Task: Chaperones Grade Level: Kindergarten

Key APS Mathematics Standard: **Combines** and **separates** sets of objects with quantities and identifies the parts and the whole.

Level	Understanding	Strategies, Reasoning, & Procedures	Communication
Novice	**1.** There are no solutions or the solutions have no relationship to the task. **2.** The student does not understand that the students do not have to be distributed into the chaperoned groups evenly. **3.** The student may demonstrate a beginning understanding of grouping, but cannot use the information to find the number of chaperones needed for the 13 students going on the field trip.	**1.** The student cannot start the task or s/he has started the task using manipulatives or representations but cannot complete the task. **2.** The student cannot demonstrate, using manipulatives or representations, how to separate the students into groups, with or without the least number of chaperones. **Sample Strategies:** I think the students will need 2 chaperones.	**1.** There is little or no communication, the student did not label the work, and their thinking is difficult to follow. **2.** The student cannot write/verbalize his/her grouping pattern or the number of chaperones needed for the field trip. **3.** The student uses little or no math terms or symbols to explain their grouping of the students. **4.** The student has no system for tracking his/her groups.
Apprentice	**1.** The student understands that s/he needs to separate the 13 students into groups of 2, 3, & 4 students per group, but does not understand that they are looking for the least number of chaperones for the field trip.	**1.** The student can group the students but the group sizes DO NOT add up to 13. **2.** The student can correctly group the students to equal 13, but does not consider the least number of chaperones needed for the field trip. **Sample Strategies:** 6 groups: 5 groups of 2 and 1 group of 3.	**1.** The student has attempted to communicate his/her findings by labeling their work, but does not attempt to summarize their work by stating their final answer. **2.** The student can write/verbalize the student groupings clearly, but does not establish an accurate system for tracking his/her groups. **3.** The student uses some math terms or symbols to explain their groupings.
Practitioner	**PROFICIENCY:** The student understands that they can separate the 13 students into unequal groups of 2, 3, & 4 students in a group for the field trip and provide a chaperone for each group of students.	**PROFICIENCY:** The student can demonstrate one correct solution using manipulatives or pictures to separate the 13 students into 4 groups with each group having a chaperone. **Sample Strategies:** 4 groups: 2 groups of 4, 1 group of 3, and 1 group of 2 **OR** 3 groups of 3, and 1 group of 4.	**PROFICIENCY:** The student can represent his/her work in a clear, organized manner, and use appropriate math terms and symbols in his/her explanation of how they grouped the 13 students. The student can represent their student groups using manipulatives and/or drawings, has created an efficient system for tracking his/her student groups, and can verbally explain how they separated the 13 students into 4 groups with chaperones.
Expert	**1.** The student understands that they can separate the students into unequal groups of 2, 3, & 4 students in a group for the field trip and provide a chaperone for each group of students. **2.** The student recognizes there may be alternate ways to group the students. **3.** The student can make a rule or generalization about the way s/he has grouped the students with the chaperones.	**1.** The student demonstrates more than one correct solution to the problem using manipulatives or pictures to separate the 13 students into 4 groups with each group having a chaperone. **2.** The student can make a generalization about the groupings. **For example:** Student groups will not be the same size, some groups will have 2, 3, or 4 students in a group.	**1.** The student can represent his/her work in a clear, organized manner, and use appropriate math terms and symbols in his/her explanation of how they grouped the 13 students. **2.** The student represents their answer in a table or chart and can verbally (or in writing) describe how they grouped the students. **3.** The student includes a statement or generalization (verbal or written) about how they grouped the students and chaperones.

Task: Chaperones Grade Level: First

Key APS Mathematics Standards: ***Develops*** *strategies and estimation skills for solving addition and subtraction problems.* ***Identifies*** *equal shares in examples of models partitioned with equal and unequal parts (e.g., share 12 M&M candies among 3 friends, share 11 apples among 5 friends).*

