



Discuss these questions with a small group.

- 1. Describe some of your experiences with snow. Can you remember the first time you saw snow?
- 3. What does a snowflake look like? Without looking ahead, drawan example of a snowflake and compare it with your other grown members' drawings.

 4. What is *L
- 4. What is the value of studying poetry in high school and at a university? Why do some people enjoy poetry? Why do others not enjoy poetry? Discuss possible reasons. Do you personally enjoy poetry? Why or why not?

Reading 1: Physics

Pre-Reading Activities

Understanding and Using Charts and Illustrations

Many academic readings, particularly in math and the sciences, contain charts and illustrations. These "pictures" break up the written text, but they are not just decoration or a chance to rest your eyes. Charts, graphs, and diagrams or illustrations are important tools to help you understand the material. Sometimes they may give information that is not included in the text. Other times, they illustrate the information in a visual way that can greatly help wur understanding.

If a diagram or chart is also explained in words in the text, then the words are still important. On a test, you may need to draw a diagram; you may need to label a diagram or illustration: or you may need to explain a process or idea in words. Therefore, it is important that you be able to understand the information both visually and through

As an example, read this explanation of a simple physics concept, the working of a lever.

A lever is a rigid object that when used with a fulcrum, multiples the his Reserved. mechanical force applied to another object. With a Type 1 lever, force is applied to one end of the lever, and the object to be moved (the load) is placed at the other end, with the fulcrum between the two. Varying the distance between the force and the fulcrum and the load and the fulcrum will change the amount of force needed to move the object.

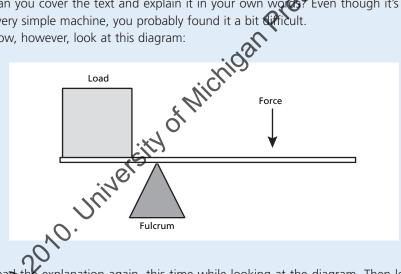
A simple mathematical formula describes this relationship

$Work = Force \times Distance$

Therefore, to lift a unit of weight with the force of half a unit, from the fulcrum to the point where force is applied must be twee the distance between the load and the fulcrum.

Can you cover the text and explain it in your own work. Even though it's describing a very simple machine, you probably found it a bit whicult.

Now, however, look at this diagram:



the explanation again, this time while looking at the diagram. Then look only at the diagram. Now can you explain what a lever is? Explain it to a partner using the



Vocabulary

In Unit 2, you learned about word parts and their meanings. One part, suffixes, can help you determine what part of speech a word is—that is, whether it is a noun, verb, adjective, or adverb. Some words can be more than one part of speech (2). Write the words into the appropriate categories in the chart on page 29. Not every box in each row will be filled in, and some boxes may have more than one form. If any words are unfamiliar to you, check their meanings with your instructor or in a dictionary. When you finish, work with a partner to draw conclusions about which suffixes typically identify a certain part of speech.

analogous	diffuse	produce
analogy	diffusion	prediction
	~ 4	<u></u>
appear	evaporate Q	rapid
appearance	evaporation	rapidly
atmosphere	exist	separate (2)
atmospheric	existence	separately
	Ŏ,	separation
	evaporate evaporation exist existence Nichioan Properties	
basic	for (2)	simple
basically	rmation	simplify
101		simplistic
basic basically create creation		(2)
create	grow	type (2)
creation	growth	typical
		typically
16,		typify
cryotal (2)	hexagon	universal
Avetalling	hexagonal	universally
crystallize	liexagoliai	universally
Ciysiallize		uiiiveise
define	liquefy	
definition	liquid	

noun	verb	adjective	adverb
		adjective So.	
			60
			Re
			idis
			"Sign
			*
		01653	
		Α,	
		100 i	
	i		
	of		
	Kija		
	:1013		
•	nu.		
40	•		
220			
W. C.			
7 .			
	The state of the s		t contract the contract to the

Predict

Work with a partner. Look at the title of the reading (page 31). What do you think the reading will be about? Circle the best answers.

- 1. how snowflakes are formed
- 2. what snowflakes look like
- 3. how to create a snowflake in a laboratory
- 4. whether two snowflakes can ever be alike
- 5. how temperature affects the appearance of snowflakes
- 6. how different languages have a different number of words for "snow"
- 7. what causes snowstorms
- 8. why there is rarely thunder or lightening during snowstorms

Skim

Skim the reading (pages 31–33) quickly. Then circle your answers to the questions.

