STEM
Student packet

Name _____

Section _____

STEM Vocabulary

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12.

STEM Title:

Building Background Knowledge **Working Packet**

Directions: * *Either Watch video, read article, etc. and then respond by answering questions.*

1. Watch Discovery Education Videos "DEmystified Storms", "Violent Weather", and "Preparing an Emergency Kit"
2. Participate in Lesson "SFL Severe Weather PPT"
3. Watch video DIY Water Filter DEMO Video

Respond

1. What did you learn from discover education videos we watched?

2. What did you learn from the powerpoint?

3. How will the DEMO video help you design your water filter?

STEM Title -

Research **Working Packet**

Group #_____ **Section: _____**
Student Name: _____
Partner's Name: _____
_____

Challenge: Design and test a water filtration system with a minimum of four layers that on average reduces the TDS reading of water from an initial reading of 200 ppm or higher to a maximum of 150 ppm.

Research

Research different DIY Water filters, the best materials to use, and how to layer the materials. Insert pictures and links.

Group #_____ **Section: _____**

STEM Title -

Research **Working Packet**

Group #_____ **Section: _____**
Student Name: _____
Partner's Name: _____
_____

Research Question

Why is access to clean water critical during a natural disaster, and how can engineering solutions help families prepare?

Student Name: _____
Partner's Name: _____
_____

Give your filter a name:

_____

Design the Prototype

(Create a labeled diagram of your prototype.)

Materials

Group #_____ **Section: _____**

Student Name: _____

Partner's Name: _____

_____

Test your Prototype - Collect your Data

Group #_____ **Section: _____**
Student Name: _____
Partner's Name: _____
_____

Improve the Prototype

(Re-design your Prototype. Create a labeled diagram of your improved prototype.)

Materials

Group #_____ **Section: _____**
Student Name: _____
Partner's Name: _____
_____

Reflection Questions

1. In what way did you improve your prototype?

2. Do you expect the improved prototype to pass the challenge? Why?

3. What did you learn? Discuss your success or lack of success and reasons for it.

Make a Powerpoint – Use *(Microsoft Powerpoint or Google Slides to create a* presentation following the instructions below.
Share the presentation on Seesaw.

Instructions: Students will use technology to present their STEM Water Filter, create a product that answers the research question, and communicates their findings.
Answer the following questions

1. What was the title of your project?
2. What was your project about?
3. What were your findings during the research?
4. Answer "Why is access to clean water critical during a natural disaster, and how can engineering solutions help families prepare?"
5. Which materials did you use from the available ones?
6. Did your prototype pass the challenge?
7. Why did your prototype pass or did not pass the challenge? If NO, what changes did you make to your prototype? Did it pass the challenge after you improved it?
8. Add pictures and video that you recorded during the project in your presentation.