate phase is an ongoing process that occurs throughout the lesson. Formative and self-assessments are embedded throughout and provide benchmarks to progress in preparation for more formal summative assessments. Science Techbook’s assessment system also provides remediation content suggestions for areas needing further work.

# Learning begins when students are **engaged.**



## Process Skills Library

The Process Skills Library is a comprehensive collection of virtual labs, hands-on labs, hands-on activities, and *MythBusters* segments that encourage inquiry, high-level thinking and critical scientific process skills such as data collection, data analysis, and drawing conclusions.

- > The Process Skills Library provides a single, convenient point of access to a wide range of resources. These assets are also embedded throughout the program at appropriate grade levels.
- > Teacher and student guides are provided for most activities.

Discovery EDUCATION CANADA

Welcome, test Profile Help Logout

SEARCH

Advanced Search

My DE Science Techbook DEN

Home Teacher Center Professional Development My Content My Builder Tools Assignment Manager Classroom Manager

Teacher Center > Science Techbook > Process Skills Library

### Process Skills Library

Virtual Labs Hands-On Labs Hands-On Activities Science Sleuths MythBusters

**MythBusters: Hindenburg Disaster**  
Full Video  
Adam and Jamie turn dirigible detectives to try and solve one of aeronautics's biggest puzzles: was it the Hindenburg's paint (a mix of iron oxide and aluminum) or its hydrogen filling that made the blimp burn so quickly? To test this myth, the team must apply their engineering know-how and their knowledge of chemical reactions. Meanwhile, Karl, Tory, and Grant ponder if you can outrun a crocodile by moving in a zigzag.  
[Student Peer Review Sheet](#) [Teacher's Guide](#)

**MythBusters: Airplane on a Conveyor Belt**  
Full Video  
The MythBusters test a controversial physics claim: an airplane cannot take off from a conveyor belt moving in the opposite direction—and at the same speed—as the plane. Delving to the heart of concepts in aerodynamics and mechanics, the problem leaves Jamie and Adam with only one option—testing the theory with a real plane. Meanwhile, Grant, Karl, and Tory investigate the mythical assertion that cockroaches could survive a nuclear blast.  
[Teacher's Guide](#) [Student Peer Review Sheet](#)

**MythBusters: Animal Behavior: Goldfish Memory**  
Full Video  
Does a goldfish's memory last longer than three seconds? In an effort to bust this myth, Adam and Jamie also try to prove which one of them is the best fish trainer.  
[Student Peer Review Sheet](#) [Teacher's Guide](#)

**MythBusters: Bacteria: Toothbrush Surprise**  
Full Video  
Will a wet toothbrush pick up bacteria from a nearby toilet if the brush is left in the bathroom? Adam and Jamie spend an entire month investigating this urban legend.  
[Student Peer Review Sheet](#) [Teacher's Guide](#)

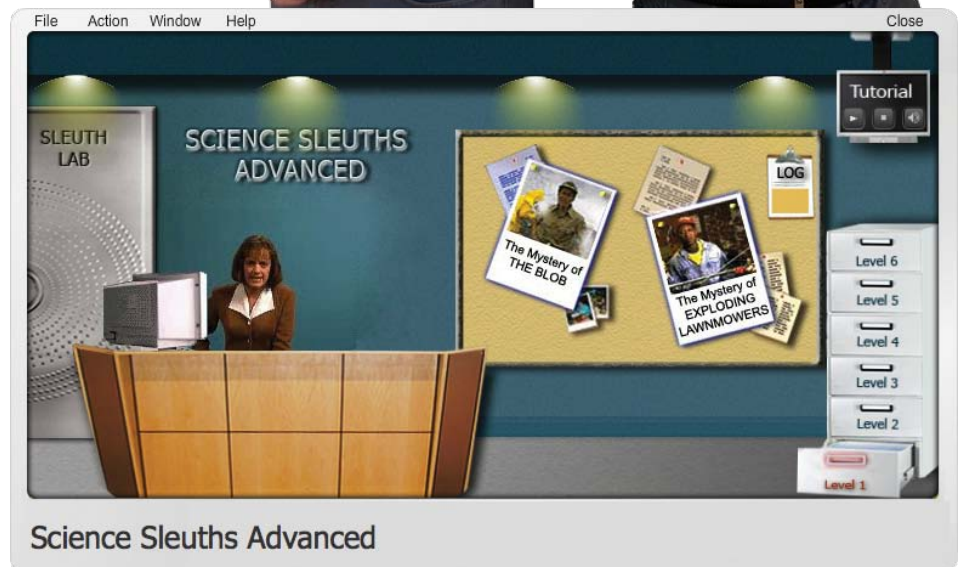
**MythBusters: Baseball Myths**  
Full Video  
The MythBusters take on myths from America's favorite pastime, with help from two-time Cy Young Award-winner Roger Clemens. Jamie and Adam test whether a corked bat can hit a ball farther than a regulation bat, while Tory, Grant, and Karl investigate the impact of humidity on a baseball's velocity and distance. Roger "The Rocket" Clemens, along with a NASA researcher, demonstrate how air pressure and force affect pitching, and the guys take to the field to find out if sliding into a base is faster than running to it. Finally, Adam and Jamie put their physics knowledge to test to uncover if it's possible to knock the hide off a baseball.  
[Teacher's Guide](#) [Student Peer Review Sheet](#)



## MythBusters and Science Sleuths

*MythBusters* episodes are specially-edited versions of the popular Discovery Channel program where students critique the inquiry process used to test science “myths.” Student observation/critique sheets and teacher guides are also provided.

