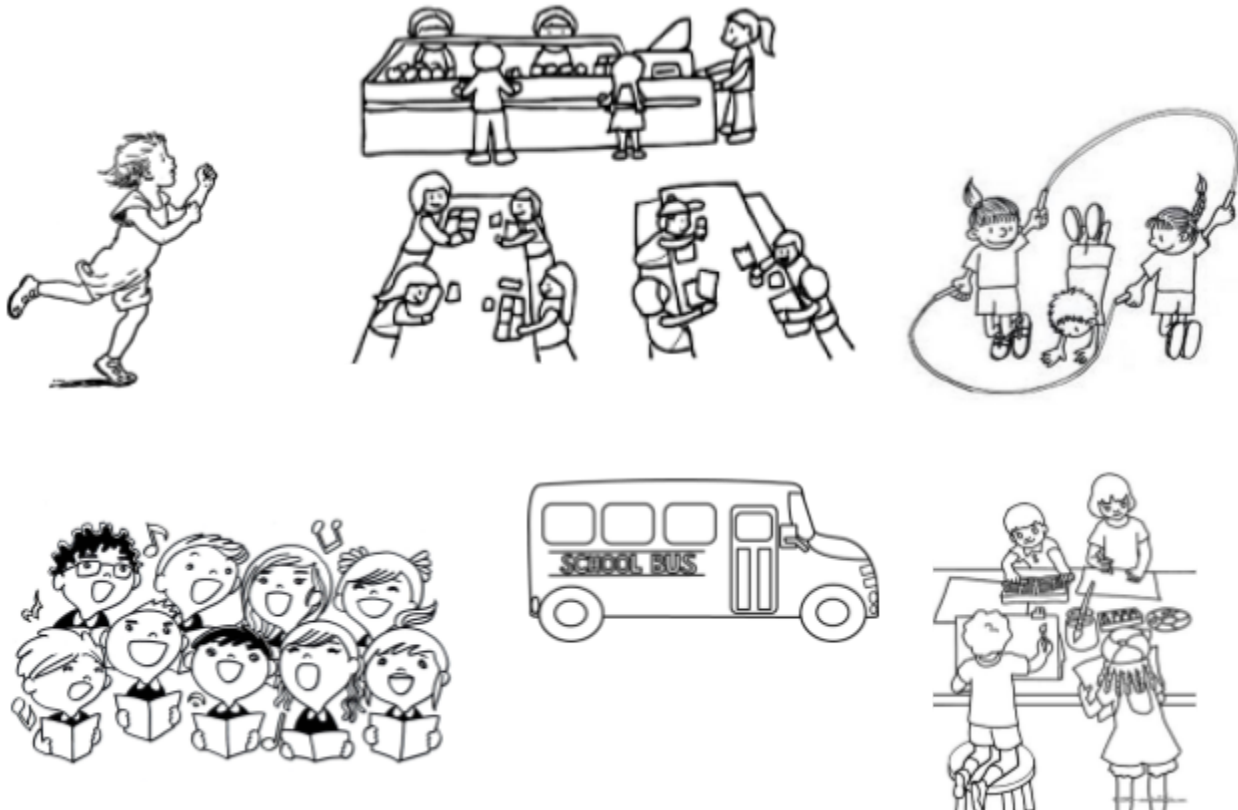


Noisy Places:

Finding Solutions to Noisy Problems in Our School Community

Name of Acoustical Engineer:



Part 1. Identify a Problem



1. Individual Brainstorm: *What are some noisy places around the school?*

Jot a list of places in and around your school you know are noisy places.
Circle any places where you think the noise is a big or important problem.



2. Team Compare: *What places do you have in common?*

Take turns reading your list of places in the box above.
If you hear a place you have also, put a check mark next to it.



3. Decide on the location and problem.

Discuss places you agree are noisy. What places are noisy? Is the noise level a problem? Decide on one place and problem you want to investigate as a team

We decided on...

Location:

Noise problem:



4. Get teacher feedback or approval.

Be prepared to tell your teacher about the problem you identified. If approved, move on to making a plan for your data collection. If not, your teacher will give you feedback you need to address as a team.

Part 2. Plan your Data Collection



1. Individual Brainstorm: *What data do you need related to this problem?*

Jot some ideas about what information you need about the problem. Will you need to measure the volume of the noise? Times of day? Interview some people?



2. Team Compare: *What data ideas do you have in common?*

Take turns reading your list of data collection ideas in the box above. If you hear a similar idea to what you wrote, put a check mark next to it.



3. Decide on the data you need to collect.

Discuss different kinds of data you need to collect and make a plan. Write down what you and your group decide in the box below.

<u>Data Source</u>	<u>When?</u>	<u>Materials needed</u>	<u>Why is this data important?</u>



4. Get teacher feedback or approval.

Be prepared to tell your teacher about your team's data collection plan. If approved, your teacher will tell you when to start data collection. If not, your teacher will give you feedback you need to address as a team.

Part 4. Identifying Potential Solutions



1. Individual Brainstorm: Look at the data from the noisy place you investigated in Part 3. *What are some possible solutions that would help reduce or stop the noisy in this place?* Jot as many different ideas as you can think of.



