

Saturday Fun!

The Davis family is deciding what to do on Saturday. They can go to the zoo **or** the pool. They can go by car **or** walk. What are all the choices the Davis family can choose from to spend some Saturday fun?

Saturday Fun!

Suggested Grade Span

Pre K–2

Grade(s) in Which Task was Piloted

Grade 1

Task

The Davis family is deciding what to do on Saturday. They can go to the zoo **or** the pool. They can go by car **or** walk. What are all the choices the Davis family can choose from to spend some Saturday fun?

Alternative Versions of Task

More Accessible Version:

The Davis family wants to do 2 activities on Saturday. They can go to the zoo, the pool or the park. What are all the choices of activities that they can do on Saturday?

More Challenging Version:

The Davis family is deciding what to do on Saturday. They can go to the zoo **or** the pool. They can go by car **or** walk. They can eat at a restaurant **or** have a picnic. What are all the choices the Davis family can choose from to spend some Saturday fun?

NCTM Content Standards and Evidence

Algebra Standard for Grades Pre K–2

Instructional programs from pre–kindergarten through grade 12 should enable students to —

- Understand patterns, relations and functions
 - *NCTM Evidence:* Recognize, describe and extend patterns such as sequences of sounds, and shapes or simple numeric patterns and translate from one representation or another
 - *Exemplars Task Specific Evidence:* This task requires students to make an organized list or tree diagram to find all the combinations.

Time/Context/Qualifiers/Tip(s) From Piloting Teacher

This task is considered a medium length task in that it took my students one class period in which to complete it.

Links

This task may be used before or after a school vacation or on Friday as the students talk about what to do on their day off.

Common Strategies Used to Solve This Task

Most students began by drawing some combinations of activities. Some students were able to plan an organized list or tree diagram.

Possible Solutions*Original Version:*

Zoo by car; Zoo by walking
Pool by car; Pool by walking

Total of 4 combinations

More Accessible Version:

Zoo and Pool; Zoo and Park or Pool and Park

Total of 3 combinations

More Challenging Version:

Zoo, car, restaurant; zoo, car, picnic
Zoo, walk, restaurant, zoo, walk, picnic
Pool, car, restaurant, pool, car, picnic
Pool, walk, restaurant; pool, walk, picnic

Total of 8 combinations

Task Specific Assessment Notes**General Notes**

This task encourages students to make an organized list or tree diagram.

Novice

The Novice will not have a strategy that will lead to a solution. They may list one or two combinations of activities, but there will be no indication of a pattern or attempt at finding all the combinations. There will be no awareness of purpose. There will be no attempt at making a mathematical representation

Apprentice

The Apprentice will have a partially correct strategy. The Apprentice may show evidence of making an organized list or tree diagram but will not be successful in finding all the combinations of activities. There will be evidence of some correct reasoning or justification of reasoning.

