



SCIENCE COMMUNICATION BY SOCIAL MEDIA

# A Methodical Approach

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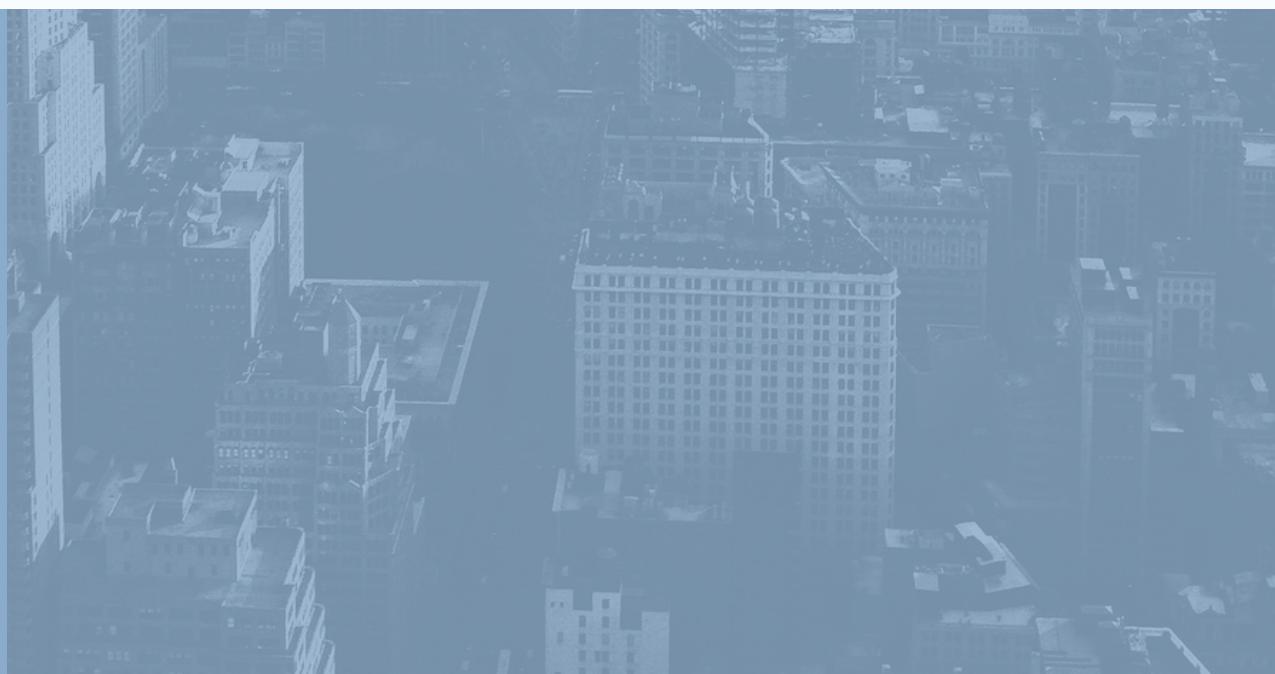
Presented by Jason Curtis Droboth

COMMUNICATING STEP-BY-STEP USING

**Level Analysis**

AND

**Question Sequence**



The background of the slide features a minimalist, abstract design. It consists of several large, light-grey 3D-like geometric shapes, including a large hexagon on the left and a large rectangular prism on the right, all set against a white background. A single, solid blue horizontal line is positioned at the top of the slide.

**WE COMMUNICATE TO BUILD AND  
MAINTAIN HEALTHY  
RELATIONSHIPS**

**SCIENCE  
COMMUNICATION**

**SCIENCE  
COMMUNICATION**

Communicating with  
the Public(s)

**SCIENCE  
COMMUNICATION  
STRATEGY**

Communicating with  
the Public(s)

# SCIENCE COMMUNICATION STRATEGY

Communicating with  
the Public(s)

## Campaign

Inform

Persuade

Motivate

# SCIENCE COMMUNICATION STRATEGY

Communicating with  
the Public(s)

## Campaign

Inform

Persuade

Motivate

New

Social

News

Blogs

Print

Film

Radio

Television

Advertising

Traditional

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“

**“LET'S CREATE A FACEBOOK PAGE”**

“

**“WE NEED A WEBSITE”**

---

“

**“WE SHOULD RECORD THIS AND  
PUT IT ON YOUTUBE”**

---

“

**“MY SUPERVISOR WANTS ME TO  
CREATE SOCIAL MEDIA ACCOUNTS”**

---

“

**“WE SHOULD INTERVIEW A BUNCH  
OF SCIENTISTS AND POST THE  
INTERVIEWS TO OUR WEBSITE”**

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**“IF I HAD AN HOUR TO SOLVE A  
PROBLEM AND MY LIFE DEPENDED ON  
THE SOLUTION, I WOULD SPEND THE  
FIRST 55 MINUTES DETERMINING THE  
PROPER QUESTION TO ASK...”**

ALBERT EINSTEIN

# The Question Sequence

**ASKING THE RIGHT QUESTIONS**



# The Question Sequence

## ASKING THE RIGHT QUESTIONS

**WHAT?**

What is the change I seek?



# The Question Sequence

## ASKING THE RIGHT QUESTIONS

WHAT?

What is the change I seek?



WHO?

Who is my audience?

# The Question Sequence

## ASKING THE RIGHT QUESTIONS

WHAT?

What is the change I seek?

WHY?

Why does it matter?



WHO?

Who is my audience?

# The Question Sequence

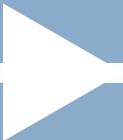
## ASKING THE RIGHT QUESTIONS

WHAT?

What is the change I seek?

WHY?

Why does it matter?



WHO?

Who is my audience?

HOW?

How can I do it?

# The Question Sequence

## ASKING THE RIGHT QUESTIONS

**WHAT?**

What is the change I seek?

**WHY?**

Why does it matter?

**HOW DID?**

How did it go?



**WHO?**

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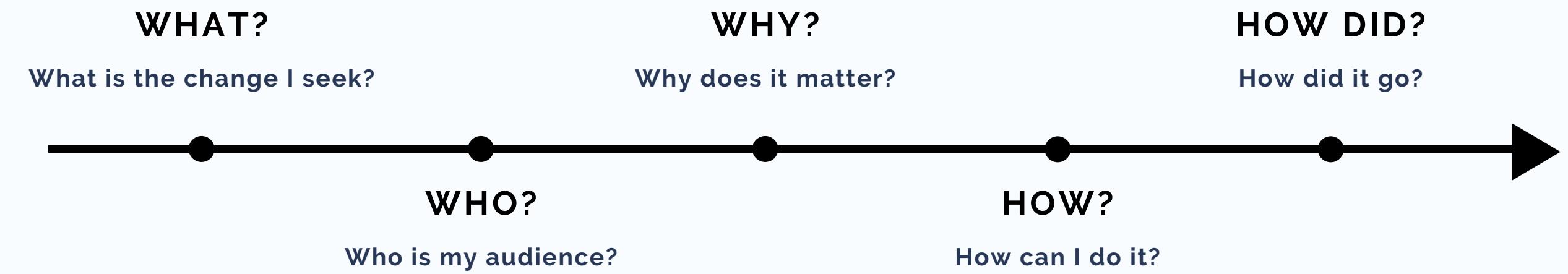
Twitter

Reddit

Snapchat

# SCIENCE COMMUNICATION

Communicating with  
the Public(s)

