INTERACTIVE NOTEBOOK INSTRUCTIONS

Making an Interactive Notebook is like Scrapbooking while you learn! The best part is it involves every skill you want to teach your student; Reading, writing, motor skills, critical thinking and creativity are all involved in the design and creation process!! The more engagement you can facilitate the more retention they will have! The other great thing about Interactive notebooks is you can customize them to the age and skill level of your student! Students who are just learning to write their letters can use simple elements, students who can do more advanced Copy work can use more advanced Copy elements and students who are strong writers can use SUMMARIZE elements, etc. For some Activities you may have to use more than one page per lesson to fit all the elements for that assignment. ALWAYS Have the student lay out the elements before gluing. All lessons are mastery and skills based rather than organized by grade level. There is an example template for six basic levels in the first lesson so you know what interactive notebook pages should look like. Each level has additional verses and Extension activities to use for a total of 12 level options. Feel free to let students use this as a guide or to customize it! The Elements can be customized with your own prompts as you like!

Each day a portion of the Parsha is read aloud to younger students or can be read by the older students as they progress, out loud in class. The entire day's lesson is based around the Parsha and the entire day is interactive!!! The goal is to keep your students engaged and interested in what they are learning. Instead of sitting them in front of textbooks and worksheets, they are literally making their own resources themselves as they go- which means they are invested in the process! This interaction guarantees that they will learn more!!!!

Rather than shoveling in facts, figures, and history dates in bulk we incorporate CIRCULAR learning. This means we introduce the topics and little by little. Year by year they revisit these same topics, always deepening their knowledge of them, and RETAINING what they have learned, because they are not being overloaded! We focus on simplicity for you as a teacher (because we know you are also a Spouse and a Parent!), and for your students as learners. No more shuffling stacks of papers and subjects and trying to match up multiple age lessons with one another. No more filing completed work, THEY ARE MAKING THEIR OWN PORTFOLIO AS THEY GO! Each Lesson begins with you reading a Class lesson aloud to everyone. This has all the basic information about the topic and just like the PARSHA will be read again and again year after year so they KNOW IT! Meanwhile their individual notebook pages give them more in depth information year by year!!!

The “You will know them by their LOVE challenge” can be used to motivate kindness and cooperation. use stickers and set your own reward goals! Make extra copies as needed.

INTERACTIVE NOTEBOOK INSTRUCTIONS

Each day a portion of the Parsha is read aloud, and Memory verses should be practiced. Then they do their TORAH page which includes: Copy work, handwriting, or writing a summary, depending on skill level. Each year the should be progressing to be more and more capable of taking on the higher level activities (Spelling & Vocabulary starts at Level 2, Grammar is added for level 3, Writing begins at Level 4 and up etc.) All language lessons are based around the same passages!!!!!

Daily Sequence is as follows:
(OPTIONAL)
WEEKLY PARENT WEBINARS every SUNDAY @ 8 PM CST to discuss Weekly Lessons
WEEKLY STUDENT Zoom Homeroom with AJA & Class every MONDAY @ 8 AM CST
(1) Read TORAH passage given on the WEEKLY PLANNER, then have students complete one DAILY TORAH page at their level.
(OPTIONAL) Work through Daily Living Words Hebrew Lesson if opting to teach Hebrew.
(2) Read or Review WEEKLY LANGUAGE LESSON ONLINE (Older kids should be able to read it themselves but may have some questions you can answer after reading the lesson to the younger set).
(3)Have students complete the appropriate LANGUAGE SKILLS ACTIVITY/ACTIVITIES corresponding to their level.
(4) On Monday Read the WEEKLY SCIENCE LESSON.
On Tuesday Read the WEEKLY HISTORY LESSON
On Wed. watch the SCIENCE video together and explore the SCIENCE RESOURCES.
On Thurs READ the WEEKLY GEOGRAPHY LESSON
On Friday have each Student PRESENT one Notebook page of their choice to the Class.
(5) Have Student Complete the appropriate SCIENCE/HISTORY/GEOGRAPHY skills practice activity corresponding to their level after the LESSON TIME M-Th.
(6) Complete external MATH Lessons/ Activities (We recommend Math U See)

This entire Sequence should take about 4 hours with some practice. Afternoons can be spent reading Books from the Book Lists, journaling, or working on weekly writing assignments (older students). If you want to do a M- Th schedule just double up the History and Geography. The Extra Language Lesson for Friday can be assigned for 'Homework' on Thursday and the Torah Page can be completed on Shabbat if you like.

You can use a regular notebook, blank SketchBook, or looseleaf notebook paper and a 3 inch binder (which is what we recommend) Lined paper is helpful for Writing tasks. When finished, place each complete page in the Interactive Notebook and have older students fill in the TABLE OF CONTENTS as they go! (make additional xerox copies as needed) At the end of the year your student will have an awesome interactive self-created textbook that works through everything they learned for the year! THIS ALSO SATISFIES THE STATES PORTFOLIO REQUIREMENT!!!!!

YOU WILL KNOW THEM BY THEIR LOVE CHALLENGE

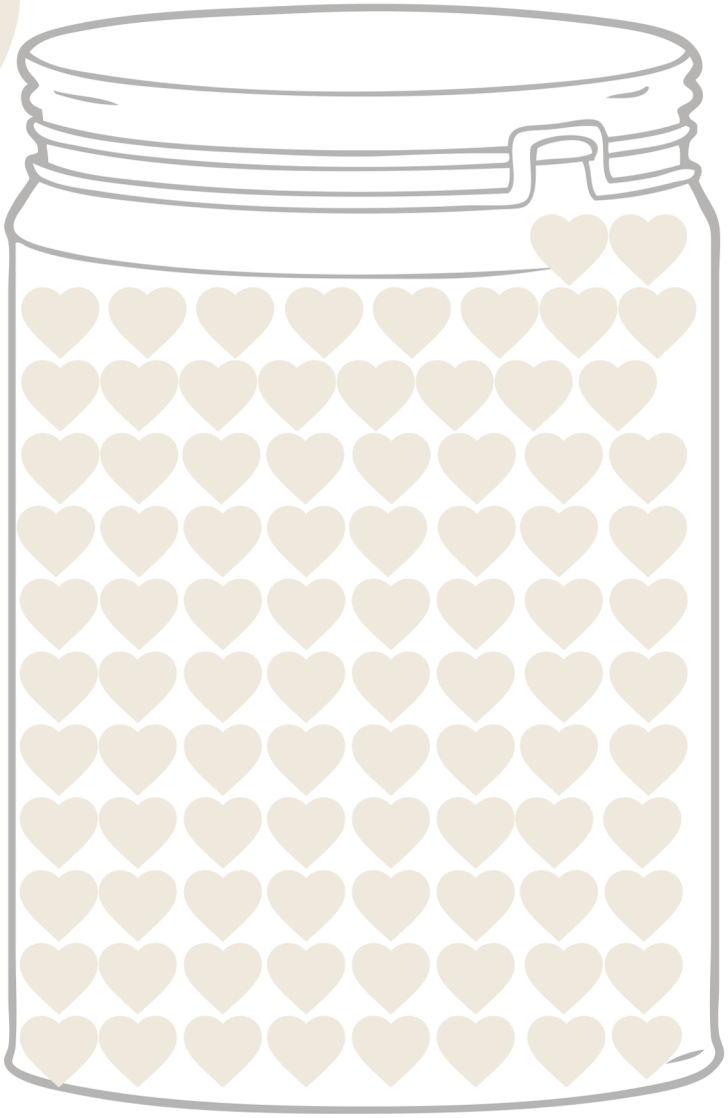
GOAL!!!!

