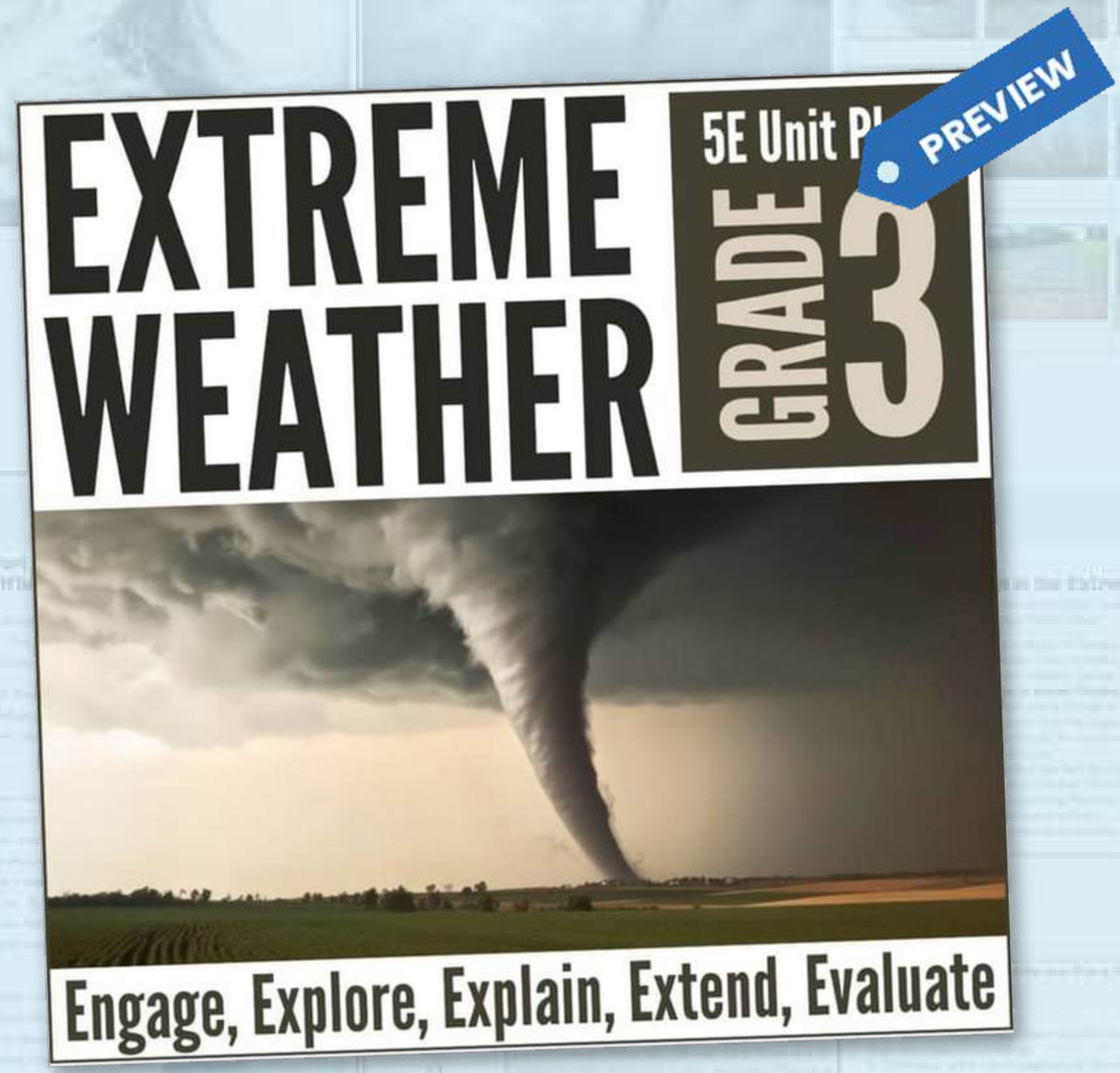


3RD GRADE

A Complete 5E Science Unit with Lesson Plans

EXTREME WEATHER

Engage, Explore, Explain, Extend, Evaluate

NGSS 3-ESS3-1

KEEP SCROLLING TO SEE WHAT'S INSIDE!

