

# NUMBER ROD REASONING

## Bundle

SHELLEY GRAY

ADDITION • SUBTRACTION • MULTIPLICATION  
DIVISION • FRACTIONS

### Think and Reason

4

Suppose the value of two red rods is  $\frac{2}{3}$ .



represents  $1\frac{2}{3}$ ? How do you know?

Fractions Greater Than One

### Think and Reason

7

Make a train with three purple rods.



If each purple rod represents two-thirds, is this train greater or less than 1? How do you know?

How could you write the value of this train in two different ways?

### Think and Reason

2

True or false?

$1\frac{1}{4}$  is always the same length.

Prove your answer with rods.



Number Rod Reasoning: Fractions Greater Than One

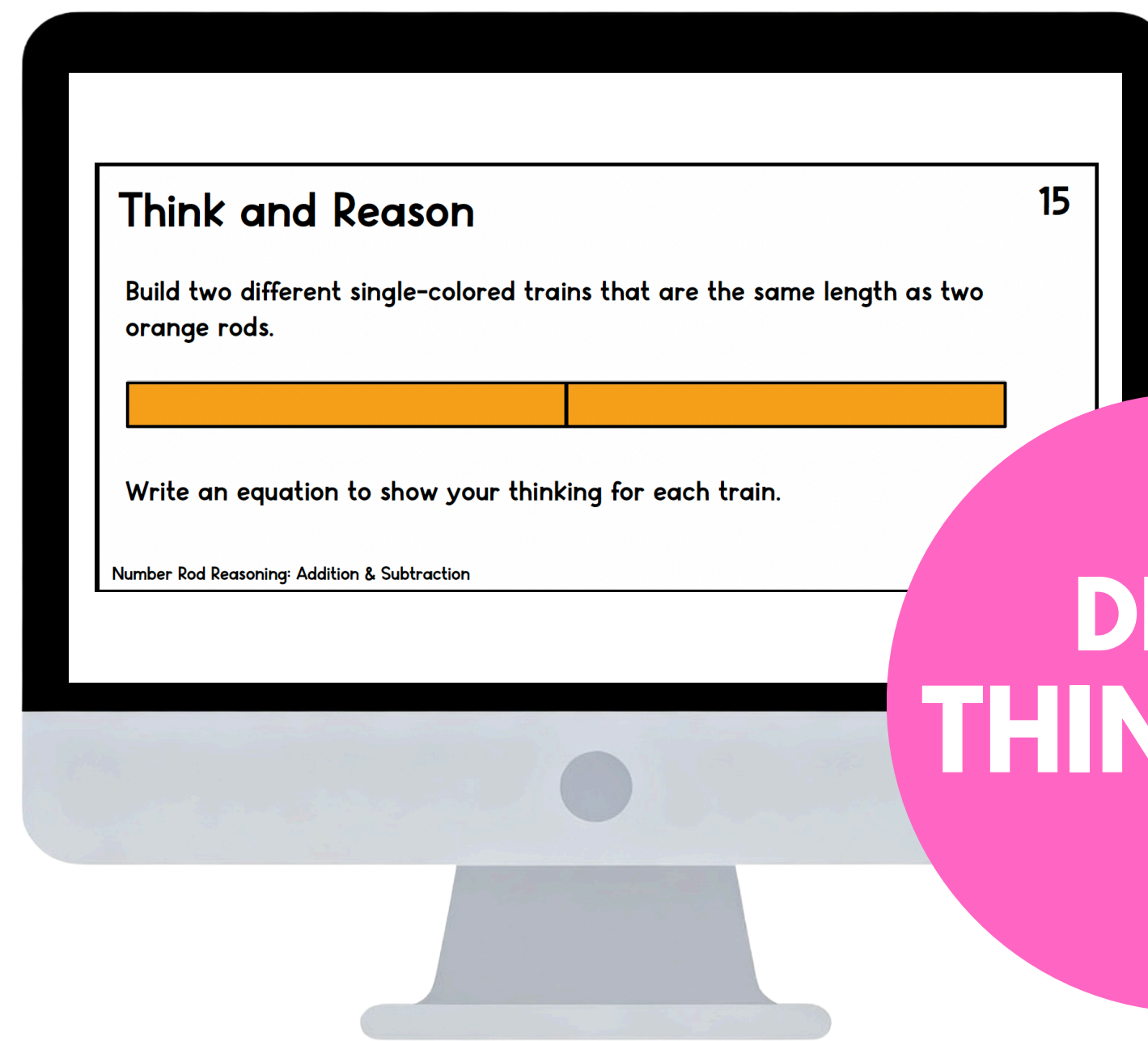
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80  
TASKS