_____

90 HEARTS

_____

_____



Name: _____

_____

Start Date : _____

GOAL ACHIEVED :

REWARDS _____

TABLE OF CONTENTS

DATE	ASSIGNMENT	PAGE



WEEKLY LEVELS 4+ LESSON PLANNER

B'RSHEET

DATES:

ATTENDANCE:	2 M	3 T	4 W	5 T	6 F

DAILY TORAH PASSAGES

1	Genesis 1:1-2:3 ; John 1:1-18
2	Genesis 2: 4- 3:26 ; Matt. 1:1-17 ; 4:1-11
3	Genesis 4 ; Matthew 5:1-12
4	Genesis 5:1- 6:8; Luke 2:1-40
5	Isaiah 42:1- 43:13

WEEKLY MEMORY VERSES

LEVEL

1	Genesis 1:1 / John 1:4
2	Genesis 1:28/ John 1:9-13
3	Genesis 2:1-3/ John 1:14-18
4	Genesis 1:1-8/ John 1:19-28
5	Genesis 1:1-19/ John 1:29-34
6	Genesis 1:1-31/ Isaiah 42:10-13

ADDITIONAL ACTIVITIES:

Day 1

Day 2

Day 3

Day 4

Day 5

SCHEDULE

Day	ACTIVITIES
1	Torah
	Language Pages
	Science Page
	Math (external curriculum)
2	Torah
	Language Pages
	History Page
	Math (external curriculum)
3	Torah
	Language Pages
	Science Page
	Math (external curriculum)
4	Torah
	Language Pages
	Geography Page
	Math (external curriculum)
5	Torah
	Language Pages
	Language Review Page
	Science Page
	Math (external curriculum)

NOTES:



WEEKLY LESSON PLANNER B'RSHEET

DATES:

2	3	4	5	6
M	T	W	T	F
ATTENDANCE:					

WEEKLY PARSHA: B'rsheet: Genesis 1:1- 6:8

HAFTARAH: Isaiah 42:1- 43:13

BRIT cHADASHA: John 1:1-18, Matthew 1:1-17 ; 4:1-11 ; 5:1-12, Luke 2:1-40

DAILY TORAH PAGES

1 _____

2 _____

3 _____

4 _____

5 _____

DAILY TORAH VERSES FOR LANGUAGE ACTIVITY PAGES

1 _____

2 _____

3 _____

4 _____

5 _____

5 _____

ADDITIONAL ACTIVITIES:

Day 1

Day 2

Day 3

Day 4

Day 5

SCHEDULE

Day	ACTIVITIES
1	
2	
3	
4	
5	

NOTES:



Week One

B'resheet

בְּרֵאשִׁית

Teacher/Parent: The weekly PARSHA (Hebrew for "portion") is broken down into 4 daily sections and the fifth day we read the HAFTARAH ("the releasing" as it is read at the end)
Read each daily reading aloud and answer any questions.

Day One: Read Genesis 1:1-2:3 ; John 1:1-18
Day Two: Read Genesis 2: 4- 3:26 ; Matthew 1:1-17 , Matthew 4:1-11
Day Three: Read Genesis 4 ; Matthew 5:1-12
Day Four: Read Genesis 5:1- 6:8; Luke 2:1-40
Day Five: Read Haftarah Isaiah 42:1- 43:13

SUGGESTED DISCUSSION QUESTIONS:
Which day did He create light?
Which day did He create the sun, Moon and stars?
What do you think the light in verses 3 & 4 means!? What is the light being discussed in John 1?
Why do you think Elohim put the tree of Knowledge in the Garden?
Why do you think Eve listened to the Serpent?
Why did Cain kill Abel?
Why was Noah different from the other people on Earth in his day?
Who do you think Isaiah 42 is talking about?

Weekly Memory Verses:

Level 1
(1) In the Beginning Elohim created the Heavens and the Earth. Genesis 1:1
(2) In him was life, and the life was the light of men. John 1:4

Level 2
(1) And Elohim blessed them; and Elohim said unto them: 'Be fruitful, and multiply, and replenish the earth, and subdue it; and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that creeps upon the earth.'
Genesis 1:28
(2) The true light, which gives light to everyone, was coming into the world. He was in the world, and the world was made through him, yet the world did not know him. He came to his own, and his own people did not receive him. But to all who did receive him, who believed by his Name, he gave the right to become children of Elohim, who were born, not of blood nor of the will of the flesh nor of the will of man, but of Elohim. John 1:9-13







Week One

B'resheet

Weekly Memory Verses:

Level 3

(1) And the heaven and the earth were finished, and all the host of them. And on the seventh day Elohim finished His work which He had made; and He rested on the seventh day from all His work which He had made. And Elohim blessed the seventh day, and sanctified it; because in it He rested from all His work which Elohim in creating had made. Genesis. 2:1-3

(2) And the Word became flesh, and dwelt among us, and we have seen His glory, glory as the only Son from the Father, full of grace and truth. Yochanan bore witness about him and cried out, "This is He of whom I said, 'He who comes after me ranks before me, because he was before me.'" For from his fullness we have all received, grace upon grace. For as the Torah was given by Moshe; grace and truth came through Yeshu Messiah. No one has ever seen Elohim; the only Elohim. He who is at the Father's side has made him known. John 1: 14-18

Level 4

(1) In the beginning, Elohim created the heavens and the Earth. And the Earth was without form and void, and darkness was over the face of the deep. And the Spirit of Elohim was hovering over the waters. And Elohim said, "Let there be light," and there was light. And Elohim saw the light that it was good. And Elohim separated the light from the darkness. Elohim called the light day, and the darkness he called Night. And there was evening and there was morning, day one. And Elohim said, "Let there be and expanse in the midst of the waters, and let it separate waters from waters. And Elohim made the expanse and separated the waters that were under the expanse from waters that were above the expanse. And it was so. And Elohim called the expanse 'Heavens.'Amd there was evening and there was morning, the second day.

