

Adventures of the Argonauts

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Adventures of the Agronauts: A tool for third grade science

“Why do we visit so many third grade classrooms?” This is the question that researchers in the [NASA Specialized Center for Research and Training \(NSCORT\)](#) at NC State University wanted to answer in 2002. They had discovered that almost half of their outreach program involved visits with North Carolina third graders.



NSCORT researchers like Chris Brown and Wendy Boss are interested in using plants to support life on other worlds.

NSCORT researchers, who study the effects of gravity and microgravity on plants, did not have to look far to find the answer to their question. In the third grade, children study four areas of science that are near and dear to the NSCORT research agenda: the Earth/Moon/Sun connection, plant characteristics and adaptations, soil characteristics, and heat and light concepts.

Upon this discovery, NSCORT was faced with two options: personally visit every third grade classroom in North Carolina, or develop an accessible tool that shows teachers and students the exciting, real world links between these science concepts. The choice was easy, and *Adventures of the Agronauts* was born.

[Adventures of the Agronauts](#) is an online science curriculum for elementary-aged students with an overarching theme: how can we grow plants on the Moon? The curriculum directly aligns with the NC Standard Course of Study for [third grade science](#). Students become "Agronauts in Training" and complete six different standards-based lessons towards the final goal of growing plants on the Moon. Working throughout the year to solve this problem of lunar plant growth, students create their own system, and systems are an emphasis of North Carolina's third grade science curriculum.

“My students were hooked from the first day of school,” says Lucinda Gordon, a third grade teacher at Carrboro Elementary School who is piloting the curriculum in her class this year. “They especially like that this is a real world problem and they are helping to find a solution.”

For [students](#), the curriculum contains a glossary, some movie demonstrations of concepts like plant phototropism, and career information for each mission. Students keep an Agronaut Log over the course of the curriculum where they practice science concepts and write regular reports to Mission Commander Spud Goodroot. For [teachers](#), the website contains a brief content review, suggested activities for each mission, web resources, and hints for how to involve other school



The faces of excited Agronauts, holding their Agronaut Logs.

staff in an Agronauts project. For example, teachers can have an administrator serve as the voice of Commander Spud Goodroot, come over the intercom and congratulate students on a mission well done. Gordon, who did just this, says, "I wish everyone could experience the excitement in my room when Commander Goodroot called to congratulate the students for a job well done!" Gordon also worked with the music teacher at Carrboro Elementary to have her students sing about the Earth/Moon/Sun system ([listen here](#)).



Agronauts characters accompany students through the journey. From left: Astronut, Broc, Polly, Rosy, and Tate.

"We think the critical factor for success with this curriculum is teacher innovation and flexibility," explains Courtney Thornton, Assistant Director for Outreach at NSCORT. "The teacher resources on the website are merely suggestions. Ultimately, each teacher will know how to tweak this program to help his or her particular students succeed and get excited about science. We know this is happening, because when we visit the pilot classrooms, students cannot wait to tell us about their ideas. It was amazing to hear a third grade student share his idea of robotic bees that would pollinate plants and buzz loudly to signal critical changes in the plant growth chamber environment! That's just the kind of creative thinking we hoped this curriculum would generate."

[Five teachers](#) in central North Carolina are currently piloting [Adventures of the Agronauts](#) in their classrooms during the 2003/2004 academic year. The teachers provide feedback to NSCORT on a regular basis about activities, reading level appropriateness, and the logistics of using technology with their students. Improvements are continuous, such as the addition of optional screen reader files to assist students at lower reading levels and a worksheet repository on the teacher resource page. Additionally, with the NC third grade science curriculum [under revision](#), Mission 5 of the Adventures will soon be augmented to include information on the skeletal and muscular systems...on Earth and in space, of course.

One thing is already sure, [Adventures of the Agronauts](#) is out of this world!

Questions about using Agronauts with your students? Contact Courtney Thornton at courtney_thornton@ncsu.edu or (919) 515-5118.

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