

Unit 1: Introduction to Earth Science and Developing Science Skills

Auraq:
Summer
Ukiaksraaq:
Early Fall /
August

Activity: Traditional Introductions

Guiding Information

Lesson Overview:

- The lesson focus is on helping students become comfortable introducing themselves in a traditional manner.

Learning Objectives:

- Students will practice introducing themselves in a traditional manner.
- Students will practice this skill.

Time Frame:

- 30 minutes

Teacher Background:

- Introducing oneself is a valuable skill for students.
- When inviting elders and other community members into the classroom encourage students to introduce themselves in the traditional manner.
- Introductions can vary from culture to culture.
- Many traditional Alaska Native cultures have introductions that involve stating the individual's name, the home village, and family connections.

Teacher Prep:

- Research and record the proper etiquette for local traditional introductions.
- Write this information on the board.

Student Materials:

- Student worksheet: Traditional Introductions

Vocabulary:

- Mother, Father, Grandmother, Grandfather
- My name is,
- I am from

Academic Standards:

- Alaska Cultural Standards:** C1
- Inupiat Ilitqusiat**
- Inupiat Learning Framework**
- Science Standards for Alaska**
- NGSS**
- Adapted from:** <https://pals.sri.com/tasks/k-4/Follow1/directs.html>

Teaching Notes:

ACTIVITY OVERVIEW:

- Knowing how to introduce oneself is a valuable skill to have.
- Introductions can vary from culture to culture.
- Many traditional Alaska Native cultures have introductions that involve stating the individual's name, the home village, and family connections.
- When we invite elders and other community members into our school and classroom, it is important to be able to do this in the traditions of our local culture.

Discuss:

- Distribute the STUDENT WORKSHEET: "Traditional Introductions."
- Explain that introductions can vary from culture to culture.
- Ask students how a person introduces themselves in the Iñupiaq Culture.
 - As they tell you the things that are included, write them on the board.
 - These should include:
 - Saying his or her name.
 - Their home village.
 - The name of his or her parents and grandparents.

Demonstrate:

- Review the local traditional information and process of making an introduction.
- Ask students if they can say any part of this in the Iñupiaq Language.
 - Have a student model this.
- Using the local introduction procedures, the teacher should introduce themselves to the class as an example.
 - It is OK, if the teacher cannot say the introduction in Iñupiaq this first time.

Practice (15 minutes)

- Instruct students to fill in their own information on either the worksheet or in canvas.
 - Model the complete introduction first.
 - Then say each part and allow students time to repeat.
- Split students into two groups to form concentric circles.
- Students should practice introductions facing one another.
- Encourage students to use traditional names.
- Ask students to face new partners and practice the introduction again.
- Students should repeat this process three to six times.

Conclude:

- Tell students:** This is a useful skill students will use when elders or other guests come to the classroom.

Physical Earth Science Topics

Introduction to Physical Earth Science

Earth's Surface

Soil, Erosion, Weathering

Earth's History

Geologic Time

Minerals & Rocks

Minerals, The Rock Cycle, Classes of Rocks, Earth's Resources

Moving Earth

Earth's Interior, Plate Tectonics, Mountain Building, Volcanoes, Igneous Activity, Earthquakes

Earth's Water

Water Cycle, Running Water, Groundwater

Oceanography

The Ocean Floor, Ocean Dynamics, Ocean Water, Ocean Life

Atmosphere

Air Pressure, Wind, Energy Transfer, Northern Lights

The Universe

Our Solar System, The Sun & Stars, Deep Space

Weather & Climate

Glaciers, Deserts, Wind, Moisture, Clouds, Precipitation, Air Pressure,
Weather Patterns, Climate, and Climate Change