Genesis 1:1-8

(2) And this is the testimony of Yochanan (John), when the Jews sent priensts and Levites from Yerushalaim (Jerusalem) to ask him, " Who are you?" He confessed, and did not deny, but confessed, "I am not the Messiah." And they asked him, "What then? Are you Elijah?" He said, "I am not." "Are you the Prophet?" And he answered, "No." So they said to him "Who are you?" We need to give an answer to those who sent us. What do you say about yourself?" He said, " I am the voice of one crying out in the wilderness, "Make straight the way of the Master,' as the prophet Yeshayahu said." Now they had been sent from the Pharisees. They asked him, "Then why are you baptizing, if you are neither the Messiah, not Elijah, nor the Prophet?" Yochanan answered them, "I baptize you with water but among you there stands one you do not know, even he who comes after me, the strap of whose sandal I am not worthy to untie. These things took place in Bethany across the Jordan, where Yochanan was baptizing." John 1:19-28





Week One

B'resheet

Weekly Memory Verses:

Level 5:

(1) In the beginning, Elohim created the heavens and the Earth. And the Earth was without form and void, and darkness was over the face of the deep. And the Spirit of Elohim was hovering over the waters. And Elohim said, "Let there be light," and there was light. And Elohim saw the light that it was good. And Elohim separated the light from the darkness. Elohim called the light day, and the darkness he called Night. And there was evening and there was morning, day one. And Elohim said, "Let there be and expanse in the midst of the waters, and let it separate waters from waters. And Elohim made the expanse and separated the waters that were under the expanse from waters that were above the expanse. And it was so. And Elohim called the expanse 'Heavens.' And there was evening and there was morning, the second day. And Elohim said, "Let the waters under the heavens be gathered together into one place, and let the dry land appear." And it was so. Elohim called the dry land Earth, and the waters that were gathered together he called Seas. And Elohim saw that it was good. And Elohim said, "Let the earth sprout vegetation, plants yielding seed, and fruit trees bearing fruit in which is their seed, each according to its kind, on the earth." And it was so. The earth brought forth vegetation, plants yielding seed according to their own kinds, and trees bearing fruit in which is their seed, each according to its kind. And Elohim saw that it was good. And there was evening and there was morning, the third day. And Elohim said, "Let there be lights in the expanse of the heavens to separate the day from the night. And let them be for signs and for appointed times, and for days and years, and let them be lights in the expanse of the heavens to give light upon the earth." And it was so. And Elohim made the two great lights—the greater light to rule the day and the lesser light to rule the night—and all the stars. And Elohim set them in the expanse of the heavens to give light on the earth, to rule over the day and over the night, and to separate the light from the darkness. And Elohim saw that it was good. And there was evening and there was morning, the fourth day.
Genesis 1:1-19

(2)The next day John saw Yeshua coming toward him and said, "Look, the Lamb of YAH, who takes away the sin of the world! This is He of whom I said, 'A man who comes after me has surpassed me because He was before me.' I myself did not know Him, but the reason I came baptizing with water was that He might be revealed to Israel."
Then John testified, "I saw the Spirit descending from heaven like a dove and resting on Him. I myself did not know Him, but the One who sent me to baptize with water told me, 'The man on whom you see the Spirit descend and rest is He who will baptize with the Holy Spirit.' I have seen and testified that this is the Son of Elohim" John 1:29-34





Week One

B'resheet

Weekly Memory Verses:

Level 6 :

(1) In the beginning, Elohim created the heavens and the Earth. And the Earth was without form and void, and darkness was over the face of the deep. And the Spirit of Elohim was hovering over the waters. And Elohim said, "Let there be light," and there was light. And Elohim saw the light that it was good. And Elohim separated the light from the darkness. Elohim called the light day, and the darkness he called Night. And there was evening and there was morning, day one. And Elohim said, "Let there be an expanse in the midst of the waters, and let it separate waters from waters. And Elohim made the expanse and separated the waters that were under the expanse from waters that were above the expanse. And it was so. And Elohim called the expanse 'Heavens.' And there was evening and there was morning, the second day. And Elohim said, "Let the waters under the heavens be gathered together into one place, and let the dry land appear." And it was so. Elohim called the dry land Earth, and the waters that were gathered together he called Seas. And Elohim saw that it was good. And Elohim said, "Let the earth sprout vegetation, plants yielding seed, and fruit trees bearing fruit in which is their seed, each according to its kind, on the earth." And it was so. The earth brought forth vegetation, plants yielding seed according to their own kinds, and trees bearing fruit in which is their seed, each according to its kind. And Elohim saw that it was good. And there was evening and there was morning, the third day. And Elohim said, "Let there be lights in the expanse of the heavens to separate the day from the night. And let them be for signs and for appointed times, and for days and years, and let them be lights in the expanse of the heavens to give light upon the earth." And it was so. And Elohim made the two great lights—the greater light to rule the day and the lesser light to rule the night—and all the stars. And Elohim set them in the expanse of the heavens to give light on the earth, to rule over the day and over the night, and to separate the light from the darkness. And Elohim saw that it was good. And there was evening and there was morning, the fourth day. And Elohim said, "Let the waters swarm with swarms of living creatures, and let birds fly above the earth across the expanse of the heavens." So Elohim created the great sea creatures and every living creature that moves, with which the waters swarm, according to their kinds, and every winged bird according to its kind. And Elohim saw that it was good. And Elohim blessed them, saying, "Be fruitful and multiply and fill the waters in the seas, and let birds multiply on the earth." And there was evening and there was morning, the fifth day.
And Elohim said, "Let the earth bring forth living creatures according to their kinds—livestock and creeping things and beasts of the earth according to their kinds." And it was so. And Elohim made the beasts of the earth according to their kinds and the livestock according to their kinds, and everything that creeps on the ground according to its kind. And Elohim saw that it was good. Then Elohim said, "Let us make man in our image, after our likeness. And let them have dominion over the fish of the sea and over the birds of the heavens and over the livestock and over all the earth and over every creeping thing that creeps on the earth." So Elohim created man in his own image, in the image of Elohim he created him;
male and female he created them. And Elohim blessed them. And Elohim said to them, "Be fruitful and multiply and fill the earth and subdue it, and have dominion over the fish of the sea and over the birds of the heavens and over every living thing that moves on the earth."And Elohim said, "Behold, I have given you every plant yielding seed that is on the face of all the earth, and every tree with seed in its fruit. You shall have them for food. And to every beast of the earth and to every bird of the heavens and to everything that creeps on the earth, everything that has the breath of life, I have given every green plant for food." And it was so. And Elohim saw everything that he had made, and behold, it was very good. And there was evening and there was morning, the sixth day.Thus the heavens and the earth were finished, and all the host of them. And on the seventh day Elohim finished his work that he had done, and he rested on the seventh day from all his work that he had done. So Elohim blessed the seventh day and made it holy, because on it Elohim rested from all his work that he had done in creation.
Genesis 1: 1-31 & 2:1-3

(2) Sing to YHVH a new song, his praise from the end of the earth,
you who go down to the sea, and all that fills it, the coastlands and their inhabitants.
Let the desert and its cities lift up their voice, the villages that Kedar inhabits;
let the habitants of Selah sing for joy, let them shout from the top of the mountains.
Let them give glory to YHVH, and declare his praise in the coastlands.
The Lord goes out like a mighty man, like a man of war he stirs up his zeal;
he cries out, he shouts aloud, he shows himself mighty against his foes.
Isaiah 42:10-13





Week One

B'resheet

Weekly TORAH WRAP UP:

Parsha WRAP-UP (READ THIS AT THE END OF THE WEEK TO REVIEW!)

