

New Teacher Induction Getting Started in Science

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6th Grade

Being A Successful Science Teacher

Effective planning, organization, preparation and management will enable success in science instruction.

- Know your science core
- Plan out your year
- Organize your materials
- Having great science lesson plans
- Know how to set up experiments
- Managing students during experiments
- Having good science books to read

What Are You Teaching?

6th Grade

1. Structure and Motion Within the Solar System

Moon patterns and eclipses, seasons, gravity, and inertia, scale, and properties of objects within the solar system.

2. Energy Affects Matter

Molecules, atoms, and combinations; heat and energy on matter, density, particle movement in matter, and heat transfer.

What Are You Teaching?

6th Grade

3. Earth's Weather Patterns and Climate

Cycling of Water, cause of changes in weather, air mass flow, unequal heating, greenhouse effect, and Earth's energy balance

4. Stability and Change in Ecosystems

Resources availability, interactions among organisms, producers, consumers, and decomposers, changes in ecosystems affect population, and preserving ecosystems.

6th Grade State Science Core

- The 6th Grade State Science Core was written in 2017 for the teaching of the 6th Grade Science Core.
- For each stand, this booklet has the Scientific and Engineering Practices, Crosscutting Concepts, and Disciplinary Core Ideas to use with each strand.
- The 6th Grade SEEd Science Core is found at:
 - <http://elemscience.jordandistrict.org/files/Utah-6-8-Science-with-Engineering-Education-Standards.pdf>
- A PowerPoint of how to use this book is found at:
 - <http://elemscience.jordandistrict.org/files/1-New-6th-Grade-Sci-Core-Presentation-.pdf>

Where Do I Get Lesson Plans?

- The Science Lesson Plans are found on the New Teacher Induction page on the Elementary Science Website:
<http://elemscience.jordandistrict.org/teachers/newteacher/>
 - “SEEd Storylines”—Lesson plans for all standards:
 - JSD Elem Website--developing lesson plans in the making.
- PD classes during the year that will present lesson plans. <http://elemscience.jordandistrict.org/pd/>

Planning for the Year

- Your grade team will help you with the order you will teach science.
- Ask your mentor for suggestions
- Call Paul Nance (801-244-6479)

Organization

- Dedicate a file section for each standard
 - Some use hanging files
 - Some use 3-ring binders
- Dedicate a storage box/container for hands-on supplies for each standard

How Do I Make an Activity Happen for 6th Grade?

- Start out with a phenomenon.
- Using crosscutting concepts and science and engineering practices students will design an experiment.
- Materials, Plan, Variables, Written Data
- Make a model with an explanation of what happened.
- Share what was found out using the evidence found in the experiment.

Managing Groups During Lab Work

- Practice group work before doing science
- Keep groups small (2-4) is best
- Assign each group member a job
- One member should be the leader
- Give specific and detailed instructions
- Model as much as possible
- Forecast and plan for “glitches”
- Use graphic organizers
- Always have enough time for clean-up
- Always stress safety

Rules During Lab Work

- Follow the directions
- Don't work ahead
- Everyone stays on task
- No talking within the group about other things
- No group member bothers a member of another group
- No goofing around
- Work on a timely basis--keep things going
- Students assigned to a certain task are the ones who do that task
- Keep it safe all the time--no exceptions

Safety First!

- Safety First - ALWAYS!
- Be aware of dangers
- Plan to avoid them
- Keep expectations high and firm
- Be consistent with consequences

Journaling Ideas

- Have students use a journal as much as possible when doing experiments
- Use of journal during an experiment:
 - Writing down measurable data
 - Explaining what they saw happen
 - Making a graph
 - Explaining their thoughts on why it happened
 - Writing a conclusion

Videos

- Research has shown educational media used correctly can be an effective instructional tool and help close the achievement gap.
- Use ONLY for reinforcement and review
- Don't overuse ~ once every one or two weeks is good

6th Grade Science Literacy

- 6th grades has literacy books that can be used during shared reading and during science time. Your grade colleagues can help you know which books are the best
- Science not only needs to be read about, it also needs experimental investigation. During science investigation time you can do more reading for background knowledge, watch science videos, do experiments, have discussions, and do journaling.
- Try to do science as much as you can every week. As a rule of thumb, one-half hour a day should be set apart for science investigation not including the science reading you do during your language block.
- Here is a webpage for 6th grade best books:
<http://elemscience.jordandistrict.org/6th-grade-science-seed-resources/>

5th and 6th Grade Science Literacy and OER Books

- There are science textbooks that Utah State Office of Education have written called Open Education Resource Books (OER). These books are written specifically for the respective grade levels.
- These OER books are tweaked each year to make them better. They only cost around \$3.00 each. You can review them, download them, or purchase them by going to the Elementary Science Webpage:
 - <https://utah-science.myshopify.com/>
- Ask your colleagues or principal about purchasing them for they will really enhance your science class instruction and help raise your science scores.

Science Specialist Help

- Paul Nance can do the following with a scheduled appointment:
 - Individual or or grade team help to discuss the science order.
 - How to teach science concepts
 - Understanding science concepts
 - Strategy ideas for teaching science
 - Do model teaching of the activities
 - Act as a mentor to improve your teaching
 - Help in your classrooms (during science)
 - Meet in your PLCs.

First Week Science Activities

There are 5 science activities that you can do the first week of school:

- A fun PowerPoint to show (Introduction to Science)
- 2 Literacy Lessons
- 2 Content Lessons

<http://elemscience.jordandistrict.org/teachers/newteacher/>

- They are found at the bottom of the webpage.

This PowerPoint is also found on the Elementary Webpage under: Getting Started at the bottom of the New Teacher Induction webpage.

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Have Fun!

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