

GRADE 3 LEARNING PACK

# Design Challenge: Need, Prototype, Test, Improve

Use a user-centred design cycle to solve a practical fictional problem and explain revisions.

**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

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## Learning objective

Use a user-centred design cycle to solve a practical fictional problem and explain revisions.

## 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

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**1** Design begins by understanding a user and need.

**2** Criteria and constraints help evaluate ideas.

**3** Testing provides evidence for revision.

## Talk about it

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

Read a fictional user brief and identify needs/constraints.

Sketch three fast ideas.

Choose one using criteria.

## Build a paper prototype.

Collect two pieces of feedback and decide which revision to make.

## Try it beyond the page

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### Real-world / hands-on connection

Test with a trusted adult/classmate using the agreed task, not personal information.

### Before you finish

What did you notice?

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What evidence, object or example helped you?

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What would you change if you tried again?

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# Create something

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## Your project

**Design a study organiser, carrying tool or classroom sign and present the design cycle on one page.**

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

# Think deeper

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**1. Which artistic/design decision was most deliberate?**

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**2. What evidence from observation or testing caused a revision?**

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**3. How could another creator solve the same brief differently?**

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# Quick review

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1. In one sentence, explain the big idea of “Design Challenge: Need, Prototype, Test, Improve”.

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

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

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4. Write one question you still have.

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# Answer & discussion notes

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

## 1. Suggested response

Name a specific choice involving line, value, colour, texture, space, form, structure or hierarchy.

## 2. Suggested response

Describe the observation/test and the resulting change.

## 3. Suggested response

Many solutions can be successful when they meet the purpose/criteria.

## 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

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I finished this BrightPencil learning pack.

One thing I understand better now:

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A strategy that helped me:

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Something I created or noticed:

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My next small question or goal:

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