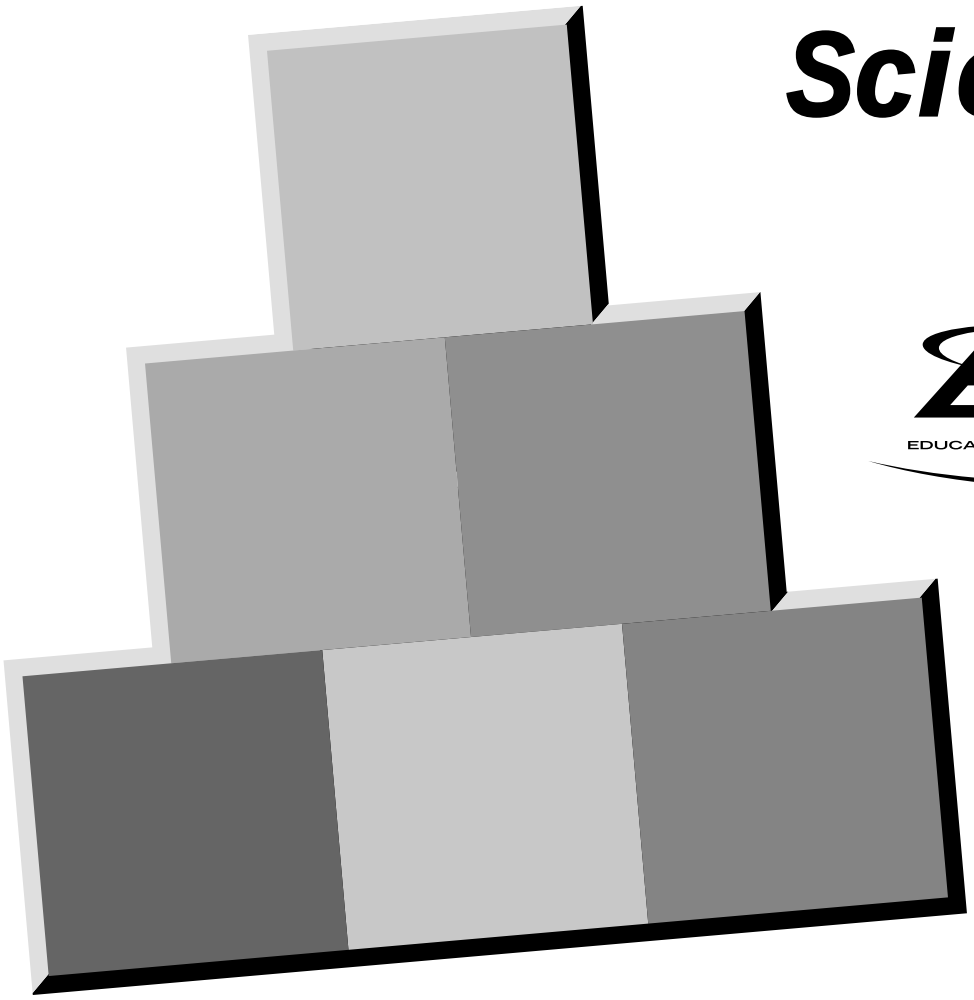
Real Software Solutions For Middle School Through Adult

REAL ACHIEVEMENT SOLUTIONS

Science



EDUCATIONAL ACTIVITIES SOFTWARE

From Educational Activities Software

Introduction

Welcome To Real Achievement

Real Achievement, from Educational Activities Software, provides six real solutions to develop skill competencies in older students and adults. Real Achievement is especially effective with students who have not experienced much success in traditional classroom settings. It was designed to take into account the specific characteristics of adolescent and adult learners.

Real Achievement's primary goal is to build the necessary basic and problem solving skills that these older students need to succeed in academic institutions or in the workplace. Students begin with basic skills, develop competency, and use these previously mastered skills to develop more complex ones. Mastery at each level provides the foundation for learning and potential success at the next level.

Real Achievement presents learners with a variety of instructional formats, including tutorials, simulations, video-based lessons, remediation, and authentic assessment tasks that appeal to all types of learners.

Real Achievement includes assessment and tutorials in a variety of curriculum areas, as well as a wealth of reproducible worksheets for follow-up and reinforcement. Several of the modules also include supplemental on-line Internet activities and resources that provide opportunities for real-world learning.

Accountability for teachers is provided through our easy-to-use universal management system, which tracks student progress and provides detailed information for each student in all the lessons. With simple keystrokes, information can be printed out or viewed on screen and includes time-on-task, raw scores and percentages for all lessons. The bookmarking feature ensures that students who do not complete a lesson return to the point at which they left off at their next session.

A Learning Styles Inventory program is included with Real Achievement. This researched-based program is easy to administer and use and provides educators with a student's preferred learning style(s), class composite of learning styles preference, comparison of individual students to class composites, and suggestions for instructional strategies to target instruction appropriately.