- 1. The reading will be *easy / madium / difficult* for me to understand.
- 2. The reading contains mostly facts / mostly opinions / a mix of facts and opinions.
- 3. There are (*three Your I five*) diagrams or illustrations.

Scan

Find the answers to these questions as quickly as you can. Raise your hand to show your instructor when you have finished.

2. At what temperature in Fahrenheit does water freeze? _______

2. At what temperature in Centigrade do water droplets in clouds begin to freeze? ______

3. At what temperature in Fahrenheit do water droplets in clouds begin to freeze? ______

4. What does the word *dendrite* mean?

5. How many ways are there to arrange 15 books on a shelf? _____



Read

Read the excerpt from a textbook. For this reading, you may use a dictionary if you like.

The Physics of a Snowflake

1 The basic building block of a snowflake is ice—frozen water. The simplest form of snowflake is a single crystal of frozen water, also known as a snow crystal. However, what most people consider to be a snowflake is actually a conglomeration of snow crystals joined together.

2 Water is formed from one oxygen atom joined to two hydrogen atoms (H_2O) . Water exists as a solid (ice), a liquid (water), or a gas (water vapor).

3 In the water cycle, water evaporates (or turns from liquid to vapor) from lakes, rivers, and other sources and rises into the atmosphere. The molecules from water vapor condense, or change to the liquid stage, onto dust particles in the air, forming droplets. Many of these droplets together make up a cloud.

4 Snowfieles are formed when the water molecules in clouds freeze. For this to happen, the droplets in the clouds must be supercooled, meaning they are below the temperature for freezing (0°C / 32°F). At or below temperatures of -10°C (14°F), however, the droplets do begin to freeze. As one droplet freezes, it becomes a snow crystal. Gradually, other droplets will freeze and attach to the snow crystal to form a snowflake.

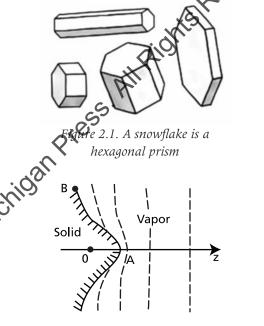


Figure 2.2. Water molecules moving through air

5 The basic shape of a snowflake is a hexagonal prism (see Figure 2.1). These can be plates (flat) or columns (tall). Small snow crystals are usually simple hexagons. As more water molecules attach to these hexagons, the snowflake grows. Water molecules must diffuse through the air, which slows them down. Therefore, they reach any surface of the snowflake that sticks out first and join to that. (See Figure 2.2) This in turn creates a

surface that sticks out more, and more molecules will attach to it, and so forth. This creates the dendrites, or branches, that give the snowflake its lacy appearance. The word *dendrite*, in fact, means "tree like." (See Figure 2.3). As the branches grow, small bumps on each branch also become branches, and so on. This process is known as "branching instability," and



Figure 2.3. Notice the tree-like branches or dendrites—in these snowflakes.

is a major factor in creating the complex shapes of snowflakes.

6 Many atmospheric conditions affect the growth and shape of a snowflake. Temperature differences combined with different levels of humidity, for example, produce more plates or more columns, as well as influence the occurrence of dendrites. Figure 2.4 for a graphic representation of the effects of temperature and humidity levels (supersativation) on snowflake shape.

7 Furthermore, when air pressure is lower, molecules can move more rapidly through the air and reach the facets of a pow crystal more easily; consequently, less branching occurs. At higher air pressure, snowflakes typically develop longer branches.

One of the most common questions about snowflakes, after "How are

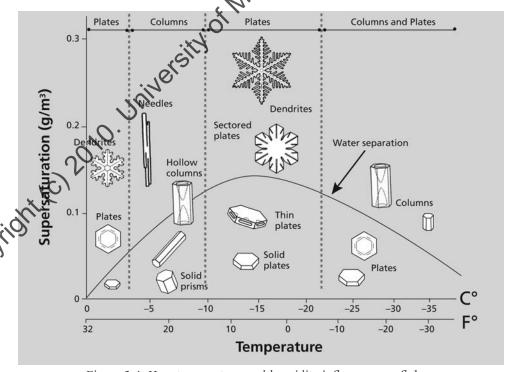


Figure 2.4. How temperature and humidity influence snowflakes

they made?" is, of course, "Is it really true that no two snowflakes are alike?" The answer is both yes and nodepending on your definition of a snowflake. If a snowflake were created from just one water molecule—what would be referred to as a nanosnowflake, or an extremely small one then yes, it is possible for two snowflakes to be alike, since some water molecules are alike. However, except in laboratory conditions, this is not what we usually mean by a "snowflake."