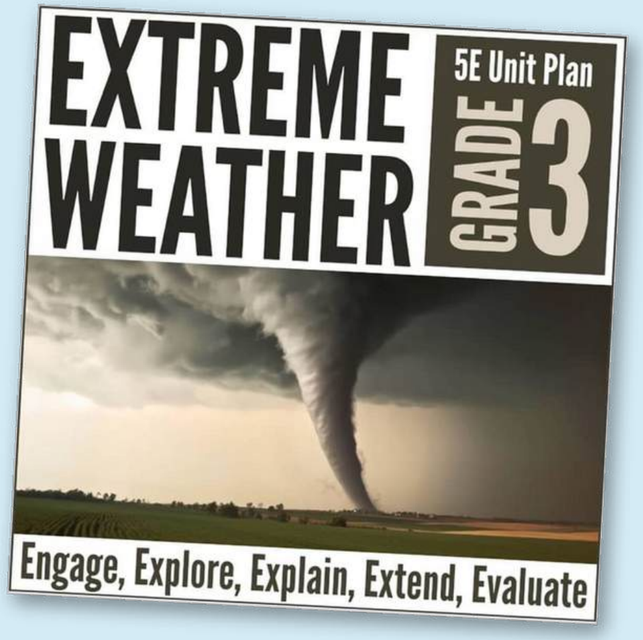
WHAT'S INCLUDED

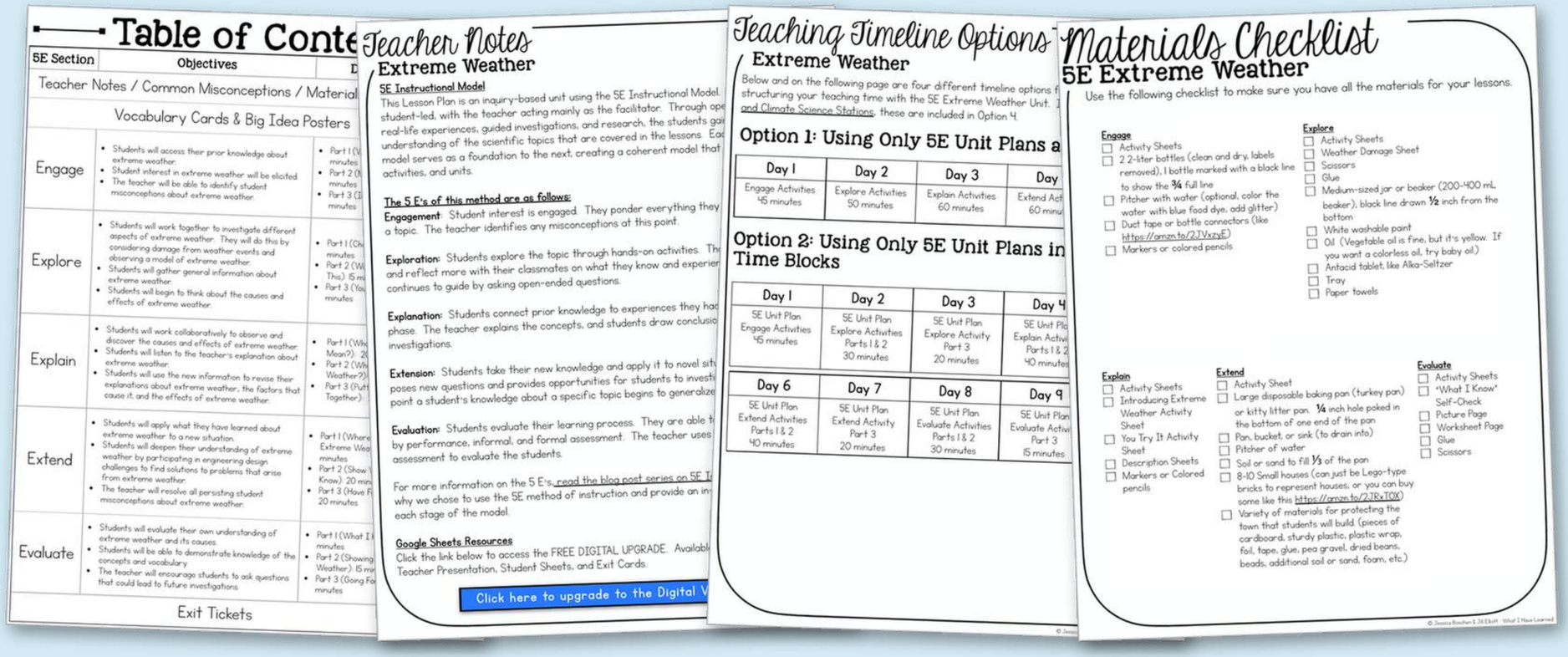
5E EXTREME WEATHER UNIT

- 300+ Page 5E Unit Plan
- Lesson Plans for All 5 Phases
- Teacher Notes and Misconceptions
- Materials Checklist and 4 Timelines
- Hands-On Weather Investigations
- Reading Passages on Extreme Weather
- Vocabulary Cards and Big Idea Posters
- Exit Tickets in 3 Formats
- Performance Assessment
- Answer Keys for Student Pages
- Google Slides and Google Forms Versions



UNIT AT A GLANCE

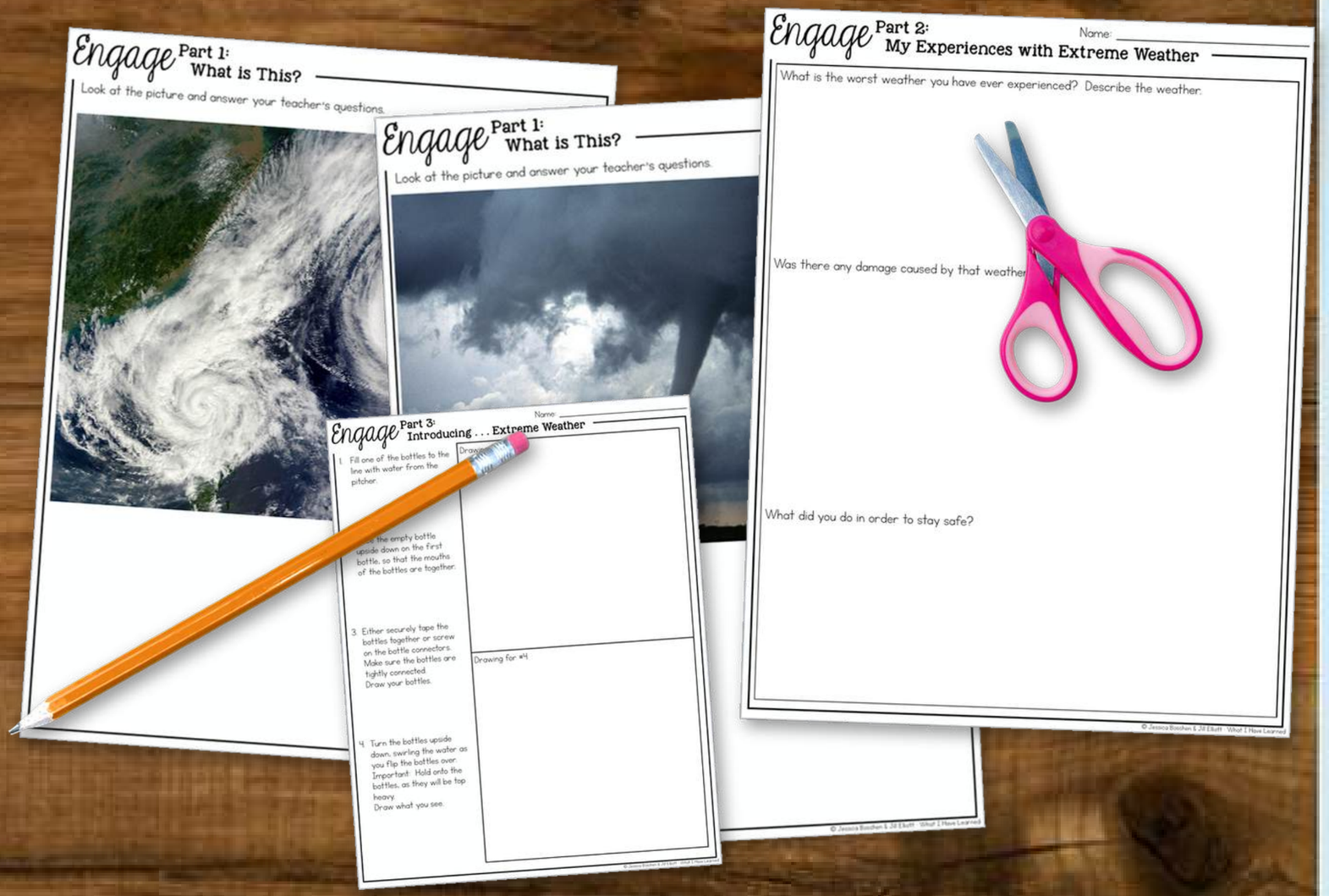




- Students build a tornado in a bottle, model a snowstorm, and design flood protection.
- Teacher background, lesson plans, and student pages in every phase.
- Aligned to NGSS 3-ESS3-1.

