

# INV. 4 ACTIVITY—COMMON SOLID MIXTURES

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**Focus Question** What are common mixtures you can make?

## **Possible Materials**

**Toys**

**Nuts**

**Cereals**

**Sweets**

**Common household foods**

## **Suggested procedure**

In your notebook make a list of possible common solid mixtures of food in your household. Make a yummy solid food related mixture that someone in your household can eat and serve it to them.

**Read "Mixtures" in *FOSS Science Resources: Motion and Matter eBook***

# INV. 4 ACTIVITY—SEPARATE SALT FROM WATER

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**Focus Question:** How can you separate a solution of salt and water?

## **Materials**

Salt

Water

Glass

Spoon

## **Suggested procedure**

Make a solution of salt and water.

Pour a little salt at a time into the water and stir.

How can you separate it?

Come up with a plan.

Describe your plan and results in your notebook.

What are some other solutions that you make in your kitchen?

## **Engage with Online Activity—Tutorial: Conservation of Mass**

# INV. 4 ACTIVITY—INVESTIGATE OOBLECK

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## Focus Question: Is oobleck solid or liquid?

### Materials

- 1 Mixing bowl
- 1 Spoon
- 1 Measuring cup (to measure 1/2 cup)
- Cornstarch (about 1 cup)
- Water, 1/2 cup
- Few drops of food coloring

### Procedure

1. Put about 1 cup of cornstarch in a mixing bowl.
2. Slowly add water (up to 1/2 cup) to make a mixture, stirring as you go.
3. When the cornstarch is all wet, it will turn into oobleck.

### Things to find out

Explore the properties of oobleck.

- Is it a solid or a liquid?
- What happens when you place solids, such as coins or spoons, on the surface?
- What happens when you try to push your hand gently into the oobleck?  
When you try to push your hand hard and fast into the oobleck?
- Pick up a handful of oobleck. Can you hold it?
- Can you cut a ribbon of oobleck with scissors?
- What happens to the properties of oobleck when you change the amounts of the two ingredients in the mixture? More water? More cornstarch?

**NOTE:** If you want to keep oobleck so that you can work with it another day, store it in a covered container in the refrigerator.

**Is oobleck a solid or a liquid?** Once everything is cleaned up, respond to the focus question in your notebook and explain your thinking.

# INV. 4 ACTIVITY—MAKE ICE CREAM

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**Let's make ice cream!**

## **Materials**

- 1 Cup whole milk, or half and half or heavy cream
- 1 Teaspoon vanilla
- 2 Tablespoon sugar
- 4 Cups crushed ice
- ¼ Cup of Kosher salt
- 2 Zip bags, freezer bag, quart size \*
- 1 Zip bag, freezer bag, gallon size \*
- Hand towel or gloves to keep fingers from freezing
- \* Freezer bags work best because they are thicker and less likely to leak and the double bagging helps too.

## **Procedure**

1. Mix the milk, vanilla and sugar together in one of the quart-size zip bags. Squeeze all the air out and seal tightly. Too much air left inside may force the bag open during shaking.
2. Place this quart zip bag inside the other quart bag, again leaving as little air inside as possible and sealing well. By double-bagging, the risk of salt and ice leaking into the ice cream is minimized.
3. Fill the gallon zip bag with the ice and salt and place the double bag of liquid ice cream inside. Again, let all the air escape and seal the bag.
4. Wrap the bag in the towel or put your gloves on. Shake and massage the bag, making sure the ice surrounds the cream mixture.
5. After shaking continuously for 10 minutes, the liquid mixture will freeze into ice cream. If it hasn't add more ice and keep shaking.
6. **Do the taste test.**  
How is the consistency? How does it taste?