Phoenix's Cage Project

Group Member Names

PROBLEM:

Ms. Davidson really wants to bring Phoenix to school so you can enjoy him, but the cage he's in right now takes up way too much space for our small classroom. Can you design a new cage for him so he can come to school? It will take several steps to include research, drawing, and even revising, but he needs your help!

BEFORE YOU BEGIN:

Brainstorm below a list of things you will need to know about guinea pigs before you can design the cage.

RESEARCH:

Question: Did you know that most guinea pig cages you find at a pet store are too small for them? Find out how large of a cage Phoenix will need to be comfortable in his new home.

Answer:

Question: Do guinea pigs do better together or alone? If together, then how big of a cage would Phoenix need if Ms. Davidson bought him a friend? Two friends?

Answer:

RESEARCH:

Question: What are the behaviors of a guinea pig? Do they climb or hop out of their cages? Do they need tall walls or a roof? Find out.

Answer:

Question: What material should the cage walls be made out of? Find out.

Answer:

RESEARCH:

Question: What material should make up the bottom of the cage? Should it be solid or wired? Why?

Answer:

Question: Research any of the other questions your group brainstormed so you are sure to be a guinea pig cage architect expert!

Answer:

RESEARCH CONTINUED:

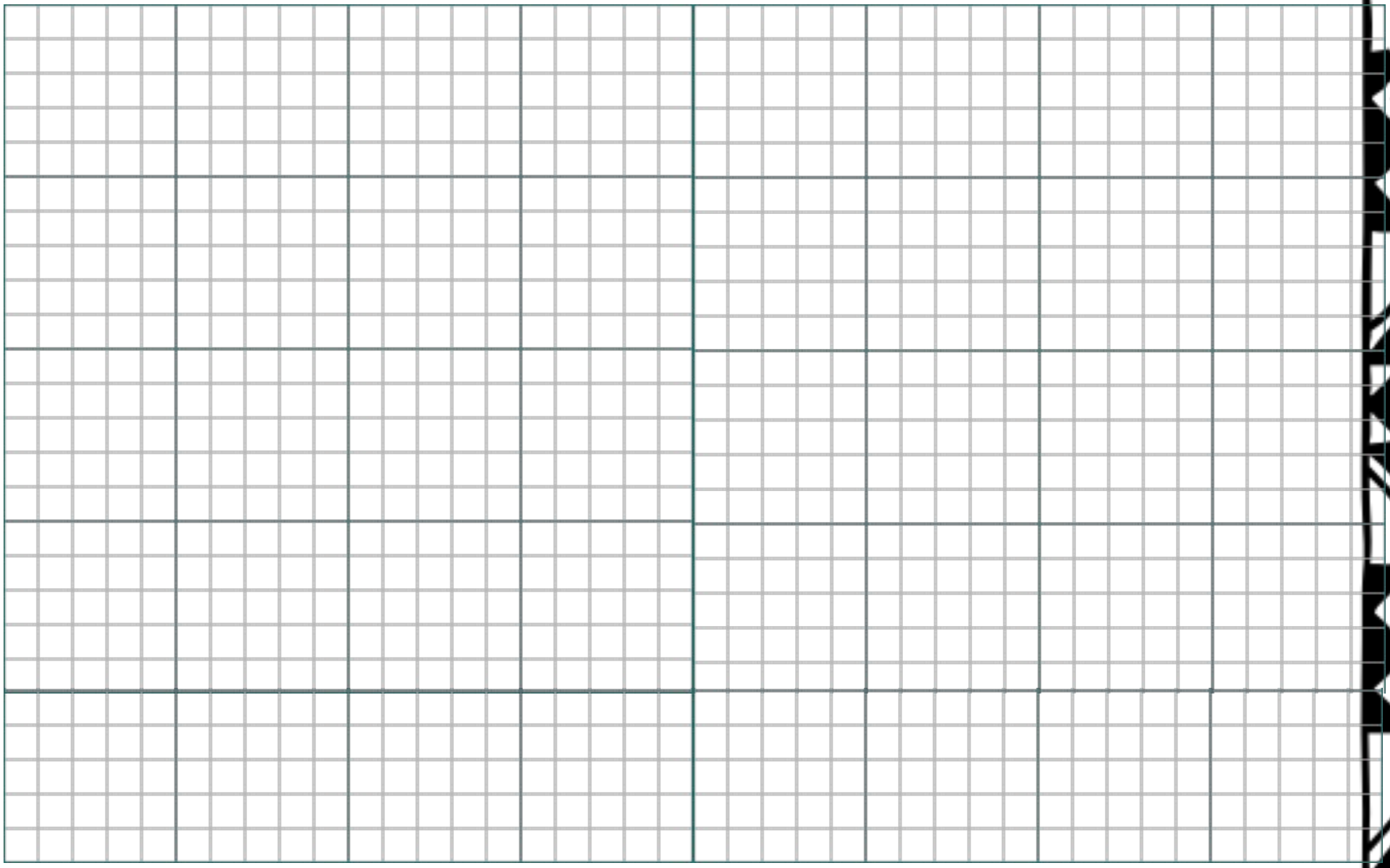
Spend some time looking at images of guinea pig cages.