Table of Contents | **Teacher Notes** | **Timeline Options** | **Materials Checklist**

ENGAGE



Teacher background, lesson plans, student pages, and answer key

E E E E E

Spark curiosity with a tornado in a bottle

1 What Is This?

Students look at pictures of a hurricane and a tornado and answer questions about them.

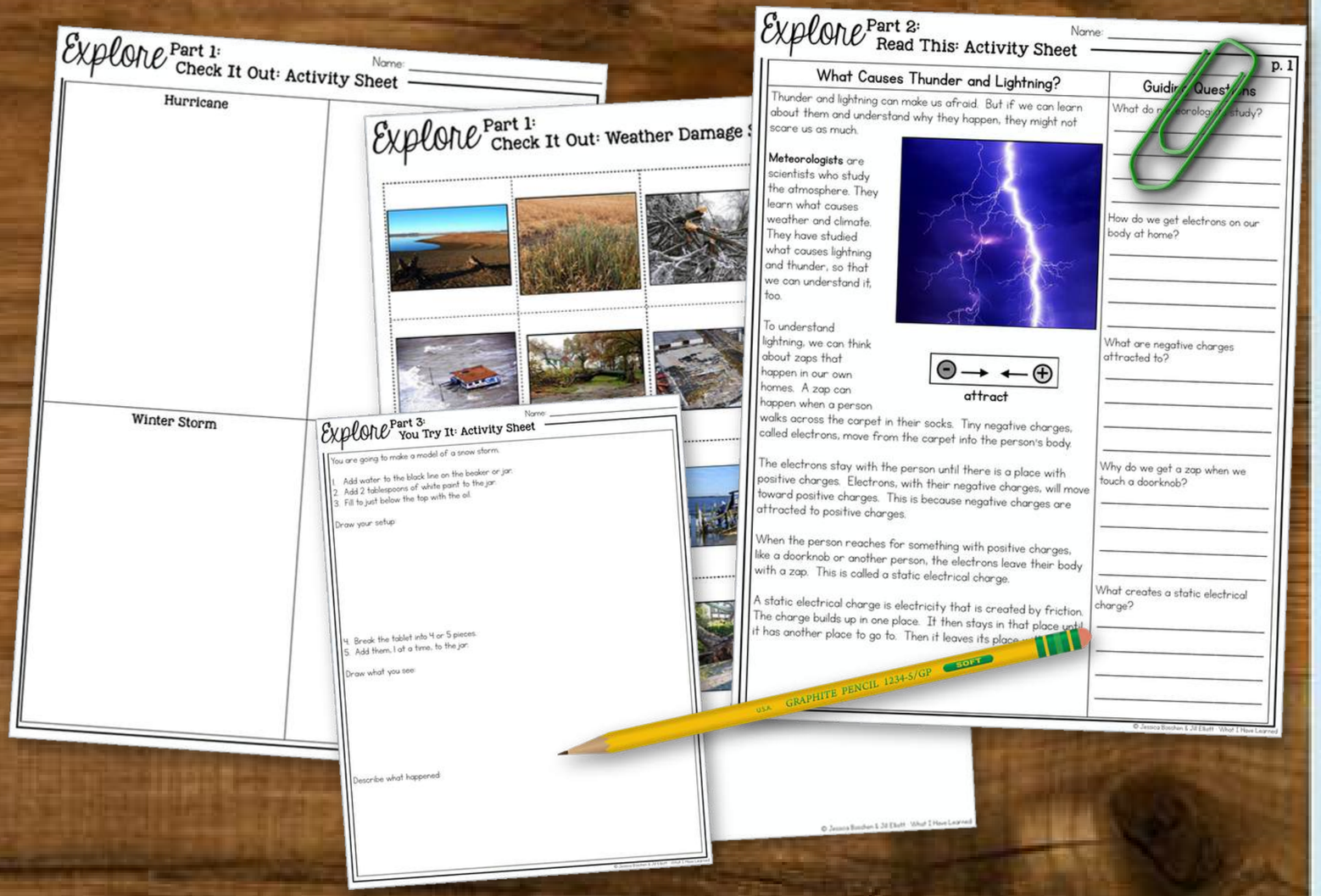
2 My Experiences

Students describe the worst weather they have experienced and how they stayed safe.

3 Introducing Extreme Weather

Students connect two bottles with water to model a tornado and draw what they see.

EXPLORE



Teacher background, lesson plans, student pages, and answer key

E E E E E

Investigate extreme weather and its damage

1 Check It Out

Students match damage pictures to a hurricane, tornado, winter storm, or drought.