DIGITAL & PRINTABLE

Ready to go beyond simple answer-getting?

In these Number Rod Reasoning Tasks, students will represent and justify their thinking, making them ideal for building conceptual understanding and mathematical flexibility.



**DEEP  
THINKING**

Use them in small groups, whole class, or intervention settings to encourage productive struggle and mathematical discussions.

**LOW FLOOR  
HIGH CEILING**

### Think and Reason

5

Make a train with 2 light green rods.



Complete this sentence:

2 light green rods are the same length as 3 \_\_\_\_\_ rods.

Write an equation to model...

### Think and Reason

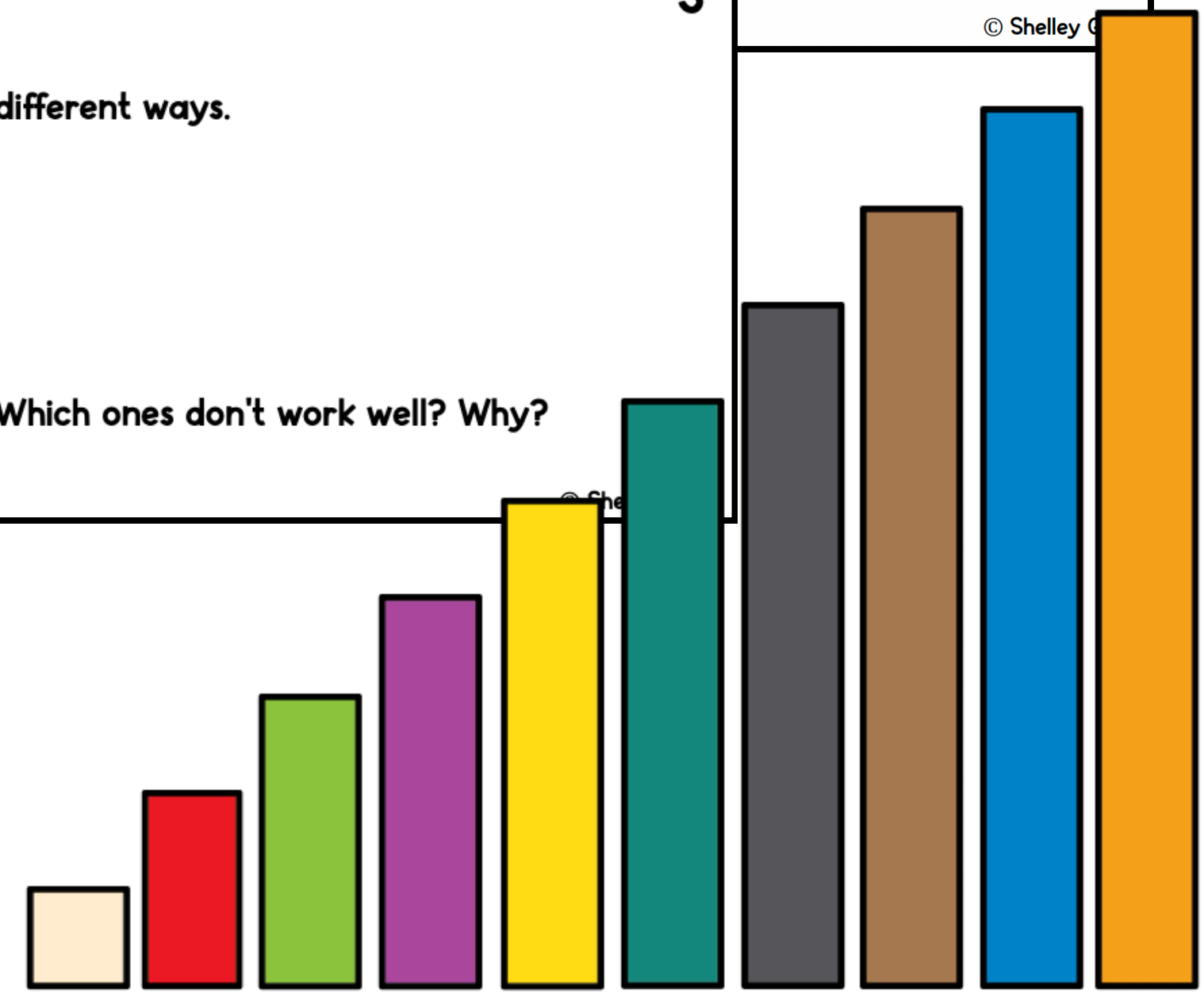
3

Build the fraction two-thirds in two different ways.



Which rods work well for this task? Which ones don't work well? Why?

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This bundle includes FOUR complete packages of Number Rod Reasoning Tasks so you can encourage reasoning for different concepts. The packages included are:

- Addition/Subtraction within 20
- Multiplication/Division
- Fractions Less Than One
- Fractions Greater Than One



**MAKES IT  
EASY TO  
DIFFERENTIATE**

In all, this bundle includes **eighty** tasks, designed to promote **deep thinking** and **reasoning** with number rod manipulatives.

The hands-on nature of these activities will help students make important connections between **concrete** and **abstract**.

The image shows three overlapping task cards from a 'Number Rod Reasoning' bundle. Each card features a title 'Think and Reason', a task description, a visual representation of a number rod train, and a question. The top card (numbered 5) shows two light green rods and asks for an equation. The middle card (numbered 7) shows three purple rods and asks for a comparison and value. The bottom card shows two orange rods and asks for equations. All cards include a copyright notice for Shelley Gray.

