Guided Materials in Scratch:

Data Analysis and Sleep

**Algebra**

**Unit 3 Line Master 6a**

**Part 1: Determining the minimum number of hours slept   
in one week**

Read the code.

Execute the code by clicking on the green flag Icon

Description automatically generated.

To test the application, enter these numbers, one at a time,   
with a return after each entry:

8

7

6

9

8

7

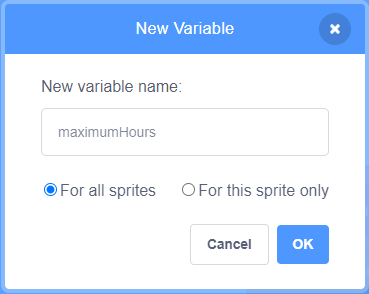
8

Did the application output the least number from the list?

**Part 2: Determining the maximum number of hours slept   
in one week**

Create another variable called maximumHours.

1. Go to **Variables** and select **Make a Variable**.   
 Call it **maximumHours** and select **OK**.



Guided Materials in Scratch:

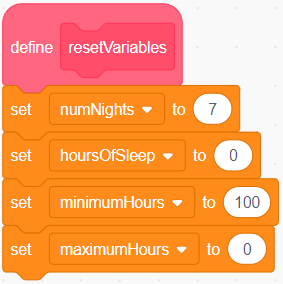
Data Analysis and Sleep

(cont’d)

**Algebra**

**Unit 3 Line Master 6b**

2. Add a **set** block to the end of the **resetVariables** subprogram.   
 Ensure **maximumHours** is selected in the pulldown menu   
 and that it’s set to **0**.

**

3. Under **Control**, select an **if () then** block and place it inside   
 the **repeat** block after the first **if () then** block.

Text, chat or text message

Description automatically generated

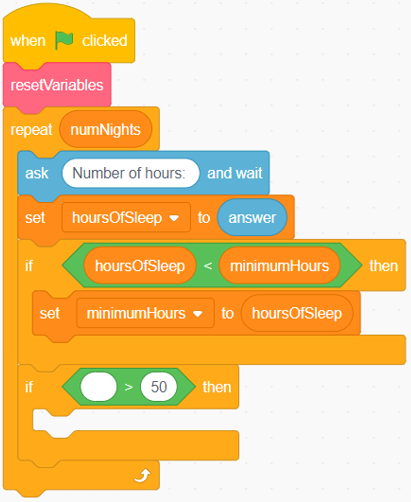
Guided Materials in Scratch:

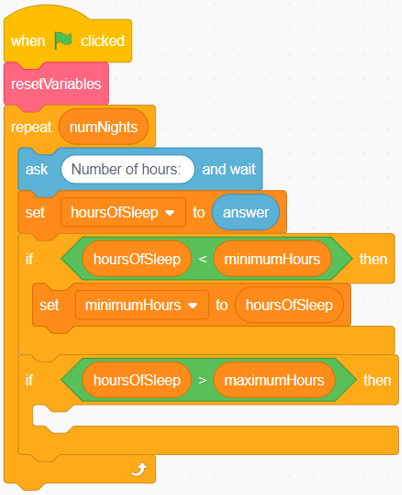
Data Analysis and Sleep

(cont’d)

**Algebra**

**Unit 3 Line Master 6c**

**4. Under **Operators**, select a   
 **greater than** **operator** block.   
 Place it inside the condition area   
 of the **if () then** block.

****5. From **Variables**, place the   
 **hoursOfSleep** block inside   
 the first part of the conditional   
 operator, and the **maximumHours**   
 block inside the second part of the   
 conditional operator.

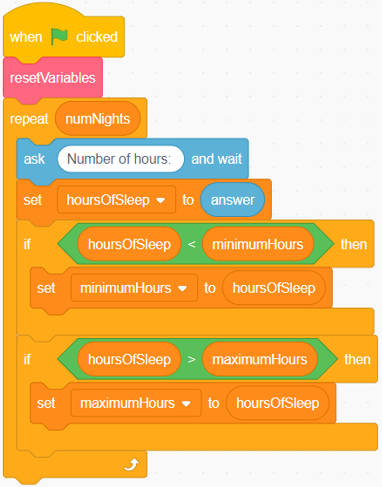
Guided Materials in Scratch:

Data Analysis and Sleep

(cont’d)

**Algebra**

**Unit 3 Line Master 6d**

6. Place a **set** block inside the   
 conditional statement and ensure   
 **maximumHours** is selected from   
 the pulldown menu.   
 Place the **hoursOfSleep** block   
 inside the **set** block.

Diagram

Description automatically generated7. On the Stage, move the   
 **maximumHours** variable beneath   
 the **minimumHours** variable.

8. Test the application by clicking the **green flag** and entering the   
 same list of numbers from earlier, or 7 numbers of your choice.   
 Is the greatest number displayed in the **maximumHours** variable   
 on the Stage?

