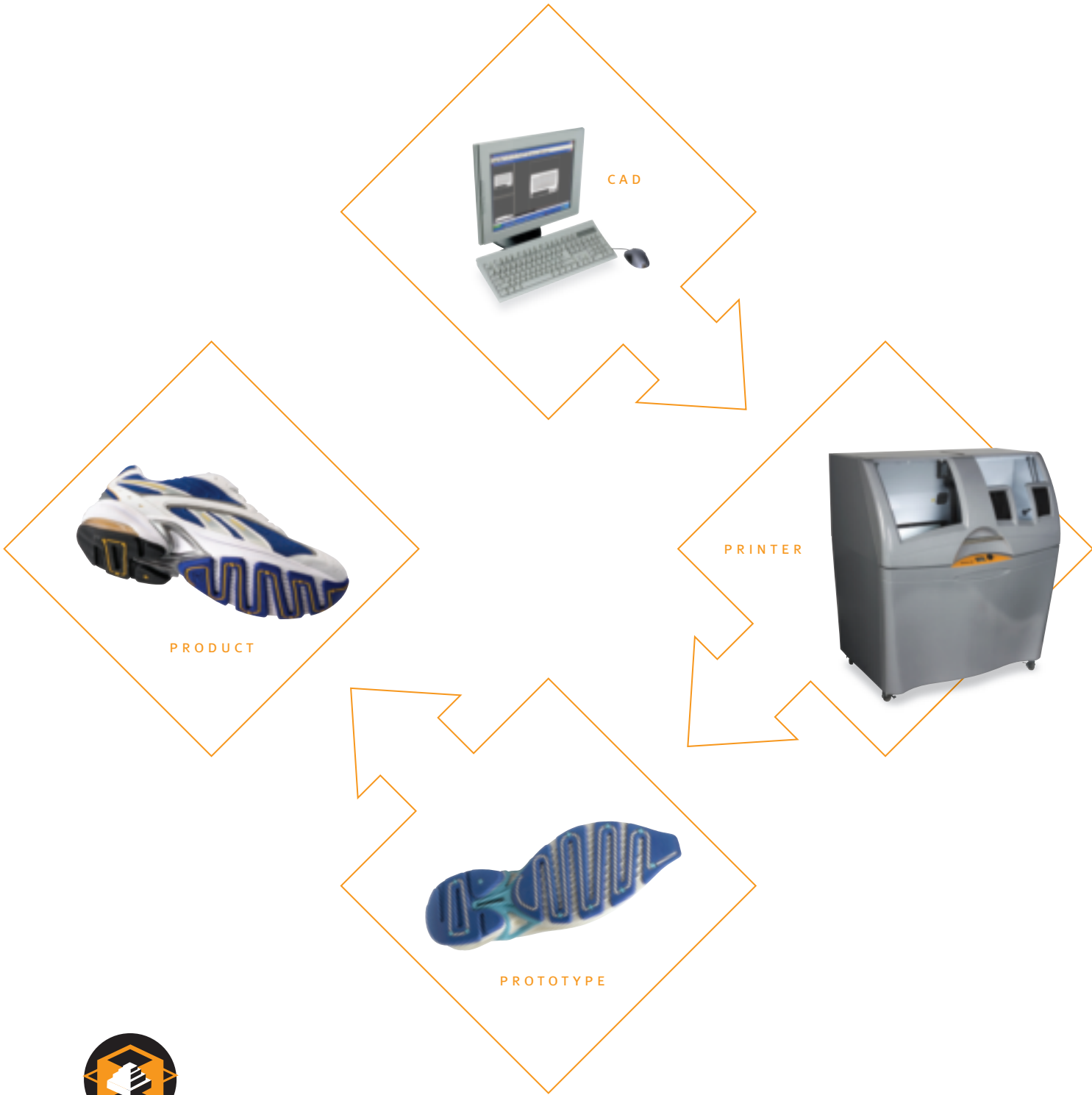


Z Corporation in Education

Bring the Classroom to Life with 3D Printing



ZCORPORATION®

Build a Model Student

3D printing gives you three great ways to teach engineering, architecture, chemistry, geography, medical modeling and fine arts.

ENGAGE STUDENTS

Turn students' ideas into real-life 3D color models that they can actually hold in their hands, bringing a new level of excitement and enthusiasm to the classroom

ENHANCE LEARNING

Foster a deeper understanding of design processes and encourage interaction and feedback

ENCOURAGE ADVANCEMENT

Presenting recruiters with physical examples of their design work makes a powerful impression, giving students a tangible competitive advantage when seeking jobs or higher levels of education

ZPrinter 310 Plus



3D Printing Solutions for All Educational Environments

From local high schools and vocational technical institutions, to major universities, Z Corporation's suite of 3D printers, available in both monochrome and color models, are ideally suited for a wide variety of classroom environments. Z Corporation's 3D printers are the fastest on the market, have the lowest operating costs, and provide an unprecedented level of productivity, accessibility, affordability, and safety.

