

YOUTH ART PROJECT FOR:

# ASK A QUESTION

## OBJECTIVE

Students will demonstrate an understanding of the importance and process of asking a question as part of the scientific method.

Set up/prep time:

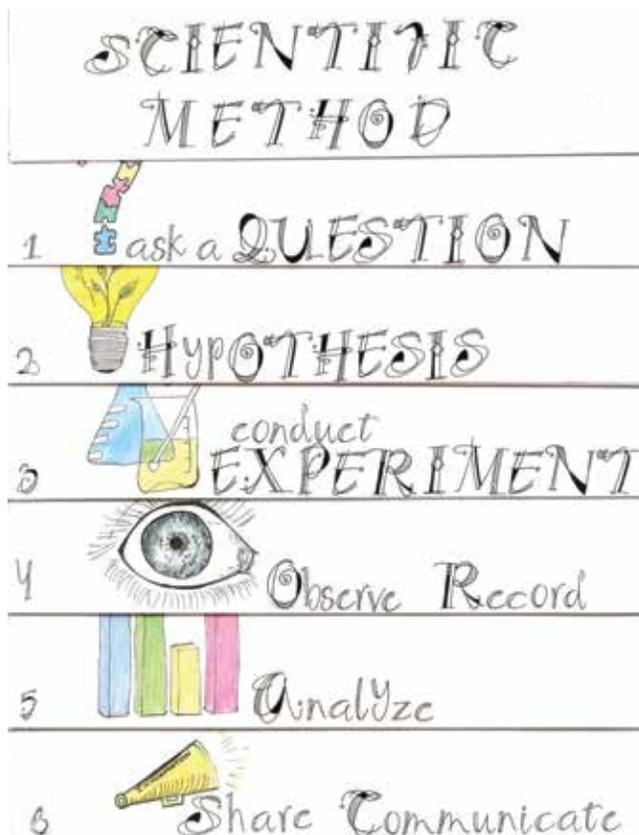
**30 minutes**

Activity time:

**2-3 hours**

Materials Needed:

**Colored markers, black fine point pen, pencil, eraser, paper**





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## COMMON CORE STATE STANDARD

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CCSS.ELA-Literacy.RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

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## PRE LESSON ASSESSMENT

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Administer a pre lesson assessment to determine what the students already know about asking a question as part of the scientific method.

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## VOCABULARY

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Question

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## RELEVANT RESOURCES

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### Content

[www.learn-to-draw.com/shading/04-shading-crosshatching.shtml](http://www.learn-to-draw.com/shading/04-shading-crosshatching.shtml)  
[http://scientificmethod.com/sm5\\_smhistory.html](http://scientificmethod.com/sm5_smhistory.html)  
[http://en.wikipedia.org/wiki/History\\_of\\_scientific\\_method](http://en.wikipedia.org/wiki/History_of_scientific_method)

### Art

<http://all-free-download.com/free-vector/hand-drawn-question-mark.html>  
<http://hastac.org/blogs/rickdoble/2011/08/10/introduction-scientific-experimental-methods-artists-how-science-and-art>  
<https://en.wikipedia.org/wiki/Question>

*“If you only do what you know you can do, you never do very much.” – Tom Krause*

### Students will engage in:

- Listening
- Speaking
- Reading
- Writing
- Partner Work
- Cooperative Learning
- Whole Group Instruction
- Visuals
- Hands on
- Technology Integration
- A Project
- Centers
- Simulations
- Activities





## STEP 1

This is the second lesson in a unit created to teach the Scientific Method.\* Prior to this lesson, the students should have completed the “Introduction to the Scientific Method” lesson, at which time the students should have constructed their scientific method booklets. Students will use their scientific method booklets during this lesson and should be on the tab labeled “1.” This will be step one of the scientific method. Instruct the students to use a pencil to write the words, ASK A QUESTION, on this tab. Have the students also use a pencil to draw a symbol that can be associated with asking a question.

\* When teaching the scientific method, it is recommended to conduct an experiment as a class or encourage students to conduct experiments individually.



