



# Math Calendar Pattern

## Multiplication Models

<p>5</p>  <p>One hand how many fingers?</p>	<p>6</p> <table border="1"><tr><td>3</td><td>3</td></tr></table> <p>Two bars with three in each bar how many in total?</p>	3	3	<p>7</p>  <p>Seven loonies how many dollars?</p>
3	3			

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## Directions

### Set up

1. Print one copy of the calendar pieces on white cardstock (choose one size)
2. Cut out the calendar pieces
3. Place the cards face down on a calendar or calendar pocket chart
4. Create the Calendar Quest observation chart with the headings and dates on chart paper

### Note on Canadian Coins

Canadian coins have been used through out this pattern



Penny, releases stopped in 2013 still legal tender, value \$0.01



Nickel , value \$0.05



Loonie, value \$1.00



Toonie, value \$2.00

## Observation chart and key

Date	Format	Multiplication Equation	Product	Prime or Composite
1	coins	1x1	1	
2	group	1x2	2	p
3	bar model	3x1	3	p
4	coins	2x2	4	c
5	group	1x5	5	p
6	bar model	2x3	6	c
7	coins	1x7	7	p
8	group	2x4	8	c
9	bar model	3x3	9	c
10	coins	2x5	10	c
11	group	1x11	11	p
12	bar model	3x4	12	c
13	coins	1x13	13	p
14	group	2x7	14	c
15	bar model	3x5	15	c
16	coins	4x4	16	c
17	group	1x17	17	p
18	bar model	2x9	18	c
19	coins	1x19	19	p
20	group	4x5	20	c
21	bar model	7x3	21	c
22	coins	11x2	22	c
23	group	1x23	23	p
24	bar model	8x3	24	c
25	coins	5x5	25	c
26	group	2x13	26	c
27	bar model	3x9	27	c
28	coins	4x7	28	c

29 group 1x29

30 bar model 6x5






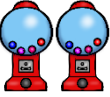

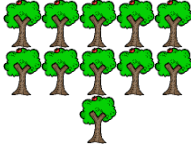





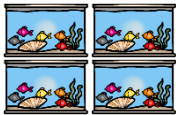

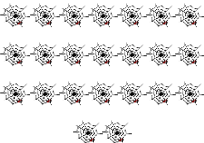



31 coins 1x31



29 p

30 c

31 p

# Sample Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday													
<p>1</p>  <p>One penny how many cents?</p>	<p>2</p>  <p>One jar how many candies?</p>	<p>3</p> <table border="1" style="margin: auto;"> <tr> <td>1</td> <td>1</td> <td>1</td> </tr> </table> <p>Bars with one in each bar how many in total?</p>	1	1	1	<p>4</p>  <p>Two toonies how many dollars?</p>	<p>5</p>  <p>One hand how many fingers?</p>	<p>6</p> <table border="1" style="margin: auto;"> <tr> <td>3</td> <td>3</td> </tr> </table> <p>Two bars with three in each bar how many in total?</p>	3	3	<p>7</p>  <p>Seven loonies how many dollars?</p>								
1	1	1																	
3	3																		
<p>8</p>  <p>Two machines how many gumballs?</p>	<p>9</p> <table border="1" style="margin: auto;"> <tr> <td>3</td> <td>3</td> <td>3</td> </tr> </table> <p>Three bars with three in each how many in total?</p>	3	3	3	<p>10</p>  <p>Two nickels how many cents?</p>	<p>11</p>  <p>Eleven trees how many apples?</p>	<p>12</p> <table border="1" style="margin: auto;"> <tr> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table> <p>Four bars with three in each how many in total?</p>	3	3	3	3	<p>13</p>  <p>Thirteen pennies how many cents?</p>	<p>14</p>  <p>Two watermelons how many seeds?</p>						
3	3	3																	
3	3	3	3																
<p>15</p> <table border="1" style="margin: auto;"> <tr> <td>5</td> <td>5</td> <td>5</td> </tr> </table> <p>Three bars of five how many in total?</p>	5	5	5	<p>16</p>  <p>Eight toonies how many dollars?</p>	<p>17</p>  <p>Seventeen ladybugs how many ladybugs?</p>	<p>18</p> <table border="1" style="margin: auto;"> <tr> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> </table> <p>Nine bars of two how many in total?</p>	2	2	2	2	2	2	2	<p>19</p>  <p>Nineteen loonies how many dollars?</p>	<p>20</p>  <p>Four tanks how many fish?</p>	<p>21</p> <table border="1" style="margin: auto;"> <tr> <td>7</td> <td>7</td> <td>7</td> </tr> </table> <p>Three bars of seven how many in total?</p>	7	7	7
5	5	5																	
2	2	2	2	2	2	2													
7	7	7																	
<p>22</p> 	<p>23</p> 	<p>24</p> <table border="1" style="margin: auto;"> <tr> <td>6</td> <td>6</td> <td>6</td> <td>6</td> </tr> </table> <p>Four bars of six how many in total?</p>	6	6	6	6	<p>25</p> 	<p>26</p> 	<p>27</p> <table border="1" style="margin: auto;"> <tr> <td>9</td> <td>9</td> <td>9</td> </tr> </table> <p>Three bars with nine in each</p>	9	9	9	<p>28</p> 						
6	6	6	6																
9	9	9																	