Practitioner

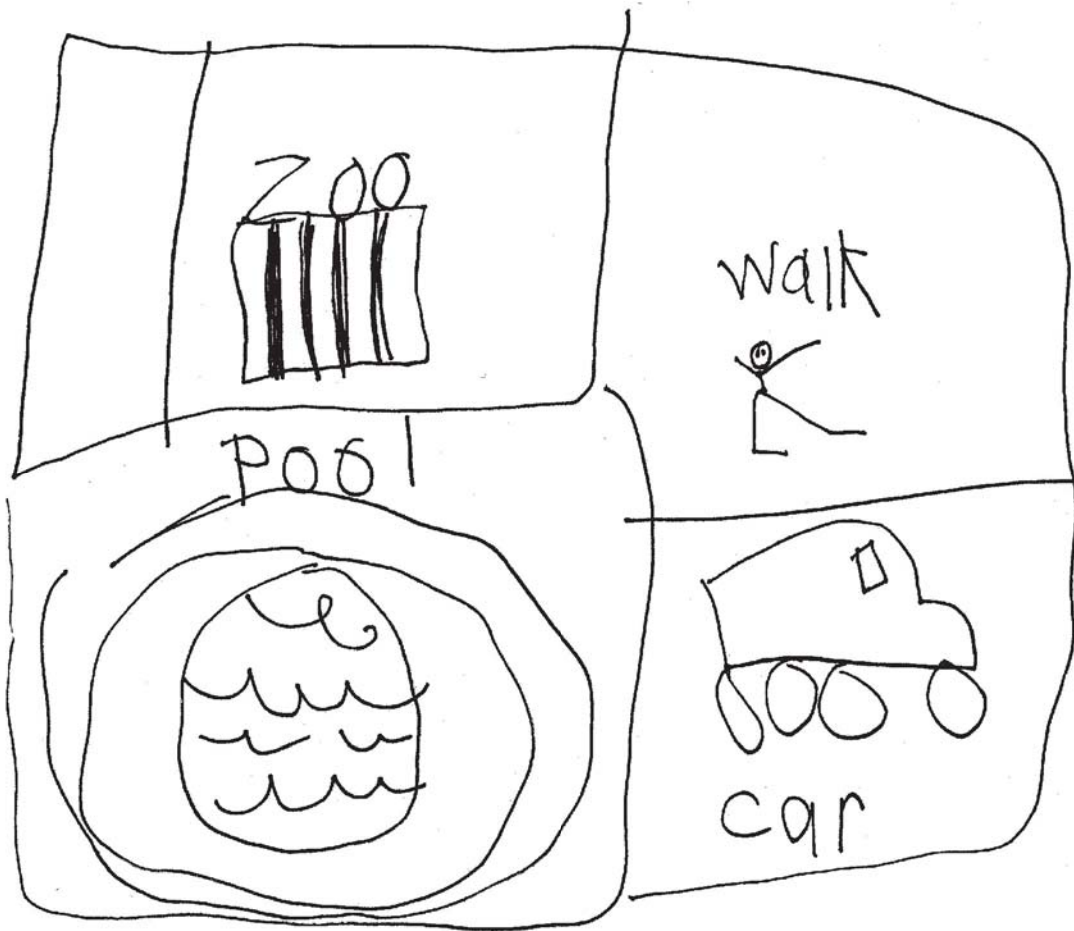
The Practitioner will have been able to find all the combinations of activities by making some kind of organized list or tree diagram. The Practitioner may make note of patterns that are observed.

Expert

The Expert will have all that the Practitioner has and will be able to make multiple representations to justify the solution. A sense of audience and purpose is communicated.

The student does not mathematically engage in the problem.

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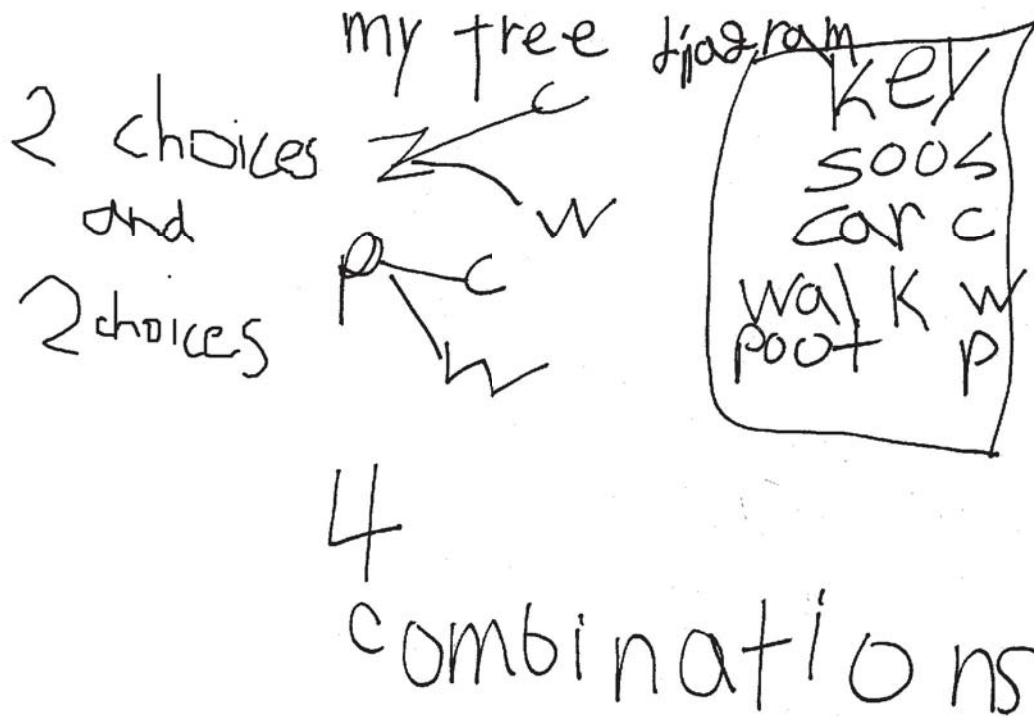


Apprentice



The student demonstrates an understanding of finding combinations and starting an organized list, but cannot follow through.