What do you like about the cages you saw?

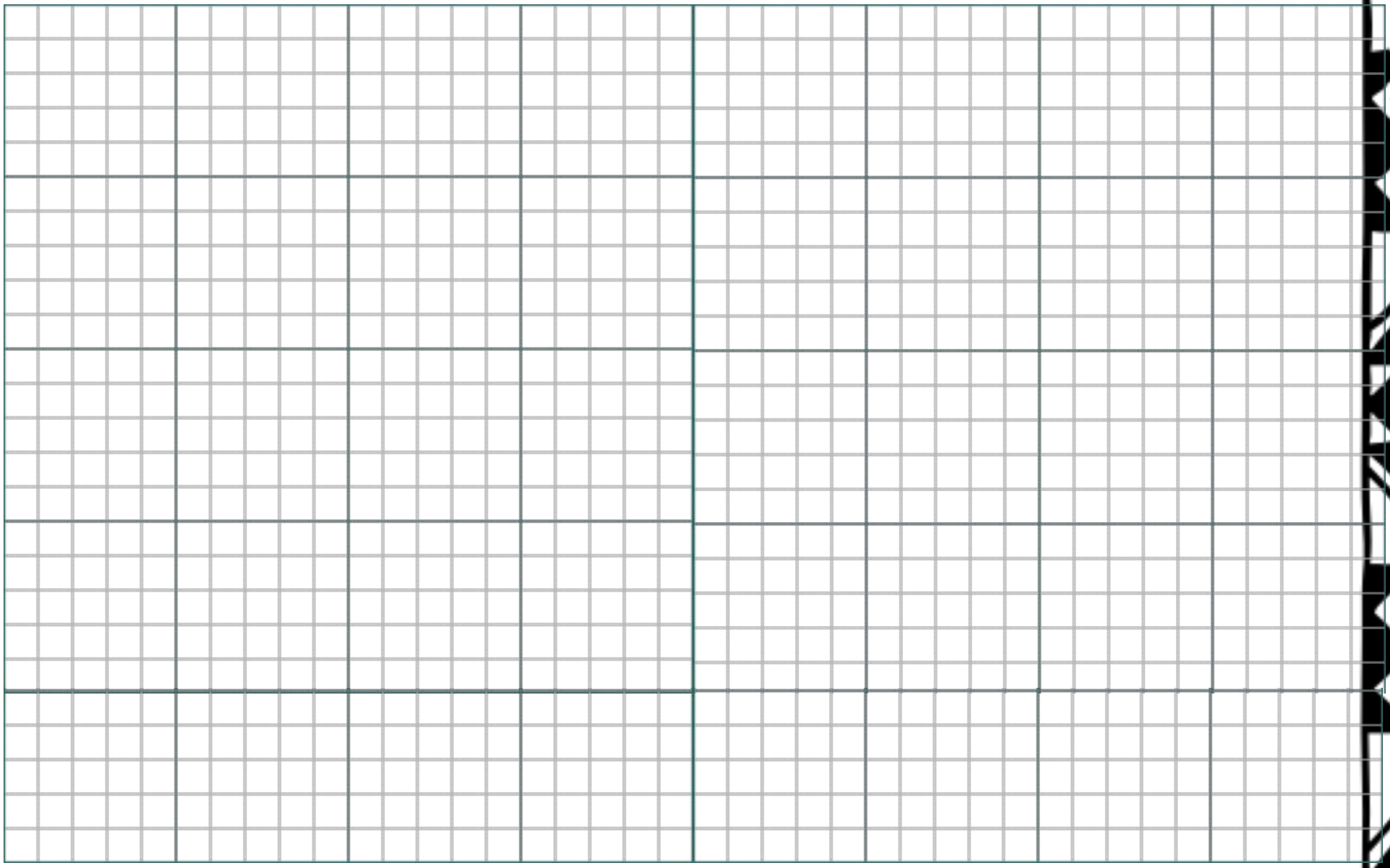
What do you not like about them?