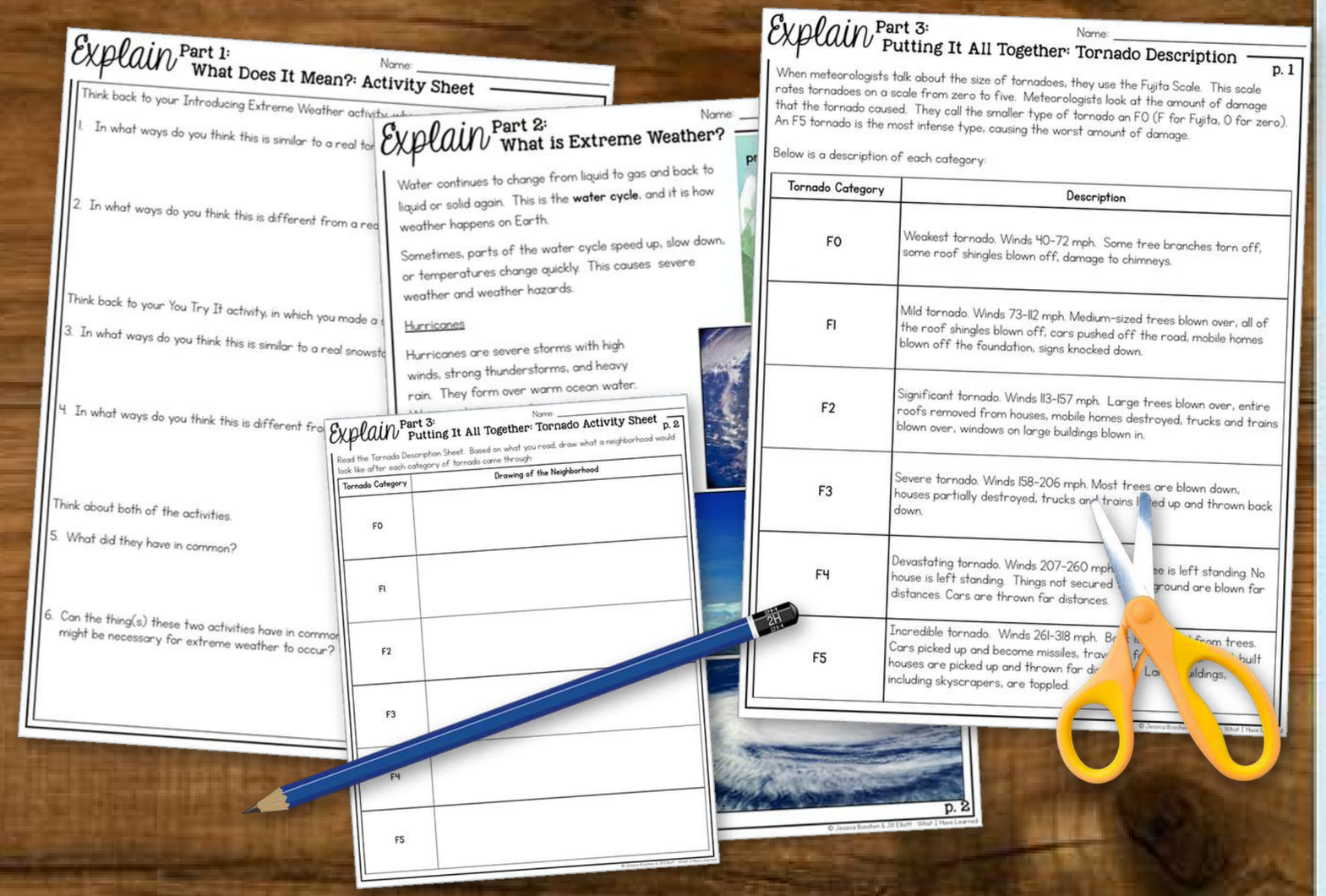
2 Watch and Read This

Students read what causes thunder and lightning.

3 You Try It

Students make a model snowstorm with oil, white paint, and an antacid tablet.

EXPLAIN



Teacher background, lesson plans, student pages, and answer key

E E E E E

Build explanations from evidence

1 What Does It Mean?

Students compare their tornado bottle and snowstorm jar to the real thing.

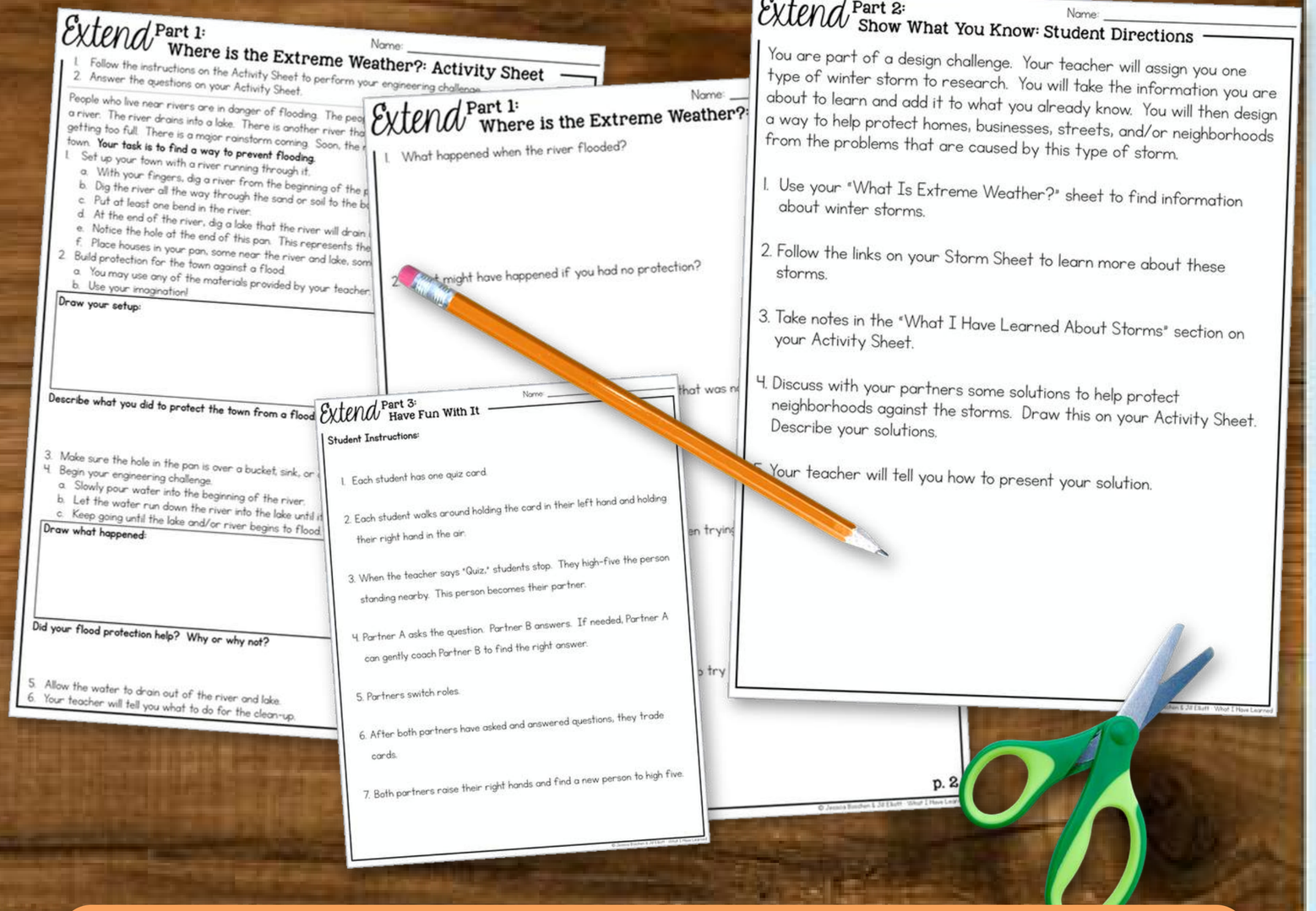
2 What Is Extreme Weather?

Students read how the water cycle and temperature changes cause extreme weather.

3 Putting It All Together

Students use the Fujita Scale to draw a neighborhood after each category of tornado.

EXTEND



Teacher background, lesson plans, student pages, and answer key

E E E E E

Solve problems caused by extreme weather

1 **Where Is the Extreme Weather?**

Students build flood protection for a model town in a pan.

