Student Weekly Learning Targets

Students will be able to demonstrate and communicate their understanding of mathematics topics from grade 7 mathematics. (MATH.7.1A, MATH.7.1B, MATH.7.1C, MATH.7.1D, MATH.7.1E, MATH.7.1F, MATH.7.1G). The student should be able to demonstrate the following:

- I can explain and describe scenarios about grade 7 mathematical topics.

Monday – Menu of Topics

For the next two weeks, you will be creating a product to exhibit your understanding of everything you have learned this year in mathematics. You will get to choose whether you would like to create a:

- Children’s book
- Comic book
- Coloring book
- Video storyboard
- Guidebook
- Graphic novel

If you have access to the internet through a computer or mobile phone, you may want to see some examples of children’s books that professional authors have created.

- The Grapes of Math and other books accessible at: https://www.gregtangmath.com/resources
- The adventures of Herbert Hilligan and his Magical Lunch Box accessible at: https://www.goodreads.com/book/show/7988134-herbert-hilligan-and-his-magical-lunchbox
- Other book ideas accessible at: https://www.livingmath.net/sir-cumference-neuschwander

Some of these book titles are available via the Houston Public Library app which you can access through the HUB.

For today’s lesson, read pages 1-4 of the Independent Math 7 Reflection guide.

- On page 4, read through the menu of topics and reflect on which topics you understand the best and which you understand the least.
- Graph each topic on the number line at the bottom of the page.
  - For topics that you think you are best at, place them towards the right end of the confidence line.
  - For topics that you are unsure about, place them near the left side of the confidence line.

You will use the top three topics to build your reflection scenarios.

Tuesday – Analyzing Topic 1

Access page 5 of the Independent Math 7 Reflection guide. Carefully analyze the topic that you understood the best this year. Complete the questions on the Stimulate Ideas for Topic 1 page.

Begin thinking about which product you would like to produce … Who might you like to use for characters? What will you name them? What will they look like? How will they interact with this mathematical topic?

Wednesday – Analyzing Topic 2

Access page 6 of the Independent Math 7 Reflection guide. Carefully analyze the topic that you understood the second best this year. Complete the questions on the Stimulate Ideas for Topic 2 page.

Begin thinking about which product you would like to produce … Who might you like to use for characters? What will you name them? What will they look like? How will they interact with this mathematical topic?
### Thursday – Analyzing Topic 3

Access page 7 of the Independent Math 7 Reflection guide. Carefully analyze the topic that you understood the second best this year. Complete the questions on the Stimulate Ideas for Topic 3 page.

Begin thinking about which product you would like to produce … Who might you like to use for characters? What will you name them? What will they look like? How will they interact with this mathematical topic?

### Friday – A Closer Look at Topic 1 and Reflections

Access pages 4, 8, 9, and 14 in the Independent Math 7 Reflection guide. Today you start the process of forming your product.

Each topic on the Menu page (p. 4) listed two essential questions under its heading. You will use those essential questions to guide your thinking about the topic. Page 8 lists a closer look at the process and questions while page 9 provides reflection sentence stems that you can use to answer the questions. Be sure to complete each box in numerical order.

Using your answers from page 9, determine what you want to happen in the story, comic book, coloring book, video, etc. Sketch out your rough draft ideas on the template provided on page 14.

You will repeat this process for topics 2 and 3 next week before creating a final product.

### Student-Produced Weekly Product

Student completes graphing his/her confidence levels for various mathematical topics and begins to generate ideas for their top three topics. The final reflection project will be completed next week.
### Scoring Guide:

<table>
<thead>
<tr>
<th></th>
<th>Exceeds Expectations</th>
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**Real World Application**

- **Box 1**: Work also demonstrates a **fluent** understanding and thoroughly answers the question topic.
- **Box 2 & 3**: Work also **precisely** explains math essential understandings.
- **Box 4**: Work also **concisely** explains topic misunderstandings.
- **Box 5**: Work also uses a **recognized process** and uses multiple representations to correct misunderstandings.
- **Box 6**: Work also appropriately uses **highly complete** explanation of topic.