Elohim creates the world in six days. On the first day He makes light- separating it from darkness. On the second day He creates the Firmament again by dividing the waters above (atmosphere) from the waters below (what becomes the Ocean and Seas). On the third day He divides Dry Land from Seas, and commands the earth to bring forth trees and all green plants. On the fourth day He creates the sun, moon and stars and ordains them as a 'Star Clock' to give light and provide a calendar in the Sky. On the fifth day He creates Fish, birds and reptiles.On the sixth day land animals, and then the humankind are made. After all of this Elohim declares the very first SHABBAT. On it, He ceases from all his work, and sanctifies the Seventh Day as a day of rest FOREVER.

ELOHIM forms the first human from the dust of the earth, and blows into its nostrils a NEFESH (living soul) ADAM is a single person, but seeing that "it is not good for ADAM to be alone," He takes a rib from ADAM, forms it into a woman, and presents her to Him as a perfect help-meet and companion.
Adam and Eve (cHavvah) are placed in the Garden of Eden, and given just one positive and one negative commandment. They are told to be fruitful and multiply and more importantly to SUBDUE THE EARTH AMD ITS CREATURES. They are also commanded not to eat from the "Tree of Knowledge of Good and Evil." The clever serpent seduces Eve by bringing the desirability of the fruit to her attention. He thus tricks her into transgression against YHVH, and she shares the forbidden fruit with ADAM, and he eats too. Because of their sin they are sent out of the garden and sentenced to face death and a return to the soil from which they were formed. They are each told that because of their sin it is only through struggle and hardship they will survive now. They are banished from the Garden of Eden forever.
Upon leaving the garden, Eve gives birth to Cain and later to Abel. Cain is a tiller of soil and Abel a shepherd of flocks. They quarrel and Cain murders Abel, becoming a wanderer amd a vagabond. After the loss of both sons, Adam and Eve have a third son, named Seth. It is through Seth's descendant, 8 generations later, that Noah is brought forth who is described as PERFECT among his generations.

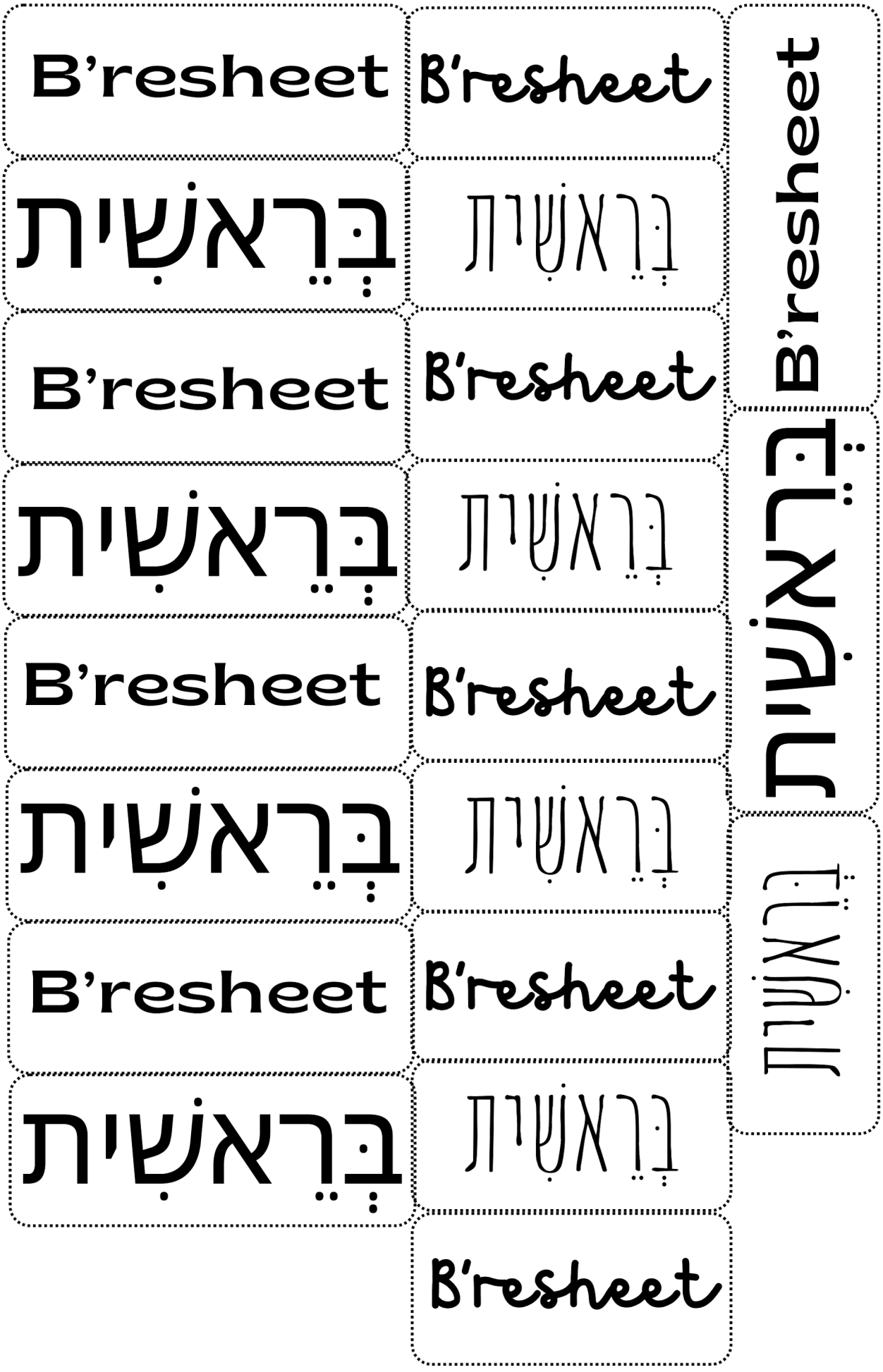
Discussion Questions:

Do you notice that the process of creation involved setting one thing apart from another; What do you think this means? What does it tell us about life?
Why do you think Adam was not happy without Eve?
Why was Eve tempted to eat from the only tree she was told not to eat from?
Have you ever felt tempted to do something you know you should not do?
Why do you think YHVH allows us to be tempted?
How does the Torah teach us we can overcome temptation?
What part of the Pasha did you enjoy the best this week?
Were there parts you found boring?
What are the lessons YHVH wants us to learn from this Parsha?





