

TWO COLUMN NOTES

Lesson Title: _____

Key Terms/Main Idea	Supporting Details

CHAPTER 1 DO NOW #1

MAIN IDEA

- CHAPTER 1 DO NOW #1

SUPPORTING DETAILS

- WRITE A SHORT RESPONSE (AT LEAST 4-5 COMPLETE SENTENCES) ON THE QUESTION, WHAT IS SCIENCE? (DETAILS)

The background is a light blue gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. The text is centered in the middle of the image.

WHAT IS SCIENCE?

SECTION 1.1 BENCHMARKS

1. WHAT IS SCIENCE? WHAT CLEARLY IS NOT SCIENCE? WHAT SUPERFICIALLY RESEMBLES SCIENCE BUT FAILS TO MEET THE CRITERIA FOR SCIENCE? (**SC.912.N.2.1**)

BENCHMARK 1 - (SC.912.N.2.1)

(MAIN IDEA)

- SIX CRITERIA OF SCIENCE

(SUPPORTING DETAILS)

- **CONSISTENT, OBSERVABLE, NATURAL, PREDICTABLE, TESTABLE, AND TENTATIVE.**

SECTION 1.1 BENCHMARKS

2. IDENTIFY EXAMPLES OF PSEUDOSCIENCE IN SOCIETY. (SC.912.N.2.3)

BENCHMARK 2 - (SC.912.N.2.3)

MAIN IDEA

- **PSEUDOSCIENCE**

SUPPORTING DETAILS

- A NON-SCIENCE WHICH IS
PORTRAYED AS A LEGITIMATE
SCIENCE.
 - EX. "ASTROLOGY"

ACTIVITY 1 – WHAT IS SCIENCE?

- YOU AND YOUR TABLE PARTNER WILL READ THROUGH THE PACKET TITLED, “HOW CAN WE TELL SCIENCE FROM NON-SCIENCE.”
- YOUR AND YOUR TABLE PARTNER WILL ANSWER EACH REALITY CHECK AND FOLLOW UP QUESTION FOR EACH CRITERIA OF SCIENCE.
- EACH PERSON MUST TURN IN THEIR OWN WORK.

SECTION 1.1 BENCHMARKS

3. RECOGNIZE THAT THE STRENGTH OR USEFULNESS OF A SCIENTIFIC CLAIM IS EVALUATED THROUGH SCIENTIFIC ARGUMENTATION, WHICH DEPENDS ON CRITICAL AND LOGICAL THINKING, AND THE ACTIVE CONSIDERATION OF ALTERNATIVE SCIENTIFIC EXPLANATIONS TO EXPLAIN THE DATA PRESENTED. **(SC.912.N.1.3)**

BENCHMARK 3 - (SC.912.N.1.3)

MAIN IDEA

SUPPORTING DETAILS

- **CLAIMS** → • ACCURATE AND SPECIFIC STATEMENT THAT COMPLETELY ANSWERS YOUR ORIGINAL QUESTION.
- **EVIDENCE** → • SCIENTIFIC DATA THAT SUPPORTS YOUR CLAIM.
- **REASONING** → • EXPLANATION THAT CONNECTS YOUR CLAIM TO THE EVIDENCE THAT SUPPORTS IT.

SECTION 1.1 BENCHMARKS

4. EXPLAIN THAT SCIENTIFIC KNOWLEDGE IS BOTH DURABLE AND ROBUST AND OPEN TO CHANGE. SCIENTIFIC KNOWLEDGE CAN CHANGE BECAUSE IT IS OFTEN EXAMINED AND RE-EXAMINED BY NEW INVESTIGATIONS AND SCIENTIFIC ARGUMENTATION. BECAUSE OF THESE FREQUENT EXAMINATIONS, SCIENTIFIC KNOWLEDGE BECOMES STRONGER, LEADING TO ITS DURABILITY.
(SC.912.N.2.4)

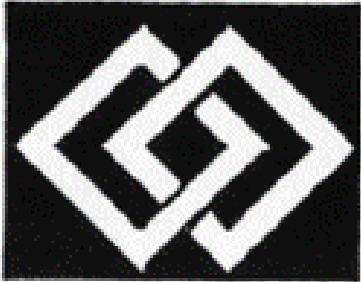
BENCHMARK 4 - (SC.912.N.2.4)

- SCIENTIFIC KNOWLEDGE IS KNOWLEDGE ACCUMULATED BY SYSTEMATIC STUDY AND ORGANIZED BY GENERAL PRINCIPLES.
- DURING THE PROCESSES OF SCIENTIFIC INQUIRY, SCIENTISTS WILL MAKE **CLAIMS**, BASED ON OBSERVABLE **EVIDENCE**, AND WILL CLARIFY WITH **JUSTIFICATION** OF THE EVIDENCE AS RELEVANT TO THE CLAIMS. THE KEY POINTS ARE THAT ANY SCIENTIFIC **CLAIMS** COMING FROM AN INVESTIGATION MUST BE BASED ON OBSERVABLE (EMPIRICAL) **EVIDENCE**, AND THAT EVIDENCE MUST BE **JUSTIFIED** AS CONNECTED WITH THE CLAIMS.

ACTIVITY 2 – SCIENTIFIC KNOWLEDGE

- YOU WILL WORK IN A GROUP FOR THIS ACTIVITY.
- COMPLETE DIRECTIONS ONE (1) THROUGH FOUR (4).
- EACH PERSON MUST TURN IN THEIR OWN WORKSHEET.

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MEMO _____ Paul M. Bahalo

EXIT SLIP / WRITING PROMPT

1. WHICH OF THE FOLLOWING CLAIMS WOULD BE CONSIDERED A VALID SCIENTIFIC CONCLUSION? EXPLAIN WHY YOU CHOSE YOUR ANSWER.

A) BEES LIKE RED FLOWERS BECAUSE THEY ARE PRETTIER.

B) ELEPHANTS GAIN VERY LITTLE MASS AFTER THEY REACH MATURITY.

C) TWO OUT OF 100 PEOPLE CAN COMMUNICATE TELEPATHICALLY WITH EACH OTHER.

D) A MONKEY IS HAPPIER WHEN GIVEN BANANAS BECAUSE THEY SMILE MORE THAN MONKEYS THAT DO NOT GET BANANAS.

2. THE STATEMENT BEES LIKE RED FLOWERS BECAUSE THEY ARE PRETTIER IS NOT A VALID SCIENTIFIC CONCLUSION. WHAT CHANGES CAN YOU MAKE TO THAT STATEMENT THAT WOULD MAKE IT A VALID SCIENTIFIC CONCLUSION?