

Category V Physical Science Examples

Encouraging students to think about what they've learned

Matter and Molecules

Matter and Molecules does not include self-monitoring as a strategy. Despite the explicitness of the introductory notes to the teacher with respect to other strategies, self-monitoring is not mentioned. In a few instances, students are asked to revise their explanations of phenomena based on what they have learned (see the *Activity Book*, pp. [23s](#), [29s](#)). But overall, *Matter and Molecules* does not give students opportunities to monitor their own understanding.

Question Set 4.4: Cluster Review

1. What are the two questions that a good explanation must answer?

a. A question about _____ : _____

b. A question about _____ : _____

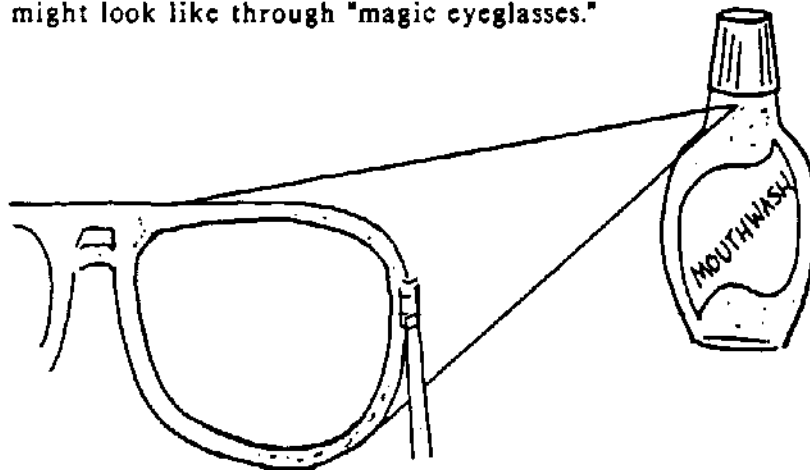
2. Explain what is happening to the air as it is being pumped into a bicycle tire. Make sure your explanation answers both questions.

3. Explain what happens if you run over a nail on your bicycle and the tire starts to leak. Make sure you answer both questions.

4. Look back at the explanation you gave for Question 8 in Activity 4.2. Why does the plunger of the syringe move back out after you let go of it? Did your explanation answer both questions? Try to write a better explanation now, one that does a good job of answering both questions.

Question Set 5.3: Cluster Review

1. The label on my mouthwash says it contains "water, glycerin, benzoic acid, polysorbate 80, FD&C Blue No. 1," and several other substances. Imagine how the molecules of those substances might be shaped, and draw a picture of what my mouthwash might look like through "magic eyeglasses."



2. I dissolved some sugar in water. One of my friends said that the dissolved sugar had just disappeared. Another friend said that the sugar melted, then became part of the water. What would you say?

3. Compare your explanation of how you got the salt to dissolve faster in Activity 5.2, Question Number 5 with the explanation in the science book. Can you make your explanation better? Try rewriting your explanation in the spaces below.

Try explaining why your method got the salt to dissolve faster. Use the parts of an explanation that you have learned about.