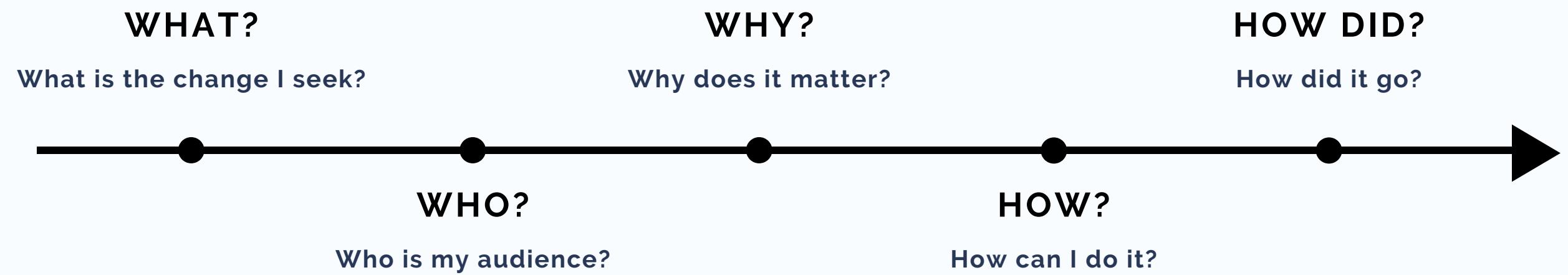


**HOW DID?**  
How did it go?

# SCIENCE COMMUNICATION

Communicating with  
the Public(s)

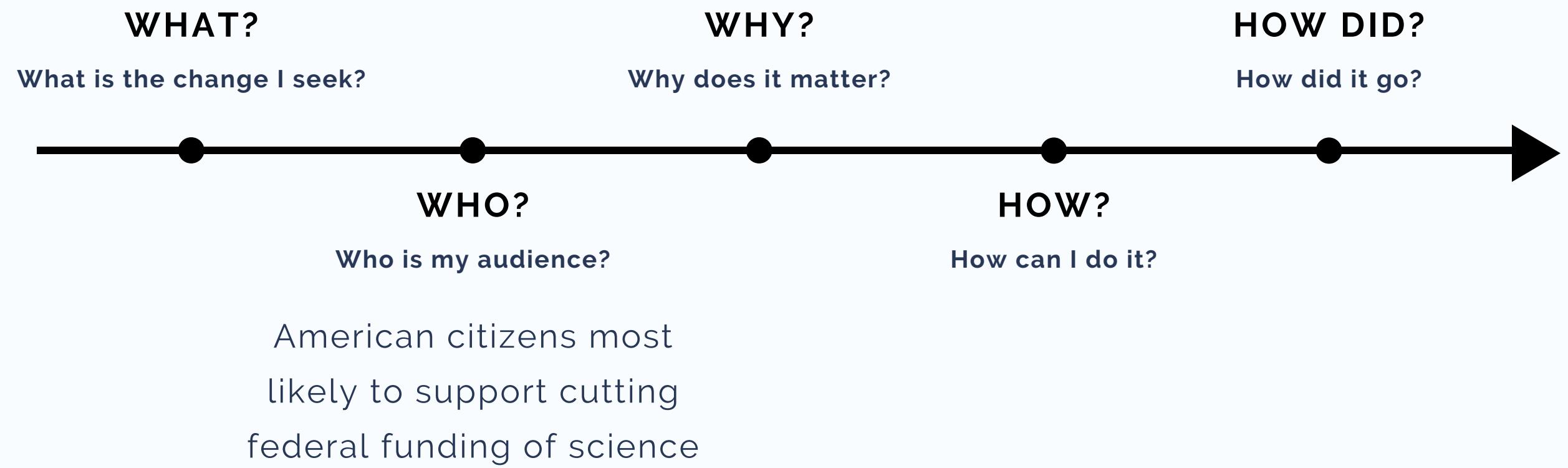
The public understands  
what Hydrologists do, why  
the science is important, &  
continues prioritizing its  
federal funding



# SCIENCE COMMUNICATION

Communicating with  
the Public(s)

The public understands  
what Hydrologists do, why  
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# SCIENCE COMMUNICATION

Communicating with  
the Public(s)

The public understands what Hydrologists do, why the science is important, & continues prioritizing its federal funding

**WHAT?**

**What is the change I seek?**

Organizational: Multiple studies show 25% US citizens would cut federal funding of science first.

Personal: Learn how to become a better communicator

**WHY?**

**Why does it matter?**

**HOW DID?**

**How did it go?**

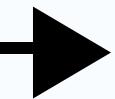
**WHO?**

**Who is my audience?**

American citizens most likely to support cutting federal funding of science

**HOW?**

**How can I do it?**



# SCIENCE COMMUNICATION

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the Public(s)

The public understands what Hydrologists do, why the science is important, & continues prioritizing its federal funding

**WHAT?**

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**WHY?**

**Why does it matter?**

**HOW DID?**

**How did it go?**

**WHO?**

**Who is my audience?**

American citizens most likely to support cutting federal funding of science

**HOW?**

**How can I do it?**

Create a positive brand.  
Design around the best qualitative & quantitative public opinion data.  
Incorporate semiotic theory



# SCIENCE COMMUNICATION

Communicating with  
the Public(s)

The public understands what Hydrologists do, why the science is important, & continues prioritizing its federal funding

## WHAT?

What is the change I seek?

## WHO?

Who is my audience?

American citizens most likely to support cutting federal funding of science

## WHY?

Why does it matter?

## HOW?

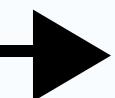
How can I do it?

Organizational: Multiple studies show 25% US citizens would cut federal funding of science first.  
Personal: Learn how to become a better communicator

Analyze annually

## HOW DID?

How did it go?



# Why?

WHY DOES IT  
MATTER?

---

## Organizational:

Multiple studies show 25% US citizens would cut federal funding of science first.

## Personal:

Learn how to become a better communicator

## Audience:

All people depend on having an intimate yet complicated relationship with water

# Why?

WHY DOES IT  
MATTER?

---

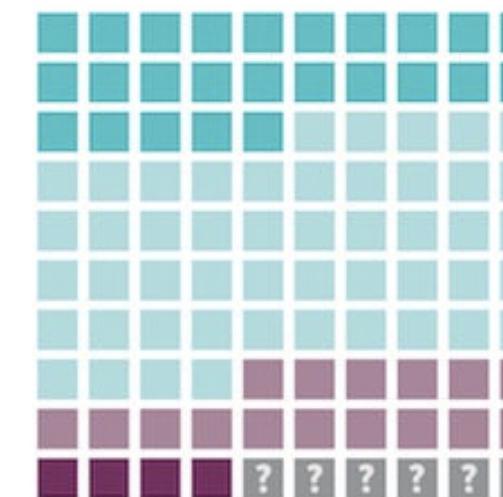
<i>Top Domestic Program Willing to Cut to Reduce Deficit Among All Voters</i>	<b>2015</b>
Scientific Research	25%
Unemployment Benefits	19%
National Defense	14%
Roads, Bridges, and Other Infrastructure	9%
Public Education	8%
Medical Research	7%
Medicare	4%
Social Security	2%
Veterans Benefits	2%
None of these	28%

*Source: Public Opinion Strategies/Greenberg Quinlan Rosner – Research Funding – 2015.*

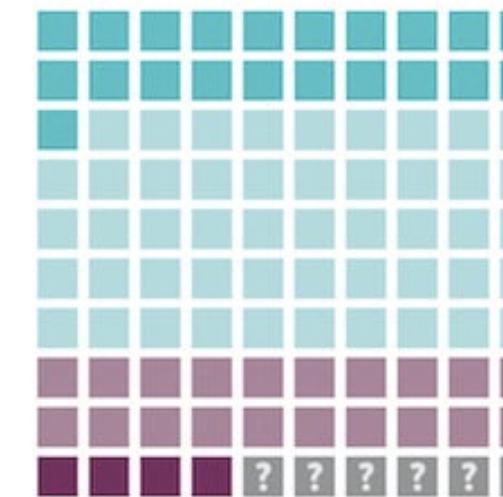
# Why?