OUTLINE ELEMENTS



B'rsheet TORAH Reading & Journaling Elements for Level 4 & 4 Extension

Cut out the Prompts and paste them in your notebook for each day. Then write 1 paragraph to discuss each Prompt.
Level 4 Extension- Write 2 paragraphs

Day 1-

READ: Genesis 1:1-2:3 & John 1:1-18 from your Bible.

What are the similarities or differences between these passages and the LIGHT that was created?

Day 2-

READ: Genesis 2:4-19 & Matthew 1:1-17 from your Bible.

How was the creation of Adam different from the way YHVH created all the other living things? How might that relate to Yeshua's creation?

Day 3-

READ: Genesis 4 & Matthew 5:1-12 from your Bible.

Analyze the parallels between the Beatitudes and the nature of Cain and Abel? How did Cain depart from these morals?

Day 4-

READ: Genesis 5:1-6:8 & Luke 2:1-40 from your Bible.

Why are genealogies important? What happened to the genealogies of mankind when the Nephilim descended?

Day 5-

READ: Isaiah 42:1-43:13 from your Bible.

Who is the light to the nations that chapter 44:6 is talking about? How does this relate to the TORAH portion for this week?


B'RSHEET
BINGO!


B'RSHEET
BINGO!

DAILY LANGUAGE ACTIVITIES FOR LEVEL 4

DAY	TASK	COMPLETE
1	**COPY:** PROVERBS 1 by hand in your nicest handwriting onto tracing paper with wide ruler notebook paper behind it on a clipboard. Cut it out and put it over decorative paper. Add this as a page in your notebook! **OPTIONAL - Copy Proverbs 1:7 in HEBREW*	
2	**EXPOSITORY ESSAY:** Write a 5 paragraph essay describing the Creation Week. Use citations for sources. DUE TOMORROW	
3	**COPY** Genesis 2:1-2 Use your rainbow highlighters to **HIGHLIGHT** all the **PREFIXES in PINK**, **SUFFIXES in PURPLE**, and **ROOTS in YELLOW**. TURN IN ESSAY	
4	**DESIGN** a brochure for a time traveling tour that takes tourists back to the beginning of time to watch creation unfold!! Describe a theoretical technology used to do this. Use lots of adjectives to excite your customers!	
5	**PERSUASIVE ESSAY**: Write a 5 paragraph essay to convince an atheist that there is a Creator who intelligently designed the world. DUE MONDAY	

GRAMMAR REFRESHER:

An ***EXPOSITORY ESSAY*** conveys information and facts.

A ***PERSUASIVE ESSAY*** endeavors to convince a reader of a particular view.

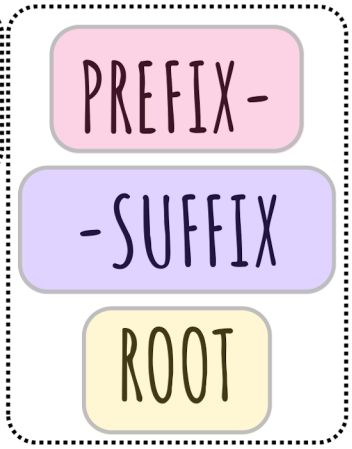
PREFIX- A letter or small group of letters added to to the BEGINNING of a word to make a new word.

SUFFIX- A letter or small group of letters added to to the END of a word to make a new word.

ROOT- The most basic form of a word to which other parts such as prefixes and suffixes are added to make new words.

GRAMMAR PRACTICE

DAY 3 ELEMENTS



DAILY LANGUAGE ACTIVITIES FOR LEVEL 4 - EXTENSION

DAY	TASK	COMPLETE
1	**COPY:** PSALM 1 by hand in your nicest handwriting onto tracing paper with wide ruler notebook paper behind it on a clipboard. Cut it out and put it over decorative paper. Add this as a page in your notebook! **OPTIONAL - Copy Psalms 1:1 in HEBREW*	
2	**EXPOSITORY ESSAY:** Write a 2 page essay comparing the Creation narrative in Genesis to the creation story of a different culture. Remember not to add opinions. Essay is due at the end of the week.	
3	**LOOK UP & COPY** the entries for three STRONGS # HEBREW words found in this weeks PARSHA. **USE ELEMENTS BELOW**	
4	**WRITE** a poem about any topic in this weeks Parsha, such as creation, Adam & Even in Eden or Cain & Abel !	
5	**CREATIVE WRITING**: Write a pretend News article to announce the Creation of EARTH to the angels in Heaven. TURN IN YOUR ESSAY!	

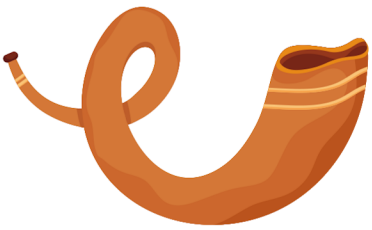
GRAMMAR REFRESHER:

An ***EXPOSITORY ESSAY*** conveys information and facts.



DAY 3 ELEMENTS






LET THERE BE LIGHT!

WAVES VS PARTICLE BEHAVIOR

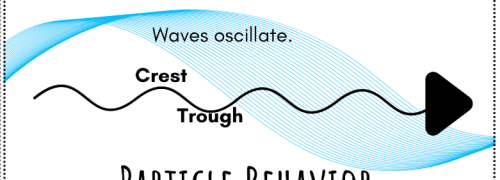
WAVE-PARTICLE DUALITY

Scientists do not fully understand the miracle of light. They have several THEORIES about it however. One theory from the mid 1800's called WAVE THEORY explains light as electric and magnetic energy WAVES. Still, some forms of light can only be explained by another theory called QUANTUM THEORY which explains light as being made from energy packets called PHOTONS. The current theory most scientists agree on says light CAN BE UNDERSTOOD as a WAVE-PARTICLE DUALITY, that behaves both like waves and like particles.

Particles move in straight lines in a single direction, while waves move in circular or oscillating patterns and can bend around objects creating effects such as Diffraction. Sound, light of all wavelengths, and very small moving particles such as atoms all exhibit wave-like properties, including diffraction. In fact this effect being exhibited by light, which was previously assumed to be a stream of particles, is what led to scientists understanding wave- particle duality.

WAVES VS PARTICLES

WAVE BEHAVIOR



PARTICLE BEHAVIOR

Particles move in a straight stream



How did WAVE THEORY explain the structure of light?

How did QUANTUM THEORY explain light?

