Science is everywhere. We live it, breathe it, and see it every day in the world around us. With Interactive Science, students see science come to life in the classroom.

Research-based and developed for today’s students, the digital update of Interactive Science delivers best in class technology supported by problem-based, hands-on learning, engaging STEM activities, and interdisciplinary reading, writing, and math connections. Designed to support a transition to Next Generation Science Standards (NGSS) and other new standards, Interactive Science brings the fun back to class while building the skills students need to think like scientists and engineers.

REALIZE THE POTENTIAL OF

interactive SCIENCE
Integrated, Interactive, and Inter-Connected

Interactive Science offers an engaging, hands-on learning experience for students and an easy-to-manage program for teachers. Carefully developed to support Next Generation Science Standards (NGSS) and other new standards, Interactive Science offers seven inter-connected program elements that come together to make science real, relevant, and fun for students and teachers alike.

- **NGSS Support**: Transition to NGSS and other new standards through digital updates and problem-based learning. page 4
- **Hands-On Inquiry**: Put science into practice with direct and guided inquiry lessons and activities. page 6
- **STEM Connections**: Boost problem related skills in mathematical thinking, design thinking, and experimenting to make science meaningful and relevant. page 8
- **Reading Support**: Support deep understanding and help students communicate ideas. page 10
- **Write-in Student Edition**: Encourage active exploration and help students think like scientists. page 12
- **Digital Power**: Help students realize their potential with a new online learning management system. page 14
- **Meaningful Assessment**: Assess for success using print and digital assessment tools and resources. page 16
PERFORMANCE EXPECTATIONS

*Interactive Science* ensures all students combine process and knowledge as they use reasoning and critical thinking to develop science understanding and support NGSS Performance Expectations, Disciplinary Core Ideas (DCI), Crosscutting Concepts (CCC), and Science and Engineering Practices (SEP).

**Crosscutting Concepts (CCC)**

These larger themes, which link across grade levels and across disciplines within grade levels, are integrated throughout the program.

**Science and Engineering Practices (SEP)**

Lab activities are integrated at the lesson and chapter level as well as in separate lab support books. Teacher Lab Resource Book, STEM Activity Book, and Scenario-Based Investigations provide opportunities for students to use skills and knowledge simultaneously.
PROBLEM-BASED LEARNING

New online are Quests, problem-based learning activities designed to support all three parts of the NGSS framework (DCI, CCC, and SEP) by diving deep into real world topics at each grade level. A focus on the Science and Engineering Practices ensure your students can apply what they have learned to new situations and new content.

Quest Kickoff
- Identify Problem
- Outline Goals
- Identify Limitations
- Work in Groups
- Create Checklist

Quest Check-In
- Ask Questions
- Describe Patterns
- Gather Evidence

Quest Check-In
- Interpret Data
- Develop Inferences
- Use Evidence to Construct a Prediction/Argument

Quest Findings and Reflect
- Transfer Knowledge
- Communicate Findings
Hands-On Inquiry

Scaffold INQUIRY Experiences.

Start with teacher-directed inquiry, adapt instruction, and move to open inquiry in every lesson. It’s an ideal teaching routine.

Teacher’s Lab Resource

Differentiate instruction with directed and open-ended inquiry labs and activities for students with varying abilities. This lab manual also allows teachers to easily incorporate activities based on the amount of lab time available.

LOOK FOR THE LOGO!

Whenever you see the Lab Zone logo you will find a corresponding inquiry activity in the Teacher’s Lab Resources book!

- Quest Online Project
- Inquiry Warm-Up Lab
- Quick Lab
- Lab Investigation (Directed and Open Inquiry)
- STEM Activity or Scenario-Based Investigation
Material Kits
Choose from Program-wide Materials kits (labware, convenience, safety, or live materials kits) or Module Kit Materials that include all the activities for each student edition module. Replacement kits are also available.

Virtual Labs
No clean up required! Students can perform a variety of simulated labs that correspond to the lessons and provide a safe, highly-visual and interactive lab environment for all students.