9 The larger, more complex snowflakes that occur in nature are all different. Consider this analogy: Take 15 different books. How many ways can you arrange them on your bookshelf? There are 15 possible positions for the first book, 14 possible positions for the second book, and so on. If you do the math, you'll find that there are over a trillion (1,000,000,000) ways to arrange just those 15 books. If you had a hundred books, there would be 10158 (or, a 1 followed by 158 zeros).

10 A complex snow crystal can have a hundred separate features, each which could have grown separatelyso just as many possibilities as those hundred books. In fact, it's 170 times greater than the total number of atoms in the entire priverse. That is why we can say with confidence that no two complex snow crystals, not just in any one snowstorm but in fact throughout the history of the earth, have exer looked exactly alike.

Post-Reading Activities Wain Ideas

Vrite T Write T if the statement is true or F if the statement is false.

- 1. The main purpose of this passage is to explain how temperature affects the shape of snowflakes. _____
- . Showflakes form any time that water is falling from clouds and the temperature is below freezing. _____
- 3. Air pressure affects the appearance of snowflakes. ___
- 4. Outside of a laboratory, you won't find two snowflakes that look alike. _____

Michigan ELT, 2010

34 Building Academic Reading Skills, Book 2

Details

Complete the sentences with words from the box. Two words will not be used.

	atom	droplets	humidity
	crystal	dust	hydrogen
	dendrites	hexagon	snowflake
1.	Water is made from or	ne molecule of oxygo	humidity hydrogen snowflake en and two molecules of of water.
2.	A cloud is made up of Water molecules attack	many	of water.
3.	Water molecules attac	h to t	o form deplets.
4.	The very simplest form	n of a snowflake is a	sings snow
5.	The basic shape of a sr	nowflake is a	
6.	Both temperature and snowflake.	arec	t the growth and shape of a
7.	Snowflakes get their la	acy appearance from	·
Voc	abulary	til	
Com	plete the vocabulery	or activities with a pa	artner.
1.	Find a prefix used in I	Paragraphs 4 and 6 tl	nat means "extra" or "very."
			•
2.	Find a prefix used in I	Paragraph 8 that mea	ans "extremely small."
	(0)		
:/0			
opyridy			
ي -			



- 1. Find a prefix wed in Paragraphs 4 and 6 that means "extra" or "very."

- 3. Find at least one example of each of these kinds of definitions in the text, and on a separate sheet of paper, write the word and the definition. Then compare your examples with another pair. Important terms can be defined by
 - giving the definition after a dash —
 - giving the definition in parentheses ()
 - using expressions such as means/meaning, (be) (also) known as
 - using a form of the be verb
 - giving a definition in a phrase starting with or

Reading Skills: Understanding and Using Charts and Illustrations

Study the diagrams/illustrations used in the reading. Then follow the directions with a partner.

- 1. Take turns explaining each diagram or illustration to each other. If necessary, go back and reread the explanation in the text again.
- 2. Without looking at the diagram or illustration or the text, explain in your own words what causes branching in snowflakes.

Understanding the Text

Circle the best answer Then discuss your answers with a partner.

- 1. What kind of audience is this text written for? Why do you think so?
 - a. one who knows almost nothing about the subject
 - b. one who knows a moderate amount about the subject
 - cone who knows a great deal about the subject

Why does the text address the issue of whether two snowflakes can look alike?

- a. It's a common question that people have.
- b. It's easy to explain.
- c. It shows factors affecting the shape of snowflakes.

- 3. What might the next section of the textbook cover? Circle any reasonable answers.
 - a. information about how to stay warm in very cold weather
 - b. a discussion of the effects of global warming on traditionally cold areas

 - d. an explanation of other types of weather, such as rain, sleet, and fog
 e. a comparison of different types of an different
 - different geographical areas in the world
 - f. an explanation of how to create a snow crystal and in a laboratory
- 4. Why does the text use the analogy of arranging pooks on a bookshelf?
 - a. Most people are more interested in books than in snowflakes.
 - b. It's an easy example for people to visualize.
 - c. There are more books than snow tokes in the world.
 - d. After reading a lot about snow readers will be tired of that subject and want to think about something else.