2. Team Compare: *What solution ideas do you have in common?*

Take turns reading your list of potential solutions in the box above. If you hear a similar idea to what you wrote, put a check mark next to it. If you hear an idea you like, have the person put a heart next to it.



3. Decide on one solution to try out.

Discuss different solutions. Make some compromises. Decide on one as a group to try out. Use the next sheet to sketch out your plan with more detail. Summarize what you and your group decide in the box below.

Our Solution:

Why or how do you think this solution will meet the criteria?

Materials needed:

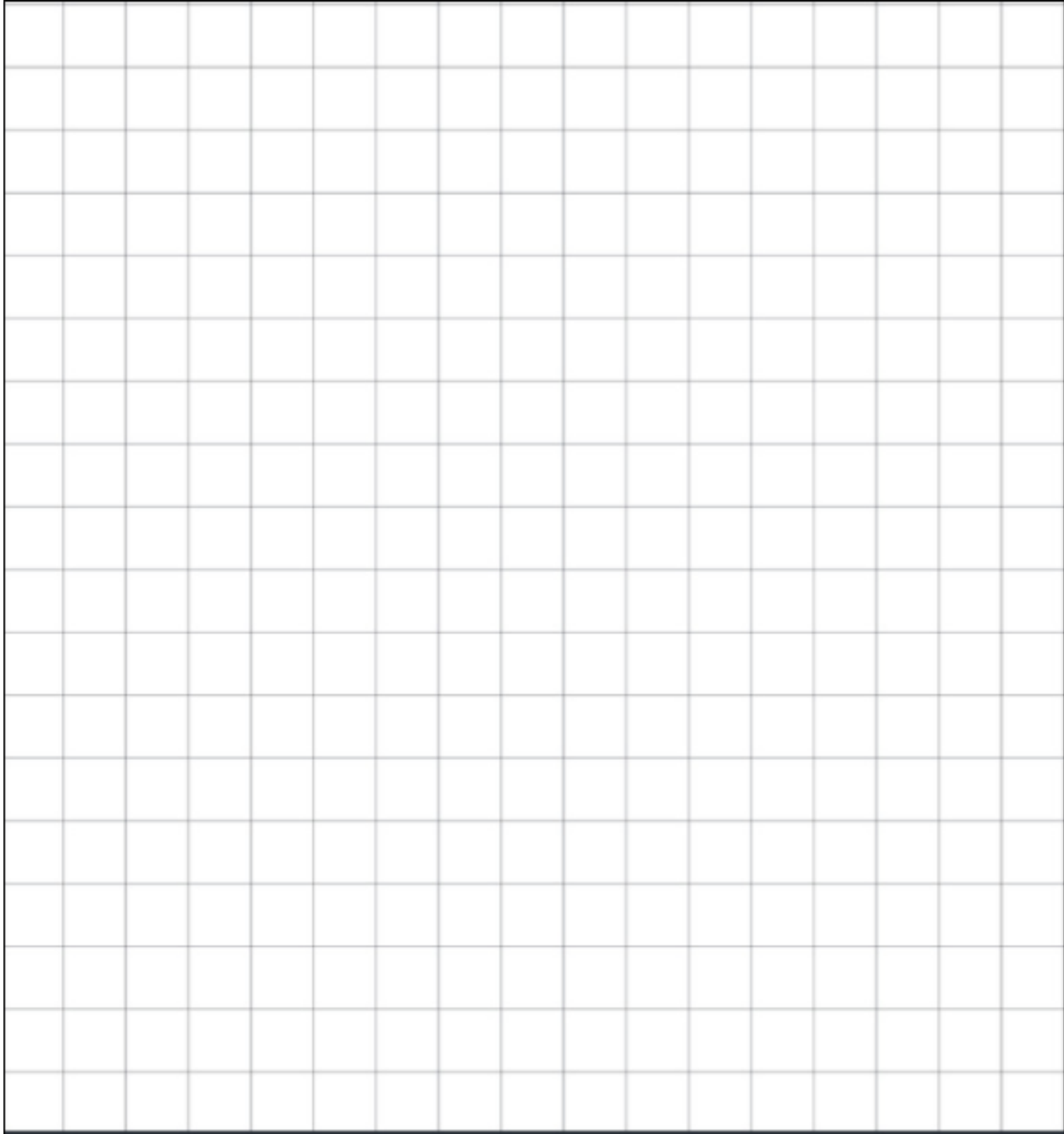


4. Get teacher feedback or approval.

Be prepared to tell your teacher about your team's proposed solution. If approved, your teacher will tell you when to start building your prototype. If not, your teacher will give you feedback you need to address as a team.

Part 4. Identifying Potential Solutions

Space to sketch, label, describe, and justify your team's solution you will build and test.



Why do you think this solution will be successful in reducing noise?

Use evidence to justify your claims.

Part 6. Evidence-based Proposal -- Notes Organizer

Describe the Problem: *What is the problem? Why is it a problem? For whom?*

Evidence for why this is a problem: *What data do you have to help describe the problem? What information do you have that says this noise level is a problem?*

Describe the Solution: *What solution did your team develop? Why did you think this solution should work? What evidence did you have that the materials or shapes you used would likely reduce sound?*

Evidence for why this solution works: *How well did the prototype work? What data do you have to support your claim?*

Next steps to improve the prototype: *What changes or improvements would you test next? What information or evidence do you have to support your proposed change?*