**Explain and Justify**

- **Boxes 2 & 3**: Work also specifically explains math essential understandings.
- **Box 4**: Work also attempts to use math terminology; highly complete explanation of topic.
- **Box 5**: Work also uses a **recognized process** and uses a representation to correct misunderstandings.
- **Box 6**: Work also appropriately uses to use math terminology; incomplete explanation.

**Problem Solving, Model**

- **Box 4**: Work also attempts to describe topic misunderstandings.
- **Box 5**: Work also attempts to use a **recognized process** and to correct misunderstandings.
- **Box 6**: Work also makes a **clear attempt** to use math terminology; incomplete explanation of topic.

**Representation, Graphs, Tables**

- **Box 5**: Work also attempts to explain any potential mis-understanding.
- **Box 6**: Work attempts a **process** and uses multiple representations to correct misunderstandings.

**Analyze and Communicate**

- **Box 6**: Work makes an **attempt** at explaining the solution or summarizing the topic.
Math in the Middle

Independent Math 7 Reflection

Name: ___________________________ Date: ___________________________
Topics: ___________________________
Background:
Juan Half and Ann Eighth are catching up on information they missed while they were on Spring Break.
You ask them to explain to each other what they had learned in their math class so far this year so you can see what Juan and Ann already know.

After listening to your friends, Juan and Ann, you decide to help them out.
You may choose one reflection product per topic:

- Create a children’s book
- Create a comic book
- Create a coloring book
- Create a video storyboard
- Create a guidebook
- Create a graphic novel
Directions:
You may choose to break each step into smaller pieces.

**Step 1**: Choose 3 topics that you are the most confident in your math abilities.

**Step 2**: Choose a math reflection where you can demonstrate your full understanding of the knowledge you have gained this year in math class.

**Step 3**: Use the space provided to complete your best reflections.

**Step 4**: Reflections should be authentic, student-created products that thoughtfully explain learning and balance both the quantity and quality of your math knowledge.

Instructions:
- You may use your math knowledge and any self-created notes you may have.
- Refer to the Choice Board Guide as your guide to plan all your math reflections.
- Represent your math learning to the best of your ability as an HISD student following the student handbook.
Choice Menu of Topics:

To help you share what you know about 7th Grade Math, order the list below from what you are most confident to least confident in. Then, pick your top three.

- **Representation and Comparison of Rational Numbers**
  - How do I determine the best numerical representation (pictorial, symbolic, objects) for a given situation?
  - What kinds of experiences help develop number sense?

- **All Operations with Rational Numbers**
  - How do mathematical operations relate to each other?
  - How do I know which mathematical operation (+, -, x, ÷, exponents, etc.) to use?

- **Proportional Reasoning**
  - How do I express a pattern to show a relationship?
  - How does comparing quantities describe the relationship between them?

- **Expressions, Equations, and Inequalities**
  - How can patterns be used to make predictions?
  - What is meant by equality?

- **Algebraic Representations**
  - How is thinking algebraically different from thinking arithmetically?
  - How do I use algebraic expressions to analyze or solve problems?

- **Geometry and Measurement**
  - How are geometric shapes and objects classified?
  - How do geometric models describe spatial relationships?

- **Data Analysis**
  - How do people use data to influence others?
  - How can predictions be made based on data?

- **Personal Financial Literacy**
  - How do I know when a result is reasonable?
  - How do I decide what strategy will work best in a given problem situation?
Stimulate Ideas for Topic 1:

You may choose to use a separate sheet of paper for each topic.

What are three important points that you have learned about the topic you chose?

________________________________________

________________________________________

________________________________________

What are two things that squared, or agreed, with your thinking when understanding how to solve problems with your topic?

________________________________________

________________________________________

________________________________________

What is one thing still circling in your head about solving problems with your topic?

