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 .

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.



 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.

7. 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**.
 

 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**.
 

 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**

3. 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.

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