

**BEST  
SCIENCE  
AND  
ENGINEERING  
PRACTICES**

# 1. I CAN ASK QUESTIONS



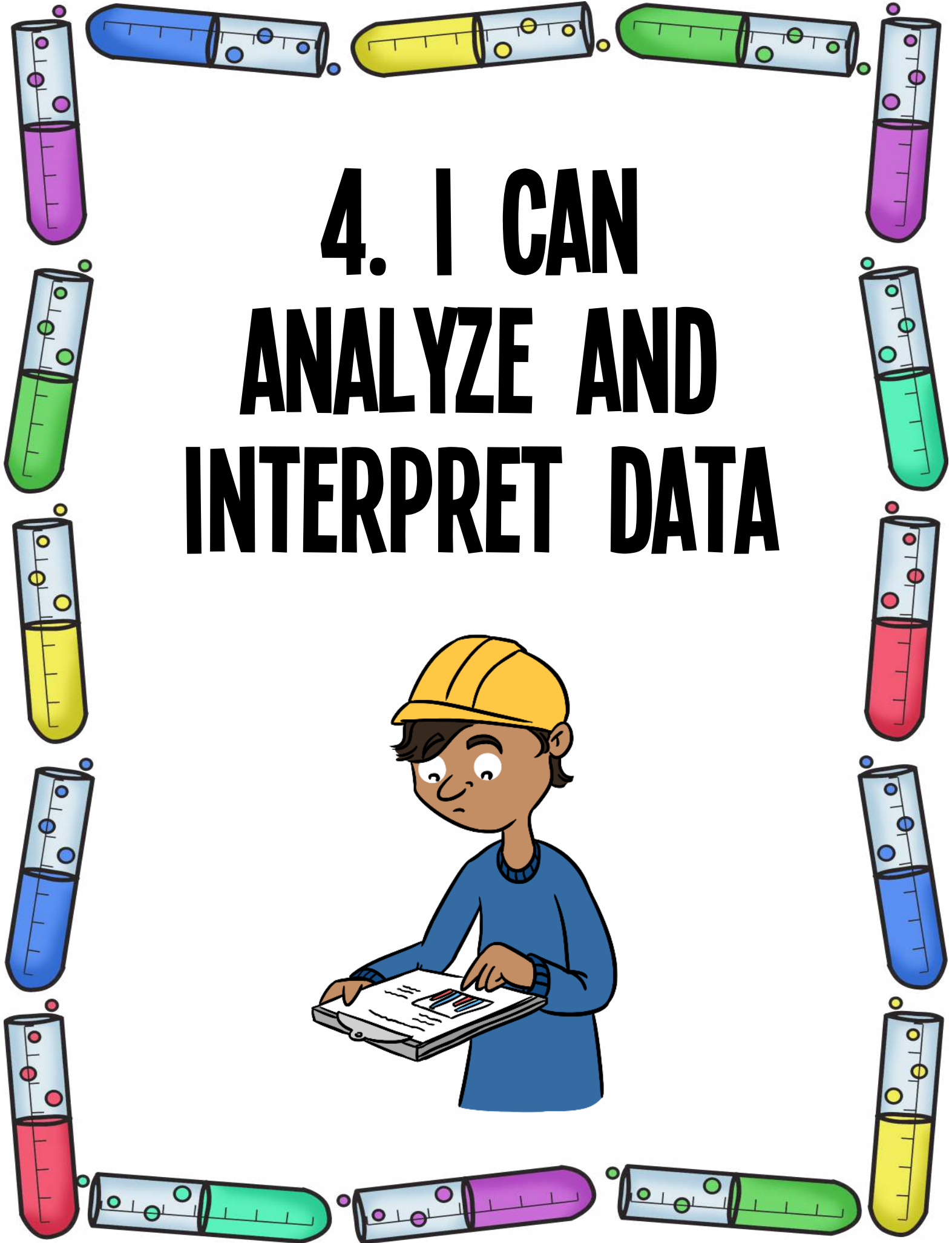
# 2. I CAN DEVELOP AND USE MODELS



**3. I CAN  
PLAN AND CARRY  
OUT INVESTIGATIONS**



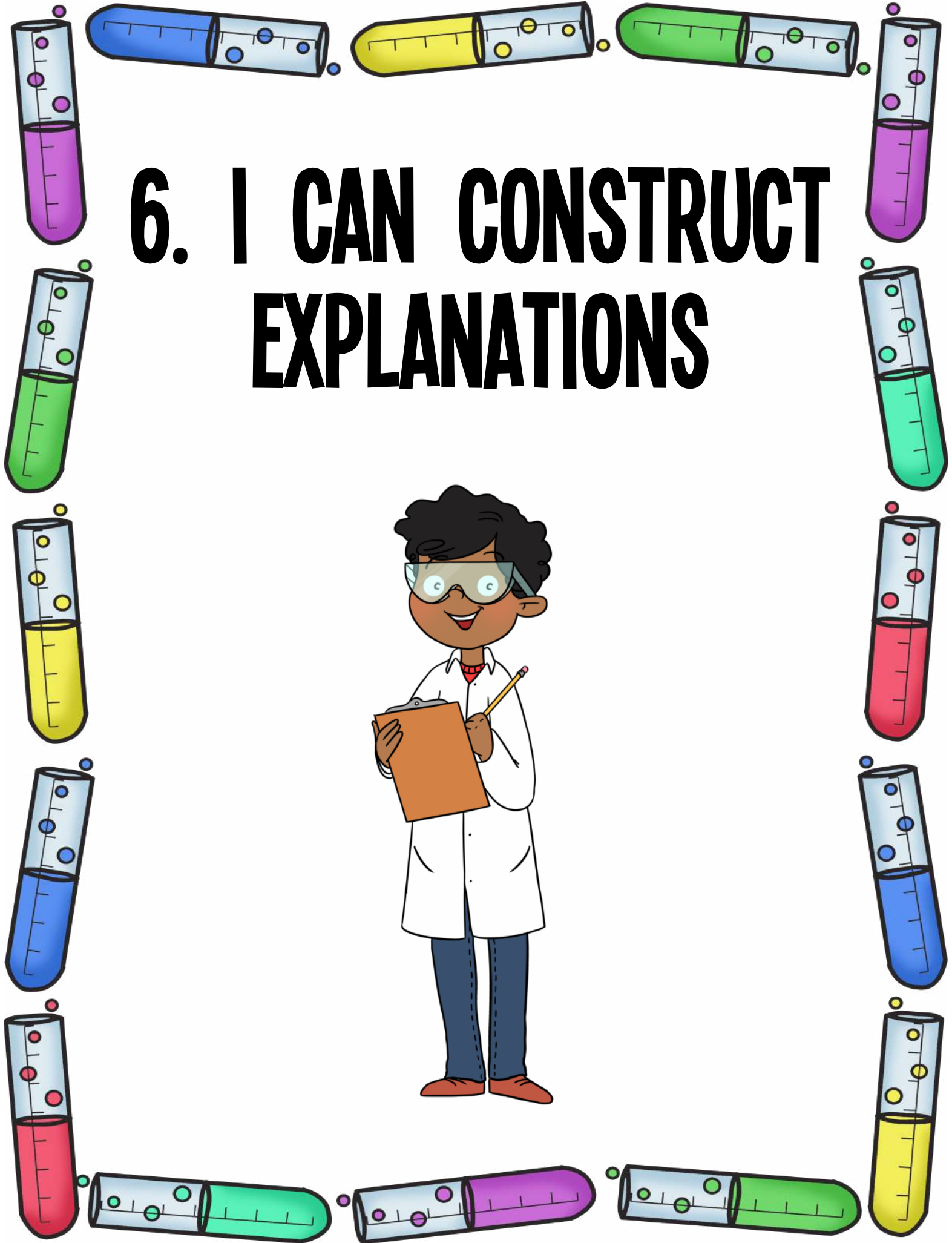
# 4. I CAN ANALYZE AND INTERPRET DATA



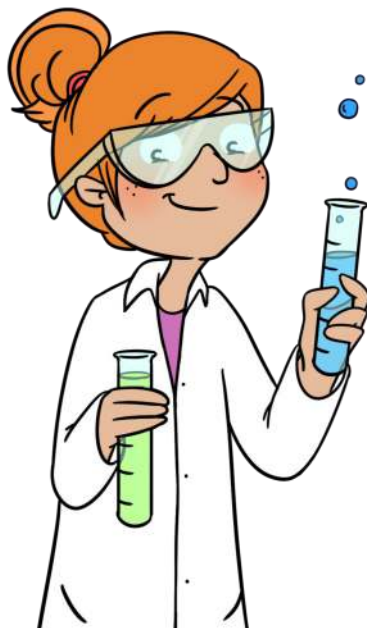
**5. I CAN USE  
MATH AND  
COMPUTATIONAL  
THINKING**



# 6. I CAN CONSTRUCT EXPLANATIONS



# 7. I CAN ENGAGE IN ARGUMENTS FROM EVIDENCE





**8. I CAN  
OBTAIN, EVALUATE,  
& COMMUNICATE  
INFORMATION**



1. I can **ask questions.**

2. I can **develop and use models.**

3. I can **plan and carry out investigations.**

4. I can **analyze and interpret data.**

5. I can use **math and computational thinking.**

6. I can **construct explanations.**

7. I can **engage in arguments from evidence.**

8. I can **obtain, evaluate, and communicate information.**

1. I can  
**ask  
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**math** and  
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6. I can  
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7. I can  
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8. I can  
