

**Name: Frances L Yates-March**

**Grade Level: 3**

**Title: Matter of Fact**

**GLEs Addressed**

- Science Content GLE [3] SB1.1 The student demonstrates an understanding of the structure and properties of matter by: classifying matter according to physical properties (i.e., color, size, shape, weight, texture, flexibility).
- Science Process Skill GLE [3] SA1.2 The student develops an understanding of the processes of science by observing and describing the student's own world to answer simple questions
- Writing GLE [3] W1.1 The student writes about a topic by writing complete sentences with a subject and a predicate.
- Cultural Standard A5. Culturally knowledgeable students are well grounded in the cultural heritage and traditions of their community. Students who meet this cultural standard are able to reflect through their own actions the critical role that the local heritage language plays in fostering a sense of who they are and how they understand the world around them.

**Science Concept:** Matter can be classified according to physical properties.

**\*\*\*The scoring guide and assessment task are located at the end of the lesson. Please share them with your students before beginning the lesson.**

**Materials:**

- 1.) At least one each of the following items: a wooden spoon, a metal spoon, a balloon filled with air, a balloon filled with warm water, a plastic container, a glass container, a sponge, a rock, pencil, ink pen, a crayon, yarn, pipe cleaners, a ping pong ball, a sand filled ball, a piece of wool, a piece of silk, a quarter, dice, cooked noodles These items will be used for the Gear Up, Explore, and Assessment Task
- 2.) Dark Tube Socks-one for each item used from list above for Assessment Task
- 3.) Matter of Fact worksheet
- 4.) T Chart worksheet
- 5.) Sticky notes and pencils
- 6.) Paper to make lists during Apply activity

\*\*\* Class generated lists for properties of matter and local languages are generated throughout the unit on matter and are specific to each region.

**Resources**

DK Publishing, Inc., Oxford University Press, 1998, DK Illustrated Oxford Dictionary, New York.

Ingham, D. & Smythe, K., 1994, A World of Matter Science Alive Teachers Resource,

Mimosa Publications Pty Ltd, Victoria, Australia

### **Vocabulary**

Matter: a physical substance

Flexible: bending without breaking

Hard: firm and solid

Dull: blunted edges

Twisted: bent

### **Gear Up      Process Skills: observing, describing, communicating**

The teacher will need a bag of 5 or 6 items for the students to describe. They should be items that the students are familiar with from the materials list.

On the board, make three columns. In the first column write, *What I know* as the title. In the second one write, *What I wonder about?* as the title, and for the third column write, *What I learned?* This is known as a KWL chart. Next, hand sticky notes out to the students. Then the teacher takes an item from a bag and holds it up while asking students to observe and describe the item using physical properties on her/his sticky note. Students initialize the sticky note, and then place it on the K section of a KWL chart. Students are also asked to write any ideas about the item they wonder about on a sticky note and initialize the note and place it in the Wonder area on the KWL chart. Students may add to the I Wonder section throughout the lesson.

Once the students have placed their sticky notes, bring out the items again and do a think aloud. Explain in detail how you are observing by touching, smelling, and looking closely at the object to describe the item or matter by its physical properties. Use the vocabulary words listed (matter, flexible, hard, dull and twisted) as you describe an item. Ask the students to help you generate more words.

Add any new vocabulary words to the class word bank. Discuss prior and newly acquired vocabulary words. Ask students to take any words from the word bank and translate them from English to another language. Continue to build on this list.

### **Explore      Process skills: observing, describing, classifying**

Tell students that they will be doing an activity to learn more physical properties that can help to describe and classify matter.

Students separate into pairs. A recorder along with a presenter is designated. Each pair is given a bag of 6 items and a T chart. The recorder's job is to write the name of the item on the left side and words describing the physical properties for each item on the right of the T chart. Each member of the team will generate observations about the items. After each item has been observed and described, the presenter will report the findings to the whole class. Reinforce the language the students use by walking around and commenting to the student pairs.

