Georgia Performance Standards Framework

Unit One Organizer:
(9 weeks-Ideally taught at the end of spring)

OVERVIEW: SUMMER

In this unit students will:

- Identify basic patterns of summer weather
- Use simple instruments to measure temperature, wind, and precipitation
- Create a weather journal
- Make observations about weather
- Recognize sources of light
- Determine how sound is produced
- Recognize that sounds have different pitch and volume
- Identify emergency sounds

STANDARDS ADDRESSED IN THIS UNIT

Focus Standards:

S1P1. Students will investigate light and sound.

a. Recognize sources of light.
b. Explain how shadows are made.
c. Investigate how vibrations produce sound.
d. Differentiate between various sounds in terms of (pitch) high or low and (volume) loud or soft.
e. Identify emergency sounds and sounds that help us stay safe.

S1E1. Students will observe, measure, and communicate weather data to see patterns in weather and climate

a. Identify different types of weather and the characteristics of each type.
b. Investigate weather by observing, measuring with simple weather instruments (thermometer, wind vane, rain gauge), and recording weather data (temperature, precipitation, sky conditions, and weather events) in a periodic journal or on a calendar seasonally.
c. Correlate weather data (temperature, precipitation, sky conditions, and weather events) to seasonal changes.

STANDARDS ADDRESSED IN THIS UNIT

Supporting Standard:
ELA1SV1: The student uses oral and visual strategies to communicate.

LITERATURE SELECTIONS

Source of Recommendation	Title	Author	ISBN
NSTA Outstanding Trade Book	Flicker Flash	Joan Bransfield Graham	0-395-90501-X
Picture-Perfect Science Lessons	The Remarkable Farkle McBride	John Lithgow	0-68983-541-8
NSTA Recommends	Turtle Summer: A Journal for my Daughter	Mary Alice Monroe	978-0-9777423-5-6
NSTA Recommends	W is for Wind: A Weather Alphabet	Pat Michaels	1-58536-237-9

ENDURING UNDERSTANDINGS

- Summer is a season of the year.
- Identify the weather conditions in summer.
- There are different sources of sound
- Sounds are produced by vibrations
- Recognize emergency sounds
- Sound has high and low pitches and loud and soft volume.
- There are different sources of light.
- Shadows are produced when a light source is blocked.

ESSENTIAL QUESTIONS:
• How can summer weather be described? • How do you measure summer weather? • How does summer weather affect the types of clothing I wear? • Where does light come from? • How are shadows made? • Where does sound come from? • How are sounds different? • Why do we need emergency sounds?

MISCONCEPTIONS	PROPER CONCEPTIONS
1. It is always sunny in the summer. 2. All light is the same. 3. Some sounds are not produced by vibrations.	1. The weather changes day to day. 2. There are various sources of light. 3. All sounds are produced by vibrations.

CONCEPTS:	KNOW AND DO	LANGUAGE	EVIDENCE OF LEARNING
Summer is a season with its own weather patterns.	Identify the types of weather present in the summer.	• hot • humid	• Summer Illustration and three sentences. • Summer Clothing Illustration Rubric • Summer Cube Rubric
Summer weather can be communicated to others through the process of observing, measuring and recording weather data.	Observe weather using simple weather instruments Record weather data (	• thermometer • wind vane • rain gauge • temperature • precipitation • sky conditions • weather events	• Alphabet Book Page • Science Journal
There are different sources of light.	Identify different sources of light	• Sun • light bulb • light • fire • candle • stars	• Light Sources in *Flicker Flash* chart • Illustrations and sentences about sources of light
When light is blocked, there is a shadow.	Make a shadow.	• shadow • block • position	• Science journal • Shadow Poem
Vibrations produce sound.	Make an instrument and listen to the sound it makes. Student should be able to tell which part of the instrument vibrates.	• vibrate • vibrations • pitch • volume	• Musical Instrument
There are emergency sounds.	Identify emergency sounds.	• emergency	• Sound Chart

Culminating Activity: GRASPS activity

GRASPS

Goal: Create a Summer Cube. The summer cube will demonstrate the students' understand of the Summer Unit. Students will use the five senses to tell about summer.