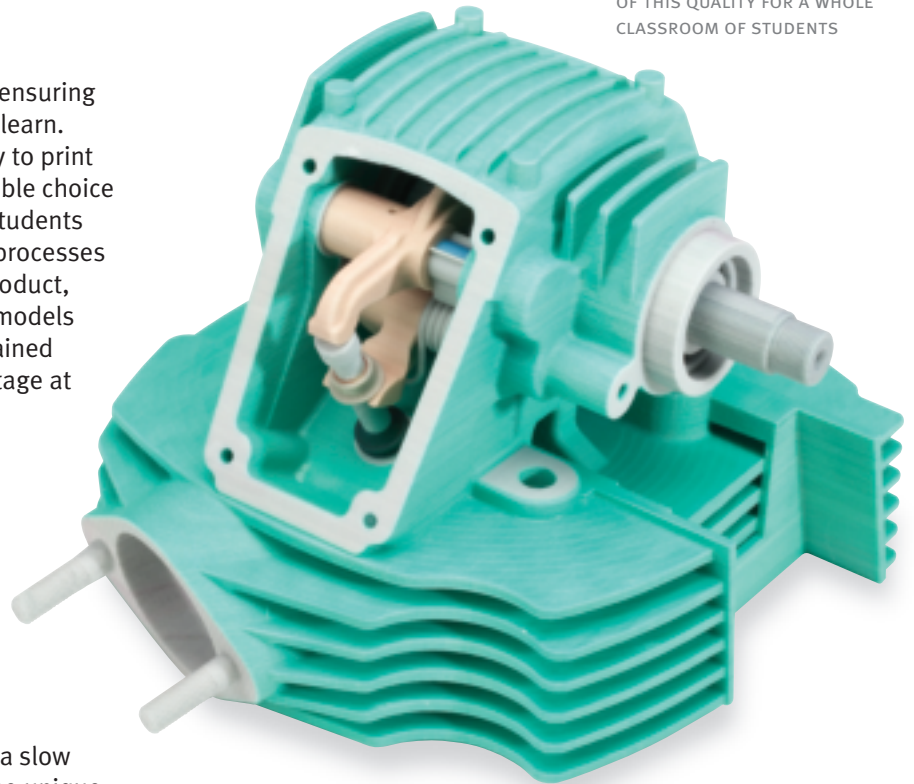
Access

ENHANCES LEARNING

High Productivity 3D printing gives more students the opportunity to learn

One of the main challenges educators face today is ensuring students have access to the resources they need to learn. Z Corporation's unmatched speed and unique ability to print multiple parts simultaneously make it the only feasible choice for classrooms. With Z Corporation printers, more students have the opportunity to experience real-life design processes in the classroom – from concept through finished product, allowing more students to walk away with finished models in their hands. Those models, and the experience gained producing them, give students a competitive advantage at job and college interviews.

ONLY ZPRINTERS CAN PRINT PARTS OF THIS QUALITY FOR A WHOLE CLASSROOM OF STUDENTS



Z Corporation's 3D printers enhance classroom productivity:

HIGH-SPEED PRINTING

Print five to ten times as many parts as other printers in the same time period.

ACCESS TO TECHNOLOGY

Many 3D printers print models one layer at a time – a slow and arduous process. Z Corporation printers have the unique ability to print multiple parts at once, allowing each student in a class of 20 to print a model in a single build. This shaves weeks off the time other printers require, helping ensure students meet important project deadlines and learn and progress at the same rate.



MOTOR HOUSING
5.6" x 8.4" x 7.3"
(142 x 213 x 185 MM)



CORDLESS DRILL
8.107" x 7.75" x 2.56"
(206 x 197 x 65 MM)



DRILL BEZEL
7.16" x 9.413" x 1.93"
(182 x 239 x 49 MM)

Z CORPORATION ZPRINTER 310 PLUS	PRINTING TIME 7HRS 49MIN	PRINTING TIME 3HRS 46MIN	PRINTING TIME 3HRS 19MIN
OTHER PRINTERS	PRINTING TIME: 87HRS 43MIN	PRINTING TIME: 38HRS 53MIN	PRINTING TIME: 25HRS 8MIN

Low Cost INCREASES ACCESS

Z Corporation's printers typically operate at one-third the cost of comparable solutions

Acquiring funding to secure and improve technology in schools becomes more and more challenging each year. From the initial price of the printer to ongoing materials and operational costs, Z Corporation provides the industry's most cost-effective 3D printing solution by:

RECYCLING

Only Z Corporation allows you to recycle unused powder for use in subsequent builds, saving both money and materials.