How does WAVE-PARTICLE DUALITY explain light?

And Elohim said, "Let there be light," and there was light. Genesis 1:3

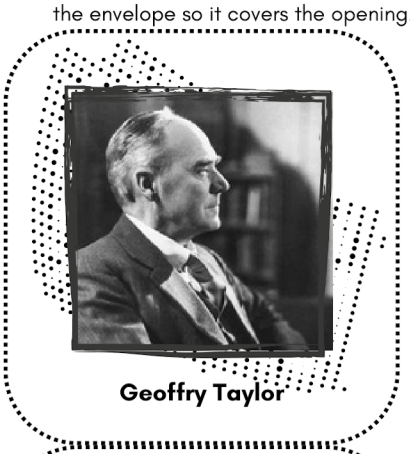
Day 1

B'rsheet Science Daily Pages LEVEL 4 EXTENSION



Instructions:

Answer the questions in the Summary Element from the previous page in the form of a short 3 paragraph summary and paste it on your page. Cut the waves vs particles booklet on the previous page out along the dotted lines. FOLD on the RED double lines. Glue the back down and fold the front flap over to make a cover.Then glue the WAVE BEHAVIOR Heading on the front of the booklet cover. Cut out the Physicist cards and the Key History Facts pocket. Glue the edges of the pocket to a notebook page leaving the top open so you can place the physicist cards within! Research one of the two notable physicists below who added to the modern understanding of wave particle duality and write a 3 paragraph biography about them. Tuck it into the biography envelope pocket (glue it on the same way you did the denim pocket) Finally, write the Name of the physicist you chose on the top envelope flap. Glue the top flap along the top edge only just over the envelope so it covers the opening.



Geoffry Taylor

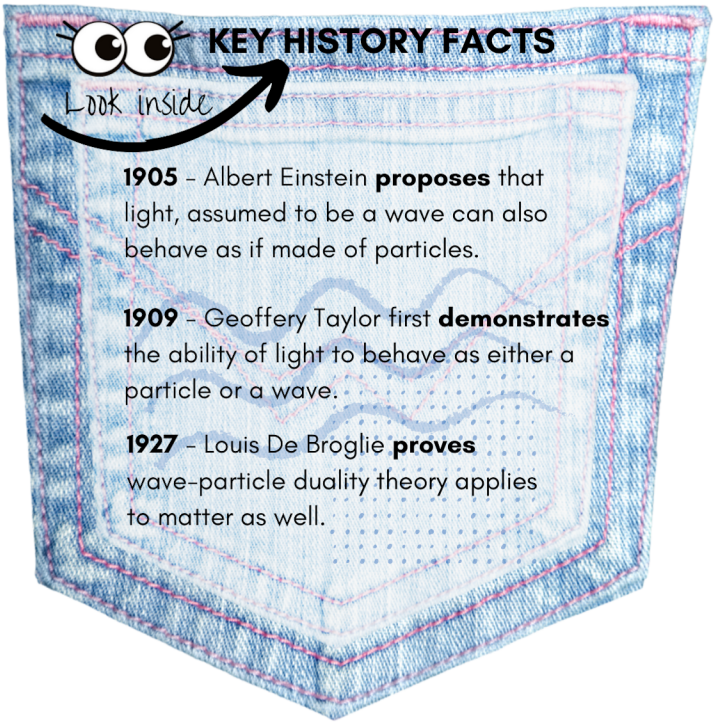


Louis De Broglie



Fold along the double red line. Then glue along this edge only.





B'rsheet HISTORY Daily Page Level 4

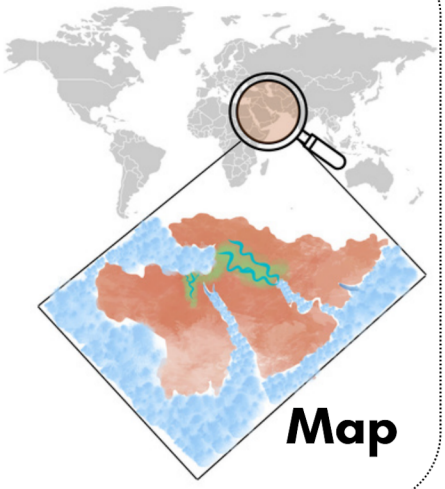
Day 2

ANCIENT SUMER

Research ziggurats and write a short summary about them including several examples of cultures that built them. How do their similarities point to a common inspiration from the tower of Babel? Scan the QR code below for an article to get you started.

Ziggurats, ancient Mesopotamian stepped pyramids, were monumental structures that served as religious temples in the civilizations of Sumer, Akkad, and Babylon. These impressive architectural marvels were primarily constructed using sun-baked bricks and were characterized by their terraced levels, with each tier decreasing in size as the structure ascended. Ziggurats were typically dedicated to a specific deity and were believed to be the sacred abode of the gods on earth. These imposing structures were not only significant religious centers but also probably served as administrative hubs and symbols of power for the ruling elites. The ziggurats' distinct design and prominent location in the cityscape made them easily recognizable symbols of the Mesopotamian civilization's advanced culture and religious devotion. Fascinatingly, there are similar structures build by civilizations all over the world! Each culture has different styles and used different materials depending on. the climate and locally available resources. However, they all appear to have drawn on a similar inspiration. Perhaps being scattered from Shinar, they all shared memories of the Tower of Babel?

Cut out the Elements to add detail to your Essay. Glue the back panel (Ziggurat of Marduk) of the accordion-fold strip showing ziggurats of the world to your notebook and fold on the red lines to make a pull out.



Map



Ziggurats and Pyramids



Ziggurat of Marduk in Iraq



Pyramid of the Magician in Mexico



Pyramids of Giza in Egypt



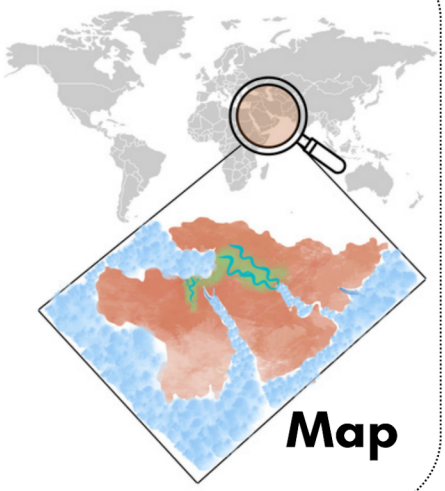
Xunantunich Pyramid in Belize

PULL to Explore Ziggurats and Pyramids of the World!

Day 2

B'rsheet HISTORY Daily Page Level 4 - EXTENSION

Ancient Sumer



Map

Imagine that you were an Ancient Sumerian King like Gilgamesh but you discovered the one true Elohim. Deciding that you want to rid your City State of idolatry you must create a plan. How will you do it? Write a Royal edict informing your Advisors of your plan and how you will carry it out.

