**Mathe sicher können
Diagnose- und Fördermaterial**

**N8 Schriftlich multiplizieren**

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| Inhalt |  |  |
| Baustein N8A  | **Ich kann schriftlich multiplizieren und das Rechenverfahren erklären**◼ Diagnosematerial (1 Seite Standortbestimmung)◼ Fördermaterial in drei Fördereinheiten (6 Seiten) |

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|  | Dieses Material wurde durch Kathrin Akinwunmi, Theresa Deutscher & Christoph Selter konzipiert und hier redaktionell bearbeitet. Es kann unter Creative Commons Lizenz BY-NC-SA (Namensnennung – Nicht Kommerziell – Weitergabe unter gleichen Bedingungen) 4.0 International weiterverwendet werden. |
| **Zitierbar als** | Kathrin Akinwunmi, Theresa Deutscher & Christoph Selter (2023). Mathe sicher können Diagnose- und Förderbausteine N8: Schriftlich multiplizieren. Open Educational Resources unter mathe-sicher-koennen.dzlm.de/nz#n8 |
| **Hinweis zu** **verwandtem Material** | Das Material ist in Print auch bei Cornelsen kaufbar, wurde hier jedoch leicht weiterentwickelt. Zu dem Diagnose- und Fördermaterial sind auch Handreichungen verfügbar.  |

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| A | Kann ich schriftlich multiplizieren und das Rechenverfahren erklären? |
| 1 | Multiplizieren ohne Übertrag |
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| a) | 212 · 4 | b) | 212 · 42 | c) | 212 · 342 |

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| 2 | Multiplizieren mit Überträgen |
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| a) | 312 · 6 | b) | 312 · 64 | c) | 382 · 564 |

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| 3 | Multiplizieren mit Null |  |
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| a) | 305 · 5 | b) | 55 · 305 | c) | 3 005 · 305 |

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| A | Ich kann schriftlich multiplizieren und das Rechenverfahren erklären |
| 1 | Multiplizieren ohne Übertrag |
| 1.1 | Rechenwege vergleichen |
|  | a) | Emily und Jonas rechnen die Aufgaben 12 · 13.Beschreibe die beiden Rechenwege.

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| Jonas Rechenweg:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| · | 10 | 3 |  |  |
|  10 | 100 | 30 |  | 130 |
| 2 | 20 | 6 |  | + 26 |
|  | 120 | + 36 |  | 156 |

 |  Emilys Rechenweg: 12 · 13 12 36 156 |

 |
|  | b) | Markiere die Einer in gelb, die Zehner in rot und die Hunderter in grün. Vergleiche die Rechenwege. Was ist gleich? Was ist verschieden? |
|  | c) | Warum kann Emily bei ihrem Rechenweg die Nullen weglassen? |
| 1.2 | Rechenwege erklären |
| Emily | Die Kinder haben Fragen zu Emilys Rechenweg. Beantworte die Fragen und erkläre.Emilys Rechenweg:Emily, wo muss ich denn bei deiner Rechnung anfangen?Jonas12 · 13 . 12 36 156  Darf ich die Zahlen auch so untereinander schreiben? Dilara12 · 131236  |
| 1.3 | Rechenwege ausprobieren12 · 13 . 12 36 156 |
|  | a) | Rechne die Aufgabe 16 · 11 auf zwei Wegen:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Rechne wie Jonas:

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| --- | --- | --- | --- | --- |
| · | 10 | 1 |  |  |
| 10 |  |  |  |  |
| 6 |  |  |  | + |
|  |  | + |  |  |

 | Rechne wie Emily: 16 · 11 |

 |
|  |  |  |
|  | b) | Rechne die Aufgabe 212 · 44.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Rechne wie Jonas:

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| --- | --- | --- | --- | --- |
| · | 40 | 4 |  |  |
| 200 |  |  |  |  |
| 10 |  |  |  | + |
| 2 |  |  |  | + |
|  |  | + |  |  |

 | Rechne wie Emily: 212 · 44 |

 |
| 1.4 | Rechnen mit Ziffernkarten12321 |
|  | Nimm dir die Ziffernkarten 1, 2, 2, 3. 12 · 23 . 24 36 276 |
|  | a) | Lege mit den Ziffernkarten zwei Zahlen und multipliziere sie. Schreibe die Rechnungen in dein Heft. |
|   | b) | Vertausche zwei Ziffernkarten. Überlege zuerst, ob das Ergebnis kleiner oder größer wird. Rechne dann aus und überprüfe. |
|  | c) | Finde die Aufgabe mit dem größten und dem kleinsten Ergebnis. Wie gehst du vor? |

16 · 23 . 32

 48
 368

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| 2 | Multiplizieren mit Überträgen  |
| 2.1 | Rechenwege vergleichen |
|  | a) | Emily und Jonas rechnen die Aufgaben 16 · 23.Beschreibe die beiden Rechenwege.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Jonas Rechenweg: Jonas