STEM Activity Book
The STEM Activity Book integrates science, technology, engineering, and math concepts with career-inspiring explorations.

Scenario-Based Investigations
Boost inquiry skills by applying science concepts to real-world situations. Students will solve problems using their knowledge of key science concepts integrated with other curriculum areas such as engineering and math (STEM).

Chapter Activities and Projects
Explore key concepts through hands-on activities that help your students understand how the world works. Each activity reinforces the Big Ideas found in each chapter opener. Perfect for science fairs!

Inquiry Skill Activities
Inquiry is the heart of science teaching. This handbook introduces and reinforces basic and advanced inquiry skills.
Sun protection is not the only way people have learned to protect ourselves by building shelters and wearing clothing. But we are not adapted for—deserts, rain forests, and some harsh environments that our bodies are not designed to handle. UV (ultraviolet) radiation from the sun can be harmful. It can cause sunburns, damage your skin and cause cancer. A plain T-shirt offers some protection, but not as much as sun protection clothing. These clothes offer better protection against the sun because they have a higher UPF (ultraviolet protection factor). They are also lightweight, so they're not as heavy as other options. But which will keep you comfortable in warm weather, and safe from UV exposure? Now, you can choose a material that offers protection while also being comfortable to wear.

STEM Features

Science Matters featured at the end of every chapter immerses students in the world of science, technology, and engineering, as well as related careers.

STEM Lab

Virtual STEM Labs provide problem-based learning opportunities in a fun, interactive, and safe online environment.

STEM Activity Book

The STEM Activity Book offers detailed guidelines for engaging activities designed to help students apply key science, technology, engineering, and math concepts to real-world problems.
Take Students on an Online STEMQuest

Drive problem-based learning and inquiry with hands-on STEMQuests.

- Problem-based learning
- Modeling to engage students in Science and Engineering Practices (SEP)
- Career and real-world connections
- Group projects that enhance collaborative skills
- Student debates to build communication skills
- NBC Learn Videos—engaging, timely, age appropriate
- Animations, simulations, and virtual labs
- Teacher support throughout
Differentiated Instruction and ELL Strategies

Students develop and learn in different ways and at different paces. *Interactive Science* was created with all students in mind. Our visual, interactive, differentiated teaching strategies and student activities help create a comfortable learning environment for all learners including ELL, on-, below-, and above-level students.
Integrated Reading Support

A variety of reading support tools and strategies are woven throughout each lesson. The “Big Idea” key at the beginning of each lesson identifies the essential concepts to be covered in the lesson while target reading skills identify essential reading concepts. Vocabulary words identified at the beginning and highlighted throughout the lesson ensure students can understand key terms and unlock content.

Online Audio Support

Each student lesson is available as an eText with audio support to help struggling readers.
WRITE Here, WRITE Now.

Record observations, ideas, and results. Students work in their own interactive Write-in Student Edition.

Students will “engage with the page” with our revolutionary write-in student edition allowing them to keep a personal record of their learning. Now they can read, write, draw, graph, and self-assess all in one place! Research has shown that direct interactions will help students truly connect to the content and maximize understanding.
INTERACTIVITIES on every page actively involve students in their own learning.

MY PLANET DIARY engages your students and puts concepts in a real-world context.

KEY QUESTIONS at the start of every lesson help students unlock the answer to the chapter’s Big Question.

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INTERACTIVITIES

What Does an Organism Get From Its Environment?

What Are the Two Parts of an Organism’s Habitat?

How is an Ecosystem Organized?

KEY QUESTIONS

at the start of every lesson help students unlock the answer to the chapter’s Big Question.

MY PLANET DIARY engages your students and puts concepts in a real-world context.

INTERACTIVITIES on every page actively involve students in their own learning.

LESSON

1

Living Things and the Environment

What Does an Organism Get From Its Environment?

What Are the Two Parts of an Organism’s Habitat?

How is an Ecosystem Organized?