The Solutions bundles include:

- Reading Solution
- Language Arts Solution
- ESL/Basic Literacy Solution
- Math Solution
- Science Solution
- Workplace Solution

Table of Contents

The Real Achievement Science Solution

Together, the complementary programs within the Science Solution provide a unique solution for students who lack mastery of science skills and have difficulty reading science content and texts.

The programs include:
- Diascriptive® Reading in Science
- Life Science Series
- Biology Concepts Series
- Thinking Like A Scientist

With the Science Solution you get a coordinated system of instructional software programs that provides a strong foundation for both basic and higher order scientific skills, including content-literacy, critical thinking, scientific inquiry, and process science.

These programs reflect inquiry-based learning, which is at the heart of the current National Science Education Content Standards. As learners build their scientific understanding and investigative skills through active inquiry they are then able to connect their previous knowledge with new ideas and evidence.

The content in Science Solution correlates to all major texts and is effective preparation for state competency tests and nationally accepted objectives for adult education, such as TABE, CASAS, and GED for adult education. Learners are presented with a variety of instructional formats, including tutorials, interactive lab simulations, video demonstrations, journals, and other opportunities that appeal to a variety of learning styles. An important feature of the Solutions is that they do not take a "teach to the test" approach; rather, they were designed to help learners with a "transference" of skills.

Scope & Sequence

A brief description and scope and sequence of each software program in the Science Solution follows. Complete descriptions may be found in the teacher's guide for individual programs.

Diascriptive® Reading in Science

This program diagnoses the reading skills of each learner, with a focus on a variety of science topics. Like the other Diascriptive® Reading programs, it prescribes what is needed for improvement, and evaluates performance at each level before directing the learner to the next level.

Interest Level: 5.0-Adult ■ Recommended ■ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Diascriptive® Reading in Science			■	■	■	■	■	■	■	■

● Recommended ◆ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Details			●	●	●	●	●	◆	◆	◆
Inference			●	●	●	●	●	◆	◆	◆
Informational reading			●	●	●	●	●	◆	◆	◆
Main Idea			●	●	●	●	●	◆	◆	◆
Sequence			●	●	●	●	●	◆	◆	◆
Vocabulary			●	●	●	●	●	◆	◆	◆

Life Science Series

This series of interactive tutorials uses a multimedia approach to teach key Life Science topics.

Interest Level: 5.0-Adult ■ Recommended ■ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Life Science Series				■	■	■	■	■	■	■

Cells and Tissues

● Recommended ◆ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Identify and describe: cell membranes, nuclei, cytoplasm, mitochondria, organelles, lysosomes, vacuoles, chloroplasts, chromosomes, DNA, mitosis, chloroplasts				●	●	●	●	●	●	◆
Mitosis and binary fission				●	●	●	●	●	●	◆
Cellular division in a single-cell vs. multi-cellular organism				●	●	●	●	●	●	◆
Describe 2 functions of an amoeba's pseudopod				●	●	●	●	●	●	◆
Tissue and organs				●	●	●	●	●	●	◆
Describe: smooth and striated muscle tissue, blood tissue, neurons and nerve tissue, erythrocytes, epithelial tissue, and green leaves				●	●	●	●	●	●	◆

Scope & Sequence

Classification of Living Things

● Recommended ◆ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Organization					●	●	●	●	●	◆
Why biologists classify					●	●	●	●	●	◆
How ancients classified					●	●	●	●	●	◆
Binomial nomenclature and the concept of "species"					●	●	●	●	●	◆
Modern system of classification and its 5 kingdoms					●	●	●	●	●	◆
Evolutionary trend found in a phylogenetic tree					●	●	●	●	●	◆

Genetics and Heredity

● Recommended ◆ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Stages of mitosis and meiosis related to as exual and sexual reproduction				●	●	●	●	●	●	◆
Mendel's pea plant experiments and laws of heredity				●	●	●	●	●	●	◆
Genotype and phenotype				●	●	●	●	●	●	◆
Use Punnett Square to predict genotype				●	●	●	●	●	●	◆

Green Plants

● Recommended ◆ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
25 parts of a green plant				●	●	●	●	●	●	◆
Photosynthesis				●	●	●	●	●	●	◆
Sexual reproduction in green plants				●	●	●	●	●	●	◆
Pollination, fertilization, zygotes, embryos, seeds, fruit, cross pollination, hybrids				●	●	●	●	●	●	◆
Ecology: food chains, pyramids, and nets to show producers and consumers				●	●	●	●	●	●	◆
Vegetative reproduction: runners, rhizomes, stolons, cuttings, grafting, stock, scion, and regeneration				●	●	●	●	●	●	◆
Tropisms, phototropism, positive and negative geotropisms				●	●	●	●	●	●	◆

The Human Body

● Recommended ◆ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Digestive system				●	●	●	●	●	●	◆
Excretory system				●	●	●	●	●	●	◆
Respiratory system				●	●	●	●	●	●	◆
Circulatory system				●	●	●	●	●	●	◆
Skeletal system				●	●	●	●	●	●	◆
Nervous system				●	●	●	●	●	●	◆

The Human Body (continued)

● Recommended ◆ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Muscles, joints, and connective tissues				●	●	●	●	●	●	◆
How circulatory, respiratory, and digestive systems are interrelated				●	●	●	●	●	●	◆
How skeletal, muscular, and nervous systems are interrelated				●	●	●	●	●	●	◆
Significance of each system to the welfare of the body as a whole				●	●	●	●	●	●	◆

Biology Concepts Series

This video-based multimedia series leads students to higher order thinking skills as they take notes, problem solve, and draw conclusions based on data gathered through observation and inquiry.