## WHY DOES IT MATTER?

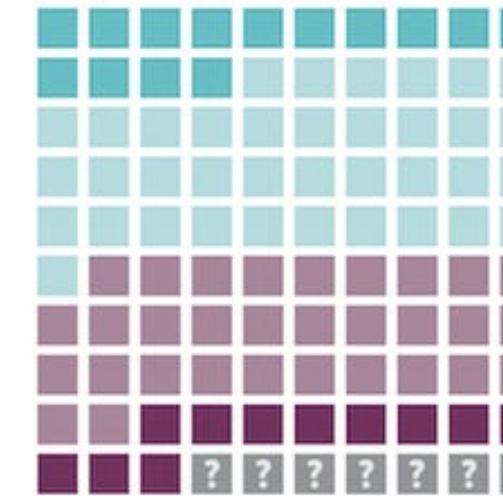
Percentage of Respondents Who Trust Research Scientists to:



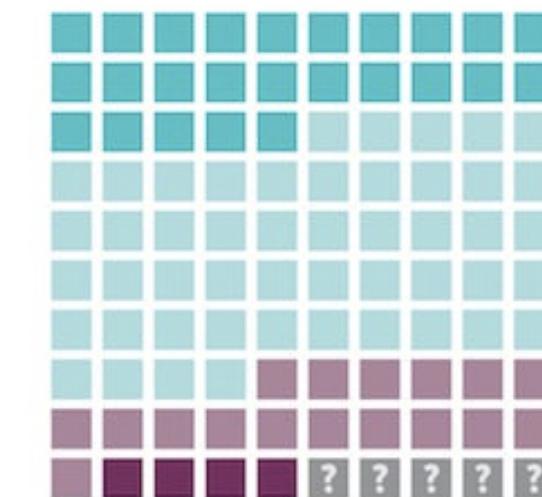
Tell the **Truth**.



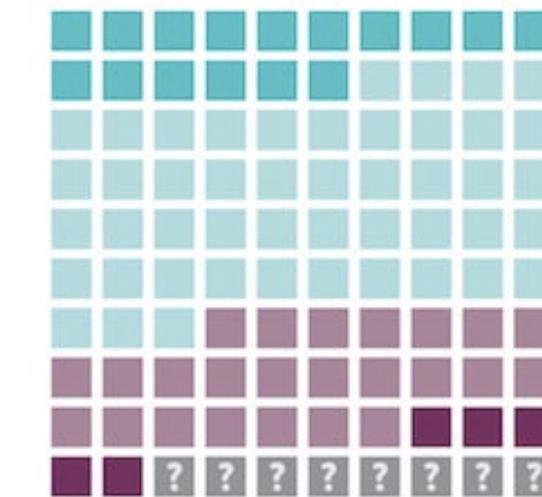
Conduct Scientific Research That is in the **Best Interests** of All Humanity.



Report Findings even if They **Go Against the Sponsor** of the Research.



Report Their Findings **Accurately**.



Give **Impartial Evidence** on Matters of Public Debate.

A Great Deal of Trust

Some Trust

Not Too Much Trust

No Trust at All

? Not Sure

**SOURCE:** ScienceCounts, unpublished data from “Raising Voices for Science: Exploratory and Benchmarking Survey” (survey conducted October 2015).

From *Perceptions of Science in America* (American Academy of Arts & Sciences, 2018)

# How?

## HOW CAN I DO IT?

---

### **Brand:**

Create a positive brand.

### **Data:**

Design around the best qualitative & quantitative public opinion data.

### **Semiotics:**

Incorporate semiotic theory

# How?

## HOW CAN I DO IT?

---

### Brand:

Create a positive brand.

- A Promise
- The most effecient form of communication
- Results in an uncounscious judgment

# How?

## HOW CAN I DO IT?

---

### Brand:

Create a positive brand.

- A Promise
- The most efficient form of communication
- Results in an unconscious judgment



# WATER



**WATER  
LIFE.  
PURITY.  
POWER.**



# How?

## HOW CAN I DO IT?



### Data:

Design around the best qualitative & quantitative public opinion data.

- Public opinion data
- Public trends and behaviour

*% of U.S. adults who use at least one social media site*



Source: Surveys conducted 2005-2019.

