BIG IDEAS:

Elements consist of one type of atom, and compounds consist of atoms of different elements chemically combined

Texts are created for different purposes and audiences.

Exploring text and story helps us understand ourselves and make connections to others and to the world.

CURRICULAR COMPETENCIES:

- Apply appropriate strategies to comprehend written, oral, and visual texts, guide inquiry, and extend thinking
- Respond to text in personal, creative and critical ways
- Think critically, creatively, and reflectively to explore ideas within, between and beyond texts.
- Exchange ideas and viewpoints to build shared understanding and extend thinking.
- Use writing and design processes to plan, develop, and create engaging and meaningful informational texts
- Use scientific understandings to identify relationships and draw conclusions
- Communicate ideas, findings, and solutions to problems, using scientific language, representations, and digital technologies as appropriate
- Generate and introduce new or refined ideas when problem solving
- Observe, measure, and record data
- Make predictions about the findings of their inquiry
- Make observations aimed at identifying their own questions about the natural world

CONTENT:

- Matter and its properties.
- Oral and reading strategies
- Writing processes
- Language varieties
- Conventions
- Syntax and sentence fluency

LEARNING INTENTIONS:

Curricular:

- I can observe objects and identify the properties of matter.
- I can draw conclusions and record my observations.
- I can explain the difference between mass and volume.
- I can use writing to develop informational texts
- I can exchange ideas to extend thinking

Successful Learner Traits:

- I am thoughtful, compassionate and risk taking.

Rationale: Students will explore matter and its properties through experiential learning and group work.

Students will make observations, discuss ideas, draw conclusions and record their findings.

Students will use scientific language to create informational texts and exchange ideas to extend thinking.

MATERIALS:

- Laptop and projector
- 7 samples of matter to distribute among students for groups of 3-4
- One data recording sheet per student
- A Book that Matters (one for each student)
- BC Science Probe 7 (pages 90-93, 100-103 and review on 113)

ASSESSMENT:

Pre-learning assessment: brainstorming at beginning of class

Informal assessment of students' progress through Recording Sheet and A Book that Matters as well as through class participation/guiding questions.

ACCOMMODATIONS:

Enrichment: Bonus question

Instructions will be written on board for students who need to be reminded.

Content will be available for students who have difficulty remember concepts from videos or discussions.

Additional time will be given to students who require it to complete activities.

Lesson Activities:

Teacher Activities	Student Activities	pacing
Introduction: **Questions to activate prior knowledge and engage student interest** • What is matter? • What objects are made of matter? • How do we measure matter? • What does mass measure? • What does volume measure?	Students discuss	10
Body (lesson flow/ management) Pre-writing activity: brainstorming of adjectives to describe perception with all five senses.	Students brainstorm	5
• Teacher divides students in groups of 3 or 4 and numbers them. • Teacher distributes different samples of matter for students to observe and identify. • Teacher asks students to observe and analyze the objects provided and predict what they are.	Students work in groups to observe (using their senses), predict what objects they have and record their observations on their data sheets. Students pass samples to the next group when prompted by the teacher. *Students have about 2 minutes per sample to make observations and record their findings.* *Teacher walks around collecting samples while discussing with class.*	15
• Teacher asks students to share with the class and identify the nature of the objects. • Potential critical thinking questions: – How do you know what it is? – How can you confirm your prediction? (heating, dissolving, etc.) – How can we calculate the volume of an irregularly shaped object? – Why do you think it is important to be able to differentiate substances (that is identify matter)? – Do you think there is anything not made of matter? Time, energy, abstract concepts such as love, friendship, microwaves, sound, gravity, heat	As a class we discuss and establish what matter is and its properties.	10-15
Video on matter 3:47 min(what is matter, characteristics, mass and volume): https://www.youtube.com/watch?v=ki4O-Fy3z-0		5
Teacher instructs students to work on A Book that Matters	Students work on A Book that Matters.	10
Closure Teacher instructs students to tell their elbow partner what is matter and the difference between mass and volume	Students discuss with elbow partner	5

Notes:

Analysis of matter samples: remind students:

- We don’t eat, drink or lick the samples.
- Pass the samples only when instructed to do so and to the group behind you. The last group brings the sample to the first group.

Scientist:_____

What's the Matter?

Data Recording Sheet

Using the chart below, record your observations about each sample, including your prediction of what each sample might be.

Sample	Observations (smell, colour, texture, hardness)	Prediction	Result
A			
B			
C			
D			
E			
F			
G			

Bonus:

In addition to our senses, what other methods can be used to identify substances?

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