SKETCH: Using your likes and dislikes, spend some time sketching ideas for the cage on a separate sheet of paper. When finished, share with your group and decide which ideas your group would like to use for the group's sketch on this paper.

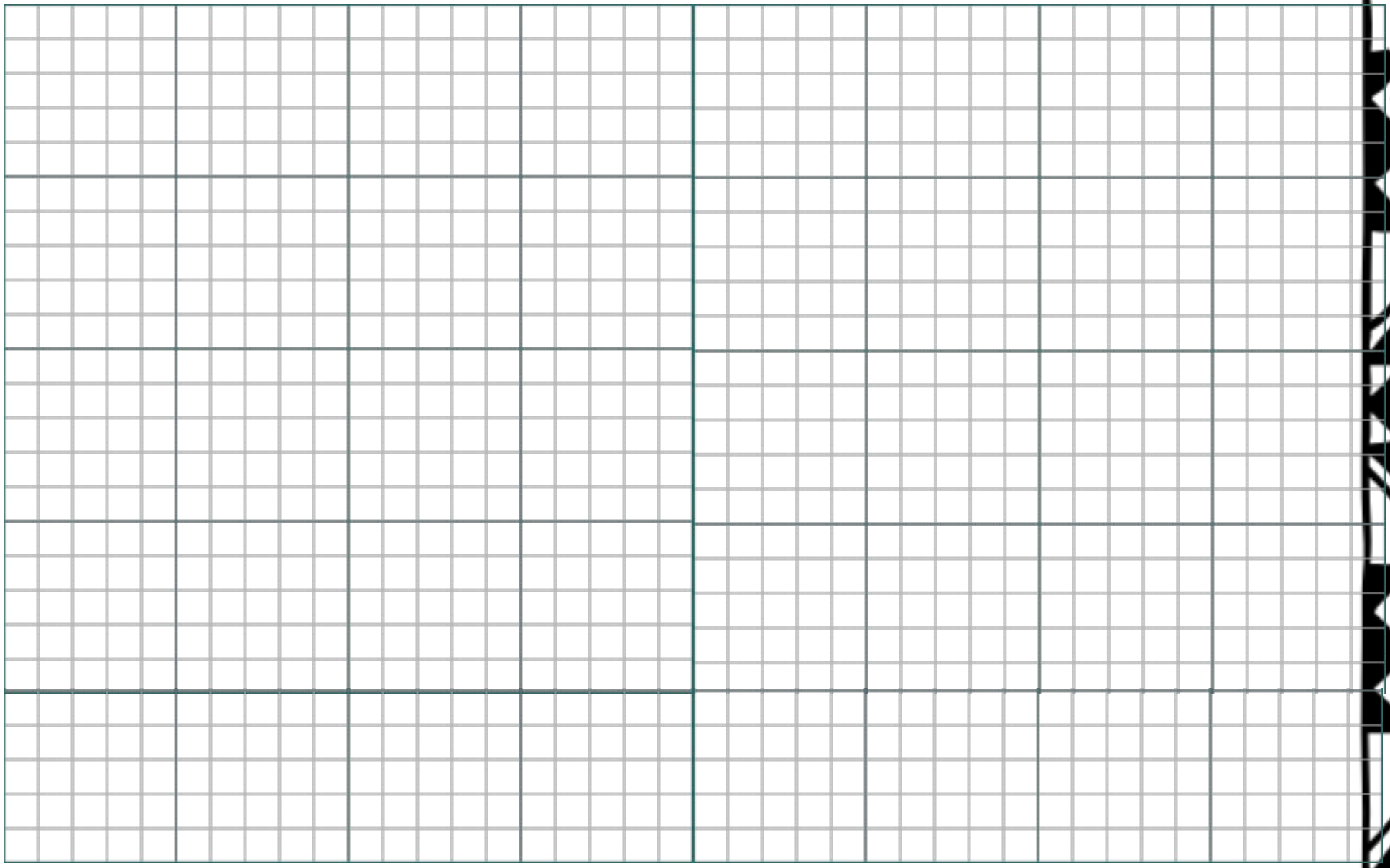
ROUGH DRAFT BLUEPRINT: Draw the floor with correct dimensions. (Hint: each square is one inch)