PEW RESEARCH CENTER

# *% of U.S. adults who use at least one social media site*

80

60

40

20

0

2006

2008

2010

2012

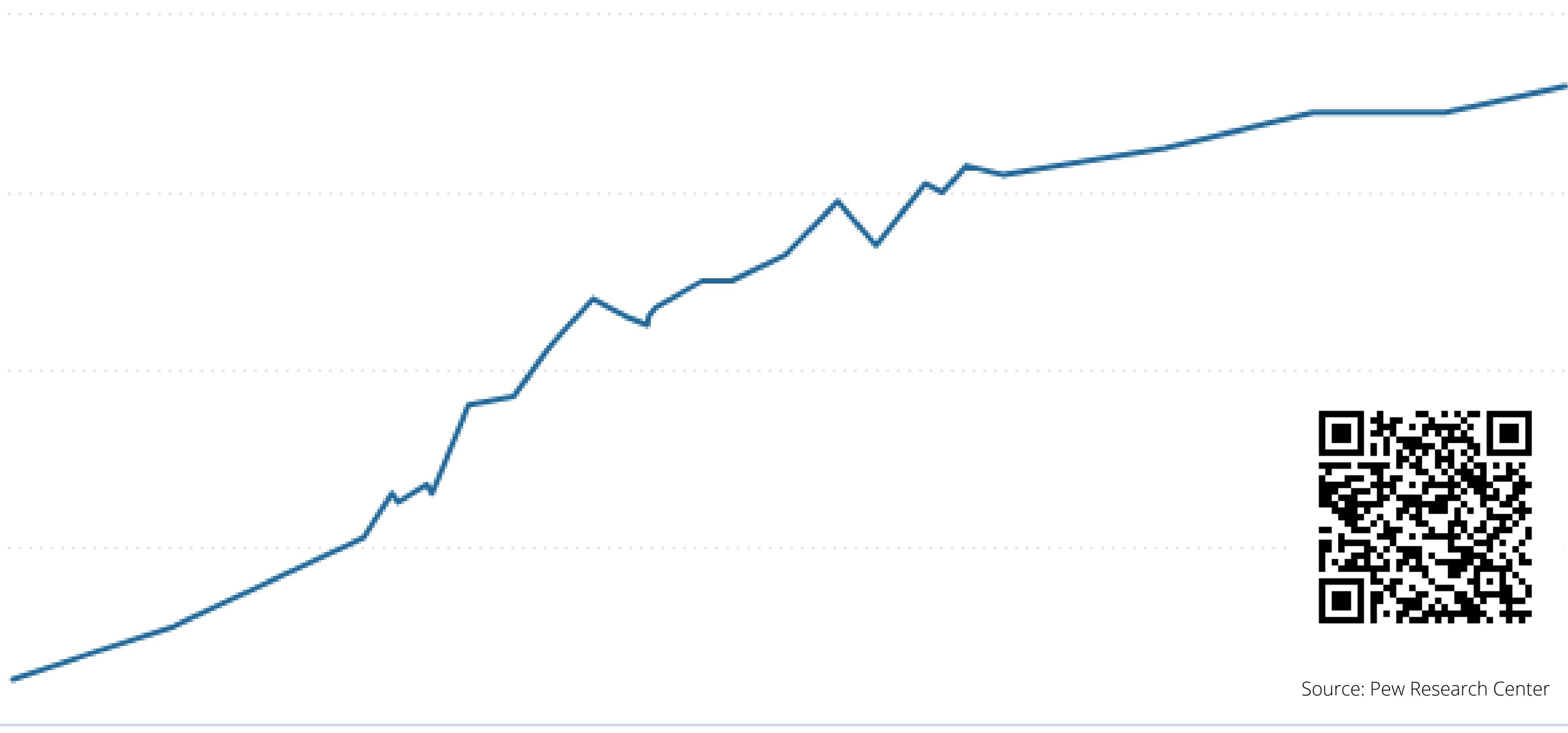
2014

2016

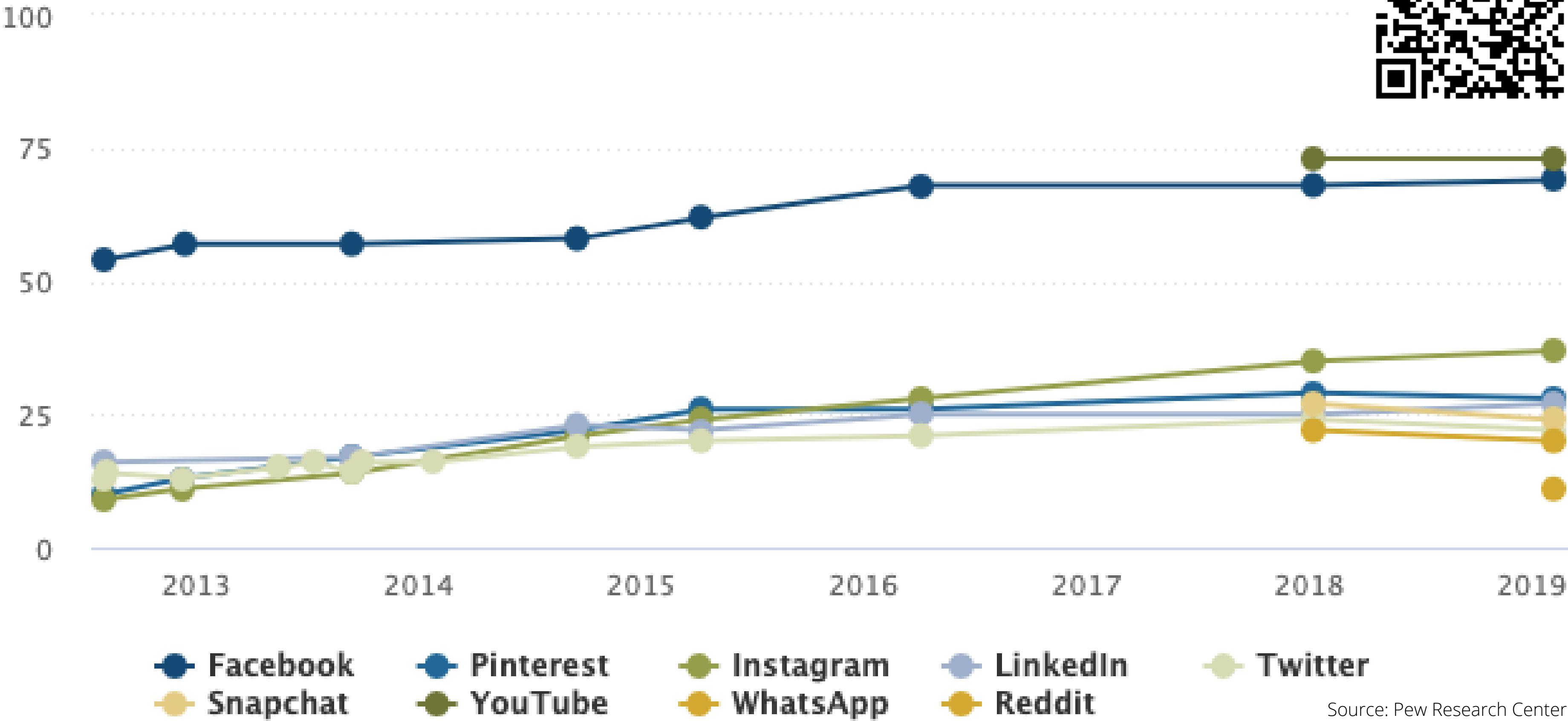
2018



Source: Pew Research Center



*% of U.S. adults who use ...*



Source: Pew Research Center

# How?

## HOW CAN I DO IT?

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### Semiotics:

Incorporate semiotic theory

- Study of signs
- Proposes that we only communicate through signs
- Helps us communicate better

# How?

## HOW CAN I DO IT?

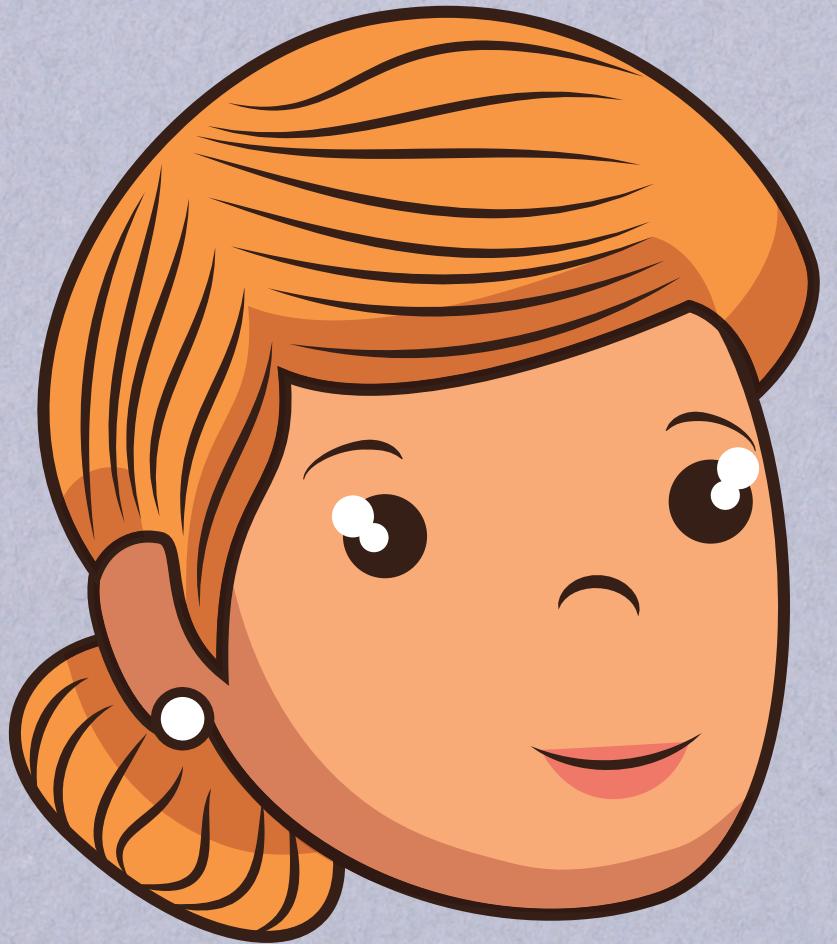
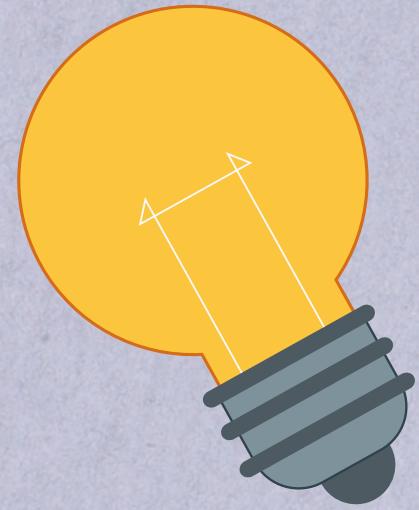
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### Semiotics:

