

Student Activity Book

Questions 1–9 (SAB pp. 169–172)

1.

Input	Output
12	7
11	6
10	5
9	4
8	3
7	2
6	1
5	0
Answers will vary.	
N	$N - 5$

Rule: Subtract 5 from the input.

2.

Input	Output
1	5
2	15
3	25
4	35
6	55
15	145
21	205
100	995
Answers will vary.	
N	$10 \times N - 5$

Rule: Multiply the input by 10 and subtract 5

- 3.* No, the rule cannot be $N + 4$ because if you add 4 to 3 you don't get 9 in the second row. The rule is 3 times the input or $3 \times N$.

Name _____ Date _____

Function Tables

Fill in the missing values in the function tables below. Choose your own input for the blank row. Then find the output. Find or check the rule in the last row. Describe the rule in words below each table.

1.

Input	Output
12	7
11	
	5
9	
	3
6	
	2
	0
N	$N - 5$

Rule:

2.

Input	Output
1	5
2	15
3	25
4	35
	55
15	
	205
100	
N	$10 \times N - 5$

Rule:

3. Study the table to the right. John says the rule cannot be $N + 4$ or the input plus 4. Do you agree with John? Why or why not?

If not, what is the rule?

Input	Output
2	6
3	9
10	30
N	$N + 4$

Rule:

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Student Activity Book - Page 169

*Answers and/or discussion are included in the lesson.

Name _____ Date _____

4.

Input	Output
1	5
2	10
3	15
4	
	25
10	
	500
N	

Rule: _____

5.

Input	Output
1	7
2	12
3	17
4	
	27
10	
	502
N	

Rule: _____

6.

Input	Output
2	8
4	16
5	20
	40
20	
	100
N	

Rule: _____

7.

Input	Output
2	6
4	14
5	18
10	38
20	
	98
100	
N	

Rule: _____

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170 SAB • Grade 4 • Unit 5 • Lesson 6 Function Machines

Student Activity Book

4.

Input	Output
1	5
2	10
3	15
4	20
5	25
6	30
10	50
100	500
Answers will vary.	
N	$5 \times N$

Rule: Multiply the input times 5

Student Activity Book - Page 170

5.

Input	Output
1	7
2	12
3	17
4	22
5	27
10	52
100	502
Answers will vary.	
N	$5 \times N + 2$

Rule: Multiply the input times 5 and add 2

6.

Input	Output
2	8
4	16
5	20
10	40
20	80
25	100
Answers will vary.	
N	$4 \times N$

Rule: Multiply the input times 4

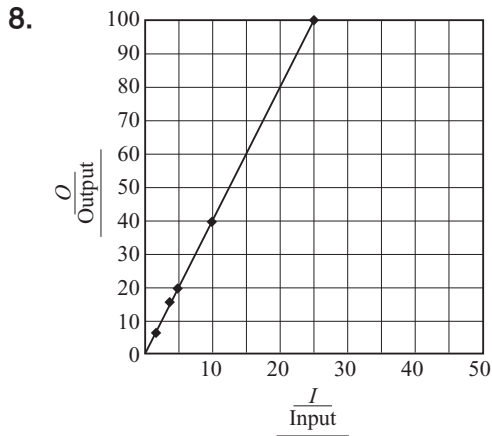
7.

Input	Output
2	6
4	14
5	18
10	38
20	78
25	98
100	398
N	$4 \times N - 2$

Rule: Multiply the input times 4 and subtract 2

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Student Activity Book



The points form a straight line that goes up to the right.

9.* A.

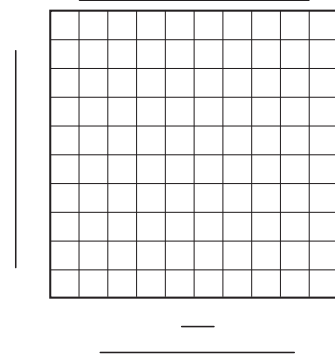
D Drop Ht in cm	B Bounce Ht in cm
50	25
100	50
150	75
D	$D \div 2$

- B. The bounce height is half the drop height or the drop height is twice the bounce height.
- C. 100 cm
- D. $B = D \div 2$

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Name _____ Date _____

8. Graph the data in Question 6. Describe the pattern in the graph.



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Play the *Guess My Rule* game in the *Student Guide* with a partner.

Function Machines

SAB • Grade 4 • Unit 5 • Lesson 6 171

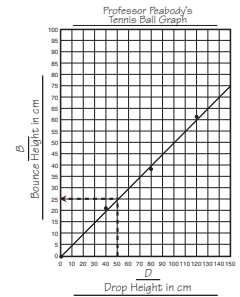
Student Activity Book - Page 171

Name _____ Date _____

9. Professor Peabody collected the following data for a tennis ball in a Bouncing Ball Experiment. He did three trials and found the mean. Then he graphed his data.

Professor Peabody's Tennis Ball

D Drop Height (in cm)	B Bounce Height (in cm)			
	Trial 1	Trial 2	Trial 3	Mean
40	21	20	22	21
80	39	38	40	39
120	61	65	60	62



A. Complete the function table using Professor Peabody's Drop Heights for input and Bounce Heights for output. Use the graph.

Input D Drop Height (in cm)	Output B Bounce Height (in cm)
50	
100	75
D	

B. Look for a pattern in the data. Describe the pattern in words.

C. Use your pattern to predict the bounce height when the drop height is 200 cm ($D = 200$ cm).

D. Show the pattern in symbols in the last line of the table.

172 SAB • Grade 4 • Unit 5 • Lesson 6

Function Machines

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Student Activity Book - Page 172


*Answers and/or discussion are included in the lesson.

Student Activity Book

Homework (SAB pp. 173–174)

Questions 1–6

Name _____ Date _____



Find the missing values in the function tables below. Find or check the rule in the last row. Describe the rule in words below each table.

1.

Input	Output
3	10
10	
	27
53	
	200
	1000
100	
N	$N + 7$

Rule: _____

2.

Input	Output
1	30
2	
3	
4	
5	
10	120
	100
N	$10 \times N + 20$

Rule: _____

3.

Input	Output
1	12
2	24
3	
4	48
5	
10	
	240
N	

Rule: _____

4.

Input	Output
20	41
15	31
10	
	11
0	
2	5
	101
N	

Rule: _____

Function Machines SAB • Grade 4 • Unit 5 • Lesson 6 173

I.

Input	Output
3	10
10	17
20	27
53	60
193	200
993	1000
100	107
N	$N + 7$

Rule: Add 7

Student Activity Book - Page 173

2.

Input	Output
1	30
2	40
3	50
4	60
5	70
10	120
8	100
N	$10 \times N + 20$

Rule: Multiply by 10 and add 20

3.

Input	Output
1	12
2	24
3	36
4	48
5	60
10	120
20	240
N	$N \times 12$

Rule: Multiply by 12

4.

Input	Output
20	41
15	31
10	21
5	11
0	1
2	5
50	101
N	$2 \times N + 1$

Rule: Multiply by 2 and add 1

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5–6. Answers will vary.


Name _____ Date _____

5. Fill in the input and output columns using your own rule. Write the rule in symbols in the last row.

Input	Output
N	

6. Play *Guess My Rule* with a family member.

Input	Output
N	



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174 SAB • Grade 4 • Unit 5 • Lesson 6 Function Machines

Student Activity Book - Page 174