Students love to engage in forensic analysis and solve a mystery. *Science Sleuths* provide a forensic approach to inquiry by providing scientific content, interviews with key individuals, and simple lab tests to solve a mystery. Each program segment includes observation/writing prompts/critique sheets and a teacher’s guide to support inquiry-based learning.





# Can your textbook do this?

Make notes, highlight text or even change font size with ease

Easily change from English to French

Videos play instantly, in small or large format, without having to open a new window

Direct link to the Interactive Glossary

Text-to-Speech: Simply highlight the text and have it read to you in English or French

Text is "chunked" for improved readability

Students have rich supporting videos, interactives and images at point of use

Common misconceptions students might experience are addressed



# Core Interactive Text

## Fulfilling the Promise of Digital

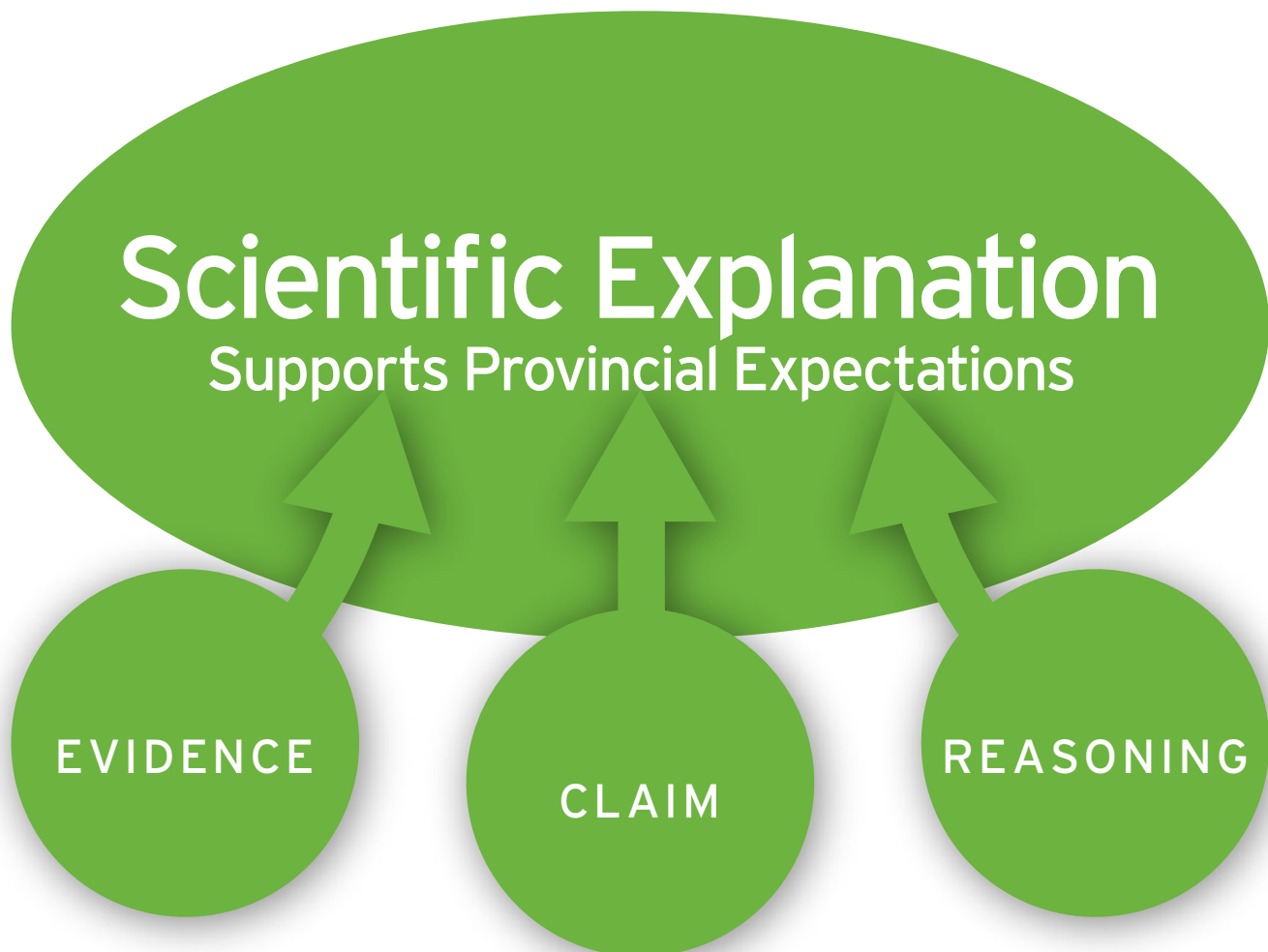
Interactivity is the critical function that separates static text from a fully digital resource. **With Core Interactive Text, Discovery Education Science Techbook™ takes interactivity to a whole new level.** Designed to reach every learner, Core Interactive Text (CIT) is Science Techbook's groundbreaking user interface that captures the unique benefits of digital—sound, video, images, explorations, text-to-speech, English-to-French and three font sizes—with one-button simplicity.

