

# **Rider Institute Online**

## **Earth and Space Science**

**Fall 2024 beginning September 4th**

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**Website: [riderinstitute.org](http://riderinstitute.org)**



**This online course (for students in upper elementary through high school) covers a wide range of topics in Earth and Space Science. No prior knowledge is required. Supplementary readings and simple home experiments are recommended (but not required) each week.**

**The course is conducted via Google Meet on Wednesdays 8:00-9:00 p.m. Eastern (5:00-6:00 p.m. Pacific).**

**You can pay for individual blocks of 8 weeks (see below) or \$368 per household for the entire fall course. To register, please pay in advance by credit card ([riderinstitute.org/donate](http://riderinstitute.org/donate)) or by check (made payable to “Rider Institute Inc.” and mailed to: **Todd Rider, 5 Green Needles Road, Littleton, MA 01460**) and also send an email ([thor@riderinstitute.org](mailto:thor@riderinstitute.org)). Payments are nonrefundable.**

### **Earth Science Part I (\$184 per household for 8 weeks)**

<b>Sep. 4</b>	<b>Earth science overview</b>
<b>Sep. 11</b>	<b>Minerals</b>
<b>Sep. 18</b>	<b>Minerals (cont'd)</b>
<b>Sep. 25</b>	<b>Rocks</b>
<b>Oct. 2</b>	<b>Rocks (cont'd)</b>
<b>Oct. 9</b>	<b>Structure of the Earth</b>
<b>Oct. 16</b>	<b>Plate tectonics</b>
<b>Oct. 23</b>	<b>Earthquakes</b>

### **Earth Science Part II (\$184 per household for 8 weeks)**

<b>Oct. 30</b>	<b>Volcanic activity</b>
<b>Nov. 6</b>	<b>Crustal deformation and mountains</b>
<b>Nov. 13</b>	<b>Weathering by water</b>
<b>Nov. 20</b>	<b>Weathering by glaciers and wind</b>
<b>Nov. 27</b>	<b>Other objects in our solar system</b>
<b>Dec. 4</b>	<b>Other objects in our solar system (cont'd)</b>
<b>Dec. 11</b>	<b>Objects beyond our solar system</b>
<b>Dec. 18</b>	<b>Objects beyond our solar system (cont'd)</b>

**Spring 2025  
beginning Jan. 8:**

**More Earth Science:  
paleontology,  
oceanography,  
atmospheric science,  
weather, climate,  
pollution, and ecology**

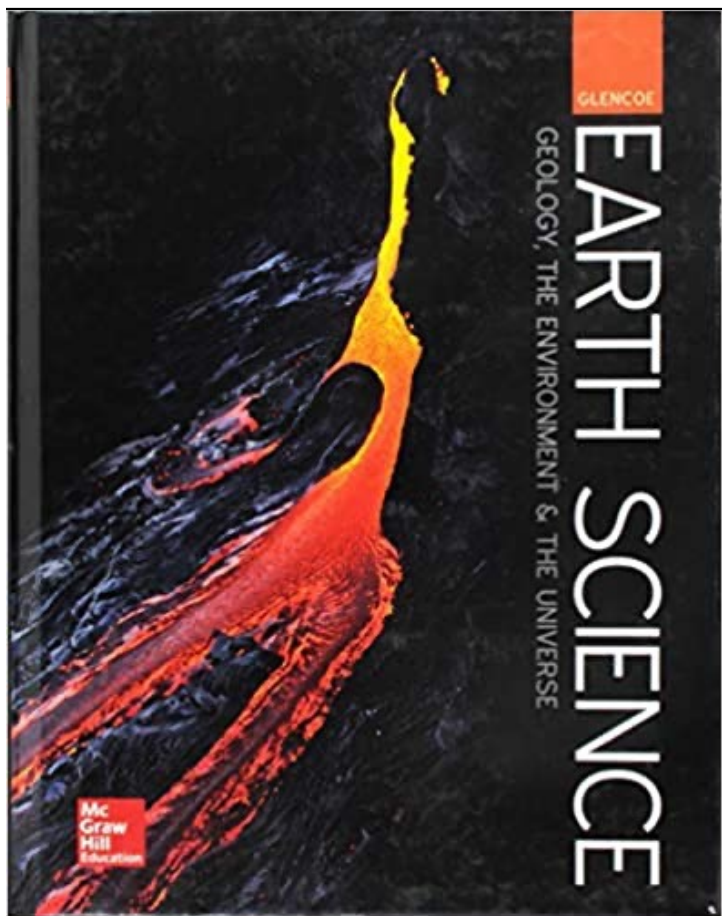
**(if enough students  
are interested)**

