**![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\XSEQU1JE\scarecrow[1].gif]()Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\84BMP7ZJ\Scarecrow[1].png]()

**Sustainable**

**Scarecrows**

Group members: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\4R4MKK8P\questions[1].jpg]()![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\84BMP7ZJ\Cane-Detective[1].jpg]()**What is the Problem or the Need?**

What problem or need has led you to

design and build a scarecrow?

State the problem or need in your own words below:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\84BMP7ZJ\happy-pencil[1].png]()****![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\84BMP7ZJ\happy-pencil[1].png]()![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\84BMP7ZJ\happy-pencil[1].png]() **Draw and Label Your Individual Design**

![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\84BMP7ZJ\happy-pencil[1].png]()![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\84BMP7ZJ\happy-pencil[1].png]()![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\84BMP7ZJ\happy-pencil[1].png]()

![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\84BMP7ZJ\happy-pencil[1].png]()

I believe this is a good design for the need or problem because:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Design Criteria for Success**

 List the top 10 design decisions and design choices that will ensure your group’s scarecrow is a success!

Think about the materials and equipment you will need.

Remember to think about re-usable and recyclable products.

**TIP:**

 **A good scarecrow will be made from materials that:**

* Are re-usable and recyclable, and contribute to a more sustainable future
* Can move (turn, twist, fly in the wind)
* Make noise or sound
* Are reflective or shiny

**1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\84BMP7ZJ\happy-pencil[1].png]() Draw and Label Your Final Group Design**

 ![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\84BMP7ZJ\happy-pencil[1].png]()

We believe this is the best design for the need or problem because:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\XSEQU1JE\182629433[1].jpg]()![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\4R4MKK8P\Tools-spanner-hammer.svg[1].png]()**Materials and Tools Needed for Design**

**Materials**

**Tools**

![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\XSEQU1JE\182629433[1].jpg]()![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\4R4MKK8P\Tools-spanner-hammer.svg[1].png]()**Justification of Materials and Tools**

The materials were chosen for the final design because:

The tools/equipment were chosen for the final design because:

![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\84BMP7ZJ\vector_bubble_numbers_by_sedj-d4dvz0c[1].jpg]()**Sequence of Production Steps**

Use the flow diagram below to show the sequence of steps your group will take to build your scarecrow. You can write and/or draw your steps.

1.

2.

4.

3.

5.

6.

**![C:\Users\epuka1\AppData\Local\Microsoft\Windows\INetCache\IE\84BMP7ZJ\vector_bubble_numbers_by_sedj-d4dvz0c[1].jpg]() Sequence of Production Steps Continued (if you need more)…**

7.

8.

10.

9.

11.

12.

**Evaluate Your Scarecrow**

Was your group’s scarecrow successful in meeting the need or the problem? Observe your scarecrow and explain your group’s results.

Was your group’s scarecrow successful in meeting the need or the problem? Observe your scarecrow and explain your group’s results.

What design decisions and design choices were good about your design? How well did you follow your design criteria for success to produce your final product?

Was your group’s scarecrow successful in meeting the need or the problem? Observe your scarecrow and explain your group’s results.

What would you do differently if you were designing your scarecrow again and why?