Extension

Discuss these questions with a small group, or write a paragraph response to each

- 1. In what way's is information about how snowflakes are formed useful? What kinds of people would need to know this kind of information?
- Give some examples of uses of water in its liquid form, its solid form, and its vapor form.

Reading 2: Literature

Pre-Reading Activities

Recognizing Support

Rights Reserved. A great deal of academic writing involves proving or demonstrating something, whether that is a fact or the writer's opinion. When you write essays or answer essay questions on tests, you will also need to support your opinions.

Support is commonly offered in these ways:

- 1. an expert's opinion
- 2. statistics
- 3. examples or anecdotes (short stories)
- 4. logical explanations

Writing about literature, poetry, art, and music is especially difficult because it is challenging to support your opinion with "proof." If you asked to write about another piece of writing, such as a short story, novel, or poetr you will often be asked to provide "support or examples from the text," but it is still up to you to argue convincingly that the examples you've chosen mean what you say they do.

Practice Recognizing Support

Read the following opinions. What kind of support is offered? Number them 1, 2, 3, or 4 according to what type of support they are, as explained in the box Write 0 if you feel there isn't any support. Then discuss your answers with a partner. Do you think the support is strong or weak?

- 1. Rober Prost is considered to be one of the greatest American poets. ____
- Many of the images in Robert Frost's poems are gentle or attractive but still express deep meaning and lessons about life. As Frost himself said, "There are two types of realists: the one who offers a good deal of dirt with his potato to show that it is a real one, and the one who is satisfied with the potato brushed clean. I'm inclined to be the second kind. To me, the thing that art does for life is to clean it, to strip it to form."

- 3. Frost experienced much hardship in his life, in particular through the death of family members. His father died when Robert was 11 years old, and his mother died five years later. His younger sister died in a mental institution in 1929. Four of his six children died before he did, including a daughter who died three days after her birth, a son who 4. Robert Frost is a major American poet, having won the Pulitzer Prigor for poetry four times. ____

 5. Literary students sometimes assume the guesting a literary students sometimes assume the guesting all the students are students as a student as a students as a students
- quoting a line from his poem Mending Wall that says, "Good fences make good neighbors." However, the line in that poem's spoken by Frost's neighbor, and Frost the poet argues the point in his mind, saying, "' . . . I wonder / If I could put a notion in his head: / 'Why do they make good neighbors? Isn't it / Where there are cows? . . . / Something there is that doesn't love a wath * That wants it down."
- 6. Robert Frost often used snow and ite as images and subjects for his poems because his last name wa Crost.
- 7. Robert Frost had that typical New England characteristic of not giving up. When he sold his first poem in 1894 (for \$15), he was so proud that he asked his sweetheart Elinor White to marry him. However, she refused because she wanted to finish college. Frost left the area, but returned after she graduated and asked her again, and this time she accepted.
- 8. Robert Frost's most famous poem is *The Road Not Taken*.



Vocabulary

Discussing poetry often involves some specific terminology. Read these definitions. Then complete the paragraph with the correct word.

imagery: the use of descriptive language to "paint a picture" for the reader or appeal to other senses such as sound, smell, or taste. This term includes the use of metaphors and symbols described. Imagery often involves *figurative*, or indirect, imaginative language opposed to *literal* language that has a very direct meaning.

metaphor: a comparison between two seemingly unlike objects or ideas. In the phrase "surf the Internet," for example, the Internet is being compared to the ocean. Sometimes the metaphor is made directly, using *like* or *as*. This particular type is called a *simile*: "The Internet is like an ocean of knowledge."

rhyme: when the final one or two syllables of two words have the same sound. For example, *moon*, *spoon* and *June* rhyme.

rhyme scheme: the pattern of rhyming. For example, rhyming the last word of every line of a poem, or the last word of every other line of a poem, are rhyme schemes.

setting: the place (and **some**times time) where action in the poem is happening. It could be a country, or a house, or an outdoor area.

stanza: a group Wines in a poem, similar to a verse in a song.

symbol: something (a word or idea) that represents something else. For example, a poet might write about plants growing in the springtime as a symbol for birth and leaves falling in the autumn as a symbol for death. Look at these ways to talk about symbols:

The falling leaves **are a symbol** for death.

The falling leaves **represent** death.

The falling leaves **symbolize** death.

