

Discovery Bottles



DISCOVERY BOTTLES

Discovery bottles encourage the development of observation skills, predictability, scientific concepts, and thinking skills. Once made and placed in plastic carrying bins, they make a great center activity that is inexpensive, and fun!

Place any of the following items in a clear plastic soda or water bottle. Seal the lid with a glue gun, or tape with colored plastic tape.

Materials Required: Clean, empty, dry plastic soda or water bottles

Activity Time: As long as children are interested

Concepts Taught: discovery, observations, predictability,

COLOR MIXING BOTTLES

Combine colored lamp oil with colored water. These mix well and separate fast

TREASURE HUNT JAR

1 clean plastic jar with lid
(such as a peanut butter jar)

Finch bird seed

Fill the jar half full of bird seed. Add whatever small items you can find, such as a screw, jingle bell, rubber band, piece of macaroni, button, needle, bead, screw, paper clip, penny, marble, pop tab, etc. Put 20 items in the jar. Fill with bird seed, leaving a space at the top for the seed to move around. To prevent people from opening the lid, you can add some glue to the threads of the lid, then screw it onto the jar. Keep a list of the items you put into the jar because it's almost guaranteed that the person you give it to will not find them all!

Add the following poem:

Some pirates got it all mixed up
And did things wrong way 'round.
They put the treasure in a bottle
And buried the map in the ground!
Their treasure was some silly stuff
Like needles, screws and beads.
Then dear old Polly Parrot
Added all her extra seeds!
So find the twenty items here
No two are quite the same.
Don't open up the bottle though
As that would break the game!

SAND

Sand with seashells and small sea things

Compiled by C. Ciecko

COLOR OF THE MONTH

I visited the hair care aisle at Wal-mart. I had no idea the variety of colors and scents that were available for so CHEAP! I have a color of the month area in my room and now we use a variety of shampoos and hair gels to fill the bottles.

WATER BOTTLES VS GEL

We made sets of bottles filled with different things like dried beans, curling ribbon, glitter and tissue paper.

In one bottle from each set we added water in addition to the beans ribbon, glitter and tissue paper. We observed what happened inside each bottle and recorded our observations over a few days time. The most fun were the bean bottles and the tissue paper bottles. As the natural gases formed in the wet beans the bottle started to hiss at us. Just for really gross fun we opened the wet bean bottle and smelled it! It smelled awful but the kids had a great time smelling it and saying yuuuck over and over again!

Try water with seashells or water with marbles

MAGNET BOTTLES

1) Rice with metal objects that will be attracted by a magnet. The kids use a magnetic wand to uncover all the hidden objects. (Be sure to leave room for the rice to move around or the objects will be unable to come to the surface)

2) Fine metal shavings. The students use the magnetic wand with it also.

3) Fill the bottle half full with sand or salt. Add pins, paper clips, and small metallic objects to the sand and shake. Let the children put a small magnet on the side of the bottle and try to find hidden objects by slowly dragging the magnet.

OCEAN WAVE

1/4 bottle of colored water (mix this part first), add mineral oil until the bottle is 2/3 full. Gently rock the bottle back and forth and watch the wave.

MUDDY BOTTLE

Put 1/2 cup dirt in the bottom of a bottle, and fill it with water. Let the children shake it up and watch the dirt settle. (Try using gravel, peat moss, clay, and different types of soil.)

Collect soil samples from different states or countries and make muddy bottle from them. Label the bottles so the children can compare the soil found in different areas.

BUBBLE BOTTLE

Add 1 cup of water, a squirt of dish detergent, and 2 drops of food coloring to the bottle. Shake to make bubbles.

SOUND BOTTLE

Put beans, popcorn kernels, and rice in different bottles. Stick each bottle inside an old sock. Let the children shake and guess what is in the bottles.

ESTIMATE BOTTLE

Put nuts, pebbles, small shells, dried beans, or other small objects in a bottle. After the children guess how many are inside, dump out the contents and count them together. (Send this bottle home and let the children take turns filling it with objects.)

DENSITY BOTTLE

Take three bottles. Fill one with water, one with vegetable oil, and one with clear shampoo. Add a marble to each bottle, then screw on the lids. The children can observe how the marbles move through different liquids.

STRESS BOTTLE

Pour 1/3 cup clear corn syrup in a bottle. Add glitter, sequins, or small toys. The children can hold the bottle and slowly turn it around. This will help them focus and relax.

SEASONAL BOTTLE

Put autumn leaves, flowers, nuts, or other natural objects in bottles of water. The children can observe the objects as they disintegrate.

HIDDEN OBJECTS

Fill a bottle 2/3 full with sand or salt. Add five to ten small objects to the bottle and shake it. Challenge the children to find all of the hidden objects.

SERIATION BOTTLES

Take four or five bottles and add different amounts of water in each one, from empty to full. Mix the bottles up, then let the children seriate them from empty to full.

PICTURE BOTTLES

Put the small (1 inch size) pictures of your class that you usually get from the school photographer in a bottle. Let the children shake the bottle to find their own picture or to find others' pictures and name the students in the class.

RUST BOTTLE

Add screws bolts or nails to an empty bottle. Fill the bottle with water. Observe what happens, or track how many days the rust developed.