Role: 1st grade student

Audience: 1st grade class

Scenario: The teacher has asked the students to create a Summer Cube. Students will use the cube template to illustrate their understanding of summer. The five senses: sight, touch, taste, sound, and smell will be used to tell about summer. On each part of the cube the student should write one sense and illustrate it, thinking about the summer season. (Examples: Sight: sunny sky, Touch: warm grass, Taste: cool ice cream, Sound: singing birds, Smell: flowers)

Product: Summer Cube

Use the Summer Cube Rubric for assessment.

General Timeline				
Intro/Pre-Assess	Flicker Flash	Turtle Summer: A Journal for my Daughter	The Remarkable Farkle McBride	W is for Wind: A Weather Alphabet
1 Week	1-2 Weeks	1-2 Weeks	1-2 Weeks	1-2 Weeks

TASKS

The following collection of tasks represents the level of depth, rigor and complexity expected of all students to demonstrate evidence of learning.

Lesson:	**Introduction to Summer**
Description:	A. Introduce Standards: S1E1. Students will observe, measure, and communicate weather data to see patterns in weather and climate. S1P1. Students will investigate light and sound. B. Continue using "language" from the standards during the unit. Refer to posted standard as necessary throughout unit. Create a "Summer Word Wall" for the following (to be added once discussed in class): hot, humid, sun, light bulb, light, fire, candle, stars, shadow, block, position, vibrate, vibrations, pitch, volume, and emergency. C. Create a class weather recording center. This should be an area that is updated daily to include: temperature, precipitation, sky conditions (sunny, cloudy, etc.) The weather can be graphed to help students understand that the weather changes day to day(Use the Sky Conditions Graph). Use a rain gauge to record precipitation. A "meteorologist job" can be created to help maintain and update the weather day to day. This weather recording center would work best to be done all year long for the students to see the changes. (The Class Weather Recording Center chart can be enlarged to a poster-size or can be used as a guide to set up a bulletin board in the class.)
Assessment:	Conferencing with class
Enrichment/ Homework:	Have students create a story about a summer adventure they may have had. Have students include the type of weather they experienced, types of clothes they wore, and the sounds they heard .

Literature Selection:	***Flicker Flash***
Description:	**Days 1-3:** Essential Question: Where does light come from? A. Read the book: "Flicker Flash" B. Discuss Review *language*: summer, sun, light bulb, light, fire, candle, stars C. Have students fold a piece of 8 ½ by 11 sheet of paper in half. Fold it in half again. This should create 4 squares. (Math connection: remind students that each square can represent ¼.) Have students write the title: Source of Light at the top. Have the students name at least 4 sources of light from the book. In each box, they should draw a picture of the light source and write at least one sentence about that light source.
Assessment:	Sources of Light Rubric
Enrichment/ Extension/ Homework:	Show and Tell: Have students bring in items from home that are sources of light OR have students draw a picture of an item from home that is a source of light.

Literature Selection:	***Flicker Flash***
Description:	**Days 4-7:** Essential Question: Where does light come from? A. Review standards and "language" from unit. B. Reread the book "Flicker Flash" C. Discuss the different light sources you used today to get ready for school. D. Have students complete the Light Sources in *Flicker Flash* chart. E. Allow students to present their work in front of the class.
Assessment:	Light Sources in *Flicker Flash* Chart
Enrichment/ Extension/ Homework:	Bind all of the Flicker Flash charts together as a book and place in the classroom reading center OR place in the media center for other classes to view it.

Literature Selection:	***Flicker Flash***
Description:	**Days 8-10:** • Essential Question: How are shadows made? A. Review standards and *language*: • shadow • block • position B. Reread the book "Flicker Flash" C. Turn to the page with the "flashlight" poem. D. Tell students you want them to look at the picture and help you solve a riddle. **Riddle:** I have two syllables in my name. You can see me when light is blocked. I am a dark shape. What am I? ***Shadow*** Point to the shadow on the page in the book. F. Create a word web for shadows. Allow students to tell you everything they know about shadows. G. Allow students to go outside and create shadows. Have students write about their findings in their science journal. If it is not a sunny day, have students create shadows with the overhead projector. H. Have students write a poem about shadows using the shadow poem template. The each letter in shadow will be used to start a sentence to tell about shadows. Allow students to share their poetry with another class.
Assessment:	Class observation Science Journal
Enrichment/ Extension/ Homework:	Have students name things that block light. www.unitedstreaming.com Video: Stage One Science: Light and Color-Video Segment: Understanding Shadows (4:55 mins.)

