

# DMT INSTITUTE

Developing Mathematical Thinking Institute (DMTI)



Professional  
Development



Curricular  
Resources



Assessment

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# DMTI Varied Practice Worksheets

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This PowerPoint or PDF displays the worksheets that have varied situations (context, visual, equations, and other mathematical models) for children to work on. By completing these worksheets, children increase their foundational skills in the topic, which will help them with these standards and future mathematical topics.

1. If using a journal, have children present the worksheet and complete all the problems.
2. Or print the 'Varied Practice Worksheet Slides' for them to work on. Then, you can return to the PowerPoint or PDF to look at the keys to check their work.

# 2 – Problem Solving

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DMTI VARIED PRACTICE

# Grade 2: Problem Solving Mysteries

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## Materials Needed

Print Underwater Scene Template or view on screen

Print Varied Practice Worksheet 1.1-1.2 or complete on blank paper

## Part A Instructions

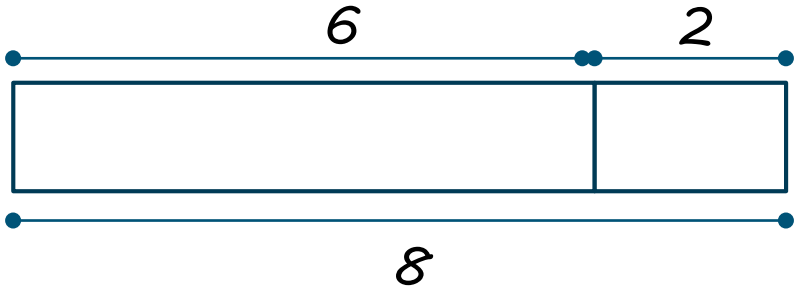
1. Have the child use the Underwater Scene to figure out the mystery problems and complete the missing boxes on Varied Practice Worksheet 1.1-1.2.

# Template: Underwater Scene



## EXAMPLE

Mystery Problem: There are 8 of us growing on the ocean floor. 6 of us are green. What might be our story?

| Story   | Model  | Equation    |
|---|--|-------------|
| There are 8 plants growing on the ocean floor. 6 of them are green and 2 are not green. |  <p>The diagram shows a horizontal number line with tick marks at 0, 6, and 8. A bracket above the line from 0 to 6 is labeled '6'. A bracket above the line from 6 to 8 is labeled '2'. A bracket below the line from 0 to 8 is labeled '8'. A rectangular box is drawn below the number line, spanning from 0 to 8, with a vertical line at 6, representing the total and its parts.</p> | $8 = 6 + 2$ |

*Notes for facilitator:*

*1. Answers may vary depending on what the child finds in the scene. The important part is the story, model and equation all match.*

*2. Our interpretation of some of the items: 2 separate plants behind the treasure chest for a total of 8, crabs have 8 walking legs and 2 claws, the 7 fish are the different colored fish (not the small fish in the schools), etc.*

# Grade 2: Problem Solving Mysteries

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1. We each have 8 walking legs and 2 claws. What might be our story?
2. I have 8 tentacles. How many of me would there be if there were 32 tentacles? What might be my story?
3. We are swimming in two schools. What might be our story?
4. There are 8 of us growing on the ocean floor. 5 of us have something that is the same and the other three are different (and it is not color). What might be our story?
5. We are a colorful group of 7. 2 more groups join us. What might be our story?
6. There are 5 of us sparkling, but really there are 20 of us. What might be our story?

| Story | Model | Equation |
|-------|-------|----------|
| 1.    |       |          |
| 2.    |       |          |
| 3.    |       |          |



