**Science Unit Organizer**

**Magnetism**

**2nd Grade- Liberty Common School**

**Previous Unit:**  **Next Unit:**

Nutrition Tools and Simple Machines

**Integrated Units:**

None at this level

**The Big Idea:** Magnets exert forces of attraction on certain materials.

**Summary**: Magnetism demonstrates that there are forces that act upon objects that cannot be seen. Most magnets contain iron. Lodestones are natural magnets. Magnets have two poles: a north and a south pole. Unlike poles attract and like poles repel. The earth behaves like a huge magnet. The use of a magnetized needle in a compass, which will always point north, is called orienteering.

**Core Knowledge Content (Knowledge):**

1. Magnetism demonstrates that there are forces we cannot see that act upon objects
2. Most magnets contain iron
3. Lodestones: naturally occurring magnets
4. Magnetic poles: north-seeking and south-seeking poles
5. Magnetic field (strongest at the poles)
6. Law of magnetic attraction: unlike poles attract, like poles repel
7. The earth behaves as if it were a huge magnet: north and south magnetic poles (near, but not the same as, geographic North Pole and South Pole)
8. Orienteering: use of a magnetized needle in a compass, which will always point to the north.

**Prior Knowledge:**

Kindergarten: Introduction to magnetism

* Identifying familiar everyday uses of magnets (for example, in toys, in cabinet locks, in “refrigerator magnets”, etc.)
* Classifying materials according to whether they are or are not attracted by a magnet

**Future Knowledge:**

Fourth Grade: Electricity

* electromagnets

**Colorado State Standards for 2nd Grade**

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| **Content Area: Science** | |
| **Standard: 1. Physical Science** | |
| **Prepared Graduates:**   * Observe, explain, and predict natural phenomena governed by Newton's laws of motion, acknowledging the limitations of their application to very small or very fast objects | |
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| **Grade Level Expectation: Second Grade** |
| **Concepts and skills students master:** |
| 1. Changes in speed or direction of motion are caused by forces such as pushes and pulls |

**Additional Resources:**

* For Teachers:
  + Core Knowledge Teacher Handbook, Grade 2, Core Knowledge Foundation, ISBN: 1-890517-74-7
  + What Your Second Grader Needs to Know edited by E.D. Hirsh, Jr. ISBN 038531843X
  + “Magnets” by Anne Schrieber ISBN 0-448043149-1
  + “Magnets” by Angela Royston ISBN-13 9781-4329-1458-5
  + “Magnets” bu Vijaya Khisty Bodach ISBN-13 978-0-7569-8429-8
  + “You Can Use a Compass” by Lisa Trumbauer ISBN 0-516-24610-0
* For Students:
* “Science with Magnets” Usborn Science Activities by Helen Edom ISBN 0881106372
* “What Magnets Can Do” by Allan Fowler ISBN 051646034X
* “What Makes a Magnet?” by Franklyn M. Branley ISBN 0064451488