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday						
Eleven toonies how many dollars?	Twenty-three webs how many spiders?		Five nickels how many cents?	Thirteen caribou how many antlers?	how many all together?	Fourteen toonies how many dollars?						
<p style="text-align: center;">29</p>  <p style="text-align: center;">Twenty-nine beavers how many tails?</p>	<p style="text-align: center;">30</p> <table border="1" style="margin: auto;"> <tr> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> </tr> </table> <p>Six bars with five in each how many all together?</p>	5	5	5	5	5	5	<p style="text-align: center;">31</p>  <p style="text-align: center;">31 loonies how many dollars?</p>				
5	5	5	5	5	5							

## Daily Activities

Activities are designed to be completed on school days only. Record the cards from weekends and holidays on your observations chart after returning to school. Do not reveal cards ahead of the date.

### *Day 1 - Introducing the Calendar Quest*

1. Gather students where they can clearly see the Calendar Quest and blank observations chart.
2. Invite students to share what they notice about the Callender Quest and observations chart
3. Invite students to share what they wonder about the Callender Quest and observations chart
4. Reveal the cards for the days that have already passed (IE if it's the 5<sup>th</sup> display cards for the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup>.)
5. Make observations about the cards that have already been revealed
6. Make predictions for today's card
7. Reveal today's card
8. Share what you notice and wonder
9. Make predictions for what could be on the card tomorrow

### *Day 4 – Introduce The Observations Chart*

1. Gather students where they can clearly see the Calendar Quest and blank observations chart.
2. Invite students to share what they notice about the Callender Quest and observations chart
3. Invite students to share what they wonder about the Callender Quest and observations chart
4. Ask students what they notice about the representations on each card
5. Ask students to name the three models of multiplication shown on the cards (coins, bar model, equal groups)
6. Record the model of multiplication shown on each of the visible cards
7. Make predictions for today's card
8. Reveal today's card
9. What did we get correct? What was incorrect?
10. Add today's observations to the chart
11. Make predictions for tomorrow's card

### *Day 10 – Multiplication Equations and Products*

1. Gather students where they can clearly see the Calendar Quest and blank observations chart.
2. Invite students to share what they notice about the Callender Quest and observations chart
3. Invite students to share what they wonder about the Callender Quest and observations chart



4. Put students in groups of 3
5. Ask the groups to come up with multiplication equations for each of the visible cards
6. Ask groups to share a multiplication equation and the product for each of the visible cards
7. Record the multiplication equation and product on the observations chart
8. Make predictions for today's card
9. Reveal today's card
10. What did we get correct? What was incorrect?
11. Add today's observations to the chart
12. Make predictions for tomorrow's card

#### *Day 16 – Primes and Composites*

1. Gather students where they can clearly see the Calendar Quest and blank observations chart.
2. Invite students to share what they notice about the Calendar Quest and observations chart
3. Invite students to share what they wonder about the Calendar Quest and observations chart
4. Draw attention to the final column on the observation chart
5. Ask students what they know about prime numbers
6. Ask student what they know or can infer about composite numbers
7. Put students in groups of 3
8. Ask groups to come up with as many different equal groups as possible for each product
9. Ask groups to share their alternate arrangements for each product
10. Ask students if there were alternate arrangements for all products
11. The numbers that don't have alternate arrangements are primes
12. Primes are special numbers that only have themselves and 1 as factors (can only be divided by them self and 1)
  - a. Primes in this pattern: 2,3,5,7,11,13,17,23,29,31
13. Ask students what they notice about the prime numbers
  - a. All odd
14. If a number isn't a prime number it's composite
15. One is neither prime nor composite
16. Have students predict what today's card will be
17. Reveal today's card
18. What did we get correct? What was incorrect?
19. Add today's observations to the chart