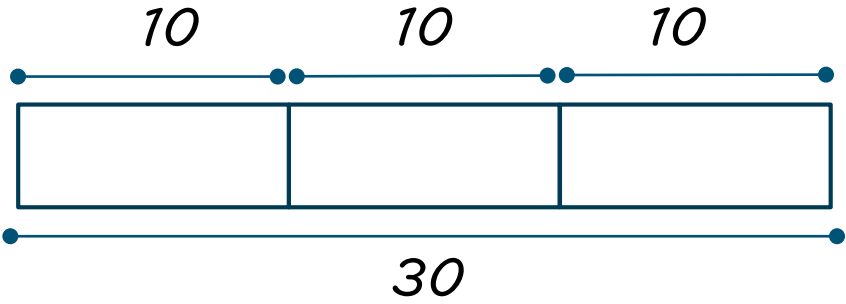
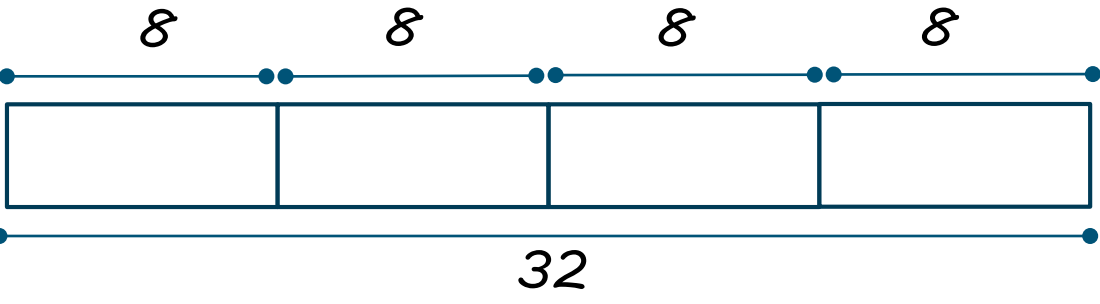
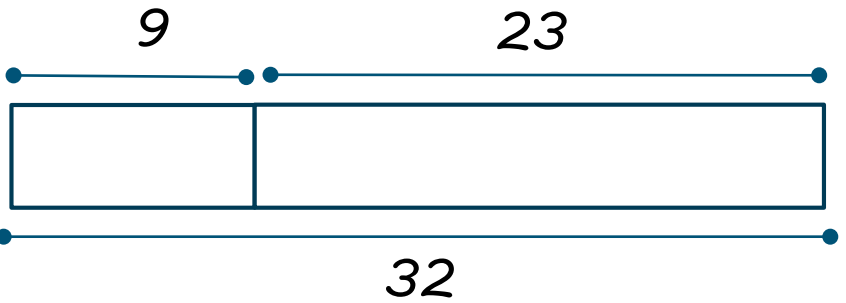
| Story | Model | Equation |
|-------|-------|----------|
| 4.    |       |          |
| 5.    |       |          |
| 6.    |       |          |



“The Developing Mathematical Thinking Institute (DMTI) is dedicated to enhancing students’ learning of mathematics by supporting educators in the implementation of research-based instructional strategies through high-quality professional development, curricular resources and assessments.”

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| Story  | Model  | Equation      |
|--|--|---------------|
| <p>1. Each crab has 8 legs and 2 claws. There are 3 crabs. There are a total of 30 legs and claws.</p>                             |   | $10+10+10=30$ |
| <p>2. There are 8 tentacles on an octopus. If there are 32 tentacles, there would be 4 octopuses.</p>                              |    | $8+8+8+8=32$  |
| <p>3. There are 2 schools of fish. There are 9 fish in one school and 23 in the second school. There are 32 fish all together.</p> |  | $9+23=32$     |

| Story   | Model | Equation                 |
|---|-------|--------------------------|
| <p>4. There are 5 plants that each have 4 parts growing. There is one plant with 3 parts, one plant with 2 parts and one plant with 1 part. There are 26 total plant parts.</p> |       | $4+4+4+4+4=20$ $20+6=26$ |
| <p>5. There is one group of 7 colorful fish. 2 more groups of 7 colorful fish join the first group. There are 21 fish all together.</p>   |       | $7+7+7=21$               |
| <p>6. There 20 jewels. 5 of them are showing and 15 are hidden in the sand.</p>   |       | $5+15=20$                |