LOWER OPERATING COSTS

Material costs are equally as important as the actual printer cost. Many educators report that after purchasing competitive products, they couldn't afford to print students' parts because the material costs were so high.

EDUCATION DISCOUNTS

Z Corporation has a number of pricing incentives for the education market. Be sure to ask your dealer for more information.

COLOR SOLUTIONS LEVERAGE YOUR INVESTMENT

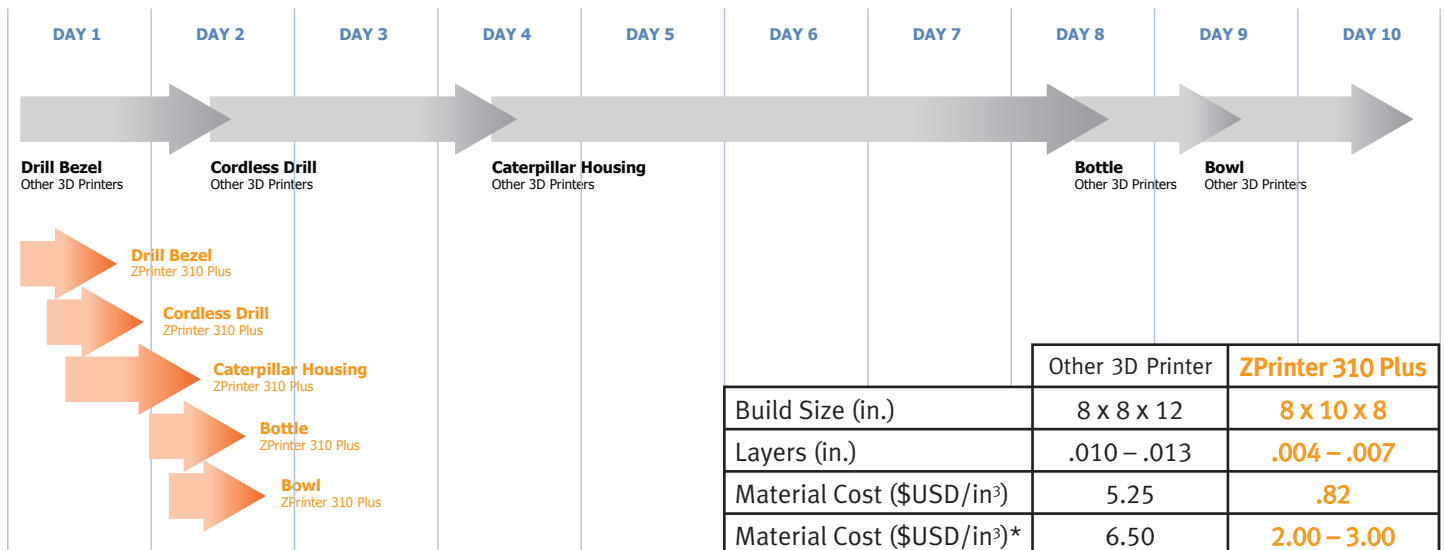
Only Z Corporation offers color 3D printers, allowing schools to leverage their technology investment across multiple departments.

Z CORPORATION'S MATERIALS COST
RANGE FROM
\$3.00 USD PER CUBIC INCH

OTHER 3D PRINTERS
MATERIALS COSTS AVERAGE
\$6.50 USD PER CUBIC INCH

“Given its accuracy, strength, surface finish, build speed and cost, we calculate a very good price/performance ratio for the Z Corp. ZPrinter 310. It is paying off handsomely in teaching, learning and business.”

— Professor Dimitri Dimitrov
Laboratory for Rapid Product Dev.
Stellenbosch University



* COST WITH INFILTRANT AND/OR WASTE

Source: T. A. Grimm & Associates, May, 2005, Rapid Prototyping & Manufacturing Conference

Safety

THROUGH BETTER TECHNOLOGY

Unlike other solutions, Z Corporation's 3D printers do not require the use of sharp cutting instruments or corrosive chemicals

The top priority in any classroom is safety. All 3D printers require a structure to support the model during printing. Z Corporation printers use a unique non-toxic loose powder support structure that enables the model to be removed from the printer quickly, easily and safely. Other printers encase the model in plastic, requiring the use of sharp cutting and scraping instruments for removal, or liquid phosphate baths that are as corrosive as lye or ammonia, and require special disposal.

“There are three major reasons why a Z Corporation 3D printer was purchased: it is extremely cost effective since the excess powder can be recycled so that there is nearly no waste, the materials are benign with no toxic fumes, and the third is its ease of use.”