________________________________________

________________________________________

________________________________________
Stimulate Ideas for Topic 2:
You may choose to use a separate sheet of paper for each topic.

What are three important points that you have learned about the topic you chose?
________________________________________
________________________________________
________________________________________

What are two things that squared, or agreed, with your thinking when understanding how to solve problems with your topic?
________________________________________
________________________________________

What is one thing still circling in your head about solving problems with your topic?
________________________________________
________________________________________
Stimulate Ideas for Topic 3:
You may choose to use a separate sheet of paper for each topic.

What are three important points that you have learned about the topic you chose?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

What are two things that squared, or agreed, with your thinking when understanding how to solve problems with your topic?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

What is one thing still circling in your head about solving problems with your topic?

________________________________________________________________________
________________________________________________________________________
Here is a Closer Look at Topic 1:

**Box 1**
Set the scene, Introduction
- What is this topic about, what would you like to know more about it?
- Answer Essential Question #1

**Box 2**
Fully answer Essential Question #1
- Make sure to fully answer the essential question #1.

**Box 3**
Fully answer Essential Question #2
- Make sure to fully answer the remaining essential question.

**Box 4**
Fully describe potential misunderstandings
- Point out anywhere someone could make a math or logical mistake.
- Use Math Symbols and Academic Language

**Box 5**
Fully explain Misunderstandings
- How does one remember to avoid these misunderstandings or mistakes?

**Box 6**
Complete the reflection, Conclusion.
- What did you find most interesting about this topic, what would you like to know more about, etc.?
Consider Reflections on Topic 1 with the following:

**Box 1**
Set the scene, Introduction
It is essential to know

The most important part is

because

**Box 2**
Fully answer Essential Question #1
The main connection between ________ and ________ is

**Box 3**
Fully answer Essential Question #2
Another example of ________ is

It’s important to remember

**Box 4**
Fully describe potential misunderstandings
A vital step in the process is

because

It would be important to

before/after

and ________ are related in at least two ways, ________ and ________.

While there are exceptions, I can generally say this information tells us that ________.

I could demonstrate this by

**Box 5**
Fully explain Misunderstandings
With this new information, I can now state

significant/reasonable in this case because

Frequently ________ is/are

because they are/it has

**Box 6**
Complete the reflection, Conclusion.
I conclude

because
Here is a Closer Look at Topic 2:

**Box 1**
Set the scene, Introduction
- What is this topic about, what would you like to know more about it?
- Answer Essential Question #1

**Box 2**
Fully answer Essential Question #1
- Make sure to fully answer the essential question #1.

**Box 3**
Fully answer Essential Question #2
- Make sure to fully answer the remaining essential question.

**Box 4**
Fully describe potential misunderstandings
- Point out anywhere someone could make a math or logical mistake.
- Use Math Symbols and Academic Language

**Box 5**
Fully explain Misunderstandings
- How does one remember to avoid these misunderstandings or mistakes?

**Box 6**
Complete the reflection, Conclusion
- What did you find most interesting about this topic, what would you like to know more about, etc.?
Consider Reflections on Topic 2 with the following:

**Box 1**
**Set the scene, Introduction**
It is essential to know

________________________________

________________________________

___________________________

because ________________________.

**Box 2**
**Fully answer Essential Question #1**
The main connection between _____________ and _____________ is

___________________________

because ________________________.

**Box 3**
**Fully answer Essential Question #2**
Another example of _____________________ is _____________________.

___________________________

It’s important to remember

________________________________

________________________________

**Box 4**
**Fully describe potential misunderstandings**
A vital step in the process is

___________________________ because

___________________________

It would be important to

___________________________ before/after

___________________________ and _____________________ are related in at least two ways.

___________________________

While there are exceptions, I can generally say this information tells us that ___________________.

