

# **Acres of Adventure - Book 1**

## **All About Agriculture**

### **Cold Air and Fuzzy Mittens -**

- Several mittens made of different materials
- 16 quart-sized zipper-type plastic bags
- Masking tape and pens for labels
- Stopwatch or timing device with a second hand
- Ice water

### **Enough of the following materials to fill a bag-mitten**

- Wool
- Small styrofoam pieces (packing peanuts, torn-up styrofoam cups)
- Aluminum foil
- Cotton cloth or cotton balls
- Feathers (down if possible-can be taken from a down pillow)

### **Ice Cream in a Bag -**

#### **For youth working in teams of 2**

- 1 gallon zipper-style bag (heavy duty freezer bag)
- 1 quart zipper-style plastic bag
- 4 cups of ice
- 1 cup of ice cream salt or table salt
- 1 tablespoon of sugar
- ½ cup 18% light whipping cream
- ½ teaspoon vanilla extract
- cups and spoons

### **Home Grown Play Dough -**

- Flour
- Salt
- Cream of tartar
- Water
- Vegetable oil
- Food coloring

### **Cotton to Blue Jeans -**

- Old blue jeans that can be cut-off to make shorts
- Denim fabric in varied colors
- Needles
- Thread
- Thimbles
- Scissors
- Additional fabric, ribbon, cording for decoration

### **Cycling Back to Nature -**

- Newspaper cut in strips (2 inches wide)
- Scissors
- Pencil
- Tape
- Ruler

### **Paper Making** -

- Old paper that isn't shiny (newspaper, computer paper, construction paper, cardboard egg cartons)
- Blender, beater or wooden spoon
- 8 x 10 inch wire mesh
- Absorbent cloths (bigger than 9 x 11 inches)
- Buckets or dishpans
- 9 x 11 inch pans
- Powdered paint (for colored paper)
- Plastic bag
- Heavy book

### **Making Mozzarella** -

#### **Per pair of students:**

- ¼ rennet tablet or vegetable rennet tablet
- 6 ounces pasteurized skim milk
- 16 ounce styrofoam cup
- ¼ teaspoon salt
- Paper towel

#### **Additional materials needed:**

- Microwave oven
- Small strainers
- Dishpan or container to catch drained whey from cups

### **Tie Dye Agriculture** -

- Collection of natural dye sources
- T-shirts or t-shirt material
- Cheesecloths or old nylon stockings
- Pots and bowls
- Hot plate or stove
- Gloves

### **Pizza Farm**

#### **Pizza Ingredients:**

- Crust—Homemade or packaged baking mix and nonstick spray
- Sauce—Tomatoes, garlic, olive oil, herbs (basil and oregano)
- Cheese—Blocks of mozzarella and parmesan for grating
- Toppings—Green peppers, mushrooms and onions

#### **Other materials:**

- Mixing bowls
- Measuring cups
- Mixing spoons
- Grater(s)
- Cutting boards
- Knives to cut toppings

### **Bread in a Bag** -

#### **Makes enough dough for 24 individual small loaves**

- 15 pounds bread flour
- 12 packets yeast
- 2¼ cups sugar
- ½ cup salt
- 2½ cups soybean oil
- 3 cups soy flour

*(Continues on next page)*

## **Bread in a Bag – (Cont'd.)**

### **Other Materials:**

- 48 one-gallon size zipper-type freezer bags
- 24 2-pound aluminum loaf pans
- 1 thermometer (disposable strip)
- Dry measuring cups ( $\frac{1}{4}$ ,  $\frac{1}{2}$  and 1 cup)
- Measuring spoons (1 teaspoon and 1 tablespoon)
- 14 craft sticks (tongue depressor size for scraping dough from bag)
- Paper towels
- Antibacterial hand soap
- 4 craft scissors
- 1 permanent marker
- Clear tape
- Butcher-block paper to cover workspace
- Nutrition labels from *Name That Bread Worksheet*

## **Fast Food Agriculture**

### **Let's Do Lunch -**

### **Each student in each group needs to have one of the following**

- One loaf of bread
- One container of milk
- One bag of fruit
- One jar of peanut butter/or sliced chicken
- One bag of cookies
- One set of tools (knife, spoon, cups, napkins)

### **Let's Have an Auction -**

- Fake money for each student
- Microphone (optional)
- Items to auction

### **You Are What You Eat -**

- Bread labels, one per person
- Variety of other food labels, one per pair of students
- Bread ingredients listed on large strips of paper, one ingredient per strip
- Blank strips for additional sets of the Ingredient Game