Michigan ELT, 2010 40 Building Academic Reading Skills, Book 2

An Analysis of Good Hours

Robert Frost frequently used the ①	_ of his native
New England in his poems to create visuals for his read	ders. In fact, one
of his earlier collections of poems was called Nort	h of Boston. His
② is often calm and simple, and he w	
nary things and people. For example, this is the first 3)
of his 1915 poem Good Hours:	200
I had for my winter evening walk—	Wis
No one at all with whom to talk,	Rig
But I had the cottages in a row	XII .
Up to their shining eyes in snow.	then the second
The lines are short, with a simple ④	
of aabb (the first two lines ⑤, and to	then the second
two lines do). The literal meaning of New words is not	hard to under-
stand: the poet has gone for a walk alone, but doesn't	feel lonely. The
stand: the poet has gone for a walk alone, but doesn't houses are used as a 6 for a human f	ace (their shining
eyes).	
eyes). However, the poer works on several levels. In t	he third stanza,
Frost writes:	
I had Suth company outward bound.	
thent till there were no cottages found.	
turned and repented, but coming back	
I saw no window but that was black.	
Frost's simple walk through the village is also a ⑦	for
man's journey through life. In the poem, Frost talk	s about leaving
behind the company of children in the second stanza:	
I had a glimpse through curtain laces	
Of youthful forms and youthful faces	

In the third stanza, he talks about turning to look back; however, he cannot go back and find things the way they were. In the final stanza, his lines

Over the snow my creaking feet

sound like an old man ready to depart life, leaving the village for those still young and living.

edict

dicting is a more challenging element of the still of yever your

Predict

Predicting is a more challenging skill for literature, especially poetry. However, you can prepare for some of the then of Frost's poetry in this unit. Discuss these questions with a small group.

- 1. What are some things that snow or ice might symbolize in a poem? Do you think snow would usually represent something positive or something negative, or is there no general pattern?
- 2. What are some things that a forest might symbolize in a poem?
- 3. Do you think of these emotions as "hot" or "cold"? Answer without thinking too much; just give your first impression.
 - anger
 - fear

- jealousy
- joy
- loneliness

Sk(D) ming and scanning are not usually used with literature except to a sense of the type or how long the reading is. Skim the reading pages 42-44) quickly to see the types and length. Then answer the auestions.

1.	How	many	poems	are	there?	

2. What other type of texts are there in addition to the poems?



Read

Read both poems that are part of a test. Then read the essay questions on the test and answers about them. Use a dictionary if you like.

All Rights Reserved. Stopping By Woods on a Snowy Evening (1923)

Whose woods these are I think I know. His house is in the village though; He will not see me stopping here To watch his woods fill up with snow.

My little horse must think it queer To stop without a farmhouse near Between the woods and frozen lake

He gives his harness bells a shape.

To ask if there is some mistal.

The only of The only other sound's the weep Of easy wind and down Make.

The woods are lovely dark and deep. But I have promises to keep, And miles to go before I sleep, And miles go before I sleep.

Dust of Snow (1923)

way a crow Shook down on me The dust of snow From a hemlock tree

Has given my heart A change of mood And saved some part Of a day I had rued.

English 102 Sebastian Mitchell April 11, 2010

Analyze the setting in Stopping by Woods on a Snowy Evening. Use phrases from the poem to support your analysis.

1. Robert Frost uses the catting in Stopping by Woods on a Snowy Evening. Use phrases from the poem to support your analysis.

Evening" in two ways. The first is literal; that is, as an actual forest. Although a dark, cold forest can symbolize hardship suffering, the mood of this setting is not gloomy. Rather, it is peaceful. Frost talks of "easy wind and downy flake." "Downy Reans "soft and gentle," suggesting that the snow is only a handess powder. Frost is using the snow as a symbol of beauty. The same can be inferred about the darkness, which is the expected darkness of nightfall and is not unnatural. In the final stanza, From alls the darkness "lovely." The "darkest evening of the year" call be December 21, the shortest day of the year. The rider would be ded to hurry on to his home or wherever he nore difficult to ride at night and he still has has to go because it "miles to go."

etting can also be seen in a metaphorical way. The oem is traveling on a road "Between the woods and frozen ad that can represent the journey of life. On his journey, the ops at a particular location that is filling up with snow. Snow in rue nature is cleansing as it covers up trash and ugliness, and obscuring as it hides obstacles. This blanket of beauty catches the man's attention for a while, but in the end he remembers that he has "promises to keep" and continues along his path. The horse, who has no higher purpose in life, is confused by the stop; it is the man who is distracted from his purpose by visual beauty.