— William Murray
Technology professor
South Kitsap High School

Other 3D Printers:



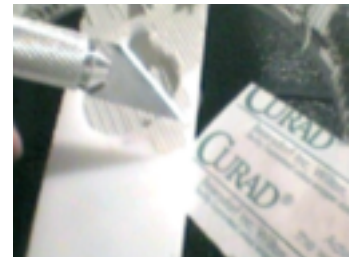
Support structures must be painstakingly removed with sharp tools such as razor blades, which can cause rough surfaces on printed parts.



Part removal can be expensive as foam boards cost \$15 a platform and break easily.



Soluble support structures require additional equipment costs and use of a corrosive phosphate bath.



The phosphate bath is time intensive and not office friendly, requiring special facilities and equipment to clean and dispose of chemicals.

The Z Corporation Process:



The ZPrinter 450 is ideal for the classroom with its closed-loop powder loading, removal and recycling, zero liquid waste, noise-suppression technology and eco-friendly, non-hazardous build material.



The ZPrinter 450 Powder Recycling Station unit is actually attached to the machine, simplifying the depowdering process and making it easy to transfer parts.



Finished parts can be dipped in water, eliminating process steps, increasing safety and reducing costs.



A wide variety of materials and infiltrants give parts properties ranging from durable to flexible, demonstrating real-life qualities.

Color INCREASES THE POSSIBILITIES

Only Z Corporation offers color 3D printing, leveraging your technology investment across many applications

Monochrome 3D printers present limitations in some learning environments. In geospatial applications for example, a monochrome model that cannot distinguish water from land, has little use. And in the fine arts, a single color rendering of a student's project does not adequately represent the student's intent. Color printing, on the other hand, dramatically increases learning opportunities across many disciplines. From industrial design, engineering and architecture to chemistry, geography, medical modeling and fine arts, color adds a range of new possibilities to the learning experience while leveraging your technology investment across many departments. Z Corporation's two full-color 3D printers make 3D color printing available and accessible to educators and students at unprecedented levels of affordability and efficiency.

Z Corporation also has a full set of software tools and interfaces to provide additional options for editing and manipulating parts prior to printing. You can add labeling and annotation, apply texture maps, add images and logos, as well as apply color to monochrome parts.

Whether you choose a color or monochrome solution, Z Corporation's 3D printing technology meets the needs of a broad spectrum of educational programs.

MECHANICAL ENGINEERING

Create appearance prototypes directly from digital data to evaluate designs in 3D.



MEDICAL MODELS

Accurately represent medical concepts in full-color 3D.

FINE ARTS

Create physical output of projects.

"In Case with Hat" by Robert Geshliger, Copyright ©2006 www.allthelives.com



ARCHITECTURE

Quick, inexpensive, and accurate models make it possible to print multiple pieces during the course of a project, and use the models not only to present, but also as part of the creative process.



INDUSTRIAL DESIGN

Produce models of any complexity, closely matching production models.





Z Corporation: A competitive advantage for students; a logical choice for educators

Z Corporation 3D printers provide students a real world learning experience, simulating the actual processes designers go through in the workplace. Whether a student's goal is to continue their education or enter the job market, 3D printing technology in the classroom gives students a strong competitive advantage and inspires them to excel in a variety of disciplines, from engineering to the fine arts.

Z Corporation printers, with their low-cost, high-speed operation, give more students the opportunity to experience the design process from idea to finished product, putting more finished models in the hands of more students. Z Corporation printers ensure that every student in the classroom has access to this valuable learning technology.

ZPrinter[®] 450



Advantages:

PRODUCTIVITY AND ACCESSIBILITY

High-speed and low-cost operation mean more students have access to this leading-edge technology.

SPEED

The fastest 3D printers in the world, Z Corporation's high-throughput printers are ideal to support several classes of 20 to 30 students each semester.

LOW COST

Offering the lowest cost per printed part is critical both to support students and stay within budget.

COLOR OPTIONS

Only Z Corporation offers full-color 3D printing options to further enhance learning while leveraging technology investments.

RELIABILITY

A reliable, high-quality 3D printer is pivotal to learning as it operates continuously in the classroom.

SAFETY

Z Corporation's 3D printers do not require the use of sharp cutting instruments and hazardous chemicals.

"...when a student shows up at interviews with colorful models to pass around the table, that makes a big impact on whether they're admitted or hired."

– Bruce Weirich
Drafting Instructor
Ontario High School



“Students get an idea, sketch it out, develop it in Rhino, animate it, print it, and then hold it in their hands.

When they hold it in their hands, they’re closing the loop, which really brings the value of the exercise home. Until then, it’s all conceptual, virtual and 2D. Completing the circle is important. It turns kids on.”

— Bruce Weirich
Drafting Instructor
Ontario High School



Z CORPORATION®

WORLDWIDE HEADQUARTERS

Z Corporation
32 Second Avenue
Burlington, MA 01803 USA
+1-781-852-5005
www.zcorp.com