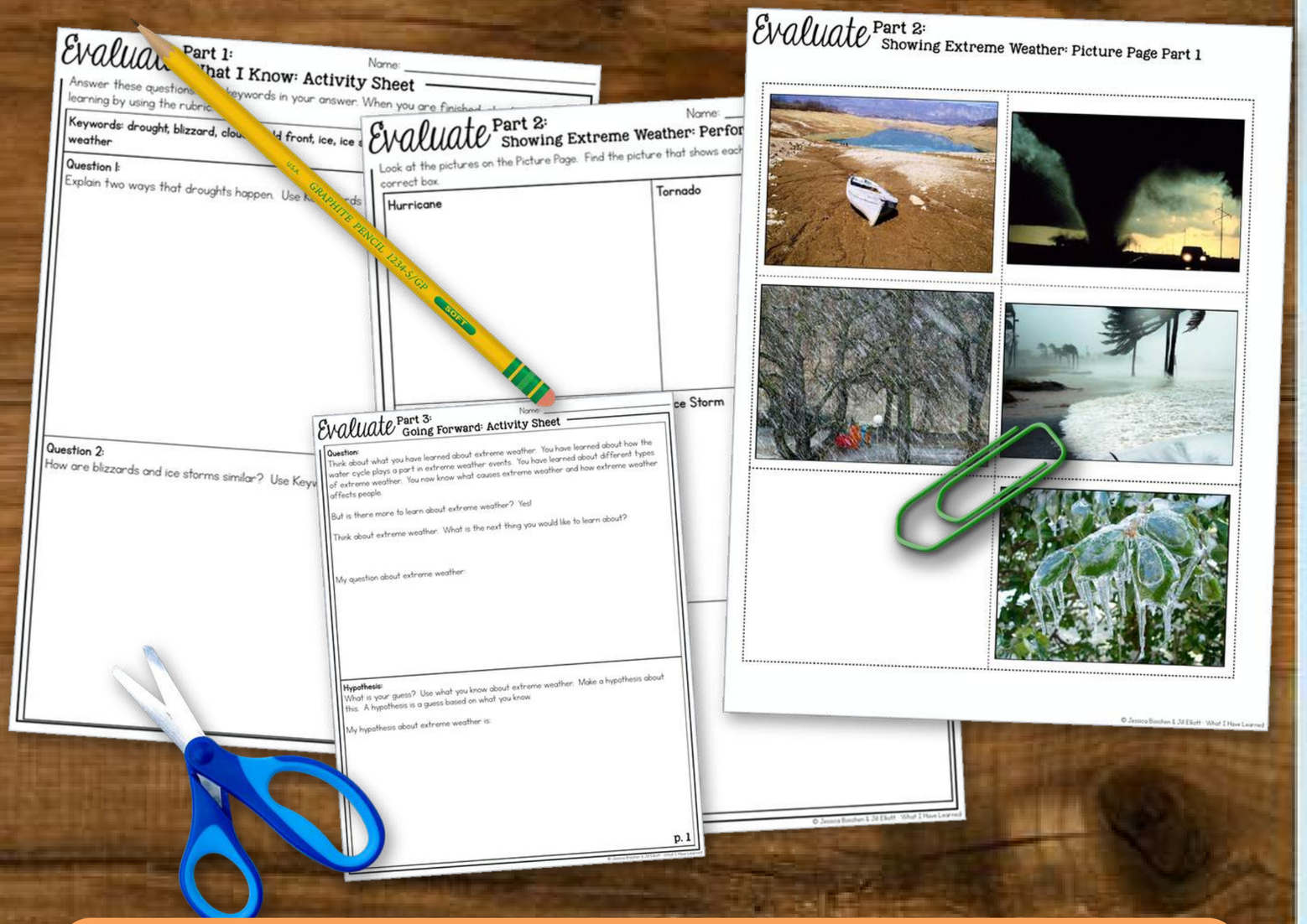
2 **Show What You Know**

Students research a winter storm and design a way to protect a neighborhood.

3 **Have Fun With It**

Students trade quiz cards with partners in a game of Quiz-Quiz-Trade.

EVALUATE



Teacher background, lesson plans, student pages, and answer key

E E E E E

Check understanding with evidence

1 What I Know

Students use key words to explain droughts and compare blizzards and ice storms, then score themselves.

2 Showing Extreme Weather

Students sort pictures of hurricanes, tornadoes, blizzards, ice storms, and droughts.

3 Going Forward

Students write a new question and hypothesis about extreme weather.

VOCABULARY, POSTERS & EXIT TICKETS

VOCABULARY CARDS



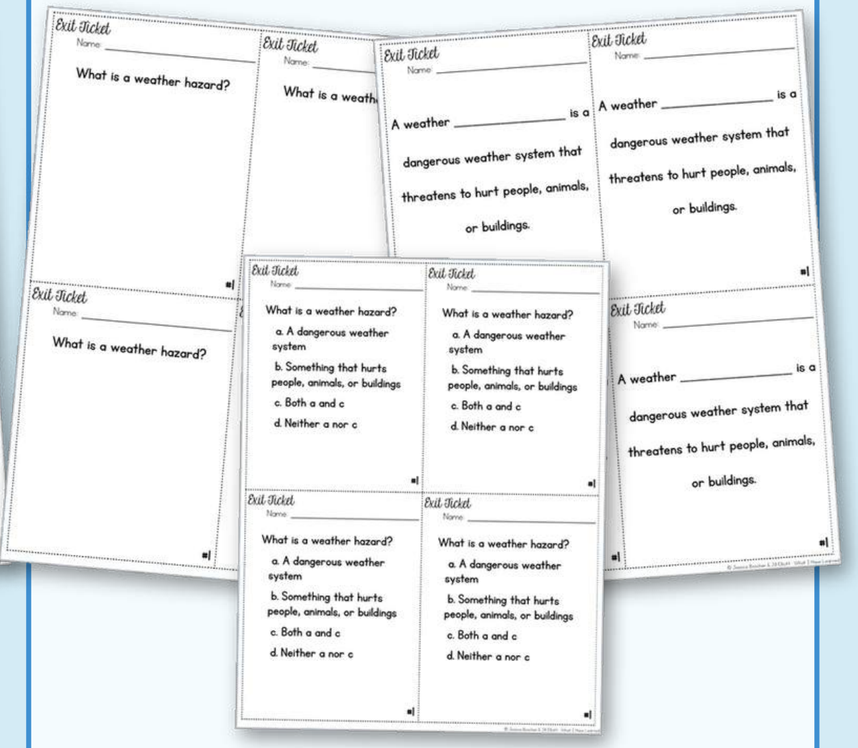
Picture cards and word cards for weather hazard, lightning, meteorology, and more.