Vocabulary

organism = habitat

species = population

ecosystem = community

ecosystem = abiotic factor

Skills

Reading: Compare and Contrast

Analyzing: Infer

What Does an Organism Get From Its Environment?

If you were to visit Alaska, you might see a bald eagle fly by. A bald eagle is one type of organism, or living thing. Different types of organisms live in different types of surroundings, or environments.

1. An organism gets food, water, shelter, and other things it needs to live, grow, and reproduce from its environment. An environment that provides the things a specific organism needs to live, grow, and reproduce is called its habitat.

In a forest habitat, organisms grow in the damp soil and wood. Predators build nests in tree trunks. Organisms live in different habitats because they have different requirements for survival and reproduction. Some organisms live in a prairie, with its flat terrain, tall grasses, and few obstructions. A prairie dog, like the one shown in Figure 1, needs the food and shelter it needs from a prairie habitat. It could not survive on this rocky ocean shore. Likewise, the prairie dog would not need the need of a sea stay.

What’s Wrong With This Picture?

Most people would never expect to see a prairie dog at the beach.

1. Give three reasons why this prairie dog would not survive in this habitat.

His food supply does not live here, he has no shelter, and there are no prairie dogs to mate with.
Connect to DIGITAL Learners.

All content, assessments, data, and management tools are on PearsonRealize.com. Realize your potential!

Heighten Interest, Increase Achievement
Engage your students with videos, animations, interactive lessons, PowerPoint® presentations, and interactive lessons. Teach 21st century skills for next generation learners!

Customize Your Curriculum
Edit program resources and assessments. Reorder content. Upload your own content and links. Regain valuable time with auto-graded assignments.

ADD RESOURCES!
Gooru’s enhanced search engine feature makes accessing additional content easy!
Use Real-Time Data
Access student and class data that shows NGSS concept mastery, online activity, and progress. Know instantly if a student needs remediation. Perfect for parent-teacher conferences!

Browse and Search with Ease
Search by keyword or Next Generation Science Standard. Find targeted resources by grade, media type, or content type.
Meaningful Assessment

Assess for SUCCESS.

got it?

Self-Assessment Checks
Throughout every lesson, students can evaluate their progress with the “Got it?” feature. If a student needs extra help they can log on to My Science Coach and get more practice.

Chapter Study Guides
At the end of every chapter, students review what they’ve learned and prepare for the test.

Chapter Review & Benchmark Practice
At the end of every chapter, students have the opportunity to review and take a benchmark practice test in a standardized test format.

ExamView® Assessment Suite
For every lesson, create and print tests in minutes from a bank of thousands of questions.

A variety of assessment tools help teachers measure progress and adapt instruction to fit each lesson and students’ needs.
Assess and Remediate

Online you can:
- Check with auto-graded Lesson Quizzes
- Provide targeted remediation with adaptive Chapter Tests
- Evaluate progress with Diagnostic and Benchmark Tests

Track Standards
Mastery and Coverage

Instantly access student and class data that shows NGSS mastery on assessments, online activity, and overall progress.

Dig Deeper

Click to reveal more detailed information about student mastery, progress, and usage.
Developed by a team of science educators and experts, *Interactive Science* is based on solid scientific research that's classroom tested and proven effective.

**Proven Results**

Students showed a statistically significant improvement from pre- to post-testing after using the *Interactive Science* program. Students improved their performance as measured by multiple-choice, fill in the blank, and constructed response items.

> “Interacting with the art and concepts right in the book helps so much... how it refers to something in real life, like the chart with the biggest earthquakes in the last two years—the way that you can say, ‘Oh yeah, I remember that!’”

—Middle School Student

*This study and all statistical analyses and conclusions were performed by PRES Associates, an independent educational research firm.*
Meet Our INSPIRING Author Team

TECHNOLOGY
DON BUCKLEY, M.Sc.
Don Buckley has been at the forefront of K–12 educational technology for nearly two decades. A founder of New York City Independent School Technologists (NYCIST) and long-time chair of New York Association of Independent Schools’ annual IT conference, he has taught students on two continents and created multimedia and Internet-based instructional systems for schools worldwide.