Frost reminds us to pause during the journey of our lives to enjoy moments of quiet beauty, but not to let the snow of distraction prevent us from keeping our promises.

Discuss the imagery of snow in *Dust of Snow*. How does it affect the mood of the poem?

2. Snow is often used in poetry to symbolize negative or dark ideas, such as cold feelings, the lack of emotion Robert Frost uses snow in a very different way in his 193 of Snow."

The very title of the poem suggests a light, alm 6t frivolous use of snow because of the word "dust." We think of dust as something without weight, much lighter than real snow and of no importance.

We know that the poet had been feeld sad or upset before because he mentions "a day I had rea," or regretted, but by the end of the poem, the poet seems to have brightened up a bit. It might be that the crow had startled him and in his moment of surprise, the man realized the trouble in his ay was over. Perhaps the notion that a small thing such as scrow could affect him in a big way cheered him. Maybe the man was so caught up in the ridiculousness and unexpected of the moment that he forgot about the previous the day. Whatever the case, Frost shows us that even the most Grolous of things can impact us in a big way if we take the time

Post-Reading Activities

Main Ideas

Circle the best answer.

- 3. What is the most important meaning of the poem?

 a. literal

 b. metaphorical

 c. Apar

 - c. Answers a and b are equally important.
- 4. What does the essay writer think that Frost wants the readers to do?
 - a. move through their lives more slowly
 - b. sometimes stop and relax, but not for too long
 - c. not be distracted from the true purpose of their lives
- 5. How are the rhyme scheme be represented?
 - caabb; ccdd; eeff; gggg
 - b. aaba; ccdc; eefe; gggg
 - c. aaba; bbcb; ccdc; dddd

Dust of Snow

- 6. What meaning does the essay writer believe that snow has in this poem?
 - a. positive
 - b. negative
 - c. neutral

- 7. How many possible reasons why the man's mood could have changed are given by the essay writer?
 - a. three
 - b. four
 - c. five
- Press. All Rights Reserved. 8. What does the essay writer believe that Frost wants readers to do?
 - a. not regret any of their actions
 - b. spend more time outdoors
 - c. appreciate small or trivial things
- 9. How can the rhyme scheme be represented?
 - a. abba; baab
 - b. abab; cdcd
 - c. abab; baba

Reading Skills: Recognizing Skills: Recognizin

L.	what kinds of support does the writer use in the essays? Check (*) all
	that apply.
	information from class discussions
	quotations from professors who have studied Frost
	lines from the poem
	the writer's own impressions and ideas
	information from Frost talking about his poem
)	How many direct quotes from the poem does the writer use
	in the first essay?
\sim	
5	in the second?

3. Do you think the writer used enough support? Why or why not? What

additional support could be added to the essays?



Vocabulary

1.

2.

Read the poems again. Then fill in the blanks.

Write the words from the first poem that are synonyms for these words: a. town b. strange c. iced d. movement e. blowing f. soft Write the words from the second poem that are synonyms for these
a. town
b. strange
c. iced
d. movement
e. blowing
f. soft
Write the words from the second poem that are synonyms for these words: a. dropped: pushed
a. dropped; pushed
b. evergreen
c. feeling
d. regretted
\sim



Extension

Discuss these questions with a partner or a small group, or write a paragraph response for each.

1. What the this quotation by Robert Frost mean? Do you agree or disagree?

"A poem begins in delight and ends in wisdom."

Should poetry and literature be studied by all high school students? By all university students? Why or why not?

3. Should a poet who wants to use snow as a symbol or image in poetry understand the physics of a snowflake? Why or why not?

4. Read the two poems by Robert Frost. Then choose one of the essay questions. Discuss the question with another group that has chosen the same poem. Then write your answer to the question.

Fire and Ice (1923)

ach of old snow in a corner should have guessed as a blow-away paper the rain Had brought to rest.

It is speckled with grime as in the news of a day I've to gotte. I ever read it.

Question 1: In the manner of the second state of the second stat

Essay Question 1:

Explain the metaphors and symbols in Fire and Ice. Do you think they are accurate?

Essay Question 2:

What does the snow represent in A Patch of Old Snow? What message is Frost trying to convey to his readers?