BIG IDEA POSTERS



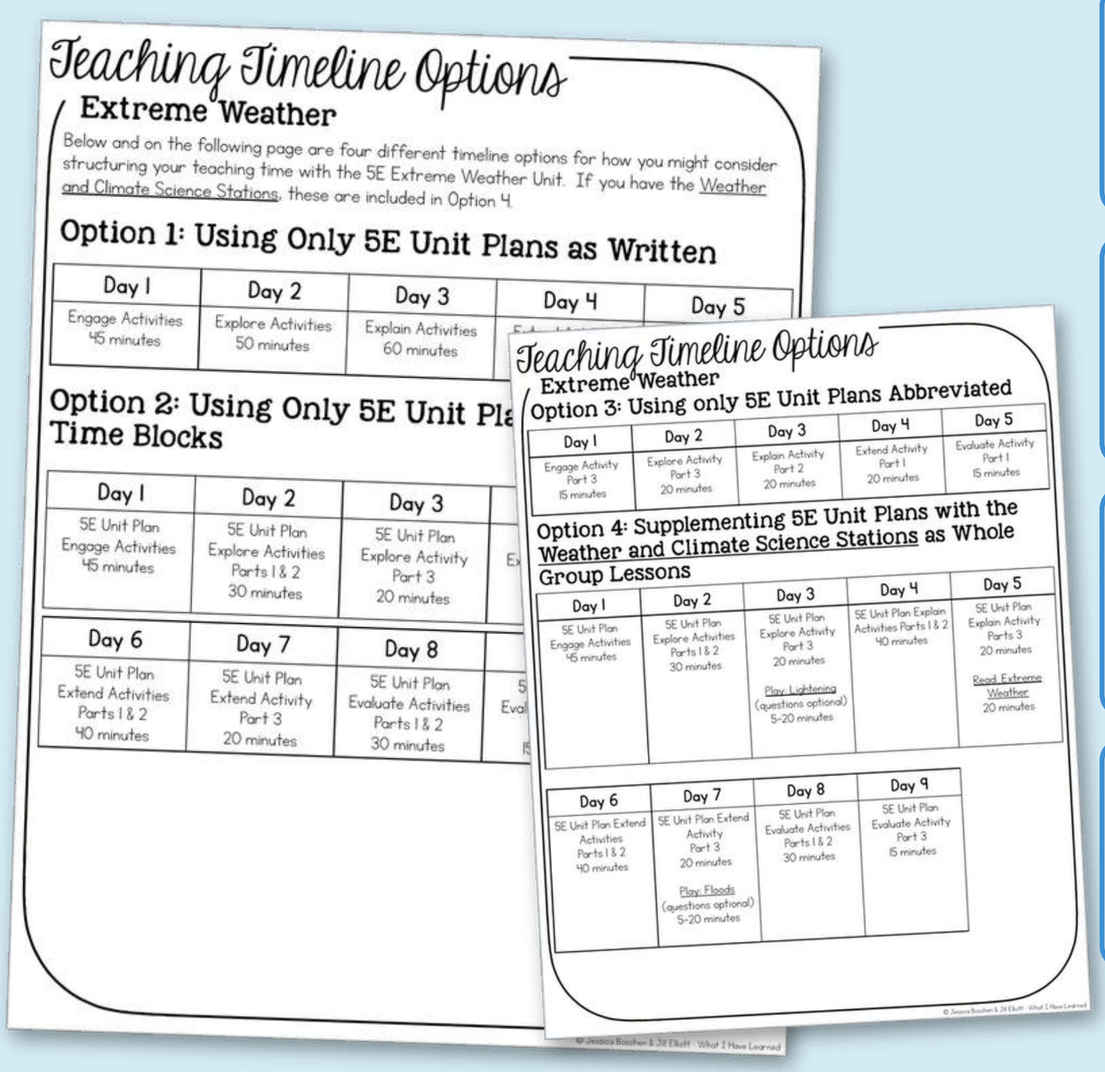
Five posters on extreme weather, winter storms, and storm surges.

EXIT TICKETS



23 exit tickets, each in short answer, fill-in-the-blank, and multiple choice formats.

WAYS TO USE IN YOUR CLASSROOM



Teaching Timeline Options

Extreme Weather

Below and on the following page are four different timeline options for how you might consider structuring your teaching time with the 5E Extreme Weather Unit. If you have the Weather and Climate Science Stations, these are included in Option 4.

Option 1: Using Only 5E Unit Plans as Written

Day 1	Day 2	Day 3	Day 4	Day 5
Engage Activities 45 minutes	Explore Activities 50 minutes	Explain Activities 60 minutes		

Option 2: Using Only 5E Unit Pla
Time Blocks

Day 1	Day 2	Day 3	
5E Unit Plan Engage Activities 45 minutes	5E Unit Plan Explore Activities Parts 1 & 2 30 minutes	5E Unit Plan Explore Activity Part 3 20 minutes	Ex

Day 6	Day 7	Day 8	
5E Unit Plan Extend Activities Parts 1 & 2 40 minutes	5E Unit Plan Extend Activity Part 3 20 minutes	5E Unit Plan Evaluate Activities Parts 1 & 2 30 minutes	Eval

Teaching Timeline Options

Extreme Weather

Option 3: Using only 5E Unit Plans Abbreviated

Day 1	Day 2	Day 3	Day 4	Day 5
Engage Activity Part 3 15 minutes	Explore Activity Part 3 20 minutes	Explain Activity Part 2 20 minutes	Extend Activity Part 1 20 minutes	Evaluate Activity Part 1 15 minutes

Option 4: Supplementing 5E Unit Plans with the Weather and Climate Science Stations as Whole Group Lessons

Day 1	Day 2	Day 3	Day 4	Day 5
5E Unit Plan Engage Activities 45 minutes	5E Unit Plan Explore Activities Parts 1 & 2 30 minutes	5E Unit Plan Explore Activity Part 3 20 minutes Play: Lightening (questions optional) 5-20 minutes	5E Unit Plan Explain Activities Parts 1 & 2 40 minutes	5E Unit Plan Explain Activity Parts 3 20 minutes Read: Extreme Weather 20 minutes

Day 6	Day 7	Day 8	Day 9
5E Unit Plan Extend Activities Parts 1 & 2 40 minutes	5E Unit Plan Extend Activity Part 3 20 minutes Play: Floods (questions optional) 5-20 minutes	5E Unit Plan Evaluate Activities Parts 1 & 2 30 minutes	5E Unit Plan Evaluate Activity Part 3 15 minutes

© Jessica Boschen & Jill Elliott · What I Have Learned

1 Whole-Class 5E Unit

Teach one phase a day over 5 days as written, with 45 to 60 minutes per phase.

2 Shorter Science Blocks

Spread the unit across 9 days in shorter time blocks when science minutes are limited.

3 Alongside Science Stations

Add the Weather and Climate Science Stations for a 9-day plan.