PHYSICAL SCIENCE
KATHRYN THORNTON, Ph.D.
Selected by NASA in May 1984, Dr. Kathryn Thornton is a veteran of four space flights. She has logged over 975 hours in space, including more than 21 hours of extravehicular activity. As an author on the Scott Foresman Science series, Dr. Thornton’s enthusiasm for science has inspired teachers around the globe.

CURRICULUM
ZIPPORAH MILLER, M.A.Ed.
Zipporah Miller is a former K–12 science supervisor and STEM coordinator for the Prince George’s County Public School District in Maryland. She is a science education consultant who has overseen curriculum development and staff training for more than 150 district science coordinators.

EARTH SCIENCE
MICHAEL E. WYSSESSION, Ph.D.
An author on more than 50 scientific publications, Michael Wysession was awarded the prestigious Packard Foundation Fellowship and Presidential Faculty Fellowship for his research in geophysics. Dr. Wysession is an expert on Earth’s inner structure and has mapped various regions of Earth using seismic tomography. He is known internationally for his work in geoscience education and outreach.

INQUIRY AND LIFE SCIENCE
MICHAEL J. PADILLA, Ph.D.
A former middle school teacher and a leader in middle school science education, Michael Padilla has served as president of the National Science Teachers Association and as a writer of the National Science Education Standards. He is professor of science education at Clemson University. As lead author of the Prentice Hall Science Explorer series, Dr. Padilla has inspired the team in developing a program that promotes student inquiry and meets the needs of today’s students.

UNDERSTANDING BY DESIGN
GRANT WIGGINS, Ed.D.
Grant Wiggins was a coauthor of Understanding by Design® Framework (the UbD® framework), a philosophy of instructional design. UbD is a disciplined way of thinking about curriculum design, assessment, and instruction that moves teaching from covering the content to ensuring understanding. Dr. Wiggins was one of today’s most influential educational reformers and consulted with schools, districts, and state education departments.

PROGRAM CONSULTANTS

ELL CONSULTANT
JIM CUMMINS, Ph.D.
Dr. Cummins’s research focuses on literacy development in multilingual schools and the role of technology in promoting student learning across the curriculum. The Interactive Science program incorporates essential research-based principles for integrating language with the teaching of academic content based on Dr. Cummins’s instructional framework.

READING CONSULTANT
KAREN L. OSTLUND, Ph.D.
Dr. Ostlund has over 40 years of experience teaching at the elementary, middle school, and university levels. She was Director of WINGS Online (Welcoming Interns and Novices with Guidance and Support) and the Director of the UTeach/Dell Center for New Teacher Success with the UTeach program in the College of Natural Sciences at the University of Texas at Austin. She also served as Director of the Center for Science Education at the University of Texas at Arlington, as President of the Council of Elementary Science International, and as a member of the Board of Directors of the National Science Teachers Association. As an author of Scott Foresman Science, Dr. Ostlund was instrumental in developing inquiry activities.
STUDENT EDITIONS
Nature of Science
• Science and Technology
Earth
• Earth’s Structure
• Earth’s Surface
• Water and the Atmosphere
• Astronomy and Space Science
Life
• Ecology and the Environment
• Cells and Heredity
• The Diversity of Life
• Human Body Systems
Physical
• Introduction to Chemistry
• Forces and Energy
• Sound and Light

STUDENT RESOURCES
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• Untamed Science video
• My Planet Diary
• Virtual Labs
• Interactive Art
• My Reading Web

TEACHER EDITIONS
Teacher’s Edition and Resource
Teacher’s Lab Resource
Program Guide

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Refill equipment kit materials
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Chapter Activities and Projects
Interdisciplinary Activities
Inquiry Skill Activities
Math Skill and Problem
Solving Handbook
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Reading Strategies Handbook
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• Success Tracker®

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