Literature Selection:	***Turtle Summer***
Description:	**Days 1-5:** Essential Question: How can summer weather be described? A. Show the class a picture of a turtle or a stuffed animal turtle to create interest. Tell students that you are going to read them a book about turtles in the summer. Have students predict what turtles do in the summer. B. Create a word web about summer. C. Read the book: "Turtle Summer." D. Review the terms: • hot • humid E. Look back through the book "Turtle Summer" and have students describe the weather that they see. Have students add to the summer word web with their suggestions. F. Have students draw a picture of what they think summer looks like. Have the students write at least three sentences to tell about their picture. Allow students to present their illustrations to the class.
Assessment:	Informal Assessment: Teacher observation Illustration and sentences
Enrichment/ Extension/ Homework:	The mother and daughter team visited the beach in the book: "Turtle Summer." Have students predict what types of sounds they would hear on the beach in the summer months. Remind the students of the different animals they saw on the beach.

Lesson:	***Turtle Summer***
Description:	**Days 6-10:** Essential Question: How can summer weather be described? How does summer weather affect the types of clothing I wear? A. Reread the book: "Turtle Summer." B. Have students list the different types of clothing they see people wearing in the book. Have students discuss the different types of clothing such as: the light jackets, long pants, and tank tops. Help students make the connection that the summer is a season that has hot weather, but it can have cool mornings and evenings. Weather is different day to day. Have students create a list of things they would wear in the summer. Ask questions: Why do we wear bathing suits in the summer? Why don't we wear heavy jackets? Does the weather affect the types of clothes that we wear? C. Have students create a self portrait. This illustration must show the types of clothing he or she would be wearing during the summer months. Use the Summer Clothing Illustration Rubric to assess the students understanding.
Assessment:	Informal Assessment: Teacher observation Summer Clothing Illustration Rubric.
Enrichment/ Extension/ Homework:	Allow students to write in their science journals about the types of games they play in the summer. Have students to draw pictures of places to stay cool during the summer months. (Example: Find shade under a tree.)

Literature Selection:	***The Remarkable Farkle McBride***
Description:	**Days 1-5:** Essential Questions: Where does sound come from? How are sounds different? Teacher Instructions: A. Read the book: "The Remarkable Farkle McBride" B. Lead a discussion with the students about the different types of sounds in the book. C. Create a list on chart paper of the different instruments Farkle McBride played and the sound it made. You may want to have the students make the sound aloud. D. Introduce the terms: • vibrate • vibrations • pitch • volume E. Show the video from www.unitedstreaming.com : *Zin! Zin! Zin! A Violin* or *Musical Max*. These videos allow students to hear some of the instruments in the book "The Remarkable Farkle McBride." F. Review the lists of instruments and the sounds that it made. Ask students if they think all of the instruments made vibrations. Why or why not? (Teacher note – ALL sounds are a result of vibrations.) Ask if each instrument was high or low (pitch). Ask which instrument was loud/ which was soft (volume).
Assessment:	Class observation and discussion
Enrichment/ Extension/ Homework:	Invite students from the 5th grade band to come in and play an instrument. The students would have to identify the pitch and volume.

Literature Selection:	***The Remarkable Farkle McBride***

Description:

Days 6-8:

Essential Question:

Where does sound come from?

How are sounds different?

Teacher Instructions:

A. Reread: "The Remarkable Farkle McBride"

B. Review the terms:

- vibrate
- vibrations
- pitch
- volume

C. Create a list on chart paper:

Vibrates	Does not Vibrate

Discuss the students' answers. Remind students that Sounds is made when something vibrates. Have students gently touch their neck, right under their chin. Have students say their name loudly. Students should be able to feel the vibrations. Anything that was in the "Does Not Vibrate" column needs to move to the "vibrates" column.

D. Use www.unitedstreaming.com to show the video: "Peep and the Big Wide World: Night Light/ Sounds Like." Show the clip: "Sounds Like" (10 mins.). Give students a sheet of paper. Ask students to listen carefully to the video and write down all of the sounds they hear. Once the video is over, review students' lists.

E. Take the class for a "Sound Walk." Allow students to use a clipboard while walking around the school campus as a class. Have students write down all of the sounds they hear. During the walk, allow students to sit in one place and close their eyes at some point. This will help them focus on what they hear, rather than what they see. Review the students' responses when you get back to the classroom.