**Dr. Rider has over 30 years  
of experience in science  
education and research:**

**[riderinstitute.org/education](http://riderinstitute.org/education)**

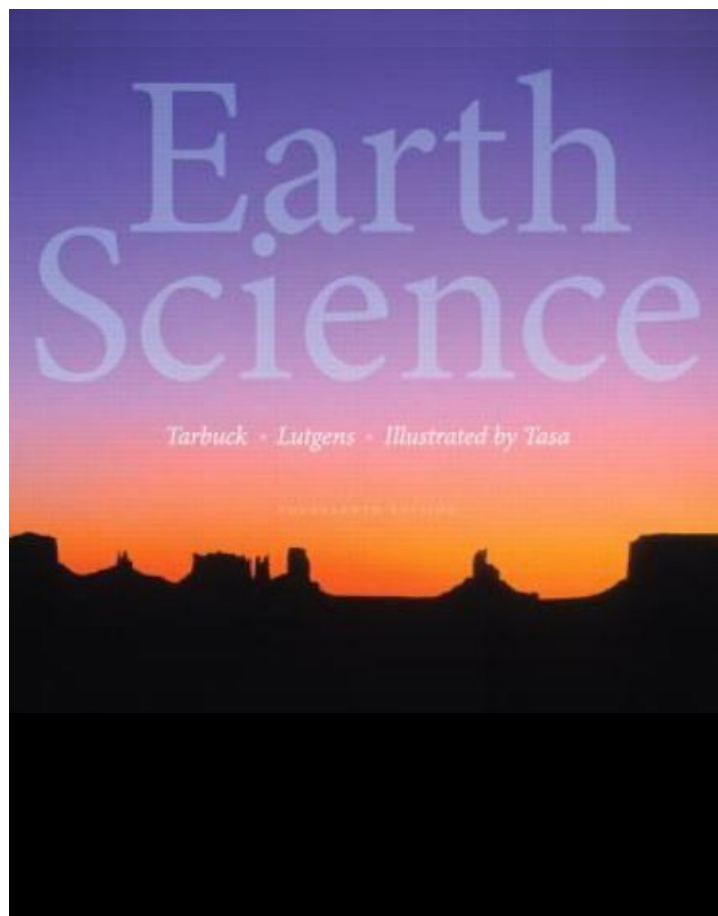
**[riderinstitute.org/about](http://riderinstitute.org/about)**

It is recommended (though not required) that students buy a textbook for supplementary readings during each week. Students can use **either** Glencoe *Earth Science* **or** Tarbuck & Lutgens *Earth Science*.



For less advanced students

OR



For more advanced students

New textbooks are insanely expensive, but more affordable used copies are available from reputable dealers at [amazon.com](http://amazon.com), [abebooks.com](http://abebooks.com), etc. You can also save money (without losing much scientific content) by buying an edition that is recent but not the very latest.

Don't pay for online access codes (those are just an expensive gimmick) and don't rent a book (a good printed textbook that you can keep is an invaluable resource that can be useful in later courses).

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## Recommended (but not required) home lab activities

Each week I will suggest simple lab activities that students can do at home with adult supervision, using common household items or supplies from online dealers. I especially recommend [www.homesciencetools.com](http://www.homesciencetools.com), which sells science kits and individual items.

See also:

[www.geoed1.com](http://www.geoed1.com)

[www.meteoritemarket.com](http://www.meteoritemarket.com)

[www.rocksandminerals.com](http://www.rocksandminerals.com)

[www.djminerals.com](http://www.djminerals.com)

[telescope.com](http://telescope.com)

[boneclones.com](http://boneclones.com)

[celestron.com](http://celestron.com)