

GRADE 2 LEARNING PACK

Materials Change: Heat, Cool, Mix

Observe reversible and irreversible-looking changes in everyday materials using safe examples.

LEARN • PRACTISE • CREATE • REFLECT

Original BrightPencil Kids resource - adult-led where appropriate

A4 edition • 12 purposeful pages • review copy

Print. Learn. Grow.

Grown-up guide

Learning objective

Observe reversible and irreversible-looking changes in everyday materials using safe examples.

Use this pack well

- Model the first example aloud, then let the learner try.
- Ask “How do you know?” more often than “Are you finished?”.
- Use real objects, talk, movement or observation when the activity suggests it.
- Stop or shorten the session if attention or enjoyment drops.
- Open-ended pages can have many successful answers.

Quality note

This resource was written originally for BrightPencil Kids. Curriculum sources informed scope and progression only; no third-party worksheet or story text is reproduced.

Learn the idea

1 Heating/cooling can change some materials.

2 Some changes can be reversed; others are difficult/not practical to reverse.

3 Safety rules matter around heat and substances.

Talk about it

Explain one idea in your own words. Give an example from real life, a drawing or an object if that helps.

Classify ice melting/freezing as reversible.

Compare dissolving sugar in water with tearing paper.

Predict what cooling melted chocolate may do, labelled as prediction.

Identify changes that require adult supervision.

Record before/after properties of a safe material.

Try it beyond the page

Real-world / hands-on connection

Use only adult-approved safe temperature investigations such as ice melting at room temperature.

Before you finish

What did you notice?

What evidence, object or example helped you?

What would you change if you tried again?

Create something

Your project

Create a “change detective” chart with material, action, observation and whether it seems reversible.

Use this space for planning, drawing, mapping, designing or notes.

CHALLENGE

Think deeper

1. Is melting ice reversible?

2. Should children heat unknown substances?

3. What is an observation?

Quick review

1. In one sentence, explain the big idea of “Materials Change: Heat, Cool, Mix”.

2. Draw or write one example that shows you understand.

3. Choose one activity from this pack and explain the strategy you used.

4. Write one question you still have.

Answer & discussion notes

Use these as guidance, not scripts. Open questions can have different successful responses when the reasoning is sensible and evidence-based.

1. Suggested response

Yes, by freezing again.

2. Suggested response

No.

3. Suggested response

A description of what is noticed/measured.

Review before publication

Check age fit, factual accuracy, clarity, accessibility, rights provenance and whether the activity works in practice. This file remains a review copy until those checks are signed off.

FINISH

My learning reflection

I finished this BrightPencil learning pack.

One thing I understand better now:

A strategy that helped me:

Something I created or noticed:

My next small question or goal:

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