Incorporate semiotic theory

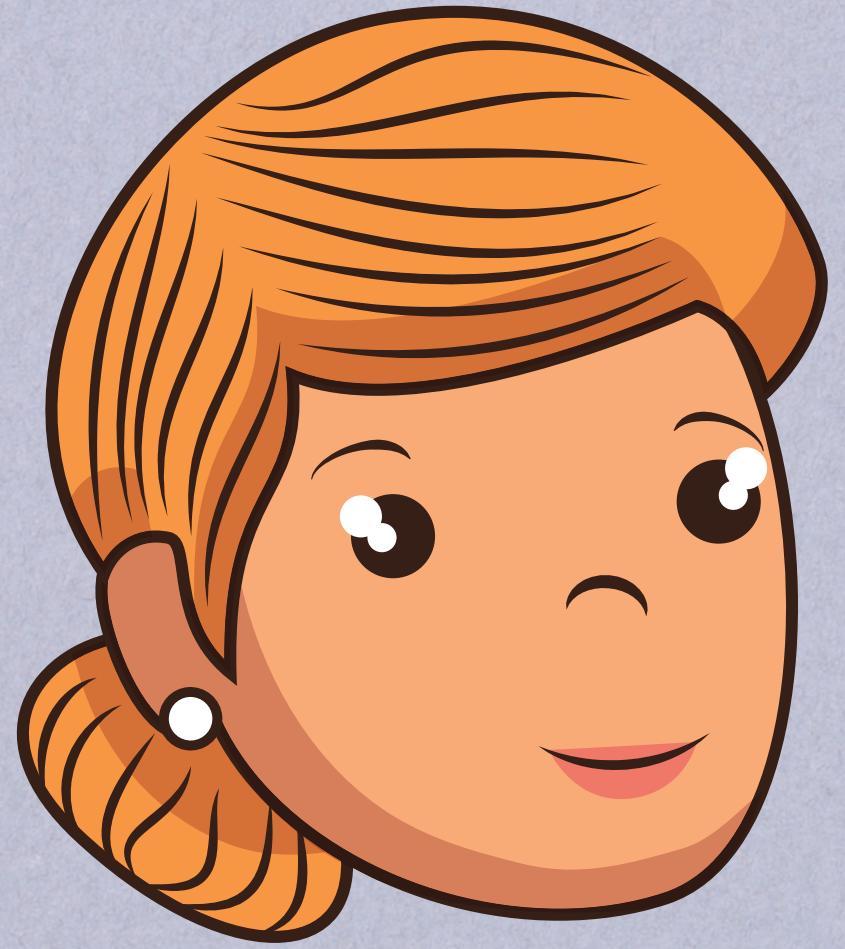
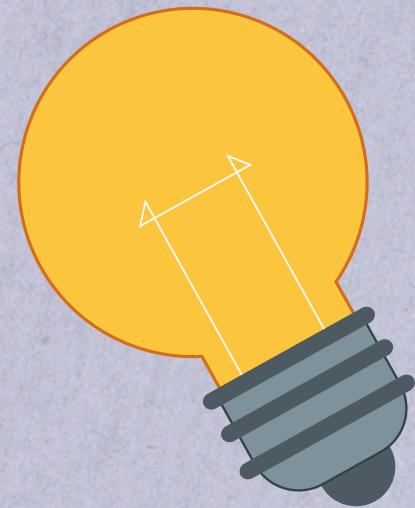
- Study of signs
- Proposes that we only communicate through signs
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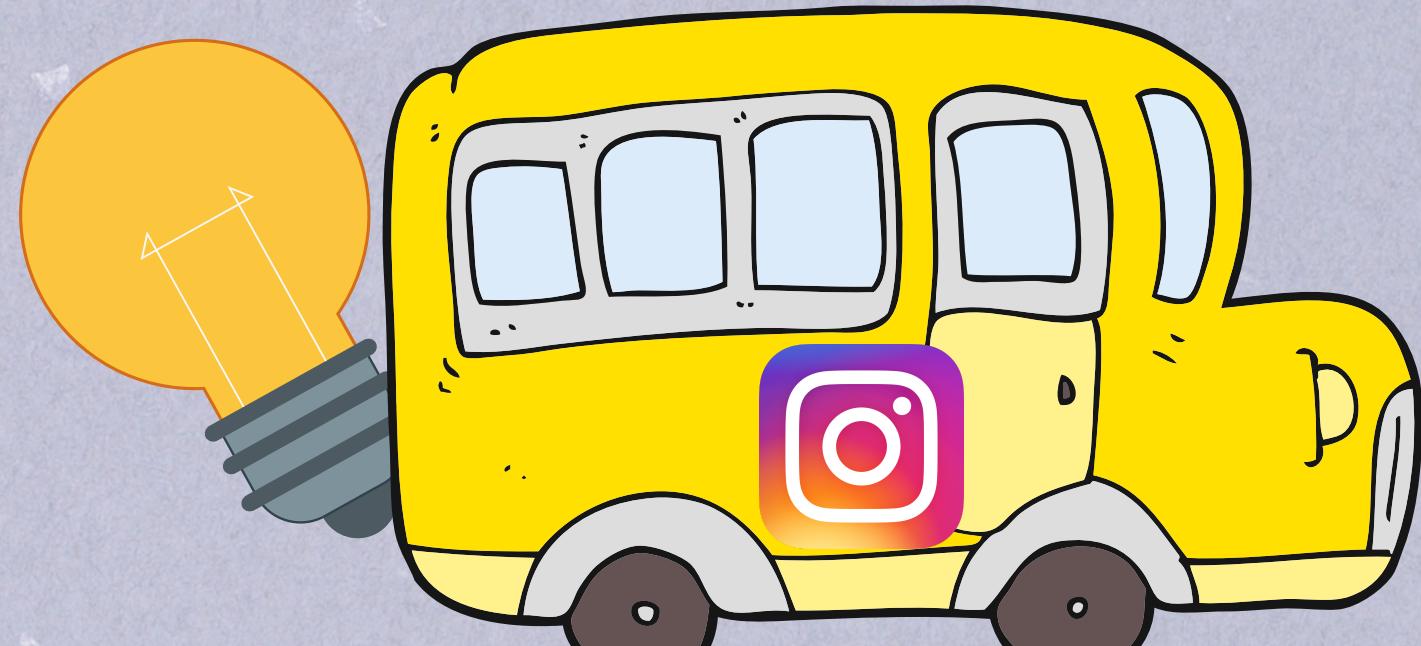
# 1. Thought