20. Make predictions for tomorrow's card

*Last Day Of The Month – Calendar Extender sheet*

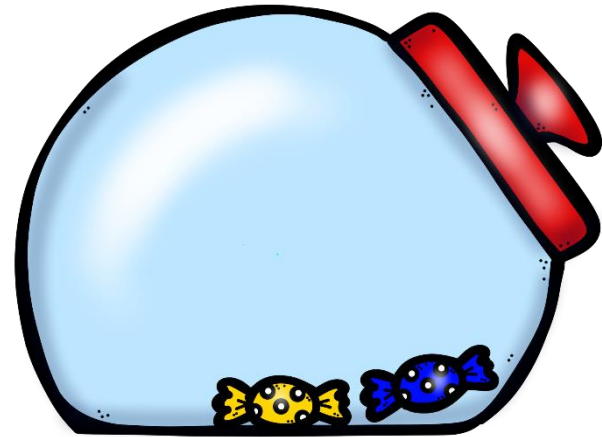
1. Gather students where they can clearly see the Calendar Quest and blank observations chart.
2. Invite students to share what they notice about the Callender Quest and observations chart
3. Invite students to share what they wonder about the Callender Quest and observations chart
4. Have students predict what today's card will be
5. Reveal today's card
6. What did we get correct? What was incorrect?
7. Add today's observations to the chart
8. Discuss the total pattern
9. What did we learn this month?
10. How has the pattern changed and evolved.
11. Send students to complete the calendar extender sheet independently

1.



One penny how many cents?

2.



One jar how many candies?

3.

1	1	1
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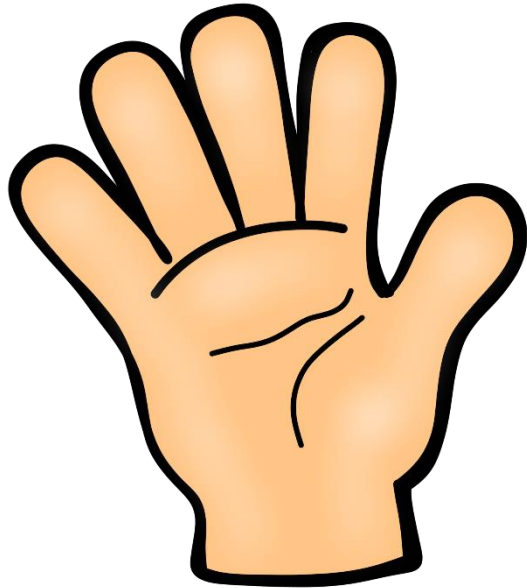
Bars with one in each bar  
how many in total?

4.



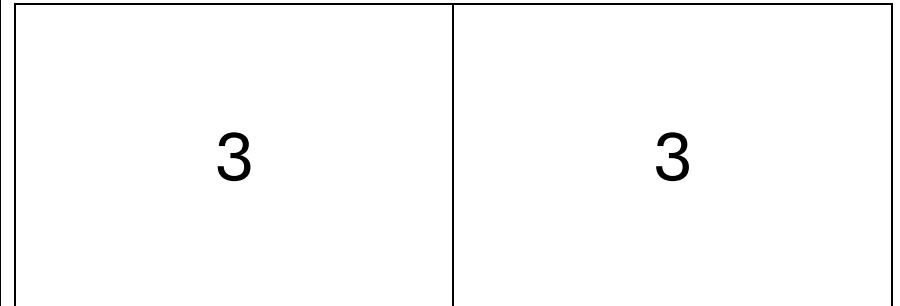
Two toonies how many  
dollars?

5.



One hand how many  
fingers?

6.