- 1** Students have rich supporting videos, images, simulations, and audio right at their fingertips.
- 2** Videos play instantly, in small or large format, without having to open a new window or go to a different site.
- 3** By highlighting text, students can have the key text read to them in English or French.
- 4** Students can highlight text, take notes and save them so they are available for future reference.

**“It has been exciting to watch our teachers and students use Science Techbook™ in their classrooms during this first year of implementation. The change that is taking place not only brings a powerful digital resource into the classroom, but embraces a method of teaching that allows our teachers to become facilitators of knowledge.”**

**- Curt Witthoff, Coordinator – K-12 Science & Environmental Education, Collier County Public Schools**

Read, write, think and talk **like a scientist.**



Science Techbook™ is designed to enhance comprehensive literacy in all forms—reading, writing, listening, verbal communication and critical thinking skills. These are skills mandated by Provincial expectations.

**Three of the many Science Techbook™ features that support Provincial expectations and comprehensive literacy are:**

- > **Scientific Explanation Format:** A guide for each concept that helps students respond to essential questions by providing a structured framework for recording data in a consistent manner and supporting those claims through evidence, fact-based reasoning and arguments—critical elements of Provincial expectations' writing and verbal requirements.
- > **Core Interactive Text:** Provides unparalleled comprehensive literacy support via embedded

multimodal features for all learning styles, including leveled reading, note-taking and highlighting capability, links to the interactive glossary, English and French text, text-to-speech, video with audio, digital simulations and virtual labs.

- > **Leveled Reading with Interactive Glossary:** With Science Techbook's inquiry-based instructional design, the quest for science knowledge and the need to answer the essential question drives the purpose for reading. Techbook™ incorporates reading passages at three levels: on grade, below grade and above grade. The Interactive Glossary provides critical support for reading at all levels. This exclusive, groundbreaking resource has more than 800 terms to help students master science vocabulary via four different modalities: 1) Text—English and French, 2) Animation, 3) Video with sound and 4) Images.



## Interactive Glossary

Mastering science vocabulary is critical to success. Students must learn as much new vocabulary in a science course as they learn in the first year of a

foreign language. Discovery Education's Interactive Glossary is a one-of-a-kind resource created to help students master essential vocabulary.

### The Interactive Glossary includes:

- > More than 800 glossary terms
- > Definitions in English and French
- > Digital animations to describe the term
- > Video segments with audio illustrating the term and providing context
- > Downloadable images

### Interactive Glossary

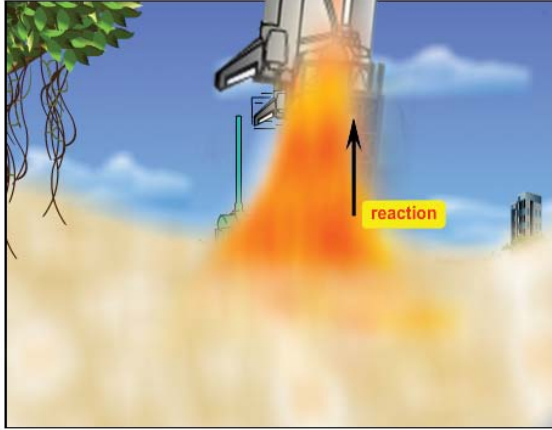
Glossary Terms
Definition
Animation
Video
Im

Filter glossary terms...

- flower
- flowering plant
- fluid
- focal point
- focus
- food chain
- food web
- force**
- forecast
- fossil
- fossil fuels
- freeze
- freezing point
- frequency
- freshwater
- Fresnel lens

**force**

Force moves things. The downward force of the atmosphere.



# Support for French speaking students? **Oui!**



## Provinces with a large French speaking population require additional specialized resources.

As a primary instructional resource, Discovery Education Science Techbook™ is designed to meet the instructional needs of all students, including those who require additional French language support. Science Techbook™ helps these students master scientific concepts and demonstrate their proficiency in English while preparing them for English-based science tests.