4 Formative Checks

Use the exit tickets throughout the unit to see who needs reteaching before the performance activity.

TEACHING TIMELINE OPTIONS

Option 1 — 5 days
As Written

Day 1	Day 2	Day 3	Day 4	Day 5
Engage	**Explore**	**Explain**	**Extend**	**Evaluate**
45 min	50 min	60 min	60 min	45 min

Option 2 — 9 days
Shorter Time Blocks

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
Engage	**Explore 1-2**	**Explore 3**	**Explain 1-2**	**Explain 3**	**Extend 1-2**	**Extend 3**	**Evaluate 1-2**	**Evaluate 3**
45 min	30 min	20 min	40 min	20 min	40 min	20 min	30 min	15 min

Option 3 — 5 days
Abbreviated

Day 1	Day 2	Day 3	Day 4	Day 5
Engage 3	**Explore 3**	**Explain 2**	**Extend 1**	**Evaluate 1**
15 min	20 min	20 min	20 min	15 min

Option 4 — 9 days
With Science Stations

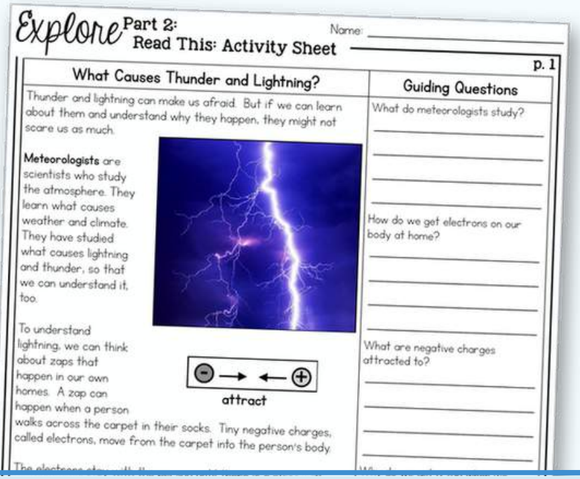
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
Engage	**Explore 1-2**	**Explore 3**	**Explain 1-2**	**Explain 3**	**Extend 1-2**	**Extend 3**	**Evaluate 1-2**	**Evaluate 3**
45 min	30 min	20 min +5-20 station	40 min	20 min +20 station	40 min	20 min +5-20 station	30 min	15 min

Orange days are Science Station lessons. Magenta notes are extra station activities you can add that day.

YOU WILL LOVE THIS BECAUSE

Hands-On From Day One

Students build a tornado in a bottle and a model snowstorm, so extreme weather makes sense.


Explore Part 2: Read This: Activity Sheet

Name: _____

p. 1

What Causes Thunder and Lightning?

Thunder and lightning can make us afraid. But if we can learn about them and understand why they happen, they might not scare us as much.

Meteorologists are scientists who study the atmosphere. They learn what causes weather and climate. They have studied what causes lightning and thunder, so that we can understand it, too.

attract

To understand lightning, we can think about zaps that happen in our own homes. A zap can happen when a person walks across the carpet in their socks. Tiny negative charges, called electrons, move from the carpet into the person's body.

Guiding Questions

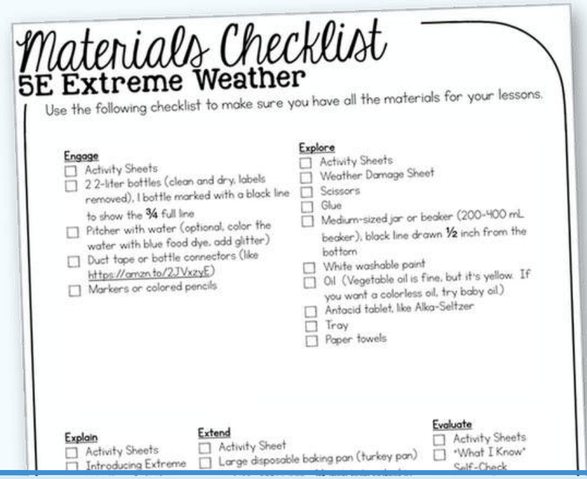
What do meteorologists study?

How do we get electrons on our body at home?

What are negative charges attracted to?

Planned and Ready to Teach

Teacher notes, a misconceptions guide, a materials checklist, and answer keys are done for you.


Materials Checklist

5E Extreme Weather

Use the following checklist to make sure you have all the materials for your lessons.

Engage
- ☐ Activity Sheets
- ☐ 2 2-liter bottles (clean and dry, labels removed), 1 bottle marked with a black line to show the ¾ full line
- ☐ Pitcher with water (optional, color the water with blue food dye, add glitter)
- ☐ Duct tape or bottle connectors (like https://amzn.to/2JVxzyE)
- ☐ Markers or colored pencils

Explore
- ☐ Activity Sheets
- ☐ Weather Damage Sheet
- ☐ Scissors
- ☐ Glue
- ☐ Medium-sized jar or beaker (200-400 mL beaker), black line drawn ½ inch from the bottom
- ☐ White washable paint
- ☐ Oil (Vegetable oil is fine, but it's yellow. If you want a colorless oil, try baby oil.)
- ☐ Antacid tablet, like Alka-Seltzer
- ☐ Tray
- ☐ Paper towels

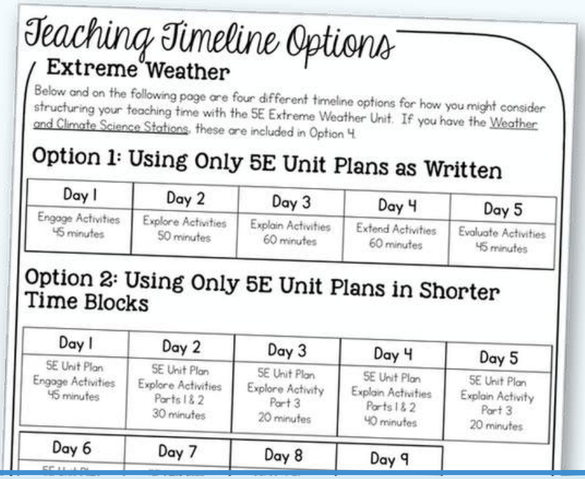
Explain
- ☐ Activity Sheets
- ☐ Introducing Extreme

Extend
- ☐ Activity Sheet
- ☐ Large disposable baking pan (turkey pan)

Evaluate
- ☐ Activity Sheets
- ☐ "What I Know" Self-Check

Fits Your Schedule

Choose from 4 timeline options, and use the Google Slides and Google Forms versions for a print or digital classroom.