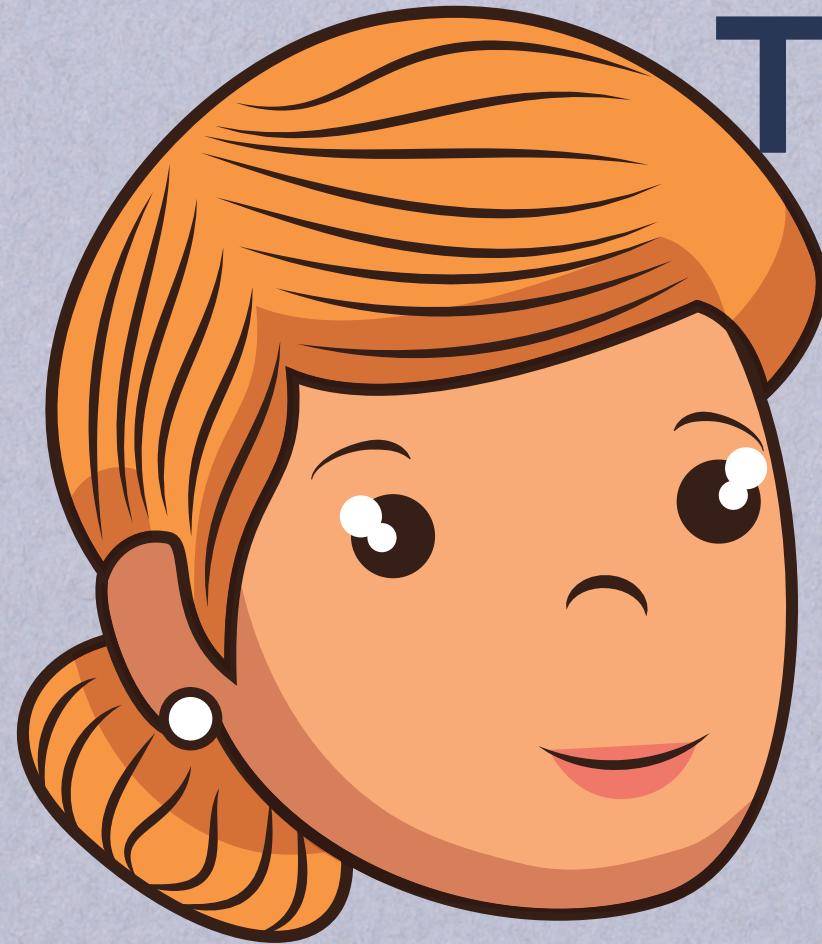
## 2. Encoding Sign



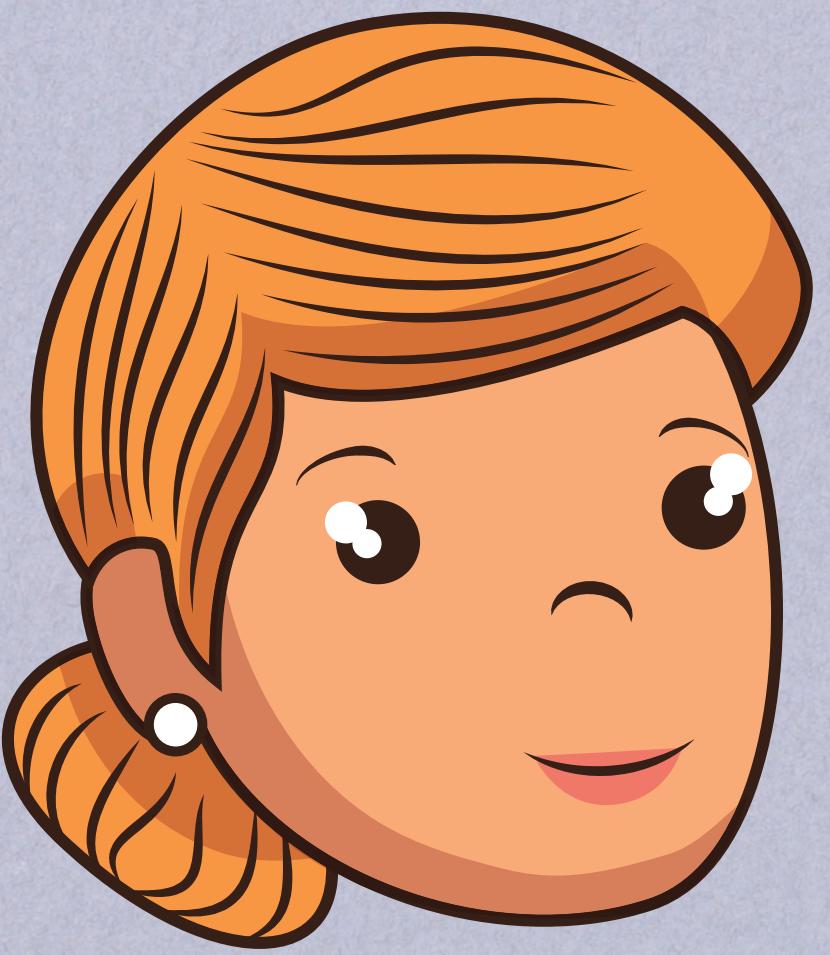


3.

## Transmission



4.  
Recieval

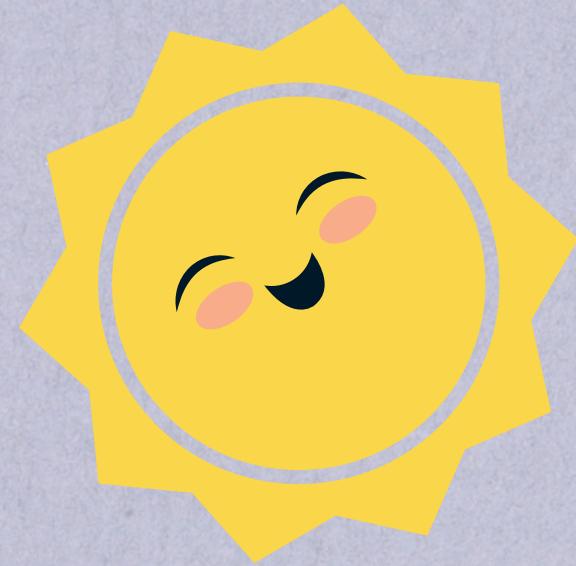




.....

5.

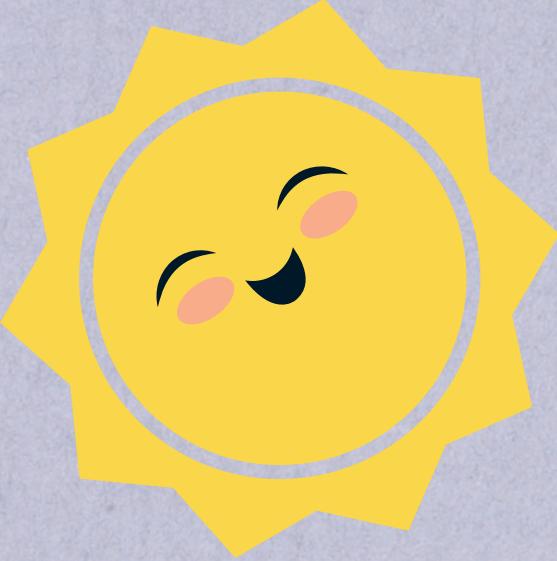
## Decoding



6.

## Reaction





6.



# Reaction

# SCIENCE COMMUNICATION STRATEGY

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Persuade

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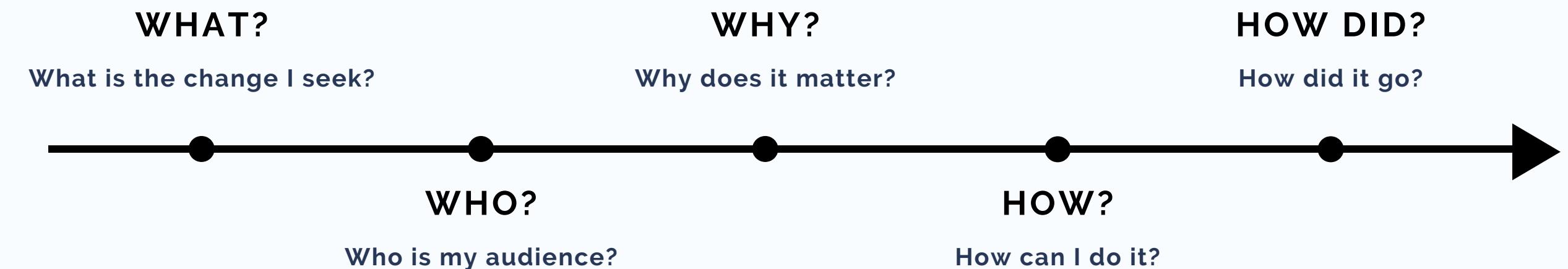
Instagram