**"I cannot tell you how Science Techbook™ has energized my lessons! I am now using the 'My Builder's Tool' and Techbook™ to assign exciting and engaging lessons for my 7th grade science classes. The creators of Techbook™ have thought of it all! ... The more I learn from the experts at Discovery Education the more excited I get. (After 30 years of teaching, too :-)"**

- Roseann Burklow, 7th Grade Science, Mooresville, NC



**Interactive Glossary**

**Glossary Terms**

Filter glossary terms...

virus  
vocal  
volcanic dome  
volcano  
voltage  
volume (matter)  
volume (sound)  
warm  
warm-blooded  
water  
water cycle  
water vapor  
waterspout  
wave  
wavelength  
weather  
weathering (physical)  
wedge  
weight

Definition Animation Video Image

English French

**water**

**Definition**  
a compound made of hydrogen and oxygen

**Key Context**  
You can drink a big glass of it to cool you down when it is hot. In the winter, you may shape it into balls and throw it to a friend. In the spring, it may fall from the clouds for hours. What are we talking about? Water! Every living thing needs water. Water is made of two gases, hydrogen and oxygen. Water forms into ice in areas that are very cold. If water is heated, it becomes a gas called water vapor or steam. As a liquid, water is found in lakes, rivers, and oceans. In a lake or river, it is called fresh water. Humans, plants, and animals need fresh water to survive. Nature uses water over and over again on Earth.

**Interactive Glossary**

**Glossary Terms**

Filter glossary terms...

virus  
vocal  
volcanic dome  
volcano  
voltage  
volume (matter)  
volume (sound)  
warm  
warm-blooded  
water  
water cycle  
water vapor  
waterspout  
wave  
wavelength  
weather  
weathering (physical)  
wedge  
weight

Definition Animation Video Image

English French

**l'eau**

**Definition**  
un élément composé fait d'hydrogène et d'oxygène

**Key Context**  
Vous pouvez boire un grand verre d'eau pour vous rafraîchir quand il fait chaud. En hiver, vous pouvez la former en boules et la lancer à un ami. Au printemps, ça peut tomber des nuages pendant des heures de temps. De quoi s'agit-il ? De l'eau ! Toute chose vivante a besoin d'eau. L'eau est faite de deux gaz, l'hydrogène et l'oxygène. L'eau se transforme se nitre, il est dans les nuages, dans les rivières, dans les lacs, dans les océans, dans la vapeur de l'eau ou la vapeur. Como líquido, el agua se encuentra en lagos, ríos y océanos. En un lago o en un río, se llama agua dulce. Los seres humanos, las plantas y los animales necesitan agua dulce para sobrevivir. La naturaleza usa el agua una y otra vez en la Tierra.

# Interactive Glossary

## In English and French Text

Science Techbook™ provides support to French speaking students in a variety of ways.

> **Core Interactive Text with French Reading Path and Text-to-Voice.** Science Techbook™ includes a French reading path with text-to-voice capability for the primary content for each key concept in the program. Students simply select the French option, highlight the text to be read, and the text-to-voice feature reads that section to the student in French. All videos included in the Core Interactive Text will also have the option of closed caption in French.

> **Direct Science Vocabulary Instruction:** Learning science content and scientific processes starts with a solid understanding of science vocabulary. Science Techbook's Interactive Glossary provides multimodal definitions for more than 800 of the most common K–12 science terms. Students learn the vocabulary through text, animations, and brief video clips with audio support. For each vocabulary word, a Definition and Key Context Statement is available in both English and French. This provides French speaking students access to the science vocabulary while at the same time strengthening their English language proficiency.

# For every virtual lab there is a **hands-on lab**.



Science Techbook™ includes a variety of virtual labs, each paired with a hands-on lab, designed to teach students investigative design. Students are guided to ask a testable question and design an investigation that answers that question. Once they have an approved approach, students conduct the virtual investigation, collect and analyze data, and then report results to their peers. In sharing data and conclusions, students are playing the role of scientists and engineers who share and discuss their results as a matter of practice.

Teachers are provided Virtual Lab Teacher Guides that provide a step-by-step approach to teaching investigative design. Following each virtual lab, the experience is repeated with a hands-on lab related to the same concept. Students again move through the investigation process, this

time conducting actual measurements and manipulating science materials in real time. Science is more about doing than reading. Discovery Education's carefully selected hands-on labs complement the learning experience by incorporating at least one science process skill and/or concept about the nature of science.

- > **Virtual labs are designed to be open-ended. There is no one correct answer.**
- > **Labs are leveled to grade level.**
- > **Hands-on labs use readily available materials to lower costs.**
- > **Both directed and guided labs are included.**
- > **Student information and planning sheets are provided.**



"I have more resources available to reach all the kids. Some succeed with the visuals, others understand better through story (animated video), while others gain understanding through the fundamental and virtual labs. I believe all of my students are leaving with a greater understanding of science concepts and fewer misconceptions."