ROUGH DRAFT BLUEPRINT: Draw the walls with correct dimensions. (Hint: each square is one inch)



ROUGH DRAFT BLUEPRINT: Extra paper for extra walls, floor, and/or roof.



NEEDED MATERIALS: List the materials needed to build the cage.

If you haven't already, go back and include the length and number of each material needed.

MATERIAL COST: Go to www.lowes.com and find the cost for each material you listed on the previous page.

What is the total amount it will cost to build your cage? You may round each material to the nearest dollar.

Total:

Thank You

Thanks for helping me...now find out what else I'll need besides a home!!

Lesson Plan

Essential Question: How can we use our research, design, and math skills to design a guinea pig cage?

Standards:
3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100.
3.NBT.2 Fluently add and subtract within 1,000 using strategies and algorithmsG based on place value, properties of operations, and/or the relationship between addition and subtraction.3.MD.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

Active Engagement: Ms. Davidson really wants to bring Phoenix to school so you can enjoy him, but the cage he's in right now takes up way too much space for our small classroom. Can you design a new cage for him so he can come to school? It will take several steps to include research, drawing, and even revising, but he needs your help! Brainstorm a list of things you need to know about guinea pigs before starting your design.

Activity:
RESEARCH:
Question: Did you know that most guinea pig cages you find at a pet store are too small for them? Find out how large of a cage Phoenix will need to be comfortable in his new home.
Question: Do guinea pigs do better together or alone? If together, then how big of a cage would Phoenix need if Ms. Davidson bought him a friend? Two friends?
Question: What are the behaviors of a guinea pig? Do they climb or hop out of their cages? Do they need tall walls or a roof? Find out.
Question: What material should the cage walls be made out of? Find out.
Question: What material should make up the bottom of the cage? Should it be solid or wired? Why?
Question: Research any of the other questions your group brainstormed so you are sure to be a guinea pig cage architect expert!
Spend some time looking at images of guinea pig cages.

What do you like about the cages you saw?

What do you not like about them?

SKETCH: Using your likes and dislikes, spend some time sketching ideas for the cage on a separate sheet of paper. When finished, share with your group and decide which ideas your group would like to use for the group's sketch on this paper.

ROUGH DRAFT BLUEPRINT: Use grid paper to draw the floor with correct dimensions. (Hint:

each square is one inch)

NEEDED MATERIALS: List the materials needed to build the cage.If you haven't already, go back and include the length and number of each material needed.

MATERIAL COST: Go to www.lowes.com and find the cost for each material you listed on the previous page.
What is the total amount it will cost to build your cage? You may round each material to the nearest dollar.

Closing:Thanks for helping Phoenix get a new home...now find out what else he'll need besides a home!!