Teacher Resources: Scope and Sequence by Week

Scope and Sequence**by Week**

Ukiaksraaq: Early Fall						August/September/October			Ukiaksraaq: Fall				
Week 1	Week 2	Week 3		Week 4		Week 5	Week 6	Week 7	Week 8	Week 9			
Introduction to Earth Science and Developing Science Skills		Describing our Earth Part 1			Earth Systems of Matter and Energy			Meteorology Water, Weather, Atmosphere, and Climate		Science Skills Review			
Ukiaksraaq: Fall		October/November			Ukiq: Winter		November/December						
Week 10	Week 11	Week 12	Week 13		Week 14	Week 15	Week 16	Week 17	Week 18				
Water, Weather, Atmosphere, and Climate		The Ocean			Describing our Earth Part 2		Landscapes: weathering, erosion, and deposition Glaciation and how glaciers work		Science Skills Review				
Ukiq: Winter								January/February			Upingaksraaq: Early Spring		
Week 19	Week 20	Week 21		Week 22		Week 23	Week 24	Week 25	Week 26	Week 27			
Landscapes: weathering, erosion, and deposition Glaciation and how glaciers work		Our Moving Earth Earthquakes, Volcanos, Rocks, Minerals					Geological resources			Science Skills Review			
Upingaksraaq: Early Spring				March/April		Upingaksraaq: Spring						April/May/June	
Week 28	Week 29	Week 30	Week 31		Week 32	Week 33	Week 34	Week 35	Week 36				
Our Solar System and the Universe				Earth's History and Age			Human Impact on our Earth				Science Skills Review		

Nuna Ilisimman

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UNIT 1 - Lesson 1: Learning Objectives

1. **Define Physical Earth Science?**
2. **Describe ways our Inupiaq heritage help us develop a greater understanding of Physical Earth Science?**



Mars, Earth, and Venus. (NASA)

Learning Objective #1. Define Physical Earth Science?

This course combines **Physical Science** and **Earth Science** into one course: **Physical Earth Science**.

Physical Science is the study of the structure and properties of matter, how things move, and how nonliving things change forms (for example ice to water).

Earth Science is the group of sciences that study the Earth and its neighbors in space. These include: Geology, Oceanography, Meteorology, Astronomy, and Environmental Science.

1.1.3

This course strives to take the most relevant parts of Physical and Earth Science and relate them back to our region and state.

Recognizing that science is relevant to our communities and world, the Northwest Arctic Borough School District has been intentional in developing a course that will give students a depth of understanding to the knowledge that has been passed down through generations.



Through this, students will become aware of science within our region and world.



<https://www.nwarctic.org/domain/30>

As humans, we are naturally interested in exploring our environment and finding out how things work.

Our innate curiosity provides an opportunity to promote scientific discovery and inquiry.

We enjoy finding answers to questions that interest us.



“What will happen if...?” “Why does...?”



In this course, you will have the opportunity to observe, describe, compare, question, predict, experiment, and reflect to find answers to these questions and more.

1.1.4

Learning Objective #2**Describe ways our Iñupiaq heritage helps us develop a greater understanding of Physical Earth Science?**

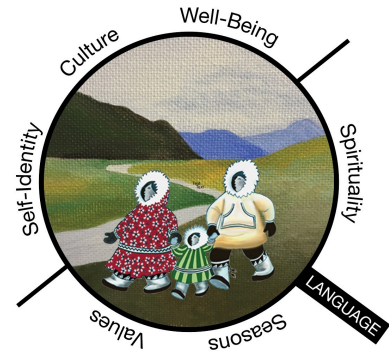
With the Iñupiaq language as the anchoring point, this course will be infused with references to the:

- Traditional Seasons of the NW Arctic Iñupiaq.
- The Iñupiat Iḷitqusiat and its values.
- The Alaska Cultural Standards for Students.
- The Iñupiaq Learning Framework Performance Expectations.
- Regional Iñupiaq traditions and culture.

Elders and community members will be invited to share their knowledge.

The traditional seasons of the Northwest Arctic Borough Iñupiaq are:

- **Auraq:** Summer June/July/August
- **Ukiaksraaq:** Early Fall August/September
- **Ukiasraq:** Fall October/November
- **Ukiuq:** Winter December/January/February
- **Upingaksraaq:** Early Spring March/April
- **Upingaksraaq:** Spring April/May/June



1.1.5

The Iñupiat Ilitqusiatic is referred to frequently in this course.

The Iñupiat Ilitqusiatic reinforces the concept of sharing traditional Iñupiaq knowledge.

If you are not familiar with this, or if you do not know the Iñupiat translation, see the following chart.

