

WHAT HAPPENS WHEN YOU MIX IT?

Key information:

The term 'material' is used in this context as a name for everything that is to be mixed, whether solid, liquid or gas, as a pretext to learning in Key Stages 1 and 2 about properties and states of materials.

Health and safety:

Be Safe!, pages 8, 9 and 34 (avoiding putting substances or small objects in the mouth)

ACTIVITY SUMMARY:

This activity generates a wide range of opportunities for children to observe and talk about what happens when they mix different dry and wet materials together. The act of mixing and the changes that occur during the mixing process are the focus of this activity rather than the achievement of a particular final mixture. Scientific language related to the changes that occur should be encouraged, including descriptive and comparative vocabulary about how something looks, feels and smells.

Learning intention:

Children can use comparative and descriptive language to talk about what they notice when they mix two or more materials together.

EYFS cross curricular links:

- Expressive arts and design: Painting – Can you mix different colours? What happens when you add white? What happens when you add black? What happens when you add water? What happens when the paint is too runny or too thick?
- Mathematics: Capacity – Which container holds the most? Which container holds the least? Investigate the capacity of different containers.

RESOURCES (FOR FOCUS ACTIVITY):

- Range of dry and wet materials, for example, poster paint, powder paint, flour, mud, sand, salt, glitter, cooking oil, sugar, water, pebbles, sawdust, cooked pasta, dry pasta, washing-up liquid, porridge oats. Children should be encouraged to add their own ideas to this list and may wish to include leaves, twigs, grass, etc. if working outside.
- Range of mixing containers of different sizes and shapes, for example, plastic bowls, plates, buckets.
- Range of mixing implements, for example, wooden spoons, sticks, metal spoons, hand whisks, forks.
- Range of measuring tools, for example, scales, spoons and scoops.
- Aprons, coveralls, table coverings as appropriate.

RESOURCES (FOR INDEPENDENT ACTIVITIES):

Several of the materials, mixing containers and tools used for the focus activity can be reused for the independent activities.

Sieves, measuring cylinders, plastic tweezers, trays, writing materials, magnifying glasses, Resource sheet 1 (Mix or Miss game).

EXPLORE:

Display the Story slideshow and play the story to the children. Ask them to describe what is happening in Billy and Rubina's bowl.

Ask: *What do you think will happen next?*

Show the slide of Rubina, Jamil and Eliza.

Ask: *What will happen when they mix it?*

Demonstrate to the group mixing water and washing-up liquid with a whisk.

Ask: *What can you see? What is happening?*

Add some oil.

Ask: *What is happening now? What happens when we mix it? What happens when we stop mixing?*

Ask them to talk to their friends about a time when they have mixed two materials. Why did they mix them? Did they use a spoon, or a fork? Or something else? What did they mix them in? Was it suitable? Why not? How did the mixture feel? Was it hard or stiff? Was it soft or sloppy? What happened to the materials?

ENQUIRE (FOR FOCUS ACTIVITY):

Share the range of materials with the children and explain to them that some materials are wet and some are dry. Do they know which is which? Ask them to think of words to describe the difference between wet and dry materials. Ask the children to help you sort the materials into wet and dry groups.

Tell the children to choose two materials they want to mix together. Encourage them to select their own equipment and materials. Allow them to measure the materials if they wish to do so and to mix with their hands rather than with a mixing tool if they prefer.

Encourage the children to describe what they notice.

Ask: *What is happening? What does the mixture feel like? What does it smell like? What does it look like?*

Tell them to pick a third material to add to their mixture. What do they think will happen now? If they have only used dry or wet materials until this point, suggest that they try adding a material from the other group.

Encourage the children to look closely each time a new material is added and to notice how their mixture changes. Ask them what might happen if they add more of the same material. What if they had added less? What if they stirred less or more? What happens when they stop stirring?

ENQUIRE (FOR INDEPENDENT ACTIVITIES):

Mud kitchen: Can you make a mix for a mud pie? Can you make a mix for a mud milkshake?

Writing area: Can you write or draw a list of what you need for your mix?

Role play, Chemistry lab testing station: Can you mix like a chemist? (Remind the children that they may have seen the CBeebies TV programme *Nina and the Neurons*.) Make available a range of mixing equipment for the children to use independently. Include measuring cylinders, jugs, plastic tweezers and mainly dry materials. Also, a range of sieves and trays to allow them to start to separate mixes that they make.

Sand tray: What happens when you mix? Keep the focus on mixing materials together, but change the materials, utensils and containers available each day for a week. Include, for example, pebbles, shavings, shredded paper or marbles to be mixed with sand.

Water tray: What happens when you mix? Keep the focus on practising mixing and looking at the consistency of materials, but change the materials, utensils and containers available each day for a week. Include, for example, Gelli Baff, fake snow, shaving foam or bubbles to be mixed with water.

Mix or Miss game: Children play this game in pairs using the cards cut from Resource sheet 1.

REFLECT AND REVIEW:

Ask the children to describe what happened when they made their mixture and to give the mixture a name.

EVIDENCE OF LEARNING:

Notice the language that children use to talk about their mixtures. Do they refer to materials mixing, being wet or dry and changing? How do they describe what happens when they mix materials together? Do they talk about changes in texture, stiffness, consistency? Observe the children's use and manipulation of tools. Are they able to handle tools with confidence and accuracy?

SCIENCE AT HOME:

What can they mix at home? Can they invent a new mixture with their family? Can they make a yummy mixture to eat? Can they tell you one way that they have seen a grown up make a mixture at home? Can they make a milkshake for their family? Give the children the simple recipe (Resource sheet 2) to take home, and encourage them to investigate what happens with different fruit and other ingredients.