- Elementary Teacher, Collier County Schools, FL





3. POWERFUL, SIMPLE TO USE RESOURCE



POWERFUL, SIMPLE TO USE RESOURCE:  
Any Device. Anywhere. Any Time.



# No Matter What Device

Unlike other programs that may require a particular brand of technology to access their program, Science Techbook™ works with whatever hardware or technology a district employs—iPads, tablets, mobile devices, laptops or desktops. **Substantially less expensive per student** than traditional textbooks, Science Techbook™ provides additional savings by eliminating the need to replace or inventory textbooks. In today's world of constrained budgets, many school districts do not have sufficient resources to provide every student with his or her own device. Therefore, Science Techbook™ provides professional development and model lessons that provide teaching strategies for differing levels of technology—whether whole group, small group, or 1-to-1.



# Easy to use with time-saving features.

Detailed model lesson step-by-step through the 5Es

Student review sheet, short answer essay questions and online multiple choice assessments

Additional resources for the curious learner

Provides Provincial expectations at point of use

Identifies basic content students should master in this section

Identifies key questions students must answer

Suggested student assignments for each of the 5Es

Quick summary of background knowledge and student misconceptions

Quick link to multimodal Interactive Glossary

The screenshot displays a lesson page titled "How Do Scientists Classify Organisms?". The page is organized into several sections:

- Engage, Explore, Explain, Elaborate, Evaluate, Model Lesson:** Navigation tabs at the top.
- Essential Questions:** A section with a question: "How Do Scientists Classify Organisms?".
- Order, Please:** A section featuring a "Classification Chart" table and a "View Reading Passage" link. The table lists 21 orders of mammals and their common features.
- Classifying Animals:** A section with an interactive video titled "Classifying Animals" and a "View Interactive Video" link.
- What Are Some Common Features that Scientists Use to Classify Organisms?:** A section with text explaining physical and chemical characteristics used for classification.
- Misconception:** A callout box with a warning icon stating: "Organisms that look similar must be closely related." It explains that sometimes similar-looking organisms are not related and that scientists use other factors like chemical characteristics and behaviors for classification.
- Right Sidebar:** A navigation menu with sections:
  - Benchmarks**
  - Objectives:** Lists objectives such as "Identify common features that scientists use to classify organisms." and "Use the Linnaean system of classification to determine if organisms are related to each other."
  - Essential Questions**
  - Five Minute Preps**
  - Assignments:** Lists assignments like "Features and Naming: Assignment 1" through "Assignment 4".
  - Getting to Know**
  - Interactive Glossary**

"I love the enthusiasm of the third grade mind and Discovery Education has been a fantastic addition to the classroom. I cannot imagine that any other textbook could bring about change as dramatic as we have seen with Discovery Education Techbook™."

- Becky Pennington, 3rd Grade, Center Grove Community Schools, Greenwood, IN





# What will you do with The Time You Save?



Science Techbook's user interface is so intuitive and easy to use that **teachers will be up and running in a remarkably short period of time.** The user interface is based on feedback from thousands of teachers actively using Science Techbook™. Everything is right where you might expect it. Now in its second generation, Science Techbook™ provides a natural, book-like experience in a digital world, easing the transition to digital resources. Videos, interactives, audio and imagery are right at point of use. With the click of a mouse, you can change from English to French, choose a font size or activate text-to-speech. Sit back and get ready to blast-off. You and your students are going to enjoy the ride.

## A host of time-saving features right at your fingertips.

**In-depth model lesson for every concept:** Built around the 5E model of instruction, it is a huge time-saver for novice and experienced teachers alike. Each lesson displays all standards covered, provides background information to help teachers prepare, including typical student misconceptions, and provides links for each suggested resource and student assignment. Materials for student review, short answer essays and online auto-graded multiple choice assessments are provided for each concept. A printed Teacher's Guide is also included as an additional time-saving resource.

## Quick-links include:

- > 5-Minute Prep – to help teachers brush up on a new concept
- > Expectations and Objectives
- > Essential Questions
- > Student Assignments
- > Interactive Glossary

# Ongoing Professional Development = More Students Learning More

**A state-of-the-art digital resource like Science Techbook™ is only part of the equation.** Teachers need to engage in meaningful, on-going professional development to take full advantage of this transformative teaching tool. Discovery Education provides strategic professional development customized to the unique needs of each school and district so that teachers can transition more easily and successfully to this powerful digital resource.

Discovery Education offers a range of professional development opportunities to help teachers move along a continuum from “entry” all the way to “transformation.” A unifying theme is that all sessions from “Getting Started with Techbook™,” to sessions on deepening scientific inquiry, to strategies for engaging diverse learners incorporate research-based practices in science and literacy instruction.