F. Create a musical instrument. Have the students tell you which part of the instrument is vibrating.

G. Experiment with pitch and volume using the following website: http://www.bbc.co.uk./schools/ks2bitesize/science/activities/changing_sounds.shtml

Assessment:	Informal Assessment: Teacher observation.
Enrichment/ Extension/ Homework:	Have students create another musical instrument from materials found at home. Allow students to bring their instrument in for "Show and Tell."

Literature Selection:	***The Remarkable Farkle McBride***
Description:	**Days 9 and 10** Essential Question: How are sounds different? Why do we need emergency sounds? Teacher Instructions: A. Review the term: • Emergency B. Remind students that in the book, "The Remarkable Farkle McBride," they learned about sounds that musical instruments made. C. Ask students to think about sounds they hear. Why are sounds important? Do they help serve a purpose? Ask students if anyone has a parent who is a fireman, policeman, etc. Ask students if those professions need special sounds. What types of sounds do you associate with those professions? D. Have students draw pictures of things that make sounds we like to hear and emergency sounds using the Sound Chart.
Assessment:	Informal Assessment: Teacher observation. Sound Chart
Enrichment/ Extension/ Homework:	Have students record emergency sounds using a tape recorder. Have the student pretend to be a fire truck, police car, ambulance, etc.

Lesson:	***W is for Wind: A Weather Alphabet***
Description:	**Days 1-5:** Essential Question: How can summer weather be described? How do you measure summer weather? Teacher Instructions: A. Review terms: thermometer, wind vane, rain gauge, temperature, precipitation, sky conditions, weather events B. Read the book: "W is for Wind: A Weather Alphabet." C. Ask students which letter they thought represented summer the best. (Students may choose: "S" for sunshine, "W" for wind because kids are playing on the beach, etc.) What ever letter they choose, have that student explain why they think so. D. Ask students what types of instruments are used to measure weather. E. Turn to the page with "W." Ask students to tell you what tool we could use to measure how hot it was at the beach. Ask students to look at the page again and see if it was a windy day at the beach. What weather instrument would help you determine wind direction? F. Turn to the page with "U." What is the weather like on this page? What weather instrument could we use to measure the rain? G. Have students illustrate weather tools studied throughout the year in their science journals.
Assessment:	Informal Assessment: Teacher observation Science Journal
Enrichment/ Extension/ Homework:	Have students create a book about the types of weather we have during the summer months.

Lesson:	***W is for Wind: A Weather Alphabet***
Description:	**Days 6-10:** Essential Question: How can summer weather be described? How do you measure summer weather? Teacher Instructions: A. Reread: "W is for Wind: A Weather Alphabet." B. Turn to the page with "Q" on it. Explain that "Q" represents the quickly changing weather events. Thunderstorms can quickly approach in the summer months. Thunderstorms will be the weather event studied in the summer unit-posted in the weather recording center. C. Tell students that the author has decided to write another alphabet book, but this time it is all about summer. Assign each student a letter. Have student think of a word that describes the summer season and create an illustration to go with it. Bind all of the pages together and place in the classroom reading center.
Assessment:	Informal Assessment: Teacher observation Alphabet book page
Enrichment/ Extension/ Homework:	Use the following website to help students understand the dangers of thunderstorms and what they can do to stay safe: http://www.alfy.com/Scripts/go.asp?url=http://www.fema.gov/kids/&purl=/Teachers/Teach/Thematic_Units/Weather/Weather_1.asp

TEACHER RESOURCES

Additional Children's Literature:

Beginning to Learn About Summer by Richard L. Allington, PH.D. and Kathleen Krull

City Sounds by Rebecca Emberly

The Summer Sands by: Sherry Garland

The Summer of Stanley by: Natalie Kinsey-Warnock

Web Resources:

http://www.astro.uiuc.edu/projects/data/Seasons/seasons.html

www.unitedstreaming.com

http://www.alfy.com/Scripts/go.asp?url=http://www.fema.gov/kids/&purl=/Teachers/Teach/Thematic_Units/Weather/Weather_1.asp

http://www.geography4kids.com/files/climate_seasons.html

http://www.globe.gov/fsl/html/templ.cgi?elemGLOBE&lang=en

Weather Recording Center

Season: _____

Today's Temperature:

Rain Gauge Measurement:

Have students draw pictures that represent the season and put inside this box.

Staple the monthly sky conditions graph here.