Inupiat Ilitqusiatic

Iñupiat Ilitqusiatic			
<i>Iļisimaliq Iļagiiļgmik</i> Knowledge of Family Tree	<i>Aņayyuqaagiich Savaaksranjich</i> Family Roles	<i>Kanjiqsimaauraajiq Irrutchikun</i> Spirituality	<i>Quvianniulikun Tipsisaagiiliq</i> Humor
<i>Piqpaksriliq Iļilgaanik</i> Love for Children	<i>Aatchuqtuutijiq Avatmun</i> Sharing	<i>Kamaksriliq Utuqqanaanik</i> Respect for Elders	<i>Kamaksriliq Nutim Iļiqtanik</i> Respect for Nature
<i>Savaqatigiyyujtq</i> Cooperation	<i>Savvaqtuliq</i> Hard Work	<i>Kamakkutuliq</i> Respect for Others	<i>Atchiksualiқ</i> Humility
<i>Iļisimaliq Uqapialiqmik</i> Knowledge of Language	<i>Iņuuniaqatiunik Ikayuutuliq</i> Responsibility to Tribe	<i>Paaqsaaqatautailiq</i> Avoid Conflict ***** <i>Aņunialguliq</i> Hunter Success	<i>Kiņuniqm Suraęatlasinjalilq</i> Domestic Skills

1.1.6 Assignment: Aakalukput aimmaviṇani video part 1

ASSIGNMENT: *Aakalukput aimmaviṇani* video part 1

Let's watch a video about sharing a meal with an elder and her family.

- Watch the video *Aakalukput aimmaviṇani* .
- <https://nwarctic.instructuremedia.com/embed/ea4cdd46-6c8c-4427-84fb-6703f5d2c2f1> ➡
(<https://nwarctic.instructuremedia.com/embed/ea4cdd46-6c8c-4427-84fb-6703f5d2c2f1>)
- This video is from Shishmaref and is about eating a meal at Annauk Olin's grandma's house in Shishmaref, AK.
- She introduces her family and then talks about the meal.
- You will have three questions to answer during the video.



Aakalukput aimmaviṇan
Caribou soup and introductions

Get Started

Details Insights Captions Quiz Results

Aakalukput aimmaviṇani

This video is from Shishmaref and is about eating a meal at Annauk Olin's grandma's house in Shishmaref, AK.

Edit details

ZM Zonda Martin
January 30, 2023

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1.1.7 Assignment: Aakalukput aimmaviṇani video part 2

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Words are important and in each lesson, Iñupiaq terms and their definition will be included. It is hoped that these words will help create a sense of connection to the Iñupiaq knowledge that has been passed down through the generations. For thousands of years, these words have helped our ancestors describe situations that helped them carry on their way of life here in the Arctic.



<https://wordart.com/create>  <https://wordart.com/create>

ASSIGNMENT: Aakalukput aimmaviṇani video part 2

The video you just watched was spoken in Iñupiaq, think about the importance of this and then answer the following using the Canvas textbox.

How does watching and listening to this in Iñupiaq help you develop language and cultural awareness?

If you want resources to look up words and phrases in Iñupiaq, use these Language Resources:

Iñupiatun Dictionary by NANA Regional Corporation

[https://uafanlc.alaska.edu/Online/IN\(S\)M975SDG1979/kobuk_junior_dictionary.pdf](https://uafanlc.alaska.edu/Online/IN(S)M975SDG1979/kobuk_junior_dictionary.pdf) 

[https://uafanlc.alaska.edu/Online/IN\(S\)M975SDG1979/kobuk_junior_dictionary.pdf](https://uafanlc.alaska.edu/Online/IN(S)M975SDG1979/kobuk_junior_dictionary.pdf)

<https://www.inupiaqonline.com/>  <https://www.inupiaqonline.com/>

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1.1.8 Assignment - Knowledge of Family Tree

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In the next activity, Knowledge of Family Tree, you will have the opportunity to practice cultural and language awareness.

ASSIGNMENT: KNOWLEDGE OF FAMILY TREE

Iñupiaq Value: **Iḷisimaliḡ Iḷagiilḡmik** - Knowledge of Family Tree

Family trees show the various branches or family members that we are related to.

