



FRACTAL SCIENCE AND MATH ACADEMY

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FractalAcademy.com

Fall 2015 Enrichment & Test Prep



Course	Grade Level	Tuition	Meeting Times
SAT I & II Prep - private and small group	9-12	*Varies	According to your schedule; personally tailored
SAT Challenge (class format)	8-12	\$200 all inclusive	see website for full schedule
ISEE Prep (Math &/or Verbal)	5-9	*Varies	According to your schedule; personally tailored
Saturdays in the Lab	1-8	\$10 per Saturday	9/26, 10/31, 11/21 9-10:10am for Grades 1-4, 10:30-11:40 for Grades 5-8
Kangaroo Math International Competition & Problem-Solving	1-2	\$399 for entire season	Cancelled
Kangaroo Math International Competition & Problem-Solving	3-4	\$449 for entire season	9/13 - 3/17 Sun. 10-11 (excl. 11/29, 12/27, 1/3, 2/14) Competition: Thurs. 3/17
Kangaroo Math International Competition & Problem-Solving	5-7	\$499 for entire season	Cancelled
Junior First LEGO League	Ages 6-9	\$199	9/12 - 11/14 (excl. 11/28) Sat 12:15-1:15pm Cancelled
Senior First LEGO League	Ages 9-14	\$280	9/13 - 12/6 (excl. 11/29) Sun. 11am-12pm Competitions TBA
Amusement Park Math & Science	1-4	\$399	Will run again Summer 2016 =)
Amusement Park Math & Science	5-8	\$399	Will run again Summer 2016 =)
Stock Monkeys	4-8	\$399	Will run again Summer 2016 =)
3D Mania for Gr. 2-8	2-8	\$399	9/13 - 12/13 (excl. 11/29) Sun. 12-1pm
AutoCad and 2D/3D Design	8-12	\$90/hour	According to your schedule; personally tailored

Course Descriptions for K-12

*One-on-one and group tutoring available in all levels of Math and Science, from Elementary to College Level (including AP). We also do MCAT, DAT, pre-med course prep!

Premier PSAT, SAT, SAT II (Math, Chemistry, Physics, Biology), ACT, and ISEE Prep- Middle and Upper Levels (Year-round)

At Fractal Academy, we are strong believers that adequate test preparation and strategy are vital to improving scores on the exam and we are here to help. Offered in both classroom course format and private one-on-one instruction (in person or online), this prescriptive course of study will be sure to give you the Fractal advantage!

SAT Math Challenge and SAT Verbal Challenge

The SAT Math Challenge is a 5 session course at Fractal Academy in which we will prepare you for the Math or Verbal Section of the SATs. We will give you a diagnostic SAT section, follow it with 5 weeks of prep including homework, and administer a final SAT post-test. The sky is the limit! (Figuratively speaking...literally 800 is the limit.) All inclusive cost is \$200! See website for schedule, as this course fills up quickly and we open new sections by demand.

Junior First Lego League (Ages 6-9); Senior First Lego League Team Prep (Ages 9-14; Fall 2015)

In September of each year, Lego releases a challenge that focuses on a real-world topic related to the sciences; the challenge centers on that theme. The robotics part of the competition (for Seniors) focuses on designing and programming Lego Mindstorm robots to complete tasks. The students work out solutions to the problems and compete at a regional tournament to share their knowledge, compare ideas, and display their robot.

Saturdays in the Lab (Grades 1-8; Fall 2015 - Spring 2016) *\$10 per Saturday

Science with a purpose! Saturday in the Lab is designed by Fractal Academy as a one-hour weekend program to introduce older elementary and middle school level children to the kind of labs they will eventually be doing in high school. Learn to think like a scientist in doing these interesting, inquiry-based labs.

Kangaroo Math Competition Prep (Grades 1-7; Fall 2015 - Spring 2016)

The Math Kangaroo is an international mathematical competition that more than 40 countries and 5,000,000 students compete in. Held at the end of March, we offer a comprehensive seven month preparatory program that will strengthen your problem-solving strategies for the competition, and will enhance your skills for your regular school-based math and science classes. All participants will receive a t-shirt, diploma, and special memento. Class sizes are capped at 7 to ensure maximum quality, and are classified based on grade level.

3D Mania (Grades 2-8); Autocad/3D Design (Grades 8-12)

3D printing has widespread applications in the automotive, aerospace, medical industries, and many more. In this course, you will create a design file which is a mathematical description of a 3D object. Get your 3D printing idea off of paper and into your hand!

Amusement Park Math and Science (Grades 1-4, 5-8)

How fast do you need to be moving in order to prevent falling out of the Loop de Loop? At Great Adventure, why are you strapped in from the top on Superman and Medusa, while El Toro has you strapped in by the waist? What's your centripetal acceleration on the Teacup ride at Disney? In this course, we will answer all of these questions and more, as we explore amusement park rides like Kingda Ka, and question how they work. The math and science applications will come easily once the basic concepts of inertia, momentum, and Newton's Laws are introduced. *This course includes a field trip to Great Adventure.* Get ready for a wild ride!

Stock Monkeys (Grades 4-8)

Under Armour, Urban Outfitters, Apple, Facebook, and Twitter are more than just great fashion and cool technologies, they're awesome stocks, too! In this course, you will learn the basics of investing through equities and mutual funds, and lots of terminology ("going long" will no longer apply to just football!). You will create a mock investment portfolio and track its success over various time periods, evaluating and improving your strategies as you go. Look out, Warren Buffett!