DICE BOTTLE

Drop dice into the bottle; do not fill the bottle with water.

Children shake the bottle, and choose from any of these activities name the number on the dice, count out that many objects, name the number that comes before or after, write the number, predict what number will come next.

Compiled by C. Ciecko

CLAY BOTTLE

Add clay (the clay from the yard, not play-dough)

Fill with water, and observe what happens when you shake the bottle and the clay reacts with the water.

POTPOURRI BOTTLE

Cut a small hole into the side of the bottle; attach netting with clear plastic tape, over the hole. Fill the bottle with potpourri in flavors such as orange, vanilla, pine, gingerbread, roses, etc. Children describe the scent, or what the scent reminds them of.

GLOW IN THE DARK BOTTLE

Add small glow in the dark items such as stars to a bottle. Do not add any water. Children can put the bottle under a box, and look through a hole to observe what happens when the bottle is placed in the dark. Or they can take the bottle to a darkened room, or under a table covered with a sheet.

RAIN BOTTLE

Fill a dry empty bottle with a box of toothpicks. Add rice (uncooked) to the bottle leaving an empty space of about 1 1/2 inches at the top. Seal the lid. As you gently turn the bottle, the rice falls through the toothpicks, sounding like rain.

I SPY BOTTLES:

Add trinkets such as Barbie shoes, small legos, balls, pictures, and other small toys. Then fill 2/3 with rice. You can dye the rice beforehand using 1 part rubbing alcohol to 1 part food coloring. Tape a list to the side of the things that should be in the bottle and encourage children to find them all. This could be used for writing exercises as your child would write down what they've found. For young ones just finding things is enough. You can create a different one of these by coloring large alphabet pasta, add the seed, and play what word can we create from the letters we see (sort of like Boggle).

CLASSIFICATION BOTTLES:

In empty bottles add objects that belong together in a group. For example: but toy animals in one bottle, miniature food in another. Students have to classify the bottles by their characteristics.

COUNTING BOTTLES:

These are nice to keep handy. Make a bottle for counting by 10 to 100. For example, one bottle would have ten objects, the next 20, the next, 30, etc. I like to fill the bottles with clear karo syrup so the objects float, making them easier to count.

ALPHABET BOTTLE I:

Fill a small plastic bottle with corn syrup, colorful letter confetti and some marbles. I use duct tape to make sure the cap stays on. The marbles add interest and break apart the letters if they clump together. We keep this one at our writing table.

ALPHABET BOTTLES II:

Make one bottle for each alphabet letter. Fill with small objects and toys such as:

Aa- acorns, plastic ants, mini apple erasers, mini astronaut figure.

Bb- buttons, band-aids, balloons, battery, and mini bear figure, brushes, boats, buses.

Cc-coins, cars, cow, cats, camel figures, candy, crayons.

Dd- dogs, ducks, dinosaurs, dollar bill, doll dresses, dominoes, dice

Ee-erasers, eggs, elephant (or just an empty bottle)

Ff-feathers, flags, plastic flowers, fish, mini footballs, toy firemen

Gg-sticks of gum, anything green in color, golf tee, grass, artificial grapes

Hh- hearts, happy faces, horses, hangers from doll clothes, toy hammer

Ii- ice cream, picture of an igloo, small plastic insects, ivy, iguana

Jj-jacks, jelly beans, mini jeep figure, jewelry

Kk- keys, king of hearts playing card, kites, mini kitten, koala, kangaroo, Kix cereal

Ll-leaf, lace, letters, lima beans, licorice, lollipops, ladybug , lamb, lion, lizards

Mm-macaroni, mini marshmallows, money, magnets, marbles, mice

Nn- noodles, nails, nuts, nickels, piece of newspaper, numbers, necklace

Oo- octopus, ocean animal figures, oval cut out shape, olives

Pp- penguins, pencil, popcorn, peanuts, paper clips, pretzels, pennies, puzzle pieces, paper, pipe cleaner, price tag

Qq-quarters, queen of hearts playing card, picture of a quilt, Q-tip, quilt pieces

Rr- racecars, rabbits, rocks, rings, piece of rope, ribbon and rice

Ss- straws, spaghetti, stamps, sponges, screws, numbers 6 and 7, spiders, squares

Tt-teabag, toothpicks, turtles, tigers, tires, number 2, tape, number 10, triangles

Uu- umbrella, unicorn, mini map of the United States

Vv- violets, vans, volcano, velvet

Ww- whales, wheel pasta, whistle, watch, wood, wire, walnut, wallpaper scraps

Xx-(I use the final /x/ consonant sound) number 6, picture of an ox and a fox

Yy-anything yellow in color, yarn,

Zz-ziti, zipper, zebra

ELECTRICITY SENSORY BOTTLE

Make sure bottle is completely clean and dry. Add small pieces of tissue paper and Styrofoam. Seal tightly using hot glue if available. Wrap lid and bottle neck with strong tape. Decorate as desired. We are kind of fond of lightning bolts!

What am I going to do with it?

Rub the bottle on the carpet or through someone's hair. Enjoy the static electricity reaction!

Compiled by C. Ciecko