### **Taking the Squeeze Out of Bread -**

Copies of the *Design Brief*

Variety of materials (junk, stuff and parts)

- |   |  |
|---|--|
| <input type="checkbox"/> Lollipop sticks                    | <input type="checkbox"/> Film containers               |
| <input type="checkbox"/> Cardboard or plastic fruit trays   | <input type="checkbox"/> Twist ties                    |
| <input type="checkbox"/> Fabric remnants                    | <input type="checkbox"/> Beads, buttons                |
| <input type="checkbox"/> Plastic containers                 | <input type="checkbox"/> Balloons                      |
| <input type="checkbox"/> Pins                               | <input type="checkbox"/> Candles                       |
| <input type="checkbox"/> Rubber bands                       | <input type="checkbox"/> Paper plates, cups            |
| <input type="checkbox"/> Pipe cleaners                      | <input type="checkbox"/> Cards                         |
| <input type="checkbox"/> Aluminum pie plates                | <input type="checkbox"/> Milk cartons and jugs         |
| <input type="checkbox"/> Cardboard tubes                    | <input type="checkbox"/> Sandpaper                     |
| <input type="checkbox"/> Fishing line, string, thread, yarn | <input type="checkbox"/> Mirrors                       |
| <input type="checkbox"/> Foil                               | <input type="checkbox"/> Plastic forks, spoons, knives |
| <input type="checkbox"/> Styrofoam                          |  |

### **Tasty Testing** -

- Three to five different kinds of popcorn  
(or another product: milk, crackers, cheese, apples or grapes)
- Small cups for samples
- Chart paper to collect brainstorm criteria
- Sticky dots

### **Blender Creations** -

#### **Per team:**

- Blender
- ½ block of silken tofu
- Poster board and markers
- Yuck or Yum Smoothie evaluation score cards
- Ruler

#### **Additional ingredients:**

- Variety of fruit juices
- Frozen concentrates
- Frozen fruits
- Bananas
- Yogurt
- Honey
- Small tasting cups for samples

### **High Speed Mystery Foods** -

- Measured amounts of dehydrated food products in plastic bowls  
(soup mix, instant coffee, baby formula, pancake mix, spice mix, Jell-O, drink mixes)
- Water
- Measuring tools (teaspoons, tablespoons, measuring cups)

### **Lemonade Wars** -

- Unsweetened lemonade mix
- Sugar
- Cold water
- Variety of sets of cups (plastic, paper, large and small)
- Pitchers
- Fake money
- Poster board and markers
- Measuring cups and spoons

### **Pasta Jewels** -

- String
- Pasta
- Fruit cereal rings
- Scissors
- Rulers
- Copies of company descriptions

### **Banana Buffet** -

- Five food items that can be combined to create snacks  
(bananas, crackers, bread, peanut butter and apples)
- Tools to prepare snacks (knife, spoon and apple corer)
- Paper products (cups, plates and napkins)
- Decorations (flowers, vases, tablecloths and placemats)
- Poster board, paper, markers and colored pencils
- Clipboards and paper
- Play money

## Mystery Agriculture

### M & M Mystery Challenge

#### Per student:

- "Fun-sized" package of M&M candies
- Microwave Oven (optional)
- Timer or clock with second hand
- Paper and pencil

### Sinkers or Floaters -

#### Per pair of students:

- Bucket of water about ½ full
- 6 different items (grapes, apples, bananas, oranges, baby carrots, berries, cheese cubes, small pumpkin, zucchini and other agricultural products)
- Copies of sample prediction charts

### Mystery Food Taste Test -

#### Per class:

- Box or bag of each of the following in their original containers: Salt, Sugar (granulated or powdered), Flour and Cornstarch
- Plain containers for aboved numbered 1– 4
- ½ teaspoon measuring spoon

#### Per Student

- 1 zipper-type plastic bag with ¼ cup salted popcorn (labeled A)
- 1 zipper-type plastic bag with ¼ cup unsalted popcorn (labeled B)
- Light-colored crayon
- Black (or dark) construction paper
- One piece of paper and a pencil
- Slice of bread
- Napkin

### Mystery Food Touch Taste -

#### Per small group:

- 5-7 small zipper-type plastic bags
- 5-7 balloons, each a different color (Note—like-colored balloons should contain the same food in all groups)

#### Per class:

- 5-7 types of food to fill balloons such as rice, flour, puffed rice cereal, beans, chocolate chips, granulated sugar and raisins
- Wide-stemmed funnel (cut off the top of a 2-liter plastic bottle)