1 ? Ask a QUESTION

## STEP 2

Have the students trace their pencil markings with a black fine point pen and then erase any remaining pencil markings. Have the students use markers to color the symbol they have chosen to represent this first step of the scientific method.

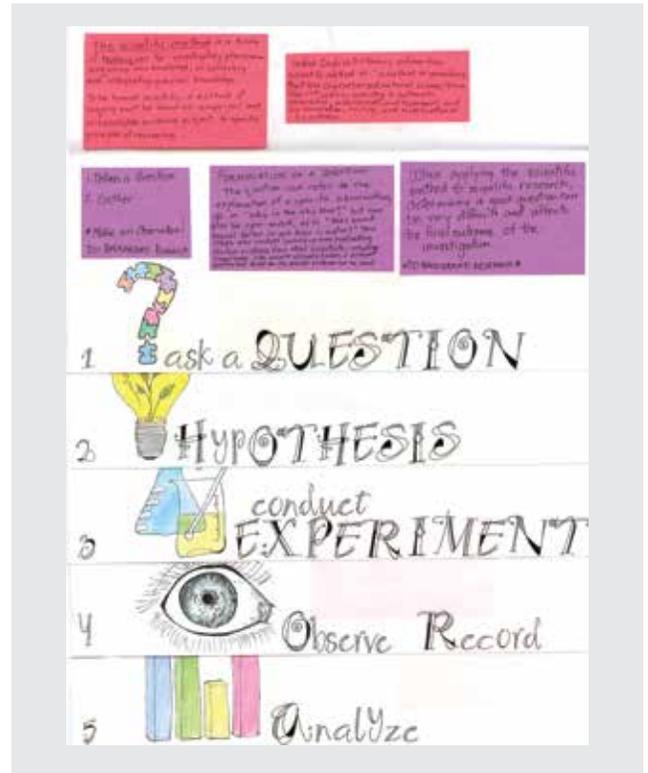


1 ? Ask a QUESTION



## STEP 3

Instruct the students to write on this same page in their booklet, above the tab or on a sticky note, the definition of the word “question,” the question they are asking in their experiment and the importance of asking a question as part of the scientific method. Students should also write any other information, from instruction or their own research, which they consider interesting and/or important in understanding this step of the scientific method.



## POST LESSON ASSESSMENT

Administer a post assessment to determine what new knowledge the students have gained.



The scientific method is a body of techniques for investigating phenomena, acquiring new knowledge, or correcting and integrating previous knowledge.

To be termed scientific, a method of inquiry must be based on empirical and measurable evidence subject to specific principles of reasoning.

Oxford English Dictionary defines the scientific method as: 'a method or procedure that has characterized natural science since the 17<sup>th</sup> century, consisting in systematic observation, measurement, and experiment, and the formulation, testing, and modification of hypotheses'

1. Define a Question
  2. Gather
- \*Make an Observation!  
DO BACKGROUND Research

FORMULATION OF A QUESTION:  
The question can refer to the explanation of a specific observation, as in "Why is the sky blue?" but can also be open-ended, as in "Does sound travel faster in air than in water?" This stage also involves looking up and evaluating previous evidence from other scientists, including experience. If the answer already known, a different question that builds on the previous evidence can be posed.

When applying the scientific method to scientific research, determining a good question can be very difficult and affects the final outcome of the investigation.

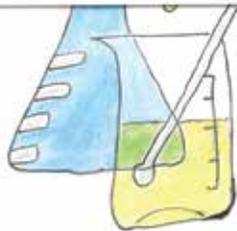
\*DO BACKGROUND RESEARCH\*



# 1 ask a QUESTION



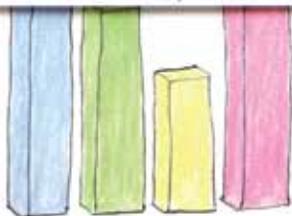
# 2 Hypothesis



# 3 conduct EXPERIMENT



# 4 Observe Record



# 5 Analyze