**Iron in Cereal Activity/Demonstration**

Purpose:

In this activity, students will be able to visually observe the iron in cereal.

Note: this experiment needs to sit for **one hour** before it is ready.

Objectives:

* Make predictions and test their hypothesis.
* Students will use magnets to discover there is iron in cereals.
* Students learn iron is a needed mineral for life and part of a balanced diet.

Materials:

* Plastic ziplock bag
* Box of Total cereal (or any cereal that has 100% of the iron in the nutrition label)
* Box of sugary cereal with little to no Iron listed in the nutrition label to be used as a comparison (this is box is optional and can be used to compare cereals to find which one has enough iron to meet your daily recommended needs).
* Strong magnet

If materials are unavailable, a video of this demonstration can be seen here: <http://www.youtube.com/watch?v=pRK15XSqtAw>

Procedure:

1. Pour the Total cereal into a plastic bag.
2. Fill the bag ¾ full with water and seal tightly.
3. Let the cereal water mixture sit for **one hour**!
4. Place the magnet in your hand and set the bag on top.
5. Holding the bag in place with your other hand swish the bag around for 15-20 seconds.
6. Flip the bag so the magnet is now on top.
7. Examine what has collected beneath the magnet – see if you can move it around.

**Visualizing Microgravity Activity/Demonstration**

Purpose:

In this activity, students will be able to visually observe the effects of microgravity by creating a mini drop tower.

Objectives:

* Make predictions and test their hypothesis.
* Understand the effects of microgravity as it would occur in a drop tower.

Materials:

* Small HD Digital Video camera (HDE-S80)
* 8 GB Memory microSD card
* Deep plastic bin with lid
* Duct tape
* Small inflatable pool
* Clear, plastic cup with lid
* Seltzer tablet
* Water
* Cotton balls
* Computer with video viewing software that can reduce video speed

If materials are unavailable, a video of this demonstration can be seen here: <http://pbskids.org/dragonflytv/show/microgravity.html>

Procedure:

1. Inflate the small pool.
2. Place the memory card inside the camera.
3. Charge the camera.
4. Tape some cotton balls in a corner of the bin.
5. Tape the camera above the cotton balls. Make sure it is secure to survive a fall, but don’t block the camera lens.
6. Fill up the plastic cup with water, drop the tablet in, and cover the cup with a lid.
7. Observe what happens inside the cup when the cup is placed on a table.
8. Place the cup inside the bin, so that the camera has a good view of it.
9. Start video recording from the camera and close the lid of the bin.
10. Drop the bin from a height of at least 5 meters, into the empty pool.
11. Take out the memory card and transfer the video clip to a computer.
12. View the video in slow motion and observe what happens to the bubbles in the cup.