

Nova's Science Flashcards: Mixing and Separating

Learning objective: To understand how to identify, describe, and separate mixtures of materials.

Read the front of the card and try to answer the question. Then, flip the card (or check the answer part) to see if you are correct. Use these cards to test your knowledge of how materials interact.

What is a mixture?

A mixture is a combination of two or more substances that are mixed together but not chemically joined.

What does it mean if a substance 'dissolves'?

It means the substance breaks down into tiny particles and mixes completely with a liquid to form a clear solution.

In a cup of sugary water, which part is the solute?

The sugar, because it is the substance being dissolved.

In a cup of sugary water, which part is the solvent?

The water, because it is the liquid that does the dissolving.

Which method would you use to separate sand from water?

Filtration, using a funnel and filter paper.

How can you separate a mixture of large pebbles and fine sand?

By sieving, which allows the smaller particles to pass through while trapping the larger ones.

If you have a mixture of iron filings and plastic beads, what is the best way to separate them?

Using a magnet, as iron is magnetic and will be attracted to it.

How can you recover salt from a salt-water solution?

By evaporation, where the water turns to gas and leaves the salt crystals behind.

Is a mixture of oil and water easy to separate?

Yes, because oil and water do not mix; the oil will float on top and can be skimmed off.

What is a reversible change in the context of mixtures?

It is a change where you can get the original substances back, such as separating salt from water.

True or False: All mixtures are solutions.

False. A solution is a special type of mixture where one substance dissolves in another.

If you stir sand into water, does it form a solution?

No, because the sand does not dissolve; it remains as visible particles in the liquid.