**Card 5:**  
Think and Reason  
Make a train with 2 light green rods.  
  
Complete this sentence:  
2 light green rods are the same length as 3 \_\_\_\_\_ rods.  
Write an equation to match.  
Number Rod Reasoning: Addition & Subtraction  
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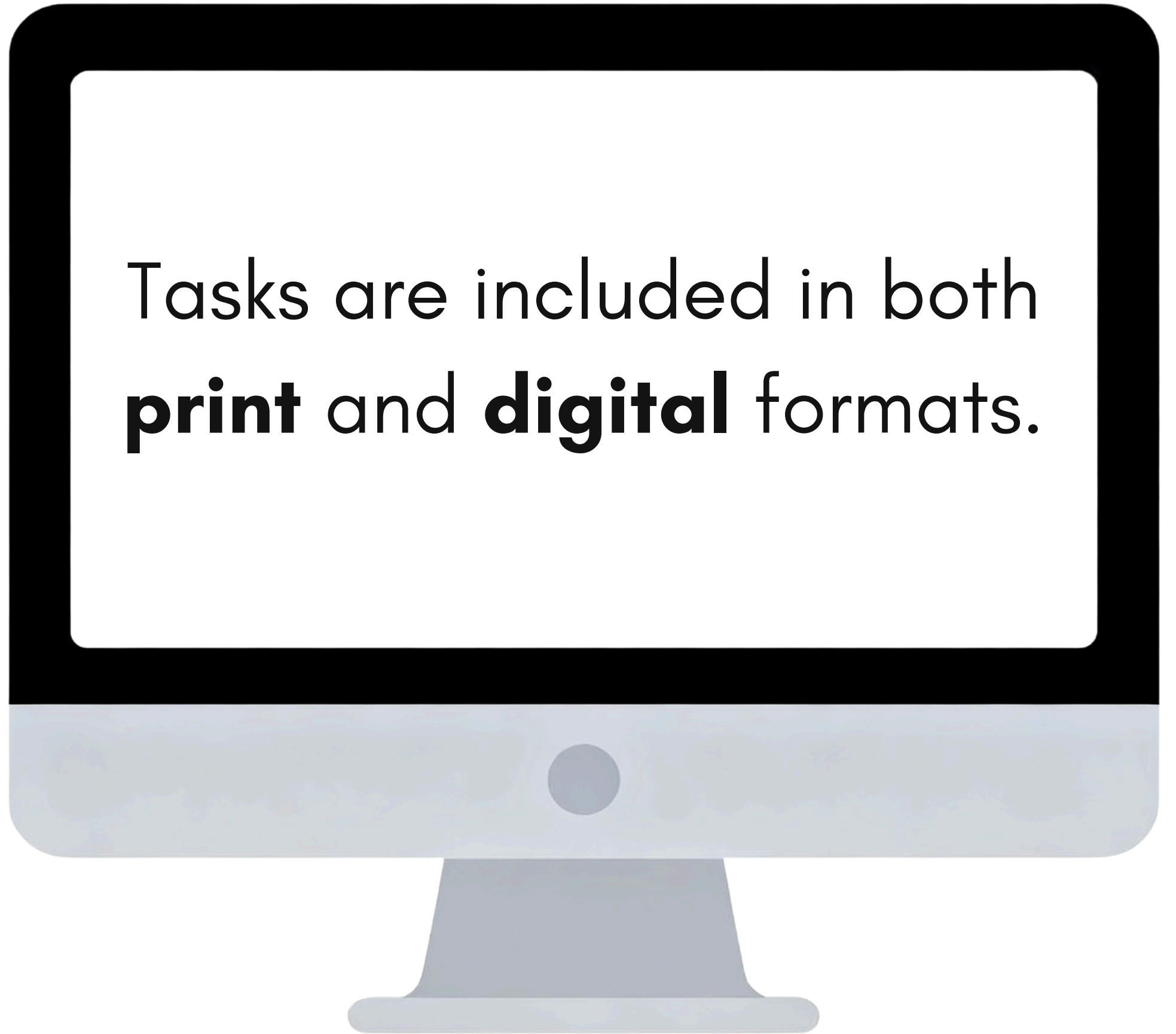
**Card 7:**  
Think and Reason  
Make a train with three purple rods.  
  
If each purple rod represents  $\frac{2}{3}$ , is this train greater or less than 1? How do you know?  
How could you write the value of this train in two different ways?  
Number Rod Reasoning: Fractions Greater Than One

**Card 8:**  
Think and Reason  
Build two different single-colored trains that are the same length as two orange rods.  
  
Write an equation to show your thinking for each train.  
Number Rod Reasoning: Addition & Subtraction  
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**HANDS-ON  
LEARNING**

**MAKE  
REASONING A  
DAILY  
ROUTINE**

Tasks are included in both  
**print** and **digital** formats.



If it's your first time using number rods, or if you need additional support, photo examples of each task are provided.

**BUILDS FLEXIBLE THINKING!**

16

The brown rod is 4 units longer than the purple rod.

8	
4	4

3

The length is  $1\frac{1}{4}$ .

The length is  $2\frac{1}{2}$ .

\*The value of each rod doubled ( $\frac{1}{4} \rightarrow \frac{1}{2}$ ).  
The value of the train also doubled ( $1\frac{1}{4} \rightarrow 2\frac{1}{2}$ )

False  
In this white represents  $\frac{1}{4}$

4

$\frac{1}{3}$   $\frac{1}{3}$   $\leftarrow \frac{2}{3}$

$\frac{1}{3}$   $\frac{1}{3}$   $\leftarrow 1\frac{2}{3}$

So the orange rod represents  $1\frac{2}{3}$ .

In this example red represents  $\frac{1}{4}$   
The length of  $1\frac{1}{4}$  can change on the size of one whole

$4 \times 6 = 24$

6 6 6 6

12 12

24

4 4 4 4 4 4

$6 \times 4 = 24$   
So:  $4 \times 6 = 6 \times 4$