LESSON MAKER PRO

# Double Fact Detectives

*Use facts you know to multiply and divide.*

**GRADE 4 · 4.NOS.C.7.b**

**4.NOS.C.7.b** "Derive unknown facts from known facts using double facts (e.g., to solve 4 × 3, double 3 to get 6 and double 6 to get 12) to multiply and divide."

NAME _____ DATE _____

## DOUBLE TO FIND MORE

A fact with 2 can help you find a fact with 4. Double the answer once to multiply by 4, or twice to multiply by 8. You can use the multiplication fact you find to solve a division fact.

**WORKED EXAMPLE**

Use 2 × 9 = 18 to find 4 × 9.

1. Start with 2 × 9 = 18.
2. Double 18 to get 36.
3. So 4 × 9 = 36.

**Answer: 36**

## PRACTICE 6 problems

**1** 2 × 3 = 6. Double 6 to find 4 × 3 = ___.

**ANSWER** _____

**2** 2 × 6 = 12. Double 12 to find 4 × 6 = ___.

**ANSWER** _____

**3** 2 × 5 = 10. Double 10, then double again. 8 × 5 = ___.

**ANSWER** _____

**4** 2 × 8 = 16. Double 16 to find 4 × 8 = ___.

**ANSWER** _____

**5** 2 × 7 = 14. Double 14, then double again. 56 ÷ 8 = ___.

**ANSWER** _____

**6** 2 × 11 = 22. Double 22. 44 ÷ 4 = ___.

**ANSWER** _____

## APPLY IT Show your work

**1** A card game comes in packs of 3 cards. You buy 8 packs. How many cards do you buy? Use doubling to find the total.

WORK SPACE

**ANSWER** _____

**2** Four teams share 40 wristbands equally. How many wristbands does each team get? Use a double fact to help.

WORK SPACE

**ANSWER** _____

## CHALLENGE One step up

A club has 8 boxes with 12 pencils in each box. The club shares all the pencils equally among 4 tables. How many pencils does each table get? Explain how doubling helps you find the total first.

WORK SPACE AND ANSWER

**ANSWER KEY**

# Double Fact Detectives

**GRADE 4 · 4.NOS.C.7.b**

## PART 1 · PRACTICE

| # | PROBLEM | ANSWER |
|---|---|---|
| 1 | 2 × 3 = 6. Double 6 to find 4 × 3 = ___. | **12** |
| 2 | 2 × 6 = 12. Double 12 to find 4 × 6 = ___. | **24** |
| 3 | 2 × 5 = 10. Double 10, then double again. 8 × 5 = ___. | **40** |
| 4 | 2 × 8 = 16. Double 16 to find 4 × 8 = ___. | **32** |
| 5 | 2 × 7 = 14. Double 14, then double again. 56 ÷ 8 = ___. | **7** |
| 6 | 2 × 11 = 22. Double 22. 44 ÷ 4 = ___. | **11** |

## PART 2 · APPLY IT

1. **24 cards** Start with 2 × 3 = 6. Double to get 4 × 3 = 12, then double again to get 8 × 3 = 24.
2. **10 wristbands** Start with 2 × 10 = 20 and double 20 to get 4 × 10 = 40. So 40 ÷ 4 = 10.

## CHALLENGE

**Each table gets 24 pencils. Start with 2 × 12 = 24, then double to get 4 × 12 = 48 and double again to get 8 × 12 = 96. Since 96 ÷ 4 = 24, each table gets 24 pencils.**

For the division problems, accept a correct related multiplication fact as evidence of doubling. In the challenge, students may find 96 first or notice that each table gets the pencils from 2 boxes.