



# THE SCIENTIFIC METHOD

We study and learn to understand the world around us using science. Science is defined as the “knowledge of the physical or material world gained through observation and experimentation.” (Dictionary.com) When attempting to learn something one uses the scientific method.

**The Scientific Method:** “is based on gathering observable, empirical and measurable evidence...through observation and experimentation and the formulation and testing of hypotheses...these steps must be repeatable in order to predict dependably any future results.” (Science Daily.com)

A hypothesis is a statement or assumption made that a researcher is working to prove or disprove. For a hypothesis to be true it must be observable, testable, and repeatable. If a scientist cannot achieve these three factors, the hypothesis is false.

You probably have heard about two big ideas or hypothesis for how the world began. One is creation, and the other is evolution. Using the scientific method, let's examine these two approaches. This method involves a series of steps to examine the topic. These steps are: 1) Determine the question; 2) research the topic; 3) create a hypothesis; 4) perform an experiment; 5) analyze the results; and 6) make a conclusion. After making a conclusion you will discuss with the class.

**Step**



## DETERMINE THE QUESTION

Where did the world come from and how did we get here? There are two theories to answer this question. Which one is correct, creation or evolution?

Do you have another question about human origins? If so, write it here:

Student answers will vary

**Step**



## RESEARCH THE TOPIC

The Bible is the best place to find information about creation. However, did you know that many cultures around the world have stories about gods creating the world? Even though they mixed the truth with falsehood, they still admitted that a powerful being was in charge of beginning the world.

Find three verses in the Bible that talk about God creating the world. List these verses below (example Gen. 1:1). If using a Bible app or concordance use these keywords: created, made, formed.

Examples: Genesis chapter 1, 2, 5 Ex. 20:11, Deut. 4:32, Psalms 148:5, Is. 40:26, Is. 42:5, Is. 45:12, etc.

In the 18<sup>th</sup> and 19<sup>th</sup> centuries (1700s -1800s) people began to come up with the idea there was no God and everything in nature could be explained using rational logic (rationalism). During the French Revolution, the people declared there was no God except man himself and the forces of nature (Dan. 11:37-39). This led to people denying the existence of God (atheism). It was the year 1859 when a man named Charles Darwin wrote a book called On the Origin of Species. It led to the acceptance of a theory called evolution.

Based on your research, what is the theory of creation and how long did it take?

Possible answer: The theory of creation is that God created the world and distinct species in six days.

Write a sentence stating what the theory of evolution is and how long it took.

Possible answer: The theory of evolution is that after the Big Bang happened matter spontaneously joined to form lifeforms that slowly evolved into other forms over millions or billions of years.



## CREATE A HYPOTHESIS

On the lines below write a hypothesis for creation on line A and one for evolution on line B.

HYPOTHESIS

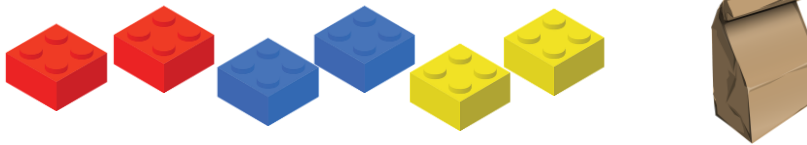
A: Possible hypothesis: Creation is the best explanation for life on this planet.

B: Possible hypothesis: The process of evolution explains the origins of life.



## PERFORM AN EXPERIMENT

Gather 2 red, 2 blue, and 2 yellow building blocks, and a paper bag.



Follow the instructions below and record your answers.

Place two red blocks in the bag and shake it. How many pieces are in the bag? 2



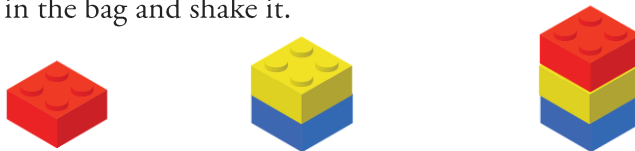
Add two yellow pieces and shake. How many pieces turned orange? 0



Remove the red blocks and add blue pieces. Shake the bag. How many green pieces are there? 0



Put all the blocks in the bag and shake it.



Repeat this experiment as many times as you'd like.

What experiment would you create to test your hypothesis?

Answers will vary.