### Mystery Food Sniff Test -

#### Per class:

- Several film canisters or other small, opaque containers with lids
- Extra plastic lid for each container
- Cotton Balls
- Pushpin
- Several scents of smelly foods such as liquid extracts, flavorings or powdered substances (Banana, Chocolate, Cinnamon, Lemon, Vanilla, Mint, Onion, Orange, Strawberry)

### **Mystery Mush** -

#### **Per group:**

- Small paper or plastic cup
- 1/2 cup cornstarch
- 1/8 - 1/4 cup water
- Measuring cup
- Plastic spoon or stirring stick
- Container that will hold a cup (Aluminum pie pan is the best)
- Plastic knife
- Balloon
- Aluminum foil
- One or more of the following objects (coin, block of wood and plastic object)

### **Mystery Messages** -

#### **Per student:**

- Q-tip or small paint brush
- 1-2 tablespoons of skim milk, different fruit juices, onion juice and/or vinegar
- One piece of unlined paper
- Toaster oven

### **Potato Power** -

#### **Per pair of students:**

- Two potatoes
- Two short pieces of heavy copper wire
- Two common galvanized nails
- Three alligator clip/wire nuts  
(alligator clips connected to each other with wire)
- One low-voltage LED clock that uses a 1 - to 2-volt button type battery

### **Tofu Timber** -

#### **Per pair of students:**

- 4 x 4 inch piece of newspaper
- One 10 ounce clear plastic cup
- 2 tablespoons silken tofu
- Stirring stick or spoon

#### **To share:**

- Water and measuring cup
- Microwave oven

### **Surprising Flavors** -

#### **Per team of students:**

- Bowl of plain popped popcorn
- 1/4 cup vegetable oil
- Gallon sized zipper-type bags (optional)
- Poster board and markers

#### **For all teams to share:**

- Pre-packaged mixes (dressing mixes, gravy or taco/nacho/fajita)
- Flavorings (vanilla, almond or hickory)
- Spices (Dill weed, lemon pepper, sesame seeds or cinnamon)
- Other ingredients (granulated/powdered/brown sugar, coconut, cocoa, gelatins, food coloring, or grated cheese)

## **Plant Detectives**

### **Seed Search** -

#### **Per pair of students:**

- Cutting board
- Plastic plate
- Paring knife
- Paper towel
- Pencil
- Data Collection chart
- 3 different varieties/sizes of apples, strawberry, grape, orange or cucumber
- 2 tomatoes (regular and cherry)
- Kiwi or other selection of fruit
- Some unusual fruits, such as pomegranate, star fruit and red peppers

### **Hot House Detective** -

- Scissors
- Hole punch
- Water
- Yarn
- Pipette/dropper

#### **Per student:**

- 2-3 soybeans or navy beans
- Cotton ball
- 2½" x 3" plastic sealable jewelry bags

### **Seed Sort** -

#### **Per student (or pair of students):**

- ½ cup of 15-bean soup mix
- 1 copy Seed Sort sorting map

### **Root Tasting Party** -

- Carrots, Radishes, Beets, Parsnips, Sweet Potatoes, Turnips
- Paper for placemats
- Scoring sheets

### **Thirsty Stem Races** -

- Clear plastic straws
- Dark red or blue food coloring
- Clear 9 ounce plastic cups
- Scissors
- Two-ply toilet paper
- Rulers
- Tape

### **Log Rolling** -

- Newspaper
- Scissors
- Tape

**Budding Leaves** -

- Heads of iceberg lettuce, cabbage and red cabbage
- Brussel sprouts
- Artichokes
- Different heads of greens (bok choy, romaine, kale, endive, green or red leafy vegetables)

**For the wraps:**

- Cheese, sprouts, nuts or dried fruits, deli meat, pretzel rods, seasoned rice, refried beans, etc. for the wraps
- Spreads (mustard or peanut butter, etc.)

**Let's Play Flower** -

**Supplies for creating a human flower:**

- Toilet paper rolls
- Colored tissue paper
- Construction paper
- Perfume
- Pipe cleaners
- Tape, glue
- Tubes from paper towels or egg cartons
- Cotton balls

**Other supplies:**

- M & M's
- Stickers
- Poster board and markers

**Soil Sam** -

- Knee-high nylon stocking
- Grass seeds
- Soil
- 6 ounce Styrofoam cup
- Water
- Jiggle eyes
- Fabric
- Scissors
- Lace or ribbons (optional)
- Glue

**Be the Fruitmaster** -

**Per pair of students:**

- 4 kinds of fruit 1-5 of each (peaches, oranges, lemons, bananas)