



**The Stone Soup Leadership Institute's BETA Program  
Redwood High School Environmental Science & Tech Program**

**Gary White/Matt Damon – Water.org  
Clean Water/Sanitation**

**1. Introductions/Synopsis**

**5 Minutes**

- Read Synopsis of the story
- Watch this video from Gary White with a challenge to assist in the conservation of Water:  
<https://www.youtube.com/watch?v=35YaLKUSWzE>

Alternative Video with Matt Damon (3.24 minutes): <https://www.youtube.com/watch?v=q88No2FPyGM>  
Alternative Video with Gary White (4minutes): <https://www.youtube.com/watch?v=5FaeMajCW04>

**2. Language Arts**

**10 minutes**

- In an interview with [Trevor Noah](#), [Matt Damon](#) says “it is expensive to be poor” when talking about the impact of Water.org. Facilitate a discussion exploring this topic and how it relates to climate change/water scarcity.

**3. STEM Activities**

**10-20 minutes**

- Gary White and Matt Damon have created a system that allows global clean water access to everyone. As U.S. citizens, most of us have access to clean water than anyone in the world. How much water do you use in a day? Using this activity, we will examine water usage and how it compares to the lack of water access in developing countries.

**Subject: Mathematics – Review of Algebraic Skills**

**Objectives:**

- Students use their algebraic skills and word problem skills to solve mathematical questions about water.
- Students will use percentages to determine the water content of water certain items.

| <b>Water Use in One Day</b>                                                               | <b>Water Facts</b>                |
|-------------------------------------------------------------------------------------------|-----------------------------------|
| Dripping Faucet = 50 L                                                                    | 70% of your body is made of water |
| Conventional Washing Machine = 165 L<br>Low Water usage Washing machine = 102 L           | 95% of a tomato is water          |
| Dishwasher = 40 L                                                                         | 85% of an apple is water          |
| Brushing Teeth, Faucet Running = 10 L                                                     | 88% of a potato is water          |
| 10 Minute Shower = 100 L                                                                  | 91% of spinach is water           |
| Conventional Toilet = 16 L<br>Low Flush Toilet = 6 L<br>Dual Low Flush Toilet = 3 L / 6 L | 61% of beef is water              |

**STEM Activity: Answer the following questions (1-7), using the data table above.**

1. You have used 175L of water already today. You have washed your laundry once and have brushed your teeth an unknown number of times. How many times have you brushed your teeth today?  
 $175 = 165 + 10x$   
 $10 = 10x$   
 $x = 1$   
I brushed my teeth 1 time!
2. You have used 255L of water already today. You have washed a load of laundry, had a shower and washed the dishes in the dishwasher. How long did you shower?  
 $255 = 165 + 100\text{L}/10\text{min} \times x + 40$   
 $50 = 100x$   
 $x = 0.5$  or  $\frac{1}{2}$   
 $100\text{L}/10\text{min} * 0.5 = 5$   
The shower was 5 minutes long!
3. You received a notice from the city saying that because of a dripping faucet in the house, you have used 250L of water. How many days was your faucet dripping?  
 $250 = 50x$   
 $x = 5$   
The faucet was dripping for **5 days!**
4. You are making applesauce and you have brought in 3 kg of apples from your backyard. How much water (in kg) is contained in the apples?  
 $3\text{kg} * 0.85 = \mathbf{2.55\text{kg}}$
5. You are making a large salad with 1 kg of tomatoes, 1 kg of potatoes and 2 kg of spinach. How much water (in kg) will be contained in your salad?  
 $(1\text{kg} * 0.95) + (1\text{kg} * 0.88) + (2\text{kg} * 0.91)$   
 $= 0.95 + 0.88 + 1.82$   
 $= \mathbf{3.65\text{kg}}$
6. If Sally weighs 50 kg, how much of her body mass is made up of water? If all of the water were removed from Sally, how much would Sally weigh?  
 $50\text{kg} * 0.70 = 35\text{kg}$   
**35kg** (70%) of Sally's body mass is made up of water!  
  
 $50\text{kg} - 35\text{kg} = 15\text{kg}$   
If all the water were removed from Sally, she would weight **15kg!**
7. In the whole world there is  $1.4 \times 10^{21}$  L of water. However, only 0.26% of that water is available for human and plant use. How many liters are available for human and plant use?  
 $1.4 * 10^{21} * 0.0026$   
 $= 1.4 * 10^{21} * 2.6 * 10^{-3}$   
 $= (1.4 * 2.6) * (10^{21} * 10^{-3})$   
 $= 3.64 * 10^{(21 + (-3))}$   
 $= \mathbf{3.64 * 10^{18}\text{L}}$  of water available for human and plant use!

**4. Sustainable Career Pathways**

**10 minutes**

• **Sustainability Certificates**

Clean Water Quality Professional Technician Certificate <https://catalog.bristolcc.edu/engineering/clean-water-quality-professional-technician-certificate>  
American Water College - [National Water Certification](#)

- **Sustainable Career Pathways**

### **Water Quality Professionals**

**Water Quality Analyst:** Water Quality Analysts develop, direct and administers procedures that ensure compliance with regulatory and data management requirements. Their tasks include analysis of water, wastewater, biosolids, stormwater to ensure quality and safety standards are met.

Water Quality Analyst Average Salary: **\$66,915**

**Water Quality Technician:** Water Quality Technicians are responsible for monitoring and operating control systems and ensuring that equipment in water filtration and treatment plants are functioning properly.

Water Quality Technician Average Salary: **\$47,880**

### **Microfinance Industry - [What is Water Credit?](#)**

Microfinance is a category of financial services targeting individuals and small business who lack the income and access to conventional banking. Water.org epitomizes a company that values sustainability and providing opportunities for individuals across the world by utilizing the microfinance model.

Microfinance Partnerships Manager Average Salary: **\$84,340**

### **5. Close: Evaluation/ Writing**

**5 minutes**

- What inspires you about Gary White and Matt Damon's story?

**Stone Soup Leadership Institute**

[www.stonesoupleadership.org](http://www.stonesoupleadership.org)

<https://sustainwdn.com/redwood-high-school-beta/>