Twitter

Reddit

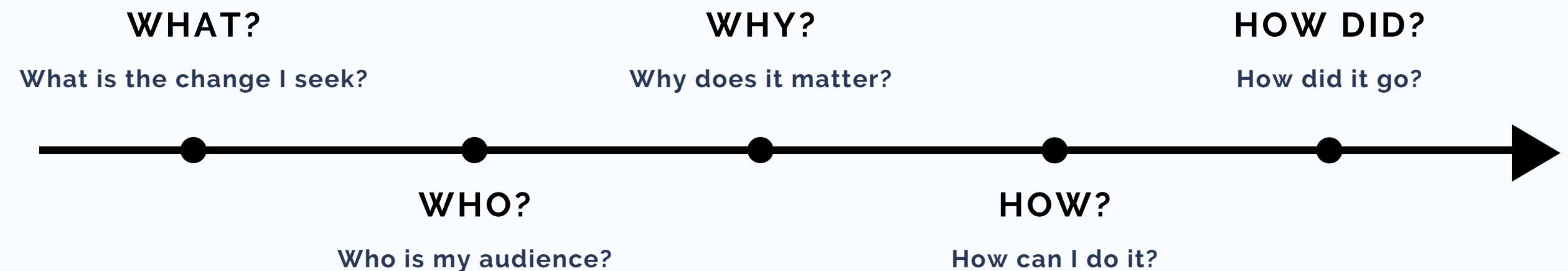
Snapchat

The Platform:  
**INSTAGRAM**  
A single story



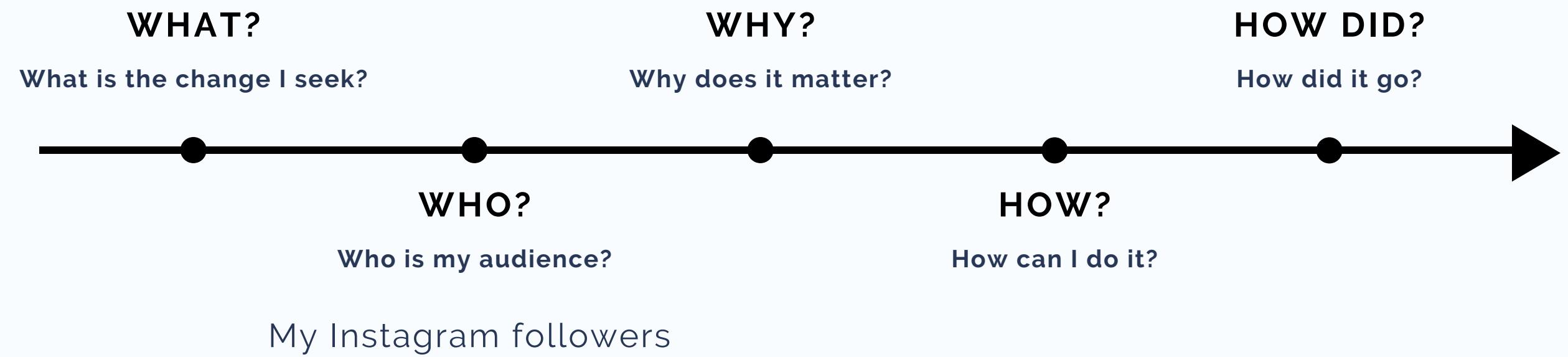
The Platform:  
**INSTAGRAM**  
A single story

That I have a better  
understanding of what my  
audience thinks about  
Hydrology



The Platform:  
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A single story

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The Platform:  
**INSTAGRAM**  
A single story

That I have a better  
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Hydrology

**WHAT?**  
**What is the change I seek?**

Personal: So I can provide  
insights to IAHS  
Learn how to use  
Instagram stories to gain  
insights into what my  
audience thinks

**WHY?**  
**Why does it matter?**

**HOW DID?**  
**How did it go?**

**WHO?**

**Who is my audience?**

**HOW?**

**How can I do it?**

My Instagram followers



The Platform:  
**INSTAGRAM**  
A single story

That I have a better  
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**HOW?**

**How can I do it?**

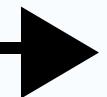
Post a story asking my  
audience to fill out polls:  
"What is a Hydrologist?"  
and "What is the first thing  
you think of or feel when  
you hear the word 'water'?"

—●—

—●—

—●—

—●—



The Platform:  
**INSTAGRAM**  
A single story

That I have a better understanding of what my audience thinks about Hydrology

**WHAT?**

**What is the change I seek?**

**WHO?**

**Who is my audience?**

My Instagram followers

Personal: So I can provide insights to IAHS  
Learn how to use Instagram stories to gain insights into what my audience thinks

**WHY?**

**Why does it matter?**

**HOW?**

**How can I do it?**

Post a story asking my audience to fill out polls:  
"What is a Hydrologist?" and "What is the first thing you think of or feel when you hear the word 'water'?"

I was incorrect about my assumption they wouldn't know what a Hydrologist is. Engagement was good I was mostly correct about the interpretation of water

**HOW DID?**

**How did it go?**



# How did?

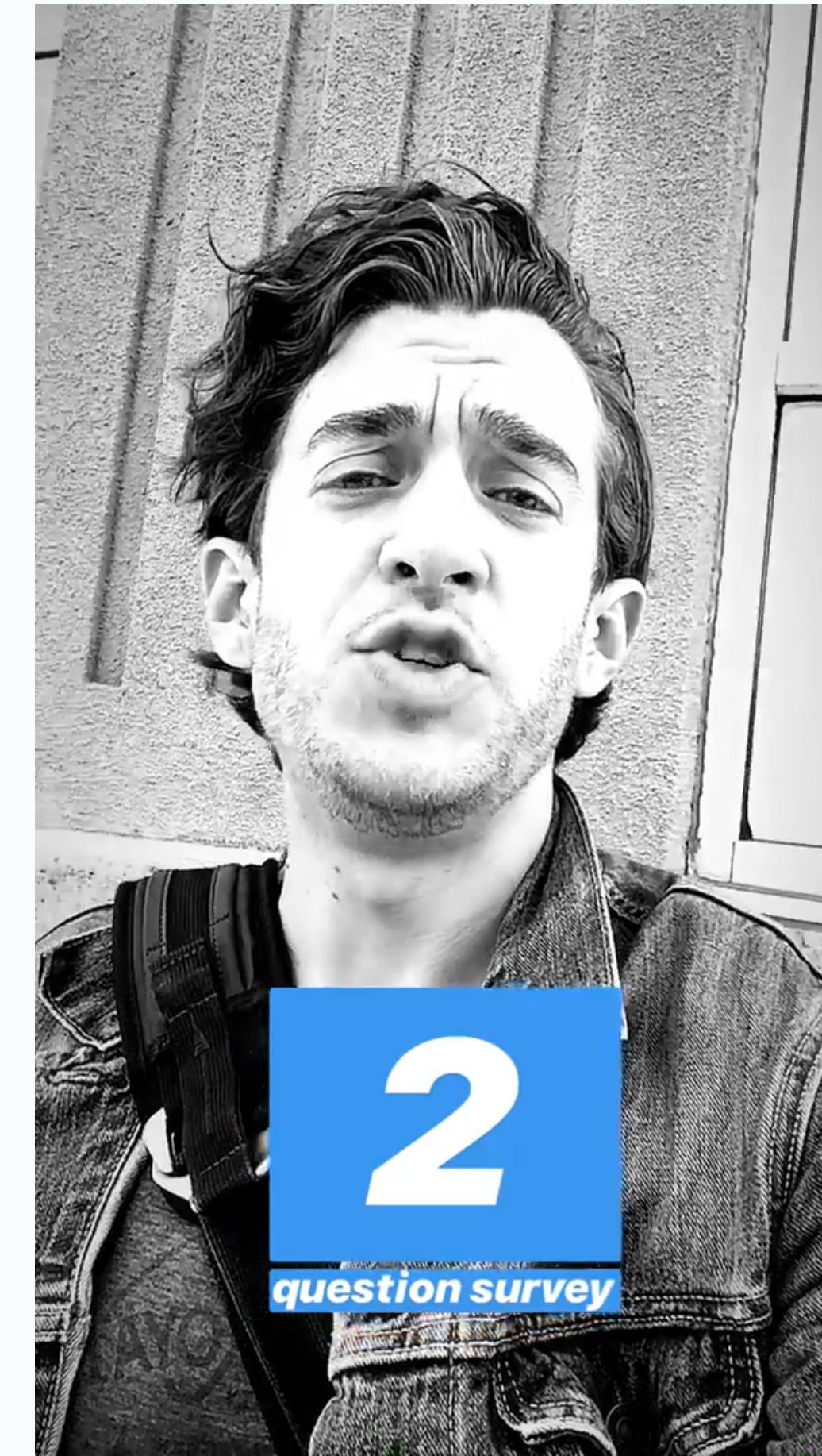
## HOW DID IT GO?

