

MOTION AND MATTER—*Investigation 4, Part 3*

Investigation 4, Part 3:
***Metric Field
Day***



Teacher
Notes

Complete Teacher Notes



Focus Question

- What is the importance of accurate measurements for a metric field day?

Review different kinds of measures.

•



Investigation 4, Part 3

Metric Field Day



Brainstorm events that must be measured and don't require a lot of equipment.

For example, the Syringe Squirt measures distance. How far can you squirt water from the syringe?

- The Syringe Squirt
-



IG pg. 238, Step 2

Investigation 4, Part 3

Plan Your Metric Field Day Event



Write directions for your event:

- Make a list of equipment you will need.
- Write out the directions.
- Decide how many trials each participant gets.
- Decide if the results of the trials will be averaged for the final score, or decide if the best of three trials determines the winner.
- Make an event chart to record the results. Allow space for multiple trials.
- Make an event poster. Write the name of the event and the directions for competitors.



IG pg. 238–239, Steps 3–5

Investigation 4, Part 3

Metric Field Day



Let the games begin!

Half of the groups will be competitors, and the other half will be officials.

Record the results on your Metric Field Day Event Chart.

Determine the winners and trade places.



IG pg. 239, Steps 6–10

Focus Question

- What is the importance of accurate measurements for a metric field day?



Reading in Science Resources



Table of Contents

Investigation 4: Mixtures

Mixtures46

Reactions51

Careers You Can Count On53



Teacher
Notes

IG pg. 239–240, Steps 11–14

Investigation 4, Part 3

Investigation 4 Vocabulary Review



mixture
conservation of mass
cloudy
suspended
dissolve
solution

chemical reaction
baking soda
vinegar
calcium carbonate
chalk

gravel
carbon dioxide
salt
transparent



Teacher
Notes

IG pg. 241, Step 15

Investigation 4, Part 3

Wrap-Up



Look at the word wall and review the vocabulary from Investigation 4.

Review the focus questions from Investigation 4 in your groups.



- What happens when you mix two materials?
- What is the importance of accurate measurements for a metric field day?

Review Investigations 1, 2, and 3 to prepare for the Posttest.



IG pg. 241–242, Steps 16–17

Investigation 4, Part 3

Motion and Matter

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MOTION AND MATTER—*Investigation 4, Part 3*

Investigation 4, Part 3:
***Metric Field
Day***



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IWB Click the FOSS logo to access FOSSweb.



Teacher
Notes

Complete Teacher Notes



Focus Question



► What is the importance of accurate measurements for a metric field day?

Review different kinds of measures.

-



Motion and Matter, IG pg 238, Step 1

Ask students to write the focus question in their notebooks.

Review the different kinds of measures that students have used in this module: length, mass, volume, and temperature. Start with the first bullet and add additional bullets as students contribute.

INB You can use the *Pen Tool* to record students' responses.

Tell students that they are going to plan a metric field day. Each group will set up an event for other students to try. Each event must include some sort of measurement.

X



IG pg. 238, Step 1

Investigation 4, Part 3

Metric Field Day



Brainstorm events that must be measured and don't require a lot of equipment.

For example, the Syringe Squirt measures distance. How far can you squirt water from the syringe?

- The Syringe Squirt
-



Motion and Matter, IG pg 238, Step 2



Brainstorm events that must be measured (see Step 2 for examples). Start with the first blank bullet and add additional bullets as students contribute.

Choose events.

IWB You can use the *Pen Tool* to record students' responses.



IG pg. 238, Step 2

Investigation 4, Part 3

Plan Your Metric Field Day Event



Write directions for your event:

- Make a list of equipment you will need.
- Write out the directions.
- Decide how many trials each participant gets.
- Decide if the results of the trials will be averaged for the final score, or decide if the best of three trials determines the winner.
- Make an event chart to record the results. Allow space for multiple trials.
- Make an event poster. Write the name of the event and the directions for competitors.



Motion and Matter, IG pg 238–239, Steps 3–5

Go over expectations with the class. Encourage them to use their notebooks to help them plan.

Provide tagboard and markers for groups to make their event posters.



IG pg. 238–239, Steps 3–5

Investigation 4, Part 3

Metric Field Day



Let the games begin!

Half of the groups will be competitors, and the other half will be officials.

Record the results on your Metric Field Day Event Chart.

Determine the winners and trade places.

Motion and Matter, IG pg 239, Steps 6–10

Go outdoors and prepare for the games.

As you visit the events, make sure that students are using the measuring tools properly and that everybody is getting an equal number of turns.

X



IG pg. 239, Steps 6–10

Investigation 4, Part 3

Focus Question



- What is the importance of accurate measurements for a metric field day?



X

Motion and Matter, IG pg 239–240, Steps 11–14

Ask students to answer the focus question in their notebooks. They should evaluate the event and make suggestions about what they could do to improve measurements and the process of the field day.



Teacher
Notes

IG pg. 239–240, Steps 11–14

Investigation 4, Part 3

Reading in Science Resources



Table

Invest

Mixtur

Reacti

Career

Motion and Matter, IG pg 239–240, Steps 11–14



Turn to page 53, "Careers You Can Count On," in *Science Resources*. Have students read the selection using a reading strategy of your choice. Discuss the reading using the questions in Step 13.

Have students improve their skills with metric measurement by engaging in the online activity "Metric Mystery." The link to the activity for teachers is in the Resources by Investigation and in the Digital-Only Resources, and for students in the Online Activities on FOSSweb.

NOTE: You must be connected to the Internet and logged into FOSSweb to access the activity.

For reading strategies to support English learners and below-grade-level readers, see the Science-Centered Language Development chapter in *Teacher Resources*.



Teacher
Notes

IG pg. 239–240, Steps 11–14

Investigation 4, Part 3

Investigation 4 Vocabulary Review



mixture
conservation of mass
cloudy
suspended
dissolve
solution

chemical reaction
baking soda
vinegar
calcium carbonate
chalk

gravel
carbon dioxide
salt
transparent

Motion and Matter, IG pg 241, Step 15

Review vocabulary.

Take a few minutes to review the key words developed throughout Investigation 4.



IG pg. 241, Step 15

Investigation 4, Part 3

Wrap-Up



Look at the word wall and review the vocabulary from Investigation 4.

Review the focus questions from Investigation 4 in your groups.



➤ What happens to materials?

➤ What is the importance of measurements?

Review Investigations 1, 2, and 3.

Motion and Matter, IG pg 241–242, Steps 16–17



Conclude this Investigation by having students discuss the new words and focus questions in their groups.

Administer the Posttest.

See the Interdisciplinary Extensions following Investigation 4 for suggestions to extend learning across the curriculum.

See the *Home/School Connection* for Investigation 4 at the end of the Interdisciplinary Extensions section. This is a good time to send it home with students.



IG pg. 241–242, Steps 16–17

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