When you know the different branches of your family, you develop greater **RESPECT FOR ELDER**S, greater **KNOWLEDGE OF FAMILY**, and a greater understanding of **FAMILY ROLES**.

Look at the family tree below.

- Your teacher will have a printed copy of this for you to take home.
- Ask a family member to help you fill it in as much as possible.
- Then upload this back into canvas or if you can not do that, type your answers into the text box

My Family Tree

Knowledge of Family is an Iñupiaq value.

Take this worksheet home and ask a family member to help you fill it in.

Have them tell you their favorite story about at least one of these family members, then write it at the bottom and back of this chart.

Great Grandmother Amauluk=great grandparent	Great Grandfather Akkaakak	Great Grandmother Amauluk=great grandparent	Great Grandfather Akkaakak	Great Grandmother Amauluk=great grandparent	Great Grandfather Akkaakak	Great Grandmother Amauluk=great grandparent	Great Grandfather Akkaakak
Mother's Mother (Grandmother) (C) Aakaḡma Iñupiaqsisiḡa (K) Aanaḡma Iñupiaqsisiḡa		Mother's Father (Grandfather) (C) Ataataḡma Iñupiaqsisiḡa (K) Taataḡma Iñupiaqsisiḡa		Father's Mother (Grandmother) (C) Aakaḡma Iñupiaqsisiḡa (K) Aanaḡma Iñupiaqsisiḡa		Father's Father (Grandfather) (C) Ataataḡma Iñupiaqsisiḡa (K) Taataḡma Iñupiaqsisiḡa	
Mother (C) Aakaga / (K) Aanaga				Father (C) Aapaga / (K) Taataga			

My Name is / Iñupiaqsisiḡa

Favorite story about:

[Family Tree Work Sheet.pdf \(https://nwarctic.instructure.com/courses/26693/files/344192?wrap=1\)](https://nwarctic.instructure.com/courses/26693/files/344192?wrap=1) [↓](https://nwarctic.instructure.com/courses/26693/files/344192/download?download_frd=1)
(https://nwarctic.instructure.com/courses/26693/files/344192/download?download_frd=1)

My Family Tree

Knowledge of Family is an Iñupiaq value.

Take this worksheet home and ask a family member to help you fill it in.

Have them tell you their favorite story about at least one of these family members, then write it at the bottom and back of this chart.

Great Grandmother Amaulik=great grandparent	Great Grandfather Akkaakak	Great Grandmother Amaulik=great grandparent	Great Grandfather Akkaakak	Great Grandmother Amaulik=great grandparent	Great Grandfather Akkaakak	Great Grandmother Amaulik=great grandparent	Great Grandfather Akkaakak
Mother's Mother (Grandmother) (C) Aakanma Iñupiaqsisija (K) Aanaruagma Iñupiaqsisija		Mother's Father (Grandfather) (C) Ataataġma Iñupiaqsisija (K) Taataruagma Iñupiaqsisija		Father's Mother (Grandmother) (C) Aakanma Iñupiaqsisija (K) Aanaruagma Iñupiaqsisija		Father's Father (Grandfather) (C) Ataataġma Iñupiaqsisija (K) Taataruagma Iñupiaqsisija	
Mother (C) Aakaga / (K) Aanaga				Father (C) Aapaga / (K) Taataga			

My Name is / Iñupiaqsisiga

Favorite story about:

1.1.9

The Alaska Cultural Standards for Students were developed by the Alaska Native Knowledge Network in 1998. They also were adopted by the State Board of Education & Early Development in the same year. The Cultural Standards are meant to enrich the Content Standards and provide guidelines for nurturing and building in students the rich and varied cultural traditions that continue to be practiced in communities throughout Alaska.

The standards are broad statements of what students should know and be able to do as a result of their experience in a school that is aware of and sensitive to the surrounding physical and cultural environment.

Alaska Cultural Standards for students.