---

**Assumption #1: Most respondents  
would not have the correct definition  
of Hydrologist**

# How did?

HOW DID IT GO?



**Question**

**#1**

Please answer without  
looking it up



What does a Hydrologist  
do?

Type something....

# How did?

HOW DID IT GO?

7:42 PM 27% 7:47 PM 25%

**Responses**

-  brittanyrae  
Studies water  
[Reply](#) >
-  grantlahring  
Study water  
[Reply](#) >
-  sartorial.ish  
Water specialist  
[Reply](#) >
-  rokushima  
The study of water  
(there's more to it than that but I can't type it all here)  
[Reply](#) >
-  gschrisortz  
Study water  
[Reply](#) >
-  mackenziejohnso...  
Something to do with water  
[Reply](#) >
-  theuncookedpoet  
Manages water and understands it's flow in Rock.  
[Reply](#) >
-  ashandrachb  
Water analysis  
[Reply](#) >
-  wolfgangvonshnit...  
Deals with generating power from a dam?? Very uncertain though.... deals with hydrogen?  
[Reply](#) >
-  pripri0893  
first thought is someone who analyzes water sources  
[Reply](#) >
-  theoaklette  
Study water.  
More specifically the content in it?  
[Reply](#) >
-  torijardine  
Studies water  
[Reply](#) >

# How did?

HOW DID IT GO?

---

**Assumption #1: Most respondents  
would not have the correct definition  
of Hydrologist**

**Wrong**

# How did?

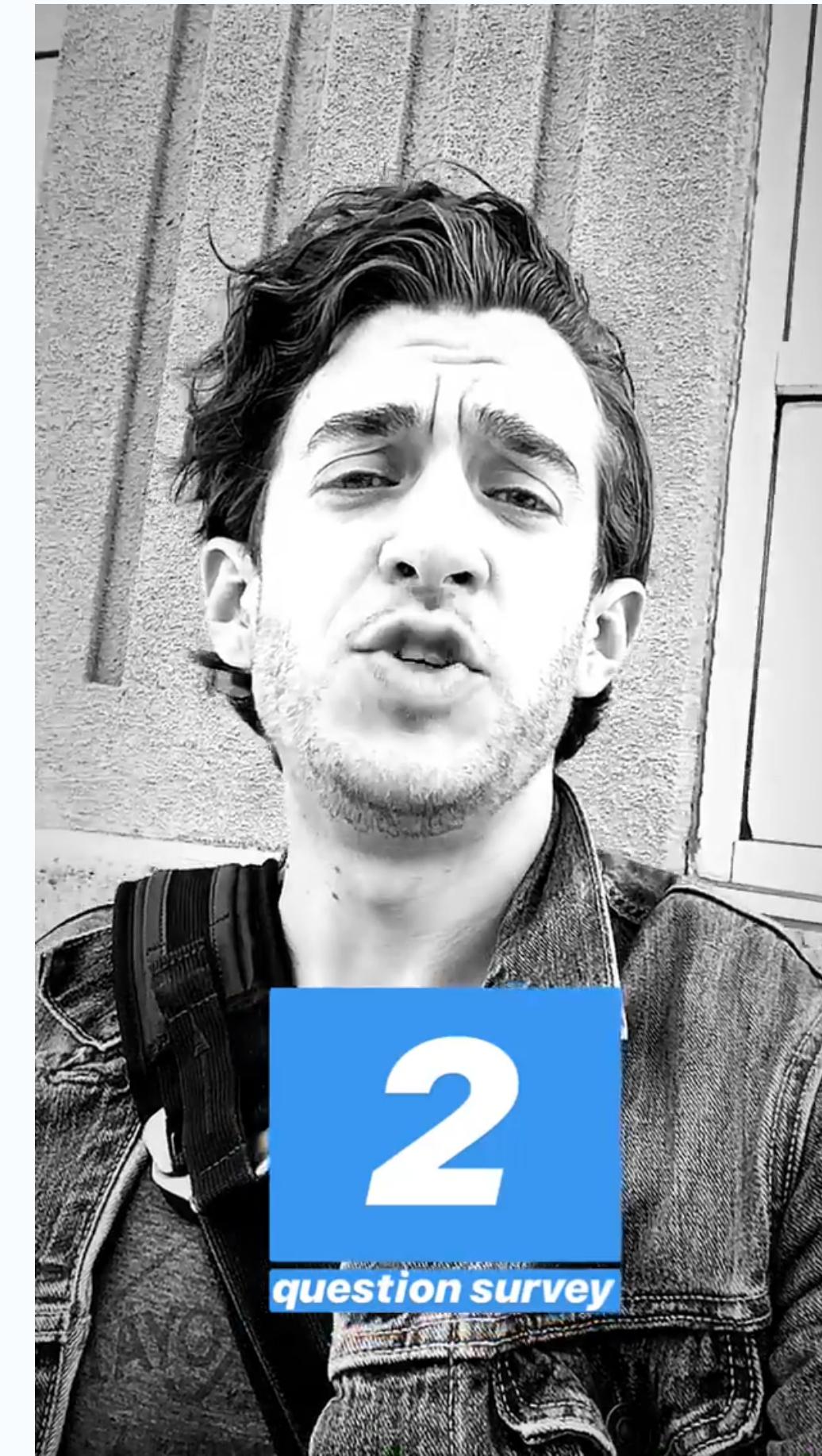
## HOW DID IT GO?

---

**Assumption #2: Respondents would associate 'water' with: Life, Purity, and Power.**

# How did?

HOW DID IT GO?



Question

**#2**

**Ex: Life,**  
refreshment, etc.



What's your first thought  
or feeling when I say  
"Water"?

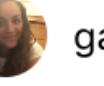
Type something....

# How did?

HOW DID IT GO?

Responses

Responses

 pripri0893 <b>Shortages and pollution</b> <a href="#">Reply</a>	 jordankidney <b>Refreshing</b> <a href="#">Reply</a>	 brittanyrae <b>Need to live</b> <a href="#">Reply</a>	 grantlahring <b>Drink</b> <a href="#">Reply</a>
 katjas_fashion_blog <b>Thirst :p</b> <a href="#">Reply</a>	 ms_bohn <b>Peace. Power. Life.</b> <a href="#">Reply</a>	 gschrisortz <b>Thirsty</b> <a href="#">Reply</a>	 wolfgangvonshnit... <b>Wet.... cool... drinking</b> <a href="#">Reply</a>
 alenaboczek <b>Powerful</b> <a href="#">Reply</a>	 mokmcc <b>Hydrating</b> <a href="#">Reply</a>	 marty13279 <b>Hydration!</b> <a href="#">Reply</a>	 gates_kara <b>Hydrated</b> <a href="#">Reply</a>

# How did?

## HOW DID IT GO?

---

**Assumption #2: Respondents would associate 'water' with: Life, Purity, and Power.**

**Mostly Right**

**WATER  
LIFE.  
PURITY.  
POWER.**



WATER  
HYDRATE.  
LIFE.  
POWER.



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# The Question Sequence

## ASKING THE RIGHT QUESTIONS

WHAT?

What is the change I seek?

WHY?

Why does it matter?

HOW DID?

How did it go?



WHO?

Who is my audience?

HOW?

How can I do it?

# Thank You

MAKE CONTACT.  
SCIENCE COMMUNICATION

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[www.makecontactsci.com](http://www.makecontactsci.com)