**obtain,**  
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# BEST SCIENCE AND ENGINEERING PRACTICES

It is important to note that the scientific method is not a linear set of steps, and you can adapt it to fit your investigation.

- 1. I can ask questions.**
- 2. I can develop and use models.**
- 3. I can plan and carry out investigations.**
- 4. I can analyze and interpret data.**
- 5. I can use math and computational thinking.**
- 6. I can construct explanations.**
- 7. I can engage in arguments from evidence.**
- 8. I can obtain, evaluate, and communicate information.**



## THE SCIENTIFIC METHOD, BEST SCIENCE PRACTICES, AND LEARNING!

What is science, and why should we learn it?

The word "science" comes from the Latin word that means "knowledge". So science is all about gaining knowledge about the world around us. We know kids love to ask questions about what they see!

The word "method" comes from the Greek word that means "road". A method is all about the route you take to get someplace, but is it a road map?

If you put the two words together, science and method, you get a new term called "scientific method". This term is used to talk about a series of steps to use as a way to figure things out or to gain knowledge.

The scientific method is a useful tool for introducing kids to a logical way to solve scientific problems. The steps are helpful for guiding the process, but "guide" is the key here. It's important to understand that the scientific method is not a linear set of steps and can be adapted to suit the needs of a variety of investigations.

There are many ways scientists look to gain knowledge. It is important to allow kids to use the practices with what they are learning. This process will encourage the use of higher-order thinking skills for creating, evaluating, and analyzing. As kids develop the practices of questioning, gathering data, analyzing, and communication, they can apply these critical thinking skills to any situation. Now that's a winner!

\* Note: You might be familiar with the more traditional version which includes some similar practices but in a linear format. These steps include asking questions, developing a hypothesis, conducting research, doing experiments and tests, analyzing data, and drawing conclusions.

However, the following eight science practices are less structured and allow for a more free-flowing approach to problem-solving and finding answers to questions.

# GRAPHICS CREDIT