A New URUK!

B'rsheet Science Daily Pages

Level 4 Day 3

Created Matter



Glue the 'Examples' heading into your notebook. Next cut out and place each example in Blue in a line in your notebook leaving space to write below each. Finally, answer the questions below in complete sentences below each example.

Water can be a liquid, a solid (ice), or a gas (vapor). So what happens to the water to make it change into a different STATE OF MATTER? All matter is made of MOLECULES. MOLECULES are the smallest unit of a physical thing and are made of one or more ATOMS. When the molecules are packed very close together they cannot move around much and do so very slowly, and so its SHAPE and SIZE do not change. In other words it has a DEFINITE SHAPE and a DEFINITE VOLUME. We call this type of matter a SOLID.

When the molecules are less close together and have enough space to flow around each other a little faster, we say it is a LIQUID. Liquids have NO DEFINITE SHAPE, they just take the shape of whatever container they are in. But the amount or VOLUME does not change.

Finally when the molecules are very far apart and thus can move very quickly bouncing off each other, we say it is a GAS. Gasses have neither a DEFINITE SHAPE or VOLUME.

there is a fourth less common state of matter called 'plasma' however, even though it's rare on earth, this state of matter may be the most common state in the Universe! Our Sun is in a Plasma state! You can observe this state of matter by watching the video attached to the QR code below.

DO NOT TRY THIS EXPERIMENT AT HOME YOU COULD RUIN THE MICROWAVE!

SOLID

_____ SHAPE

_____VOLUME

LIQUID

_____ SHAPE

_____VOLUME

GAS

_____ SHAPE

_____VOLUME

Using simple circles to represent molecules, fill in each cylinder below to demonstrate each state of matter and fill in the blank with either DEFINITE or NO DEFINITE for each one.





Examples:

Is water an example of solid a liquid or a gas?

Is a marble an example of solid a liquid or a gas?

Are clouds an example of solid a liquid or a gas?

What state of Matter is are stars?









STATES OF MATTER

Summarize the similarities and differences between the FOUR states of Matter found naturally in our world.

PLASMA

SOLID

LIQUID

GAS

B'rsheet GEOGRAPHY Daily Page Level 4

Day 4

GEOGRAPHY OF THE MIDDLE EAST

The Middle East is the region located at the point where the three continents of Asia, Africa, and Europe all touch. It is home to numerous countries, each with its unique culture, language, and history. This region has played a significant role throughout history, and its influence can still be felt in various aspects of society, including politics, religion, and trade.

The Middle East is known for its diverse geography and climate. There are six distinct zones within the region which are divided by various mountain ranges and deserts. Each of these regions is unique, not only geographically but also in terms of cultural traditions, as the geography historically served to insulate the development of the people who lived in each region. Understanding the geography and climate of the Middle East is critical in comprehending world history, so lets briefly look at each region.

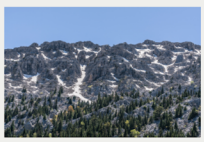
1. THE NILE RIVER VALLEY
2. THE LEVANT
3. THE TAURUS MOUNTAINS
4. THE ARABIAN PENINSULA
5. MESOPOTAMIA
6. THE ZAGROS MOUNTAINS



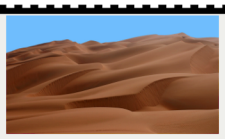
The Nile River Valley: Flowing north through the Sahara Desert, this important river provides water, extremely fertile soil, and functions as a "highway" for Egypt. Surrounding the Nile are deserts which contain valuable mineral resources, such as gold.



The Levant: East of the Nile Valley is the Mediterranean Coastal plain. The fertile soil and moderate rainfall in the region supports agriculture and Coastal access to Seas make this area an important trade hub leading to a lot of cultural exchange in this area.



The Taurus Mountains: North of the Levant, these mineral rich Mountains extend up to 12,000 feet in elevation and create a division between the Levant and the Anatolian plateau. Known as the "Silver Mountains" in ancient texts, the Taurus Mountains are rich in metals and minerals—especially copper.



The Arabian Peninsula: South and East of the Levant is the desert region known as the Arabian Peninsula. This is an important cultural region for Islam as Muhammad lived here. It is bordered by the Red Sea, Arabian Sea and Persian Gulf. Sand Dunes are interspersed with rocky mountains and Oases.

Cut the Accordion Fold pull out Infographic out ALONG THE DASHED LINES ONLY. Fold along the PURPLE CENTER LINE FIRST and glue the two sides together. So it is a double sided strip. Glue the last block (The Nile River Valley) flat on the Notebook page. Now you can fold the pages up ALONG THE RED LINES, and make a pull out strip showing the 6 major zones.

THE 6 ZONES OF THE MIDDLE EAST

Mesopotamia: Located East of the Levant this fertile valley is watered by the Tigris and the Euphrates Rivers. The rainfall in the north and an elaborate ancient aqueduct system in the south allowed this region to become the cradle of civilization and the beginning of agriculture.



The Zagros Mountains: East of Mesopotamia are the Zagros Mountains. Boasting an elevation of 15,000 feet at its highest, these mountains contain lumber as well as building stone and the Persian culture that arose here made good use of these for trade and development.



Descriptions adapted from: Emberling, Geoff. "Foundations." The Geography of the Middle East, Geoff Emberling, Teach Middle East, teachmiddleeast.lib.uchicago.edu/foundations/geography/essay/essay-01.html. Accessed 1 July 2023.

Day 4

B'rsheet Geography Daily Pages LEVEL 4 - EXTENSION

GEOGRAPHY OF THE MIDDLE EAST

Using the information from the level 4 daily page, shade each of the Zones of the Middle East on the map, and fill in the key to show which color identifies each region. Then paste it in your notebook and answer each question using complete sentences to create a short paragraph about the Zones of the Middle East.



GEOGRAPHIC ZONE	COLOR

QUESTIONS

1. How many zones are in the Middle East?
2. What are the names of these zones?
3. Which of these Zones functioned as a major transportation route for ancient Egypt?
4. Which area is a coastal plain that supports agriculture and became a major trade hub?
5. Which area is known as the Cradle of Civilization and why?
6. Which zone was referred to in ancient times as The Silver mountain and why?
7. Which area is primarily sand dunes and arid mountains, and why is it a culturally significant area?
8. Which mountainous zone provided a large amount of stone and lumber for building infrastructure?

B'rsheet Science Level 4 Daily Lesson Page Day 5

LIGHT & PLANTS

You know what Photosynthesis is of course. Now, it's time to present you with some more comprehensive information about photosynthesis. We will break down the process into three stages: light-dependent reactions, the Calvin cycle, and the production of glucose.