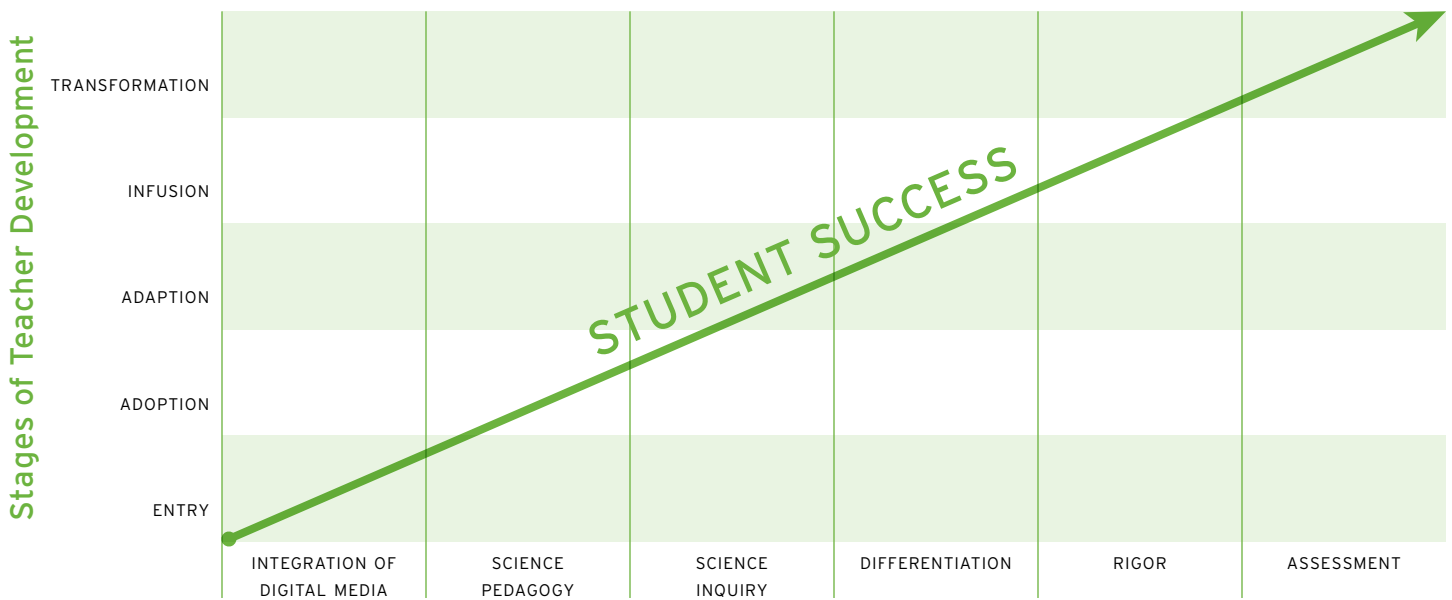
Discovery Education professional development and implementation specialists evaluate the technology available in each district and provide strategies to optimize its use in a variety of classrooms... whether it is

a one-computer classroom, a one-to-one environment or something in between. If necessary, some professional development can be delivered live via webinars to accommodate teacher schedules.

The professional development team leads districts step-by-step through the digital transition process with just-in-time professional learning experiences that emphasize systemic change and principles of learning that ultimately bring coherence to content, instructional strategies and technology integration. The result is a substantial increase in student achievement.

**“Discovery Education sets the bar very high. I’ve been teaching a hands-on, activity based science curriculum for nineteen years. The Discovery Education Science Techbook™ has combined concept, content, interactivity and digital. In my opinion it is the best curriculum available, and I consider it ‘the missing link.’ Combine all of that with fantastic professional development and customer service, and Discover Education is the whole package.”**

- Julie Gavin, Lead Middle School Teacher, School Town of Munster, Munster, Indiana



**Areas of Discovery Education Professional Development Support**



# Sharing strategies, resources, ideas, and **Success.**

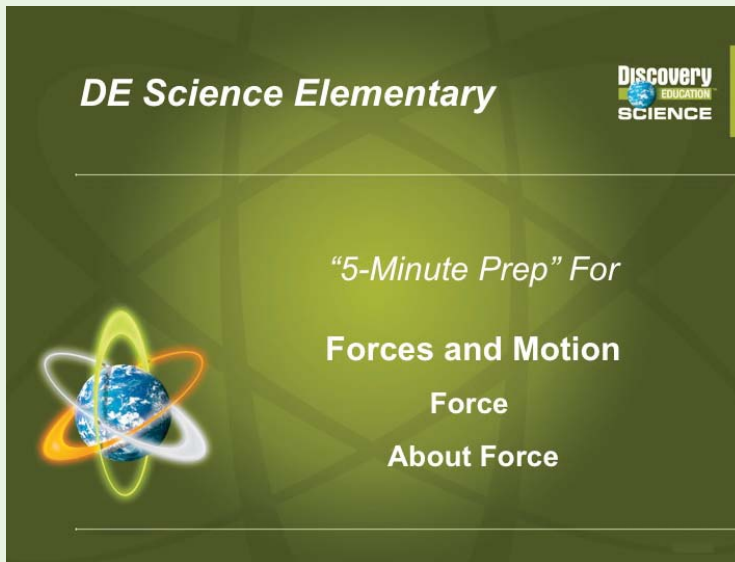


## Helping teachers connect to their most valuable asset – other teachers

— is just one of the ways Discovery Education supports teachers after they have adopted Science Techbook™. The Discovery Educator Network (DEN) has 200,000 members providing professional development support to more than one million educators worldwide. In addition to on-going professional development, Discovery Education also assigns an instructional implementation specialist to each district to ensure successful implementation by sharing strategies, resources, ideas and successes.