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| · | 20 | 3 |  |  |
|  10 | 200 | 30 |  | 230 |
| 6 | 120 | 18 |  | + 138 |
|  | 320 | + 48 |  | 368 |

 |  Emilys Rechenweg: Emily |

 |
|  | b) | Markiere die Einer in gelb, die Zehner in rot und die Hunderter in grün. Vergleiche die Rechenwege. Was ist gleich? Was ist verschieden? |
|  | c) | Warum kann Emily bei ihrem Rechenweg die Nullen weglassen? |
| 2.2 | Fehler erklären |
|  | Dilara will Emilys Rechenweg ausprobieren und macht dabei Fehler. Dilaras falscher Rechenweg:16 · 23  212 318 438  Ich habe erst 6 mal 2 gleich 12 gerechnet und dann die 12 hingeschrieben. Dann habe ich 2 mal 1 gleich 2 gerechnet und die 2 vor die 12 geschrieben.Dilara  |
|  | * Erkläre, was Dilara falsch macht.
* Erkläre auch den Fehler in der nächsten Zeile.
* Wie kommt Dilara auf die 318?
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| 2.3 | Rechenwege ausprobieren |
|  | a) | Rechne die Aufgabe 18 · 12 auf zwei Wegen:

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Rechne wie Jonas:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| · | 10 | 2 |  |  |
| 10 |  |  |  |  |
| 8 |  |  |  | + |
|  |  | + |  |  |

 | Rechne wie Emily: 18 · 12 |

 |
|  |  |  |
|  | b) | Rechne die Aufgabe 323 · 44.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Rechne wie Jonas:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| · | 40 | 4 |  |  |
| 300 |  |  |  |  |
| 20 |  |  |  | + |
| 3 |  |  |  | + |
|  |  | + |  |  |

 | Rechne wie Emily: 323 · 44 |

 |
| 2.4 | Rechnen mit Ziffernkarten25741 |
|  | Nimm dir die Ziffernkarten 1, 2, 2, 3.  |
|  | a) | Lege mit den Ziffernkarten zwei Zahlen und multipliziere sie. Schreibe die Rechnungen in dein Heft. Beispiel:  **·**245 · 78 1715 1960 1 1 \_\_\_\_\_\_\_\_\_\_\_\_. 1911081288741 |
|   | b) | Vertausche zwei Ziffernkarten. 5Überlege zuerst, ob das Ergebnis kleiner oder größer wird. Rechne dann aus und überprüfe. |
|  | c) | Finde die Aufgabe mit dem größten und dem kleinsten Ergebnis. Wie gehst du vor? |

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| 2.5 | Welche Ziffern fehlen? |
|  | Schreiben die fehlenden Ziffern in die grauen Kästchen.

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|  | (1)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 3 |  | · | 3 | 4 |
|  |  | 9 | 6 |  |
|  |  | 1 |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

 | (2)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 2 |  | · | 3 | 1 |
|  |  | 8 | 1 |  |
|  |  |  |  | 7 |
|  |  |  |  |  |
|  |  |  |  |  |

 |
|  | (4)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 |  | · | 1 | 7 |
|  |  |  |  |  |
|  |  | 1 | 1 | 2 |
|  |  |  |  |  |
|  |  |  |  |  |

 | (5)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 2 |  | · | 3 |  |
|  |  |  |  |  |
|  |  |  | 4 | 6 |
|  |  |  |  |  |
|  |  |  |  |  |

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| 3 | Multiplizieren mit Null |
| 3.1 | Rechenwege vergleichen |
|  | a) | Emily und Jonas rechnen die Aufgabe 16 · 204. Beschreibe die beiden Rechenwege.

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| Jonas Rechenweg:

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| --- | --- | --- | --- | --- |
| · | 200 | 4 |  |  |
|  10 | 2000 | 40 |  | 2040 |
| 6 | 1200 | 24 |  | + 1224 |
|  | 3200 | + 64 |  | 3264 |

 | Emilys Rechenweg:16 · 204 . 32 64 3264 |

 |
|  | b) | Markiere die Einer in gelb, die Zehner in rot, die Hunderter in grün und die Tausender in blau. Vergleiche die Rechenwege.Was ist gleich? Was ist verschieden?Statt 3200 steht in Emilys Rechnung 32. Was wird da gezählt, 32 von was?  |

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| 3.2 | Fehler erklären |
|  | a) | Dilara will Emilys Rechenweg ausprobieren und macht dabei Fehler.16 · 204  32  64 384Sie rechnet die Aufgabe 16 · 204 so: * Erkläre, was Dilara falsch gemacht hat.
* Schreibe den Rechenweg richtig ins Heft.
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| 3.3 | Rechenwege ausprobieren |
|  | a) | Rechne die Aufgabe 13 · 205.

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| Rechne wie Jonas:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| · | 200 | 5 |  |  |
| 10 |  |  |  |  |
| 3 |  |  |  | + |
|  |  | + |  |  |

 | Rechne wie Emily: 13 · 205 |
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|  | b) | Rechne die Aufgabe 17 · 5005.

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| Rechne wie Jonas:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| · | 5000 | 5 |  |  |
| 10 |  |  |  |  |
| 7 |  |  |  | + |
|  |  | + |  |  |

 | Rechne wie Emily: 17 · 5005 |

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|  |  |  |
| 3.4 | Muster suchen in Päckchen |
|  | a) | Rechne aus. Schreibe die Rechnungen in dein Heft.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| (1) | 3 · 74 0746 · 74 0749 · 74 074 | (2) | 121 · 10 101242 · 10 101363 · 10 101 | (3) | 909 · 33909 · 44909 · 55 |

 |
|  |  |  |
|  | b) | Was fällt dir auf? |