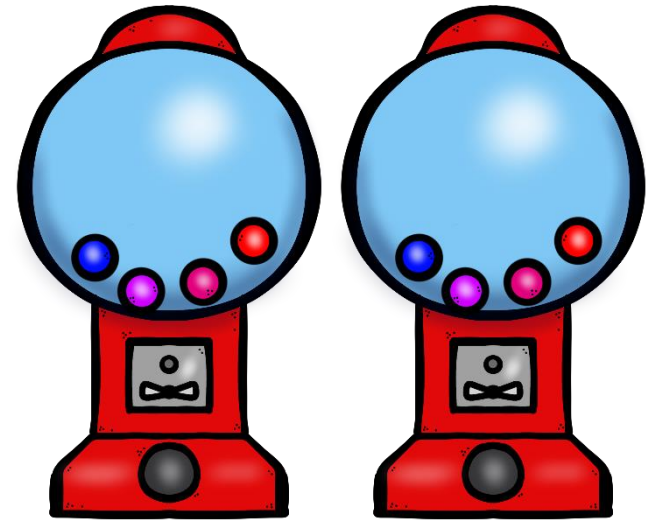
Two bars with three in each  
bar how many in total?

7.



Seven loonies how many dollars?

8.



Two machines how many gumballs?

9.

3	3	3
---	---	---

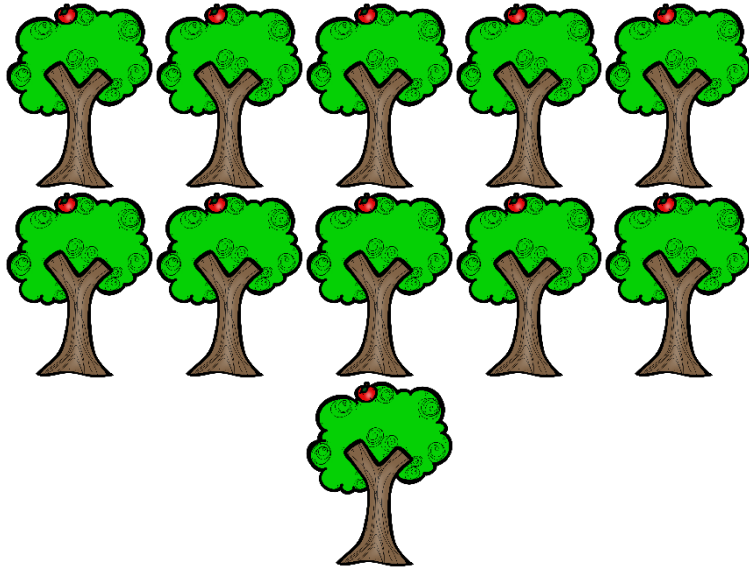
Three bars with three in each how many in total?

10.



Two nickels how many cents?

11.



Eleven trees how many  
apples?

12.

3	3	3	3
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Four bars with three in  
each how many in total?

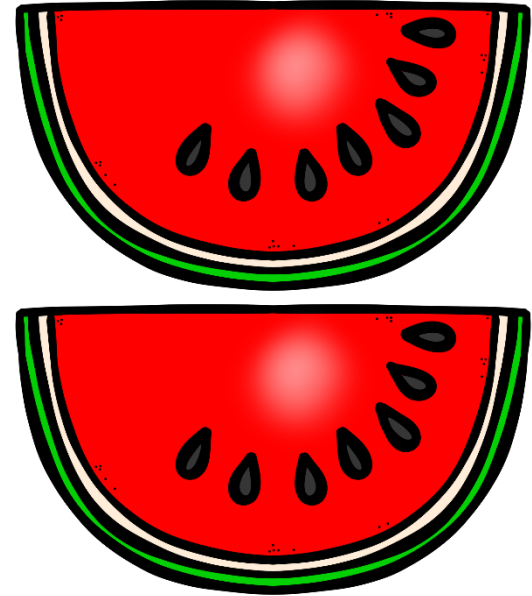


13.



Thirteen pennies how many cents?

14.



Two watermelons how many seeds?

15.

