

## Patterns

1. How do you describe the pattern?
2. How can you use this pattern in an explanation?
3. Is there a way to use mathematics to describe the pattern?
4. What predictions are possible based on the pattern?

## Cause & Effect

1. Does the effect have more than one cause?
2. What predictions are possible from the cause-effect relationship?
3. How have you used the cause-effect relationship in a scientific argument?

## Scale, Proportion & Quantity

1. How does scale fit into this Performance Expectation?
2. How does proportion fit into this Performance Expectation?
3. How does quantity fit into this Performance Expectation?
4. Is the phenomenon visible at other scales? Explain your thinking.

## Systems & Systems Models

1. What are the parts of the system?
2. Describe how the parts of the system interact.
3. What are the interactions of the system?
4. How does the model represent the system?

## Energy & Matter

1. How do energy changes appear in this Performance Expectation?
2. Describe the cycles of matter represented in this Performance Expectation.
3. How do energy and matter interact in this Performance Expectation?

## Structure and Function

1. What structures are important in this Performance Expectation?
2. How are the structures related to the functions in this Performance Expectation?
3. Describe a different structure that might be able to perform the same function?

## Stability and Change

1. How does the system display stability?
2. What changes were occurring while the system was stable?
3. Describe how the system is able to remain stable.
4. Where else have you seen this type of stability (or change)?

### Patterns

1. The pattern I notice is \_\_\_\_\_ because \_\_\_\_\_.
2. I can you use this pattern in an explanation by \_\_\_\_\_.
3. From the pattern \_\_\_\_\_ I predict that \_\_\_\_\_, because \_\_\_\_\_.

### Cause & Effect

1. One cause of \_\_\_\_\_ (effect) might be \_\_\_\_\_.
2. From the cause-effect relationship I would claim that \_\_\_\_\_.
3. I tested what I thought was the cause and effect relationship by \_\_\_\_\_.

### Scale, Proportion & Quantity

1. In this science idea scale is important because \_\_\_\_\_.
2. In this science idea proportion is important because \_\_\_\_\_.
3. In this science idea quantity is important because \_\_\_\_\_.

### Systems & Systems Models

1. The parts of the system are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.
2. In this system \_\_\_\_\_ interacts with \_\_\_\_\_ to cause \_\_\_\_\_.
3. The model I used to describe the system we studied was \_\_\_\_\_ because it \_\_\_\_\_.

### Energy & Matter

1. I think energy changed because it \_\_\_\_\_.
2. Matter in this system went from \_\_\_\_\_ to \_\_\_\_\_.
3. The evidence I have for matter being conserved in this system is \_\_\_\_\_.
4. The interaction of energy and matter in this system is observed when \_\_\_\_\_.

### Structure and Function

1. The important structures are \_\_\_\_\_.
2. The \_\_\_\_\_ (structure) performs \_\_\_\_\_ (function).
3. I think that \_\_\_\_\_ (structure) could perform the same function because \_\_\_\_\_.

### Stability and Change

1. The system displays stability by \_\_\_\_\_.
2. Even though the system appears stable I know that \_\_\_\_\_ (changes) were happening.
3. The reason this system can remain stable is \_\_\_\_\_.