I could demonstrate this by

________________________________

________________________________

**Box 5**
**Fully explain Misunderstandings**
With this new information, I can now state

___________________________ is

significant/reasonable in this case

because ________________________

Frequently ___________________ is/are

___________________________ because they are/it has___________________________.

**Box 6**
**Complete the reflection, Conclusion.** Based on my reflection, I conclude

___________________________ because ________________________.

General information

___________________________
Here is a Closer Look at Topic 3:

**Box 1**
Set the scene, Introduction
- What is this topic about, what would you like to know more about it?
- Answer Essential Question #1

**Box 2**
Fully answer Essential Question #1
- Make sure to fully answer the essential question #1.

**Box 3**
Fully answer Essential Question #2
- Make sure to fully answer the remaining essential question.

**Box 4**
Fully describe potential misunderstandings
- Point out anywhere someone could make a math or logical mistake.
- Use Math Symbols and Academic Language

**Box 5**
Fully explain Misunderstandings
- How does one remember to avoid these misunderstandings or mistakes?

**Box 6**
Complete the reflection, Conclusion
- What did you find most interesting about this topic, what would you like to know more about, etc.?
Consider Reflections on Topic 3 with the following:

**Box 1**

**Set the scene, Introduction**

It is essential to know _____________________________________________________________. The most important part is ___________________________________________ because ___________________________________________.

**Box 2**

**Fully answer Essential Question #1**

The main connection between __________ and __________ is __________.

**Box 3**

**Fully answer Essential Question #2**

Another example of __________ is __________. It’s important to remember ___________________________________________________________.

**Box 4**

**Fully describe potential misunderstandings**

A vital step in the process is ___________ because ___________.

It would be important to ___________ before/after ___________. ___________ and ___________ are related in at least two ways. ___________ and ___________.

While there are exceptions, I can generally say this information tells us that ___________.

I could demonstrate this by _____________________________________________________________.

**Box 5**

**Fully explain Misunderstandings**

With this new information, I can now state ___________.

___________ is significant/reasonable in this case because ___________________________________________.

Frequently ___________ is/are ___________ because they are/it has ___________.

**Box 6**

**Complete the reflection, Conclusion.**

Based on my reflection, I conclude ___________ because ___________.
Topic 1 Planning Space:
Topic 2 Planning Space:
Topic 3 Planning Space:
Topic 1 Final Product Space:
Topic 2 Final Product Space:
Topic 3 Final Product Space:
Box Choice Board Scoring Guide:
Using your reflections that you have begun in your classroom notebook as well as your ideas and experiences from throughout this year, compose 3 reflections in response to the Unit Essential Questions according to the following guidelines:

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</table>

**Real World Application**

| Box 1 | Work also demonstrates a **fluent** understanding and thoroughly answers the question topic | Work also shows a **conceptually broad** understanding of major topic ideas | Work also shows a **procedural or routine** understanding of the topic | Work shows some symbolic or analogous understanding of the topic |

**Explain and Justify**

| Box 2 & 3 | Work also **precisely** explains math essential understandings | Work also **specifically** explains math essential understandings | Work also **generally** explains math essential understanding | Work attempts to explain math essential understanding |

**Problem Solving, Model**

| Box 4 | Work also **concisely** explains topic misunderstandings | Work also **attempts to describe topic misunderstandings** | Work also **attempts to clear a potential misunderstanding** | Work attempts to explain any potential misunderstanding |

**Representation, Graphs, Tables**

| Box 5 | Work also uses a **recognized process** and uses **multiple representations** to correct misunderstandings | Work also uses a **recognized process** and uses a **representation** to correct misunderstandings | Work also attempts to use a **recognized process** and to correct misunderstandings | Work attempts a process and uses multiple representations to correct misunderstandings |

**Analyze and Communicate**

| Box 6 | Work also appropriately uses math terminology; **highly complete** explanation of topic | Work also appropriately uses to use math terminology; **incomplete** explanation | Work also makes a **clear attempt** to use math terminology; **incomplete** explanation of topic | Work makes an attempt at explaining the solution or summarizing the topic |

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