# Step 5

## ANALYZE THE RESULTS

Did the blocks snap together? \_\_\_\_\_ No \_\_\_\_\_

Answers may vary.

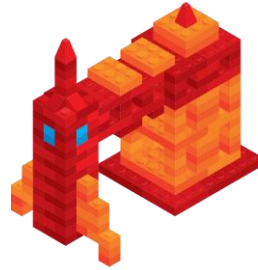
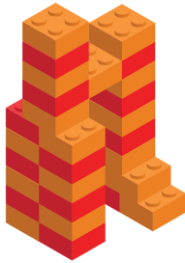
Have they made a tower? \_\_\_\_\_ No \_\_\_\_\_

Did they make a building? \_\_\_\_\_ No \_\_\_\_\_

Have they formed a figurine? \_\_\_\_\_ No \_\_\_\_\_

Repeat this process as many times as you'd like. Do you get any different results? \_\_\_\_\_ No \_\_\_\_\_

Did you observe any changes in the material (bricks) while performing the experiment? \_\_\_\_\_ No \_\_\_\_\_



# Step 6

## MAKE A CONCLUSION

The experiment shows matter cannot randomly form complex objects. To form into an object, matter needs a \_\_\_\_\_ creator \_\_\_\_\_.

Based on the results of the experiment, which hypothesis can be repeated with consistent and reliable results? \_\_\_\_\_ Hypothesis A (Creation) \_\_\_\_\_.

What conclusion can be drawn based on the experiment?

Answers will vary.

# Step 7

## DISCUSSION

Discuss the results of the experiment with your classmates.

Think about another experiment that could be performed. This time consider eggs. If you and your classmates were to observe eggs hatching, what would you expect to see if the parent animal was a/an:

Snake: \_\_\_\_\_ snakes \_\_\_\_\_

Lizard: \_\_\_\_\_ lizard \_\_\_\_\_

Fish: \_\_\_\_\_ fish \_\_\_\_\_

Ant: \_\_\_\_\_ ant \_\_\_\_\_

Bee: \_\_\_\_\_ bee \_\_\_\_\_

Chicken: \_\_\_\_\_ chick \_\_\_\_\_

Would you be surprised to see a turtle hatch from a chicken egg? \_\_\_\_\_ Yes \_\_\_\_\_

Would scientists believe you if you told them about a turtle hatching from a chicken egg? Why?

Possible answer: No, scientists would not believe you because a turtle hatching from a chicken egg is genetically impossible. They would accuse you of trying to mislead people.

Here are some more questions to discuss.

What type of plant would you expect to grow from the following?

Apple seed: apple tree

Potato: potato

Sunflower seed: sunflowers

Acorn: oak tree

Tulip bulbs: tulips

Pine Cone: pine tree

If a farmer raised sheep, what could he expect in the spring, lambs or calves? lambs

Has there ever been a documented case of one species naturally yielding a different species? no

Evolution cannot be observed. It cannot be tested. It cannot be repeated. Based on the scientific method, what does this tell us about this hypothesis?

Possible answer: Based on the scientific method, the theory of evolution is impossible to be true.

The bible tells us God created the world. Read Genesis 1 verses 11, 12, 21, 24, and 25. Look at the key word “kind.” The word kind means ‘species’ ‘family’ or ‘type.’

What do these verses tell us about creation?

Possible answer: They tell us that God created the different species and they can only produce that species.

Can creation (or a form of creation) be observed? yes, through procreation (animals/humans) & farming

Can creation be tested or used for experimentation? Yes, you can test it through raising animals or farming

Can creation be repeated? Yes, God will recreate the earth (Rev 21 and 22) and you can see creation occurring all around you everyday.

Based on the scientific method, what do the previous three answers tell us about the hypothesis for creation?

Possible answer: It tells us that the theory of creation meets the three requirements for something to be proven true using the scientific method.

From your research, experiment, and discussion does evolution agree with science? **NO!**

Both creation and evolution require a matter of faith to believe. The question is, which one will you choose?

“...Keep that which is committed to thy trust, avoiding profane and vain babbling and oppositions of science falsely so called: which some professing have erred concerning the faith...” 1 Timothy 6:20-21

“Now faith is the substance of things hoped for, the evidence of things not seen...through faith we understand that the worlds were framed by the word of God, so that things which are seen were not made of things which do appear.” Hebrews 11:1-3