Many instructional activities, events and professional development services are provided at no additional cost. These include:

- > **A Night of Discovery:** An evening event that introduces Science Techbook™ to parents and illustrates how they can participate in their child's education.
- > **Webinars:** A wide range of free webinars to enhance teacher skills.
- > **Seasonal Science Streams:** A monthly live school-based broadcast integrating engaging, hands-on science with digital media, fit for the season.
- > **A SciCon:** A day-long virtual science conference designed to expand your professional community and learn new strategies for using digital content.
- > **DEN Science Institute:** Intensive hands-on professional development for selected educators.
- > **Monthly Newsletter, DEN Blog and Lab Report:** A communication path that helps teachers stay abreast of new content and new ways to use Science Techbook™.
- > **Live Technical Support:** A continuing commitment from Discovery Education to provide timely support via phone, email or chat.



## 5-Minute Prep

Provides teacher background knowledge, typical student misconceptions and highlights the Big Ideas and key content for that concept area.

- > 5 minute concept overview
- > Summarizes teacher background knowledge
- > Highlights student misconceptions
- > Identifies Big Ideas in science
- > Outlines student's prior knowledge
- > Links to key content
- > Downloadable and editable

## Time-Saving Lesson Plans

Science Techbook™ provides lesson plans for every concept, saving teachers critical time. Detailed lesson plans allow teachers to begin using Techbook™ effectively from day one. Since Science Techbook™ works with whatever hardware a district employs—iPads, tablets, mobile devices, laptops or desktops—Techbook’s model lessons also provide teaching strategies for differing technology levels, whether whole group, small group, or 1-to-1.

Model lessons utilize the 5E Instructional Model providing a “how to” guide for Science Techbook™. The lessons model inquiry-based instruction, offering two pathways: directed inquiry and guided inquiry with easily accessible digital resources linked from each lesson.

### Each lesson plan includes:

- > Provincial expectations
- > Materials to prepare
- > Essential Learnings (lesson objectives, essential questions and key vocabulary)
- > Session lessons with pacing guides
- > Lesson Outline
- > Teacher Preparation (background information on the concept to be taught)
- > Discovery Education resources provided
- > The ability to download and edit

# Concept Review – The MOST popular asset

The screenshot shows the 'Evaluate' section of a concept review page. At the top, there are navigation tabs: Engage, Explore, Explain, Elaborate, Evaluate (selected), and Model Lesson. Below these are utility icons for Highlight, Speak Text, Take Notes, and English, along with font size controls. A 'Print This Page' button is also present.

### Concept Review: Energy Transfer and the Water Cycle

- ▶ How is the sun's energy transferred around the globe?  
*Answer: Areas near the equator receive more energy from the sun than areas around the poles. Moving winds and water carry energy from warmer areas to cooler areas and therefore **distribute** the sun's energy more evenly around the globe.*
- ▶ What is the water cycle and why is it important?  
*Answer: Sunlight strikes the surface of the ocean, causing some of the liquid water to evaporate, forming water vapor. As the warm, moist air rises, water vapor cools and condenses, forming clouds. With more cooling and condensation, water forms drops large enough to fall back to Earth's surface as precipitation, and the cycle continues. The water cycle plays a critical role in weather patterns.*
- ▶ How does the water cycle influence weather patterns?  
*Answer: The movement of water through the water cycle causes weather patterns such as cloud formation and precipitation. **Humidity** is the measure of the amount of water in the air. The **dew point** is the point at which the temperature of the air and the **humidity** allow the formation of water droplets. When precipitation occurs, the humidity is 100 percent and the dew point has been reached.*
- ▶ How do winds form?  
*Answer: Warm air is less dense than cooler air. When the sun's energy warms air, the warm air rises and the air pressure drops. Cooler air is denser and therefore sinks. Air moves across Earth's surface between areas of warm, rising air and cool, sinking air. Moving air is wind.*

**Interact**

- Energy Transfer and the Water Cycle**  
EXPLORATION  
Did you know that the water you drank was once part of the ocean, and someday will be again? Di...  
Teacher's Guide  
Student's Guide Level 1  
LAUNCH
- The Water Cycle**  
SKILL BUILDER  
Presents an animation of each phase of the water cycle: evaporation, condensation, precipitatio...  
LAUNCH