- **Culturally-knowledgeable students are well grounded in the cultural heritage and traditions of their community.**

- Students who meet this cultural standard are able to:

1. Assume responsibility for their role in relation to the well-being of the cultural community and their life-long obligations as a community member;
2. Recount their own genealogy and family history;
3. Acquire and pass on the traditions of their community through oral and written history;
4. Practice their traditional responsibilities to the surrounding environment;
5. 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;
6. Live a life in accordance with the cultural values and traditions of the local community and integrate them into their everyday behavior.
7. Determine the place of their cultural community in the regional, state, national and international political and economic systems;

- **Culturally-knowledgeable students are able to build on the knowledge and skills of the local cultural community as a foundation from which to achieve personal and academic success throughout life.**

- Students who meet this cultural standard are able to:

1. Acquire insights from other cultures without diminishing the integrity of their own;
2. Make effective use of the knowledge, skills and ways of knowing from their own cultural traditions to learn about the larger world in which they live;
3. Make appropriate choices regarding the long-term consequences of their actions;
4. Identify appropriate forms of technology and anticipate the consequences of their use for improving the quality of life in the community.

1.1.10

• Culturally-knowledgeable students are able to actively participate in various cultural environments.

- Students who meet this cultural standard are able to:
 1. Perform subsistence activities in ways that are appropriate to local cultural traditions;
 2. Make constructive contributions to the governance of their community and the well-being of their family;
 3. Attain a healthy lifestyle through which they are able to maintain their own social, emotional, physical, intellectual and spiritual well-being;
 4. Enter into and function effectively in a variety of cultural settings.

• Culturally-knowledgeable students are able to engage effectively in learning activities that are based on traditional ways of knowing and learning.

- Students who meet this cultural standard are able to:
 1. Acquire in-depth cultural knowledge through active participation and meaningful interaction with Elders;
 2. Participate in and make constructive contributions to the learning activities associated with a traditional camp environment;
 3. Interact with Elders in a loving and respectful way that demonstrates an appreciation of their role as culture-bearers and educators in the community;
 4. Gather oral and written history information from the local community and provide an appropriate interpretation of its cultural meaning and significance;
 5. Identify and utilize appropriate sources of cultural knowledge to find solutions to everyday problems;
 6. Engage in a realistic self-assessment to identify strengths and needs and make appropriate decisions to enhance life skills.

• Culturally-knowledgeable students demonstrate an awareness and appreciation of the relationships and processes of interaction of all elements in the world around them.

- Students who meet this cultural standard are able to:
 1. Recognize and build upon the interrelationships that exist among the spiritual, natural and human realms in the world around them, as reflected in their own cultural traditions and beliefs as well as those of others;
 2. Understand the ecology and geography of the bio-region they inhabit;
 3. Demonstrate an understanding of the relationship between worldview and the way knowledge is formed and used;
 4. Determine how ideas and concepts from one knowledge system relate to those derived from other knowledge systems;
 5. Recognize how and why cultures change over time;
 6. Anticipate the changes that occur when different cultural systems come in contact with one another;
 7. Determine how cultural values and beliefs influence the interaction of people from different cultural backgrounds;
 8. Identify and appreciate who they are and their place in the world.

1.2.1

UNIT 1 Lesson 2: Learning Objectives

- 1. Demonstrate skills using Iñupiaq introductions.
- 2. Define Earth Science?
- 3. Define Physical Science?
- 4. Explain how does curiosity about the world around us impact and guide scientific inquiry?
- 5. Describe some of the different ways to seek knowledge about the world around us to make more sense of the world around us.

In Lesson 1, we defined what Physical Earth Science is and we discussed some ways an understanding of Iñupiaq heritage impacts us and our understanding of Physical Earth Science.

Your homework in lesson 1 was to take home the family tree worksheet and have someone in your family help fill this. This is important because it will help you as you introduce yourself to others in our region. In this class, we will periodically have elders and community members come into our school and classroom to share knowledge and experiences with us.

Today, we will examine in more detail, Physical Earth Science and the ways science is compatible with Traditional Iñupiaq Knowledge.

As we go through the lesson today, look for and learn what these words mean:

lesson 2 words		
Physical Science	Kanjiqsuiq: Investigate	Cumulative
Earth Science	Iļissimman: Knowledge	Phenomenon
Summankiaq: Curiosity	Indigenous Science	Traditional Ecological Knowledge / TEK

1.2.2

Learning Objective #1: Demonstrate skills using Iñupiaq introductions

The Iñupiaq word for introduce is: **İLITCHUGĪPKAUTIGI**

<http://clipart-library.com/clipart/456198.htm>

During this class we will invite elders and other community members into our school and classroom.