5	5	5
---	---	---

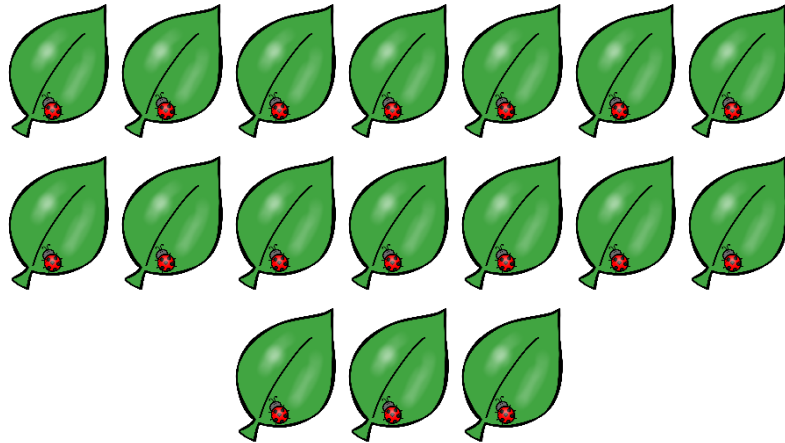
Three bars of five how many in total?

16.



Eight toonies how many dollars?

17.



Seventeen leaves how many lady bugs?

18.

2	2	2	2	2	2	2	2	2
---	---	---	---	---	---	---	---	---

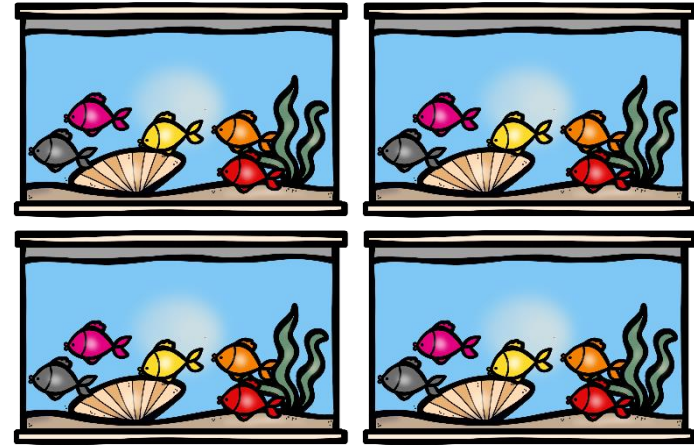
Nine bars of two how many in total?

19.



Nineteen loonies how many dollars?

20.



Four tanks how many fish?

21.

7	7	7
---	---	---

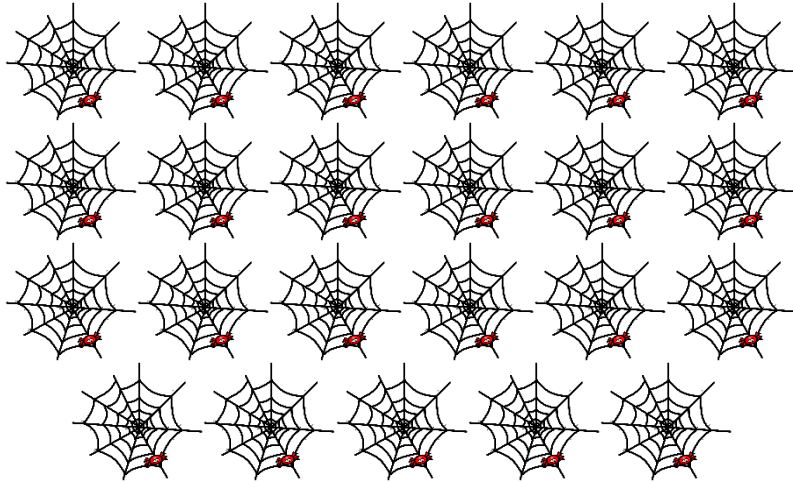
Three bars of seven how many in total?

22.



Eleven toonies how many dollars?

23.



Twenty-three webs how many spiders?

24.