Paste the special weather event information here. *(Example: thunderstorms)*

Month: _____

Sky Conditions Graph

Number of Days	Sunny	Cloudy	Rainy	Windy	Foggy	Snowy
12						
11						
10						
9						
8						
7						
6						
5						
4						
3						
2						
1						
0						

Sky Conditions

Summer Observations

Group Member Names:_____Date:_____

Things We See in the Summer	Things We Hear in the Summer

Sources of Light

Name: _____

CATEGORY	3	2	1	Score
Required Elements	The paper has all of the required elements: title, four light sources with an illustration, and at least one sentence that tells about each light source.	The paper has all but one of the required elements: title, four light sources with an illustration, and at least one sentence that tells about each light source.	The paper is missing most of the required elements.	
Knowledge Gained	Student included all of the following on the paper and is accurate: title, four light sources with an illustration, and at least one sentence that tells about each light source.	Student included all of the following on the lab coat and 80% of the information is accurate: title, four light sources with an illustration, and at least one sentence that tells about each light source.	Student included all of the following on the lab coat and 50% of the information is accurate: title, four light sources with an illustration, and at least one sentence that tells about each light source.	
Attractiveness	The paper is exceptionally attractive in terms of design, layout, and neatness.	The paper is acceptably attractive though it may be a bit messy.	The paper is distractingly messy or very poorly designed. It is not attractive.	
TOTAL SCORE				_____

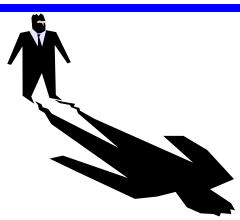
Light Sources in *Flicker Flash*

Name: _____ Date:_____

Directions: Fill in the columns after reading *Flicker Flash*.

Light Source	Illustration of light source	How does this light source help us?
sun		
candle		
match		
light bulb		
lighthouse		
campfire		
flashlight		
lamp		

Shadow Poem



S_____

H_____

A_____

D_____

O_____

W_____

Summer Clothing Illustration

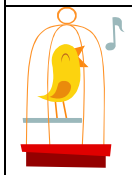
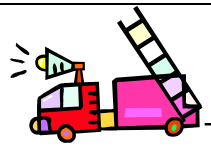
Name:_____ Date:_____