Teaching Timeline Options

Extreme Weather

Below and on the following page are four different timeline options for how you might consider structuring your teaching time with the 5E Extreme Weather Unit. If you have the Weather and Climate Science Stations, these are included in Option 4.

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Day 1	Day 2	Day 3	Day 4	Day 5
Engage Activities 45 minutes	Explore Activities 50 minutes	Explain Activities 60 minutes	Extend Activities 60 minutes	Evaluate Activities 45 minutes

Option 2: Using Only 5E Unit Plans in Shorter Time Blocks

Day 1	Day 2	Day 3	Day 4	Day 5
5E Unit Plan Engage Activities 45 minutes	5E Unit Plan Explore Activities Parts 1 & 2 30 minutes	5E Unit Plan Explore Activity Part 3 20 minutes	5E Unit Plan Explain Activities Parts 1 & 2 40 minutes	5E Unit Plan Explain Activity Part 3 20 minutes
Day 6	Day 7	Day 8	Day 9	

TEACHERS LOVE IT!

★★★★★

I am a huge fan of this Extreme Weather unit! My students really enjoyed it and the lesson plans are easy to follow.

Laura P.

★★★★★

Great resource for our research on extreme weather and natural disasters!

Abigail W.

★★★★★

It was so easy for the teachers to follow. Great resource!

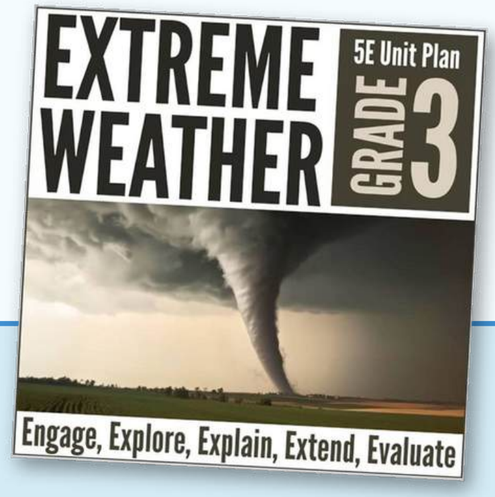
3rd Rock-Lab From The Sun





READY FOR YOUR CLASSROOM

- **Instant digital download**
- **Print and use the activities**
- **Google Slides and Forms versions**

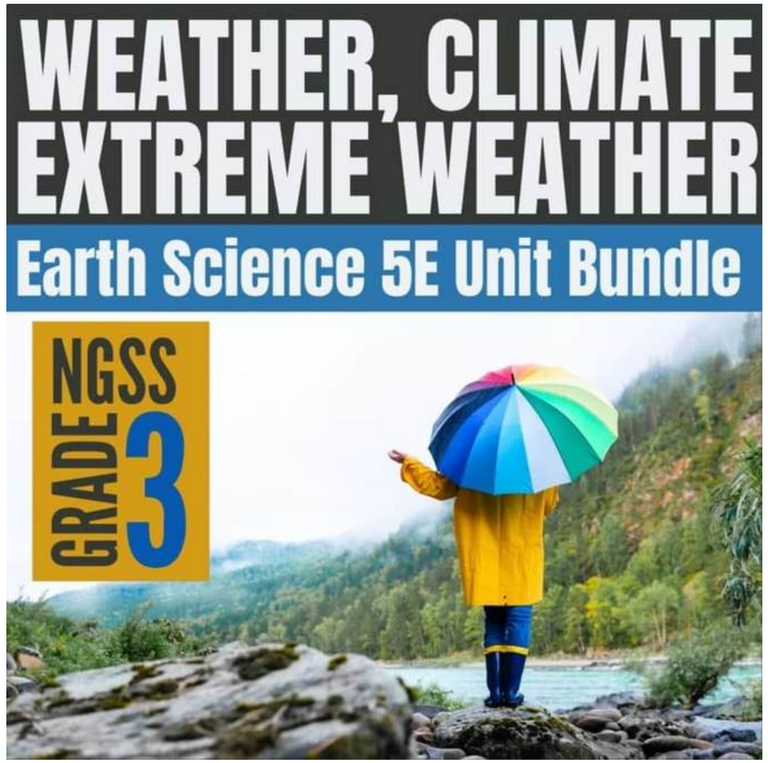


WANT MORE 3RD GRADE 5E UNITS?

Save with a topic bundle or the full-year bundle.

TOPIC BUNDLE

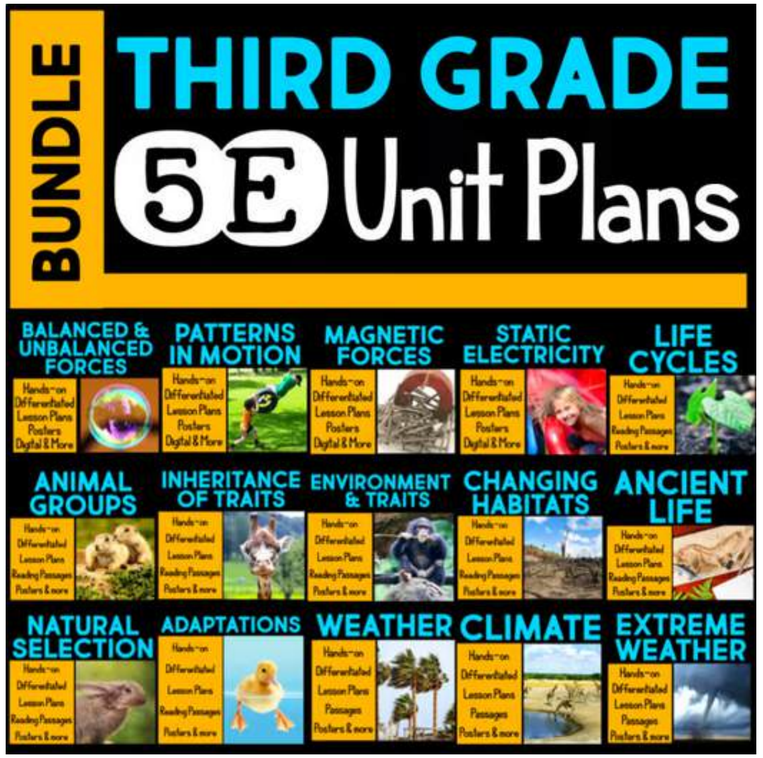
GOOD VALUE



SEE THE BUNDLE

FULL-YEAR BUNDLE

BEST VALUE



SEE THE BUNDLE

My passion is making learning accessible to all students.
I love scaffolding learning, breaking down the concepts and building them up so that students can see the connections.
I love figuring out the small components that build up to the big ideas and helping students see it all.



teach MATH | teach SCIENCE | teach READING | teach WRITING

What I have LEARNED