Interest Level: 5.0-Adult

■ Recommended ■ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Biology Concepts Series				■	■	■	■	■	■	■

All Programs

● Recommended ◆ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Vocabulary				●	●	●	●	●	●	◆
Critical thinking				●	●	●	●	●	●	◆
Design scientific investigations				●	●	●	●	●	●	◆
Make predictions				●	●	●	●	●	●	◆
Develop explanations based on investigations				●	●	●	●	●	●	◆
Gather, analyze, and interpret data				●	●	●	●	●	●	◆

Cellular Respiration

● Recommended ◆ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Energy and cellular respiration				●	●	●	●	●	●	◆
Difference between breathing and respiration				●	●	●	●	●	●	◆
Cells: mitochondria, ATP and enzymes, cellular respiration, and discoveries of Rutherford, Priestley and Lavoisier				●	●	●	●	●	●	◆
Anaerobic respiration, aerobic respiration, respiration/photosynthesis cycle				●	●	●	●	●	●	◆
Fermentation				●	●	●	●	●	●	◆

Scope & Sequence

Life and Non-life

● Recommended ◆ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Characteristics of life: nutrition, movement, excretion, synthesis, respiration, sensitivity, growth, reproduction				●	●	●	●	●	●	◆
Classification of living and non-living				●	●	●	●	●	●	◆
Creating life in a laboratory				●	●	●	●	●	●	◆
Researching the existence of life on Mars				●	●	●	●	●	●	◆

Ecology

● Recommended ◆ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Ecosystems, communities, populations, habitats, and niches				●	●	●	●	●	●	◆
Cycles: water, carbon-oxygen, and nitrogen				●	●	●	●	●	●	◆
Ecological succession				●	●	●	●	●	●	◆
Producer-consumer-decomposer relationship				●	●	●	●	●	●	◆
Consumers: herbivores, carnivores, omnivores				●	●	●	●	●	●	◆
Biomes: 6 land and 2 water				●	●	●	●	●	●	◆

Photosynthesis

● Recommended ◆ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Raw materials and photosynthesis				●	●	●	●	●	●	◆
End products of photosynthesis: glucose and oxygen				●	●	●	●	●	●	◆
Plant leaves and pigments				●	●	●	●	●	●	◆
Discoveries of Rutherford, Priestley, and Lavoisier and the photosynthesis-respiration cycle				●	●	●	●	●	●	◆
Visible spectrum				●	●	●	●	●	●	◆
Photo chemistry				●	●	●	●	●	●	◆

Pollution

● Recommended ◆ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Air pollution: Smog, "greenhouse effect" and acid rain				●	●	●	●	●	●	◆
Land pollution: erosion, pesticides, poor garbage disposal				●	●	●	●	●	●	◆
Water pollution: pollutants and role of treatment facilities				●	●	●	●	●	●	◆
Extinction and endangered species				●	●	●	●	●	●	◆
Threatening ecosystems and habitats				●	●	●	●	●	●	◆
Fossil fuels, energy conservation, and alternative energy sources				●	●	●	●	●	●	◆
Biodegradable materials				●	●	●	●	●	●	◆

Thinking Like A Scientist

This program presents challenging laboratory simulations to exercise the learner's science process thinking skills.

Interest Level: 5.0-Adult

Recommended Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Thinking Like A Scientist										

● Recommended ◆ Review & Reinforcement

Literacy Level	PP-1.5	1.5-2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-12/Adult
Problem statements: correcting and formulating				●	●	●	●	●	◆	◆
Predictions: observing and making				●	●	●	●	●	◆	◆
Experiments: designing, correcting, drawing conclusions				●	●	●	●	●	◆	◆
Problem solving				●	●	●	●	●	◆	◆
Performing guided numeric equations				●	●	●	●	●	◆	◆
Data tables: reading and interpreting				●	●	●	●	●	◆	◆
Graphing data using X and & axis				●	●	●	●	●	◆	◆
Interpreting graphs				●	●	●	●	●	◆	◆
Quantitative and qualitative statements and relationships				●	●	●	●	●	◆	◆
Experimental data: recording, identifying errors, interpreting				●	●	●	●	●	◆	◆
Predictions: making and identifying problems				●	●	●	●	●	◆	◆
Patterns in data: noticing, forecasting and predicting				●	●	●	●	●	◆	◆

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