6	6	6	6
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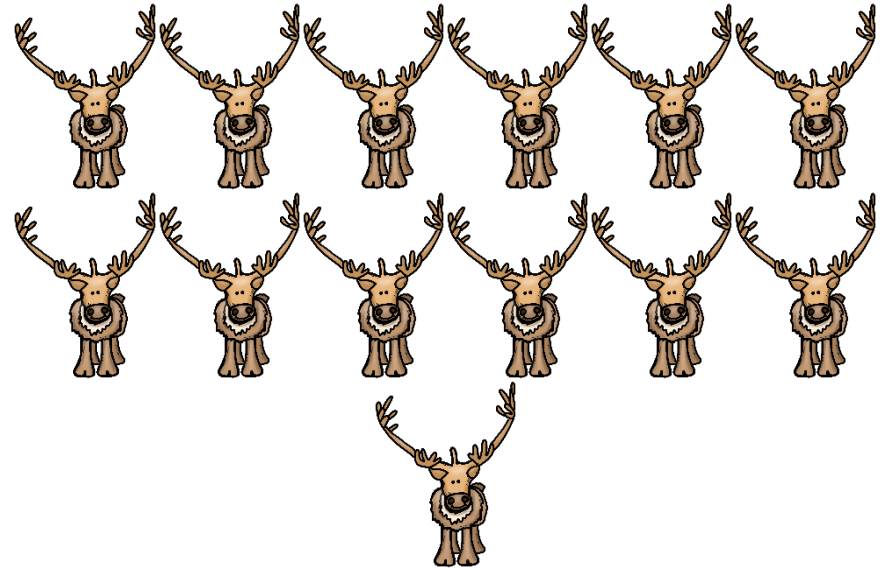
Four bars of six how many in total?

25.



Five nickels how many cents?

26.



Thirteen caribou how many antlers?

27.

9	9	9
---	---	---

Three bars with nine in each how many all together?

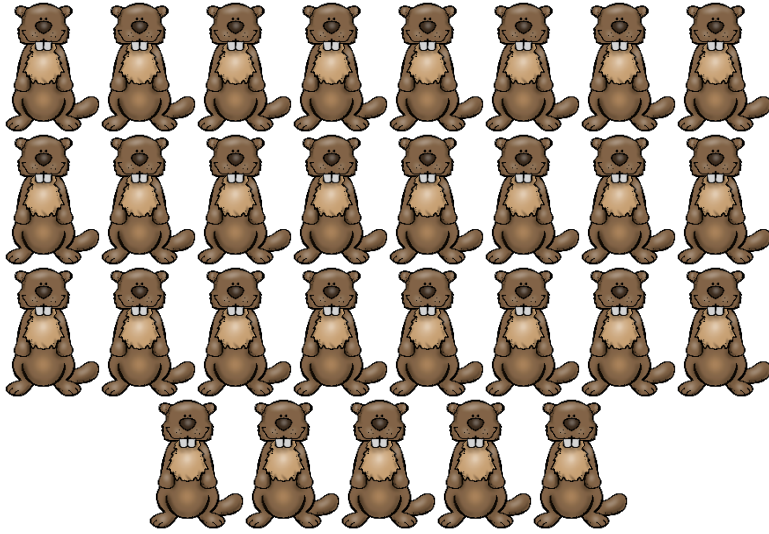
28.



Fourteen toonies how many dollars?



29.



Twenty-nine beavers how many tails?

30.

5	5	5	5	5	5
---	---	---	---	---	---

Six bars with five in each how many all together?

31.



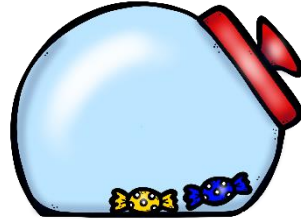
31 loonies how many  
dollars?

1.



One penny how many cents?

2.



One jar how many candies?

3.

1	1	1
---	---	---

Bars with one in each bar how many in total?

4.



Two toonies how many dollars?

5.



One hand how many fingers?

6.

3	3
---	---

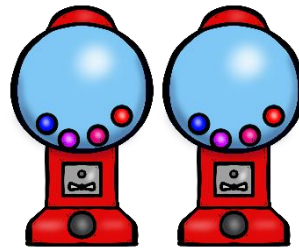
Two bars with three in each bar how many in total?

7.



Seven loonies how many dollars?

8.



Two machines how many gumballs?

9.

3	3	3
---	---	---

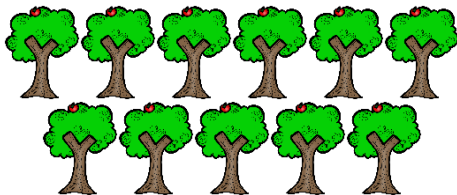
Three bars with three in each how many in total?

10.



Two nickels how many cents?

11.



Eleven trees how many apples?

12.