*It is important to be able to introduce ourselves to others
using the traditions of our local Iñupiaq culture.*

Knowing how to introduce oneself is a valuable skill in any culture.

Introductions can vary from culture to culture.

Many traditional Alaska Native cultures have introductions that involve stating the individual's name, the home village, and their family connections.

The activities that follow will help strengthen
your **Knowledge of Family, Iļisimaliq Iļagiilǫm̃ik**, so that you can properly introduce yourself.

Remember.....

When you know the different branches of your family, you develop

greater RESPECT FOR ELDERS

greater KNOWLEDGE OF FAMILY

greater understanding of FAMILY ROLES

1.2.3 Assignment: Traditional Introductions

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Assignment: Traditional Introductions

ILITCHUGIPKAUTIGI - To Introduce

- Instructions:
- Open the Iñupiaq Introductions worksheet and read over it.
 - Fill in the document below based on the information you gained from the Family tree lesson.
 - As you are filling in the worksheet in Canvas, it might be easier to go to the full screen view by clicking on the arrow in the top right corner.
 - To exit full screen, click on the escape button on your keyboard.

TRADITIONAL INTRODUCTIONS
ILITCHUGIPKAUTIGI - TO INTRODUCE

Aglaglugich Iñupiatun / Write in Iñupiaq <small>C=Coastal K=Kobuk</small>	Write in English
Naluaḡmitthiḡisiga	My English name is:
Iñupiaḡḡisiḡisiga	My Iñupiaq name is:
(Insert village name) miḡḡururḡḡa	I am from:
My Father's Iñupiaq name is: (C) Aapaga / (K) Taataga	My Father is:
My Father's Fathers Iñupiaq name is: (C) Ataataḡma Iñupiaḡḡisiḡiḡa / (K) Taataruaḡma Iñupiaḡḡisiḡiḡa	My Grandfather's (Father's Father) name is:
My Father's Mothers Iñupiaq name is: (C) Aakaḡma Iñupiaḡḡisiḡiḡa / (K) Aanaruḡma Iñupiaḡḡisiḡiḡa	My Grandmother's (Father's Mother) name is:
My Mother's Iñupiaq name is: (C) Aakaga / (K) Aanaga	My Mother is:
My Mother's Fathers Iñupiaq name is: (C) Ataataḡma Iñupiaḡḡisiḡiḡa / (K) Taataruaḡma Iñupiaḡḡisiḡiḡa	My Grandfather's (Mother's Father) name is:
My Mother's Mothers Iñupiaq name is: (C) Aakaḡma Iñupiaḡḡisiḡiḡa / (K) Aanaruḡma Iñupiaḡḡisiḡiḡa	My Grandmother's (Mother's Mother) name is:

TRADITIONAL INTRODUCTIONS
ILITCHUGIPKAUTIGI - TO INTRODUCE

Ambler	Ivisaappaaq
Buckland	Nunatchiaq
Deering	Ipnatchiaq
Kiana	Katyaak
Kivalina	Kivaliñiq
Kobuk	Laugviik
Kotzebue	Qikiqtaḡruk
Noatak	Nautaaq
Noorvik	Nuurvik
Selawik	Siilvik
Shungnak	Isiqnaq

Village names and spelling approved
by
NWABSD Iñupiaq Instructors on 1-23-23.

Points

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a student annotation or a file upload

Due	For	Available from	Until
-	Everyone	-	-

1.2.4 Assignment: Practicing Introductions

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Share your Knowledge of Family while speaking in Iñupiaq.

Using the information from the worksheet, practice your complete introduction.

- . Form two groups in two circles.
 - Face the person sitting next to you.
 - Take turns introducing yourself.
- . Next, face new partners and practice the introduction again.

Students should repeat this process three to six times with others in the circle.

In the text box below type the names of the partners you practiced with.

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Due	For	Available from	Until
-	Everyone	-	-

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