**Generalize    Process skills: observing, describing, communicating**

The teacher will ask the following questions and record responses on the board:

- What words can be used to describe physical properties of items or matter?
- Why would you want items to be flexible? Dull? Heavy? Light? Cold? Curved? Sharp? Straight, twisted?
- How does shape help matter do its job? How does color help matter do its job? What about the size or weight of matter? What about the flexibility of matter?
- Why do we describe matter by its physical properties?
- Are there any items that can be used for the same job? How are they alike? How are they different?
- Tell how you can translate words that describe physical properties of matter into another language?

Students list any ideas they wonder about and/or any ideas they learned on a sticky note along with their initials and add it to the KWL chart.

**Apply            Process skills: observing, describing**

Students are placed into groups of four. Each group picks a slip of paper from a hat that has an area of the school written on it. They are asked to go to that area with an adult and find and observe as many objects that they can within 10 minutes. They will receive extra recognition if they can translate any item properties into another language. They are not allowed to move or touch the objects from the designated area. They are to list 2 physical properties for each object they observe. After 10 minutes are up, the students come back to the classroom and each group presents their list to the class. Recognition is given to students who can translate an English word referring to a physical property of an item into another language.

**Extensions**

1. Guess My Item! Students are placed into pairs. They are given a sentence frame with My item is (property) and can (property). For example, “My item is round and can bounce. What is it?”
2. Students are shown six items. On a Venn diagram they must indicate what properties the items have in common or not in common. The students may sort using a variety of classifications such as texture, color, smell, shape, etc. A class discussion about the ways students sorted the items follows.
3. What If? Give each student a piece of paper and ask him or her to write, “What if” on the top line. Let them chose an item from a box of items (such as a ruler, a pencil, a crayon, paper, things that students are familiar with). After the students have chosen an item, ask them to imagine if the item were made out of some other kind of material. For example: “What if a ruler was made out of paper?” Students will write sentences about using paper as a ruler. For example, they might say it would tear easier, or that they could use it to measure curves easier.

## Scoring Guide

GLE/Standard	Level 1 Below Proficient	Level 2 Proficient	Level 3 Above Proficient
Science Content [3] SB1.1	On a worksheet student classifies an item according to 1 or fewer physical properties.	On a worksheet student classifies an item according to 2 physical properties.	On a worksheet student classifies an item according to 3 or more physical properties.
Science Process [3] SA1.2	Student does not observe or describe the student gives fewer than one answer to each of the following questions: 1.) How does the item feel and/or smell? 2.) What is it made of? 3.) What is the item?	By observing and describing the student gives one answer to each of the following questions: 1.) How does the item feel and/or smell? 2.) What is it made of? 3.) What is the item?	By observing and describing the student gives more than one answer to each of the following questions: 1.) How does the item feel and/or smell? 2.) What is it made of? 3.) What is the item?
Writing [3] W1.1	Student answers two or fewer questions writing complete sentences with a subject and a predicate on topic.	Student answers three questions writing 1 complete sentence with a subject and a predicate on topic for each question.	Student answers three questions writing 2 or more complete sentences with a subject and a predicate on topic for each question.
Cultural Standard A5.	Student will translate less than two English words used to describe the physical properties of the item into another language.	Student will translate two English words used to describe the physical properties of the item into another language.	Student will translate more than two English words used to describe the physical properties of the item into another language.

**Assessment Task:** The student will reach into a dark tube sock and touch the item inside. On a worksheet the student will answer the following questions: How does the item feel and/or smell? What it is made of? What is the item? Each question will be answered with at least one written sentence with a subject and predicate and include two physical properties of the item. The student will also translate two English words describing the physical properties of the item into another language orally to the instructor.

## Matter of Fact

Name:

Date:

Choose a box and write the number below. Reach inside and feel the item. Answer the questions in the chart below with as many physical properties as you can think of.

Box Number	How does the item feel?	What is it made of?	What is the item?

Choose a box number from above and circle it. Using the information about that box, answer each question below in a complete sentence.

How does the item feel?

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

\_\_\_\_\_

What is it made of?

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

\_\_\_\_\_

What is the item?

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

\_\_\_\_\_

Look at the words you listed. Take two or more of the words and say them in another language to your teacher.

# T Chart Worksheet

Item

Physical Property

Item	Physical Property