Data Analysis and Hours of Sleep  
 (cont’d)

**Patterning and Algebra**

**Unit 2 Line Master 5e**

Guided Materials in Scratch:

Data Analysis and Sleep

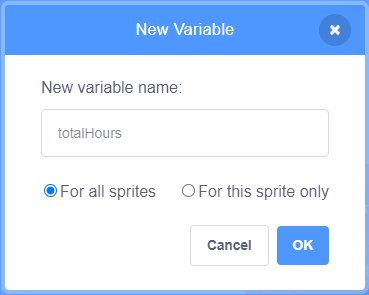
(cont’d)

**Algebra**

**Unit 3 Line Master 6e**

**Part 3: Determining the total number of hours slept in one week**

1. Under **Variables**, select **Make a Variable** and call it **totalHours**.



2. Place a new **set** block at the end of the **resetVariables**   
 subprogram.   
 Ensure the **totalHours** variable is selected from the   
 pulldown menu and that it’s set to **0**.  
 Graphical user interface

Description automatically generated

Data Analysis and Hours of Sleep  
 (cont’d)

**Patterning and Algebra**

**Unit 2 Line Master 5e**

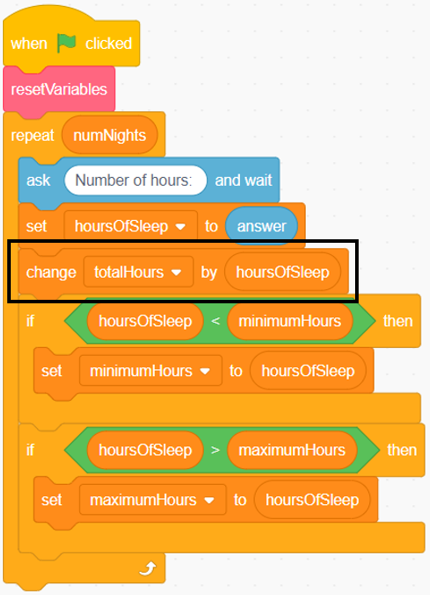
Guided Materials in Scratch:

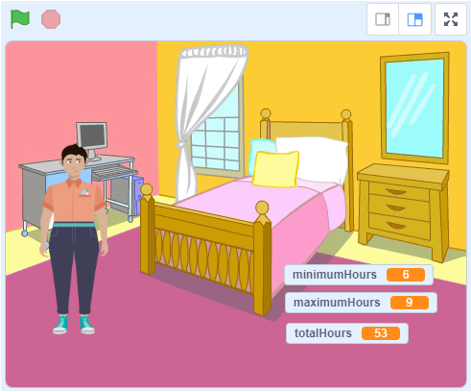
Data Analysis and Sleep

(cont’d)

**Algebra**

**Unit 3 Line Master 6f**

3. Drag a **change** block inside the   
 **repeat** block just before the first   
 **if () then** block.  
 Ensure **totalHours** is selected   
 from the pull-down menu.   
 Place an **hoursOfSleep** block   
 inside the **change** block.

4. On the Stage, move the **totalHours**   
 variable beneath the other two   
 variables. Execute the code and test   
 the application.  
 Does the code provide the sum   
 of the numbers you entered?   
 If not, look carefully at the code   
 to check for any errors.

Data Analysis and Hours of Sleep  
 (cont’d)

**Patterning and Algebra**

**Unit 2 Line Master 5e**

Guided Materials in Scratch:

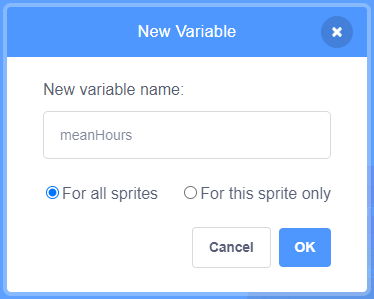
Data Analysis and Sleep

(cont’d)

**Algebra**

**Unit 3 Line Master 6g**

**Part 4: Determining the mean number of hours of sleep   
in one week**

1. From **Variables**, select **Make a Variable** and call it **meanHours**.  
 

2. Drag a **set** block to the end of the **resetVariables** subprogram.  
 Ensure the **meanHours** variable is selected from the pulldown  
 menu, and that it’s set to **0**.  
 Graphical user interface

Description automatically generated

Data Analysis and Hours of Sleep  
 (cont’d)

**Patterning and Algebra**

**Unit 2 Line Master 5e**

Guided Materials in Scratch:

Data Analysis and Sleep

(cont’d)

**Algebra**

**Unit 3 Line Master 6h**

Graphical user interface

Description automatically generated3. Drag a **set** block to the end   
 of the **repeat** block.  
 Ensure the **meanHours** block   
 is selected from the pulldown menu.  
 From **Operators**, drag a **division**   
 operator inside the **set** block.  
 From **Variables**, drag the **totalHours**   
 block inside the first part of the   
 **division** operator. Drag the   
 **numNights** block inside the second   
 part of the **division** operator.

Diagram

Description automatically generated4. On the Stage, move the meanHours variable beneath the other   
 variables. Execute the code to test your program.