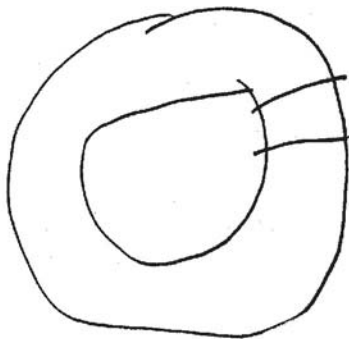
The tree diagram is accurate and appropriate to communicate the strategy and the solution.



A correct solution is achieved.

A sense of audience and purpose is communicated.

Plan 1 diagram



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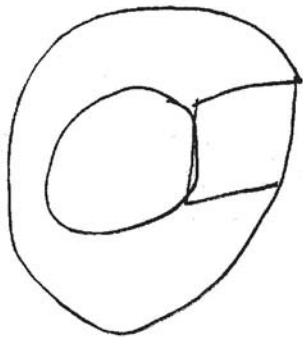


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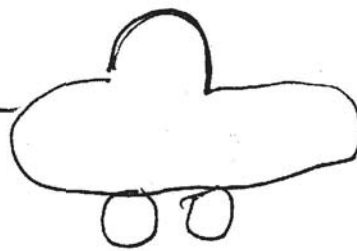


4 combinations

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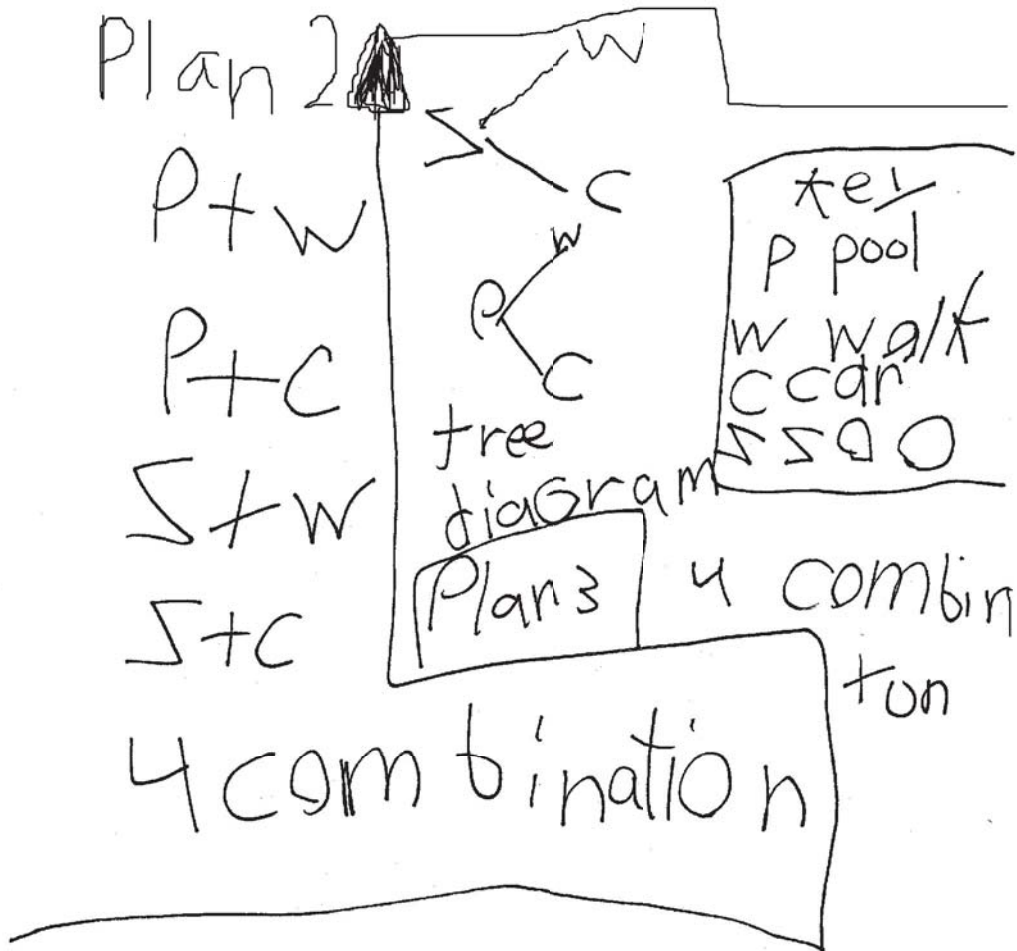


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A correct solution is achieved.

Expert cont.



I am right
it is 4

The student chose different mathematical representations to "test" their solution. Although these are not considered different strategies, they did help the student be confident of the solution.