**Assess**

- Energy Transfer and the Water Cycle**  
ASSESSMENT  
LAUNCH
- Energy Transfer and the Water Cycle**  
BRIEF CONSTRUCTED RESPONSE  
Brief Constructed Response for the concept Energy Transfer and the Water Cycle  
Teacher's Guide  
Student's Guide Level 1  
LAUNCH

**Make your Own Concept Assessment**  
Create an assessment from a pool of items related to this concept.  
CREATE CONCEPT ASSESSMENT

BACK TO TOP

Essential questions and summary answers

Interactive resources to reinforce key concepts

Built-in short essay and multiple choice assessments

The Evaluate section for each concept includes a comprehensive review page with graphics and practice assessments for students. **Students love this feature** and spend considerable time reviewing concepts and taking practice assessments, where they get immediate feedback and an explanation of the correct answer.



# Assessment that informs instruction.

Discovery Education's Science Assessment Manager provides **state-of-the-art tools to help assess and report student progress**. Assessment Manager also recommends and assigns remediation resources by student, group or class.

## Student results are scored and color coded:

- Needs remediation
- Standard/concept not yet mastered
- Standard/concept is mastered

## The Student Center – Where teachers send and students receive their assignments

- > Each student is given a single access code for use both in school and at home
- > No additional software is required
- > Suggested student assignments from each model lesson can be edited by teachers
- > Students can access the Core Interactive Text, writing prompts, assessments, assignments and full search capabilities

## With Science Techbook's Assessment Manager, you can:

- > Create an expectations-based, concept-based or custom assessment
- > Assign assessments to a student, group or class
- > Report results by student or class
- > Assign recommended remediation resources
- > Save and retrieve previously used assessments



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# Discovery Education Science Center Techbook™ is a complete K-12 program, including high school level digital textbooks for Biology, Chemistry, Earth & Space Science, and Physics.

The screenshot shows the Biology course page. The header includes the Discovery Education logo, a search bar, and user navigation options. The main content area features a large image of a jellyfish and a sidebar with a table of contents. The table of contents lists units such as Introduction to Biology, Process of Science, The Building Blocks of Life, The Solar System, Cells and Heredity, Cells, Cell Structure and Function, Cell Transport, Photosynthesis, Cellular Respiration, Cell Division, Asexual and Sexual Reproduction, Heredity, Living Things, Diversity of Life, Plants, Animals, and Ecology. A bottom navigation bar includes links for Playlists, QuickList (8), Journal, My Content, My Classrooms, and Messages (2).

The screenshot shows the Chemistry course page. The header includes the Discovery Education logo, a search bar, and user navigation options. The main content area features a large image of a beaker with a red liquid and a glass tube. The sidebar contains a table of contents with units like Introduction to Chemistry, Chemistry, Scientific Work, Matter and its Properties, The Atom, Atomic Theory, Periodic Table & Chemical Bonding, Organic, Electrical, and Nuclear Chemistry, Organic Chemistry, Chemical Bonding, Chemical Reactions, Representing Chemical Substances, Chemical Formulas, Nomenclature, Chemical Reactions and Equations, Mathematics of Formulas and Equations, Equilibrium and Reaction Rate, and Thermochemistry and Thermodynamics. A bottom navigation bar includes links for Playlists, QuickList (8), Journal, My Content, My Classrooms, and Messages (2).

The screenshot shows the Earth & Space Science course page. The header includes the Discovery Education logo, a search bar, and user navigation options. The main content area features a large image of a starry night sky. The sidebar contains a table of contents with units such as Nature of Science, Introduction to Earth and Space Science, Earth Systems, Earth Systems, Geology, Plate Tectonics and Earth's Internal Structure, Rocks and the Rock Cycle, Minerals, Earthquakes, Volcanoes, Soils, Weathering, Erosion, and Deposition, Geologic Time and Earth's History, The Atmosphere and Oceans, Oceans, The Atmosphere, Weather and Climate, Astronomy, Studying Space, The Universe, and The Solar System. A bottom navigation bar includes links for Playlists, QuickList (8), Journal, My Content, My Classrooms, and Messages (2).

The screenshot shows the Physics course page. The header includes the Discovery Education logo, a search bar, and user navigation options. The main content area features a large image of a glowing red and blue plasma sphere. The sidebar contains a table of contents with units like Introduction to Physics, Energy and Momentum, Physical Chemistry, Process of Science, Conservation of Energy and Momentum, Properties of Matter, Motion and Forces, Conservation of Energy, Chemical Reactions, Motion, Types of Energy, Temperature and Pressure, Forces, Conservation of Momentum, Work, Power, and Impulse, Heat and Thermodynamics, Waves, and Interactions of Matter and Energy. A bottom navigation bar includes links for Playlists, QuickList (8), Journal, My Content, My Classrooms, and Messages (2).