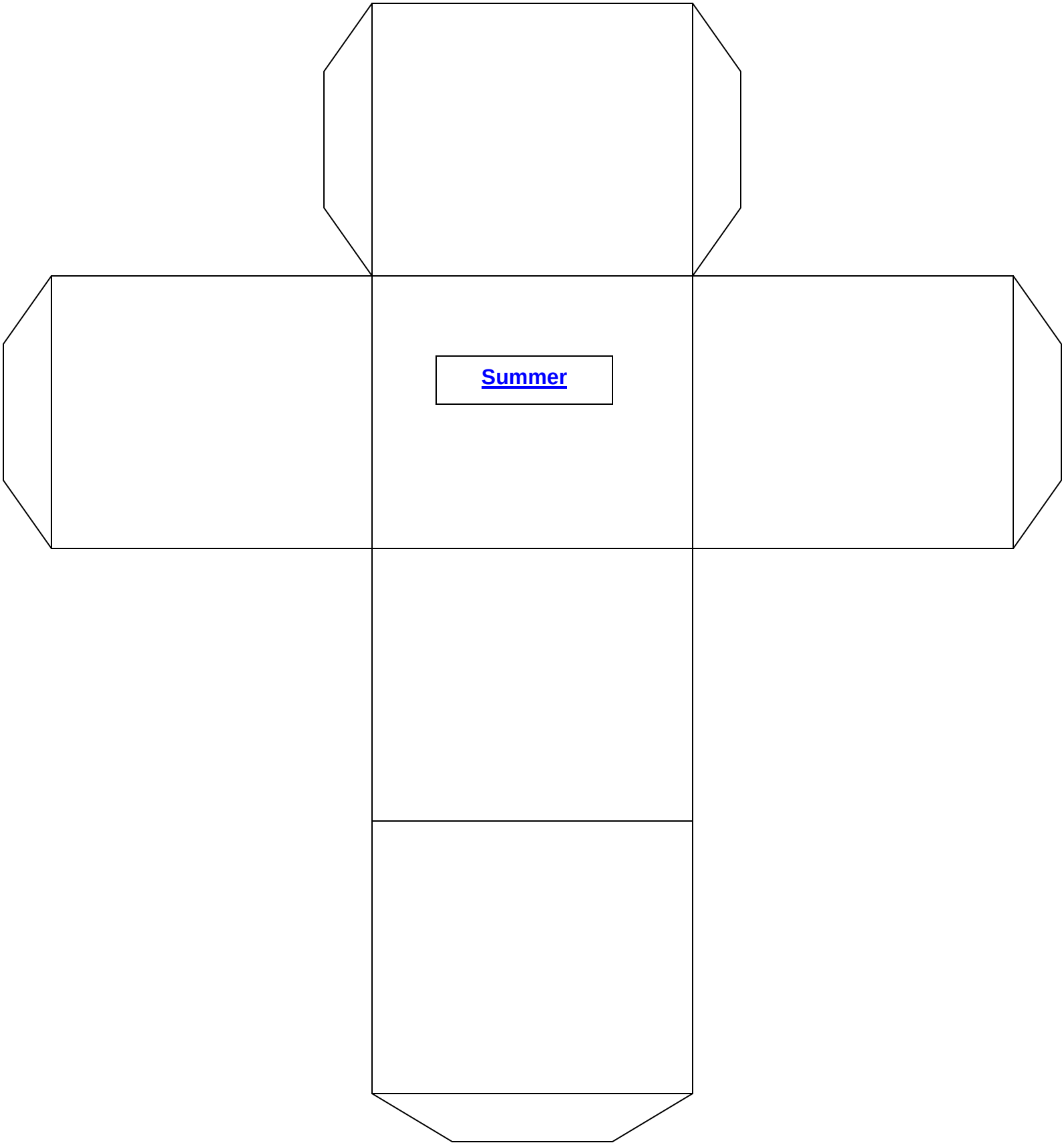
CATEGORY	4	3	2	1	Total
Required Elements	The illustration includes all required elements as well as additional information.	All required elements are included on the illustration.	All but 1 of the required elements are included on the illustration.	Several required elements were missing.	
Knowledge Gained	Student can accurately answer all questions related to facts in the illustration and processes used to create the illustration.	Student can accurately answer most questions related to facts in the illustration and processes used to create the illustration.	Student can accurately answer about 75% of questions related to facts in the illustration and processes used to create the illustration.	Student appears to have insufficient knowledge about the facts or processes used in the illustration.	
Content - Accuracy	At least 7 accurate facts are displayed on the illustration. *Accurate facts can include: illustration of a sunny sky, child wearing bathing suit, hat, sun glasses, shorts, tank top, etc.*	5-6 accurate facts are displayed on the illustration.	3-4 accurate facts are displayed on the illustration.	Less than 3 accurate facts are displayed on the illustration.	
Attractiveness	The illustration is exceptionally attractive in terms of design, layout, and neatness.	The illustration is attractive in terms of design, layout and neatness.	The illustration is acceptably attractive though it may be a bit messy.	The illustration is distractingly messy or very poorly designed. It is not attractive.	

Name:_____ Date:_____

Sound Chart

Directions: Draw a picture of the different types of sounds. Label each picture.

Enjoyable Sounds	Emergency Sounds
 The bird is singing a nice tune.	 The fire truck is honking its loud horn to get to the burning building.


Summer

Summer Cube Rubric

Name:_____ Date:_____

CATEGORY	4	3	2	1	Total
Required Elements	The cube includes all required elements as well as additional information.	All required elements are included on the cube.	All but 1 of the required elements are included on the cube.	Several required elements were missing.	
Knowledge Gained	Student can accurately answer all questions related to facts on the cube and processes used to create the cube.	Student can accurately answer most questions related to facts on the cube and processes used to create the cube.	Student can accurately answer about 75% of questions related to facts on the cube and processes used to create the cube.	Student appears to have insufficient knowledge about the facts or processes used on the cube.	
Content - Accuracy	At least 5 accurate facts about the senses are displayed on the cube.	3-4 accurate facts are displayed on the cube.	1-2 accurate facts are displayed on the cube.	No accurate facts are displayed on the cube.	
Attractiveness	The cube is exceptionally attractive in terms of design, layout, and neatness.	The cube is attractive in terms of design, layout and neatness.	The cube is acceptably attractive though it may be a bit messy.	The cube is distractingly messy or very poorly designed. It is not attractive.	