Level	Understanding	Strategies, Reasoning, & Procedures	Communication
Novice	**1.** There are no solutions or the solutions have no relationship to the task. **2.** The student does not understand that the students do not have to be distributed into the chaperoned groups evenly. **3.** The student may demonstrate a beginning understanding of grouping, but cannot use the information to find the number of chaperones needed for the 18 students going on the field trip.	**1.** The student cannot start the task or s/he has started the task using manipulatives or representations but cannot complete the task. **2.** The student cannot demonstrate, using manipulatives or representations, how to separate the students into groups, with or without the least number of chaperones. **Sample Strategies:** I think the students will need 2 chaperones.	**1.** There is little or no communication, the student did not label the work, and their thinking is difficult to follow. **2.** The student cannot write/verbalize his/her grouping pattern or the number of chaperones needed for the field trip. **3.** The student uses little or no math terms or symbols to explain their grouping of the students. **4.** The student has no system for tracking his/her groups.
Apprentice	**1.** The student understands that s/he needs to separate the 18 students into groups of 2, 3, & 4 students per group, but does not understand that they are looking for the least number of chaperones for the field trip.	**1.** The student can group the students but the group sizes DO NOT add up to 18. **2.** The student can correctly group the students to equal 18, but does not consider the least number of chaperones needed for the field trip. **Sample Strategies:** There will be 6 groups of 3 students.	**1.** The student has attempted to communicate his/her findings by labeling their work, but does not attempt to summarize their work by stating their final answer. **2.** The student can write/verbalize the student groupings clearly, but does not establish an accurate system for tracking his/her groups. **3.** The student uses some math terms or symbols to explain their groupings.
Practitioner	**PROFICIENCY:** The student understands that they can separate the 18 students into unequal groups of 2, 3, & 4 students in a group for the field trip and provide a chaperone for each group of students.	**PROFICIENCY:** The student can demonstrate one correct solution using manipulatives or pictures to separate the 18 students into 5 groups with each group having a chaperone. **Sample Strategies:** 5 Groups: 4 groups of 4 and 1 group of 2 **OR** 3 groups of 4 and 2 groups of 3.	**PROFICIENCY:** The student can represent his/her work in a clear, organized manner, and use appropriate math terms and symbols in his/her explanation of how they grouped the 18 students. The student can represent their student groups using manipulatives and/or drawings, has created an efficient system for tracking his/her student groups, and can verbally explain how they separated the 18 students into 5 groups with chaperones.
Expert	**1.** The student understands that they can separate the students into unequal groups of 2, 3, & 4 students in a group for the field trip and provide a chaperone for each group of students. **2.** The student recognizes there may be alternate ways to group the students. **3.** The student can make a rule or generalization about the way s/he has grouped the students with the chaperones.	**1.** The student demonstrates more than one correct solution to the problem using manipulatives or pictures to separate the 18 students into 5 groups with each group having a chaperone. **2.** The student can make a generalization about the groupings. **For example:** The students will be more evenly grouped with 3 groups of 4 and 2 groups of 3.	**1.** The student can represent his/her work in a clear, organized manner, and use appropriate math terms and symbols in his/her explanation of how they grouped the 18 students. **2.** The student represents their answer in a table or chart and can verbally (or in writing) describe how they grouped the students. **3.** The student includes a statement or generalization (verbal or written) about how they grouped the students and chaperones.

Task: Chaperones Grade Level: Second

Key APS Mathematics Standard: **Decomposes** and **recombines** numbers in logical ways to solve problems (e.g., 8+5=(3+5)+5=3+10 = 13).

Level	Understanding	Strategies, Reasoning, & Procedures	Communication
Novice	**1.** There are no solutions or the solutions have no relationship to the task. **2.** The student does not understand that the students do not have to be distributed into the chaperoned groups evenly. **3.** The student may demonstrate a beginning understanding of grouping, but cannot use the information to find the number of chaperones needed for the 25 students going on the field trip.	**1.** The student cannot start the task or s/he has started the task using manipulatives or representations but cannot complete the task. **2.** The student cannot demonstrate, using manipulatives or representations, how to separate the students into groups, with or without the least number of chaperones. **Sample Strategies:** I think the students will need 2 chaperones.	**1.** There is little or no communication, the student did not label the work, and their thinking is difficult to follow. **2.** The student cannot write/verbalize his/her grouping pattern or the number of chaperones needed for the field trip. **3.** The student uses little or no math terms or symbols to explain their grouping of the students. **4.** The student has no system for tracking his/her groups.
Apprentice	**1.** The student understands that s/he needs to separate the 25 students into groups of 2, 3, & 4 students per group, but does not understand that they are looking for the least number of chaperones for the field trip.	**1.** The student can group the students, but the group sizes DO NOT add up to 25; or the groups are not in sizes of 2, 3, or 4. **2.** The student can correctly group the students to equal 25, but does not consider the least number of chaperones needed for the field trip. **Sample Strategies:** There are 5 groups of 5 (25).	**1.** The student has attempted to communicate his/her findings by labeling their work, but does not attempt to summarize their work by stating their final answer. **2.** The student can write/verbalize the student groupings clearly, but does not establish an accurate system for tracking his/her groups. **3.** The student uses some math terms or symbols to explain their groupings.
Practitioner	**PROFICIENCY:** The student understands that they can separate the 25 students into unequal groups of 2, 3, & 4 students in a group for the field trip and provide a chaperone for each group of students.	**PROFICIENCY:** The student can demonstrate one correct solution using manipulatives or pictures to separate the 25 students into 7 groups with each group having a chaperone. **Sample Strategies:** 7 Groups: 5 groups of 4, 1 group of 3, and 1 group of 2 **OR** 4 groups of 4 and 3 groups of 3.	**PROFICIENCY:** The student can represent his/her work in a clear, organized manner, and use appropriate math terms and symbols in his/her explanation of how they grouped the 25 students. The student can represent their student groups using manipulatives and/or drawings, has created an efficient system for tracking his/her student groups, and can verbally explain how they separated the 25 students into 7 groups with chaperones.
Expert	**1.** The student understands that they can separate the 25 students into unequal groups of 2, 3, & 4 students in a group for the field trip and provide a chaperone for each group of students. **2.** The student recognizes there may be alternate ways to group the students. **3.** The student can make a rule or generalization about the way s/he has grouped the students with the chaperones.	**1.** The student demonstrates more than one correct solution to the problem using manipulatives or pictures to separate the 25 students into 7 groups with each group having a chaperone. **2.** The student uses repeated addition, multiplication and or division in their strategy. **For example:** 5 groups X 4 = 20. **3.** The student can make a generalization about the groupings.	**1.** The student can represent his/her work in a clear, organized manner, and use appropriate math terms and symbols in his/her explanation of how they grouped the 25 students. **2.** The student represents their answer in a table or chart and can verbally (or in writing) describe how they grouped the students. **3.** The student includes a statement or generalization (verbal or written) about how they grouped the students and chaperones.