3	3	3	3
---	---	---	---

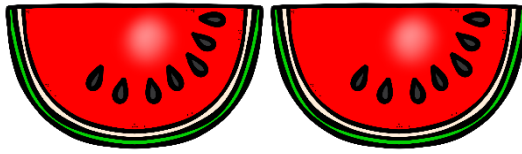
Four bars with three in each how many in total?

13.



Thirteen pennies  
how many cents?

14.



Two watermelons  
how many seeds?

15.

5	5	5
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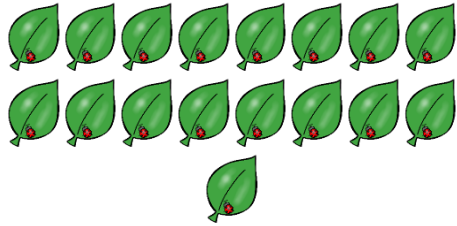
Three bars of five  
how many in total?

16.



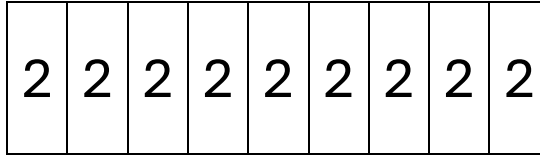
Eight toonies how  
many dollars?

17.



Seventeen leaves  
how many lady  
bugs?

18.



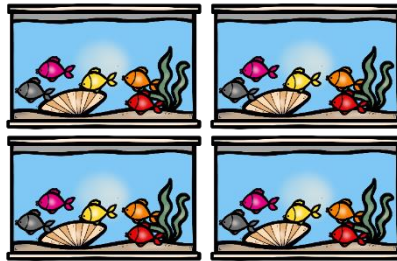
Nine bars of two how  
many in total?

19.



Nineteen loonies  
how many dollars?

20.



Four tanks how many  
fish?

21.

7	7	7
---	---	---

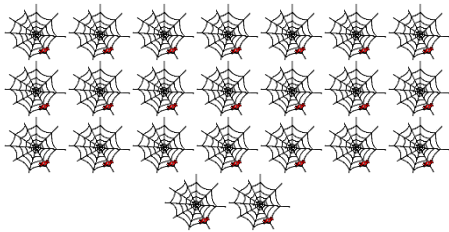
Three bars of seven  
how many in total?

22.



Eleven toonies how  
many dollars?

23.



Twenty-three webs  
how many spiders?

24.

6	6	6	6
---	---	---	---

Four bars of six how  
many in total?

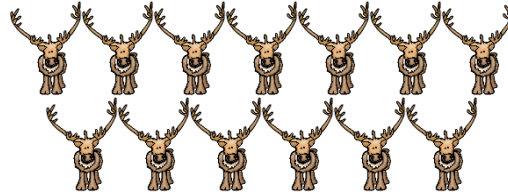


25.



Five nickels how many cents?

26.



Thirteen caribou how many antlers?

27.

9	9	9
---	---	---

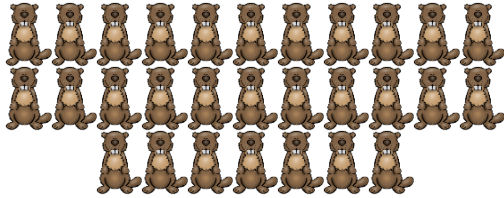
Three bars with nine in each how many all together?

28.



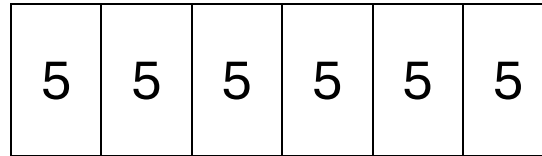
Fourteen toonies how many dollars?

29.



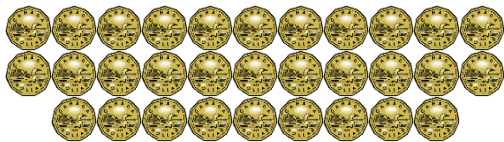
Twenty-nine  
beavers how many  
tails?

30.



Six bars with five in  
each how many all  
together?

31.



31 loonies how  
many dollars?

# Calendar Extender

Name: \_\_\_\_\_ Month: \_\_\_\_\_ Pattern: \_\_\_\_\_

Complete one box for each of the next 6 days. Make sure you include the date, and all elements of the pattern.


Credits

