What’s the Scoop: Science and Technology

Mr. Andrew Scheid
Mrs. Emily Meyer
Mr. Alan Sandau
Yinghua Academy
Middle School
Science Team

Mr. Andrew Scheid
11 years at Yinghua Academy
5th Grade and 8th Grade Science

Mrs. Emily Meyer
3 years at Yinghua Academy
5th grade and 7th Grade Science

Mr. Alan Sandau
8 years at Yinghua Academy
6th Grade Science, Maker Space
About Mr. Scheid

- Middle School Science Teacher
  - Yinghua Academy Grades 5, 6, 7, 8
  - 2021-2022 is my 11th year at Yinghua
  - over 15 years of classroom teaching experience

- Masters Of Education
  - Framingham State University (study abroad)

- B.S. Biology
  - Northland College, Ashland WI

- Other Highlights:
  - Santa Cruz Cooperative School (Bolivia)
  - U.S. Forest Service, Superior National Forest
About Mrs. Meyer

- Middle School Science Teacher
  - Yinghua Academy Grades 5 and 7
  - 3rd year at Yinghua
  - Taught in both China and America (speaks Chinese)

Masters Of Science Education
- In-process- Hamline University

B.S. Dietetics (Human Food and Nutrition)
- University of St. Thomas, Houston, TX

Other Highlights:
- Lived in China for 10 years with my family (Beijing, Shanghai and Urumqi)
- I am also a licensed ESL teacher
About Mr. Sandau

- Licensure: Chemistry and Middle School Science
  - 8th year teaching full time at Yinghua, but I’ve been teaching here part time for 11 years. I am also a proud parent of Yinghua Alums!
- Masters Of Teaching
  - College of St. Scholastica
- Bachelors in Chemistry
  - Minnesota State University, Moorhead
- Other Highlights:
  - Worked in Hazmat, Cosmetic R & D, Environmental Labs and the Plating Industry.
  - Connected to Yinghua since 2006!
MN State Science Standards

Nature of Science & Engineering
- Physical Science
  - Matter
  - Motion
  - Energy
  - Human Interactions

Earth & Space Science
- Earth Structure & Processes
- Interdependence in Earth System
- The Universe
- Human Interactions

Life Science
- Structure & Function
- Interdependence in Living Systems
- Evolution
- Human Interactions
Next Generation Science Standards

Science and Engineering Practices

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
5th Grade: General Science

6th Grade: Physical Science and Engineering

7th Grade: Life Science (Biology)

8th Grade: Earth Science and Chemistry
### 5th Grade

- **3-4 sessions per week (160+ minutes)**
- **What to bring to class:**
  - Science Notebook (SNB)
  - Science Folder (green)
  - HOMEWORK in SNB
  - Colored Pencils

<table>
<thead>
<tr>
<th>Month</th>
<th>Grade 5: General Science</th>
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<tbody>
<tr>
<td>September</td>
<td>Scientific Method</td>
</tr>
<tr>
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<td>Life Science Intro</td>
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<tr>
<td>October</td>
<td>Plants: Structure and Function</td>
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<td>November</td>
<td>Ecosystems and Biomes</td>
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<td>December</td>
<td>Earth Science</td>
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<td>Water Cycle</td>
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<td>Weather</td>
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<tr>
<td>January</td>
<td>Solar System</td>
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<td></td>
<td>Earth, Moon, Sun</td>
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<tr>
<td>February</td>
<td>Landforms</td>
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<tr>
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<td>Weathering</td>
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<td>Erosion</td>
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<tr>
<td>March</td>
<td>Physical Science</td>
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<td>Force and Motion Energy</td>
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<td>April</td>
<td>Matter: Particles</td>
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<td>States of Matter</td>
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<td>May</td>
<td>Simple Machines</td>
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<tr>
<td></td>
<td>Electricity</td>
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<td></td>
<td>Magnetism</td>
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</tbody>
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# Science Notebook: The SNB

<table>
<thead>
<tr>
<th>DAILY DO NOW QUESTION</th>
<th>WEEKLY VOCABULARY LIST</th>
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</thead>
<tbody>
<tr>
<td>4/3: What is a Force?</td>
<td>force:</td>
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<tr>
<td>4/4: Describe Work:</td>
<td>friction:</td>
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<tr>
<td>4/5: What is a Machine?</td>
<td>gravity:</td>
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<tr>
<td>4/6: Name the 6 Simple Machines.</td>
<td>equilibrium:</td>
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<td>load:</td>
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<td>work:</td>
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<td>power:</td>
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<td>machine:</td>
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<td>fulcrum:</td>
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<td>lever:</td>
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<td>inclined plane:</td>
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Science EXPO Projects!

MAGNETIC ACCELERATION

TOFU-SION
Science Lab Activities

FLOWER DISSECTION

ELECTRICAL CIRCUITS
Science Lab Activities

SIMPLE MACHINES

MAPS AND LANDFORMS
Support Materials

- Harcourt Science 5
  - Published 2000
  - Sample: Text pF2-F28
  - Ch1: Forces (L1, L2, L3)

- Hands-On Materials
  - FOSS, Delta

- Delta Science Dictionary

- Discovery Education Online Videos
<table>
<thead>
<tr>
<th>Questions</th>
<th>Answers</th>
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<tbody>
<tr>
<td>What days will my child have Science?</td>
<td>Not sure.</td>
</tr>
<tr>
<td>How large is the universe?</td>
<td>Unknown.</td>
</tr>
<tr>
<td>What is the cause of turbulence?</td>
<td>Way too many variables.</td>
</tr>
<tr>
<td>Where do we go next?</td>
<td>Art Room (study abroad)</td>
</tr>
</tbody>
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CPO Science Curriculum