Light-Dependent Reactions: In this initial stage, sunlight is absorbed by chlorophyll, energizing electrons and splitting water molecules. This releases oxygen as a byproduct, which is then released into the atmosphere.

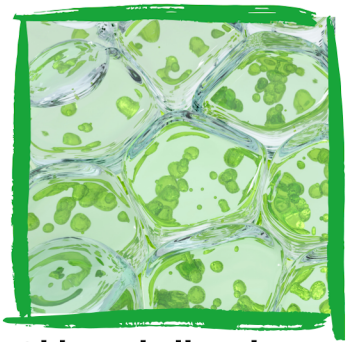
The Calvin Cycle: Moving on to the second stage, the Calvin cycle takes place in the **stroma** of the **chloroplasts**. Here, energy from the light-dependent reactions is used to convert carbon dioxide into glucose. This glucose serves as the building blocks for plant growth and sustenance.

Production of Glucose: The final stage involves the production of glucose, the ultimate product of photosynthesis. Glucose is stored as energy in the plant's cells and is essential for plant growth, reproduction, and overall survival.

VOCABULARY



CHLOROPLASTS: the organelles within the stroma where chlorophyll is and photosynthesis takes place
STROMA: the supportive framework or matrix that surrounds the plant's cells, providing structural integrity and support, and allowing nutrient transport, and exchange to occur for photosynthesis.
GLUCOSE: Glucose is a simple sugar that is an important source of energy for living organisms.



Chlorophyll under a microscope

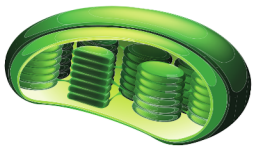


Plant cells under a microscope

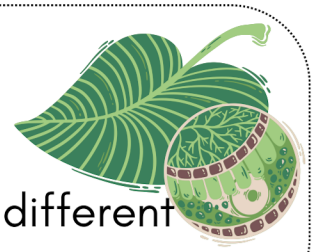


Day 5

B'rsheet Science Daily Pages - LEVEL 4 Extension



DIAGRAM



Create a diagram illustrating the different stages of photosynthesis.

WRITE
LIFE WITHOUT PLANTS???

Write a 3-5 paragraph essay explaining why photosynthesis is vital for all living organisms. What would happen if somehow there were no more plants? Would it affect humans? How?

RESEARCH

Conduct a research project on a plant. Be sure to apply the Scientific Method to your Project. You can use one of the following Questions to base your Research upon or make your own:

What effect do sound or vibrations have on plants?

Will reading Scriptures to a plant affect its growth?

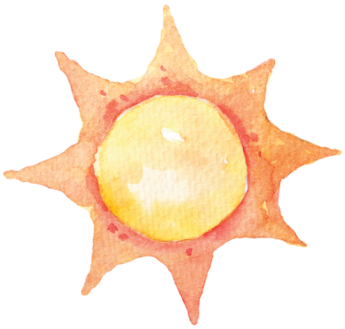
Do plants have emotions?



ACCENTS





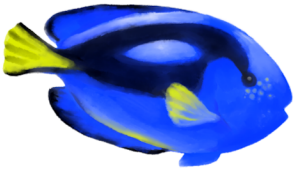





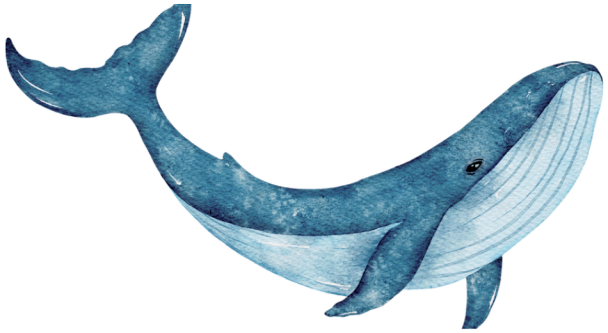










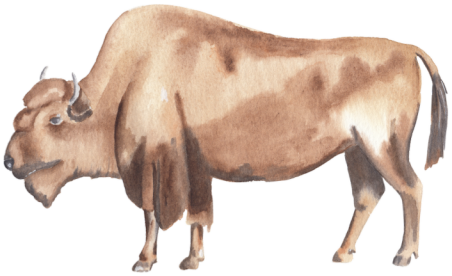


OUTLINE ELEMENTS

















OUTLINE ELEMENTS

































B'RSHEET ACCENTS









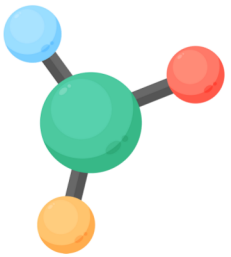


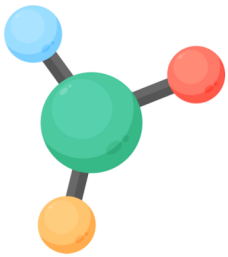




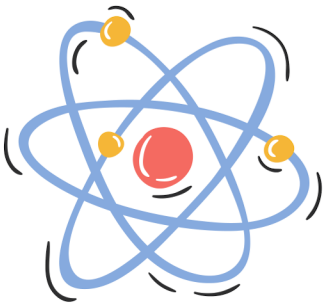








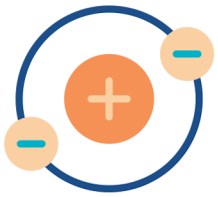








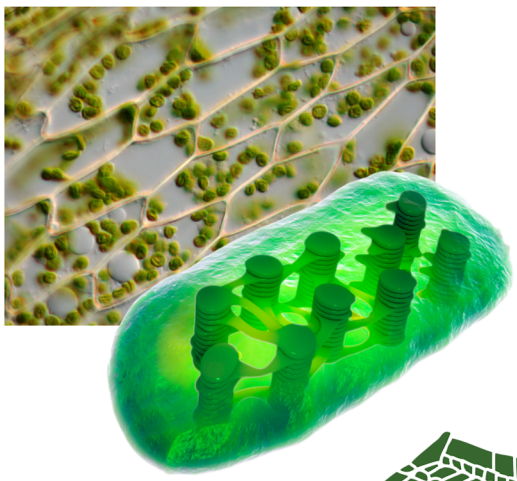




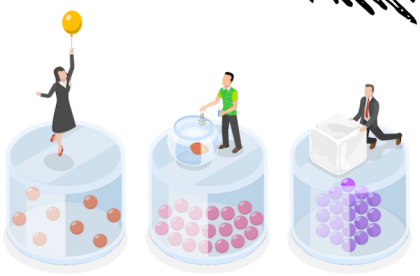




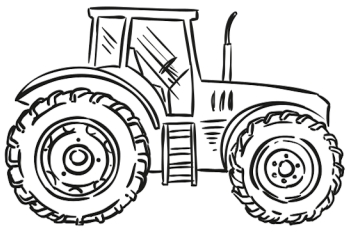


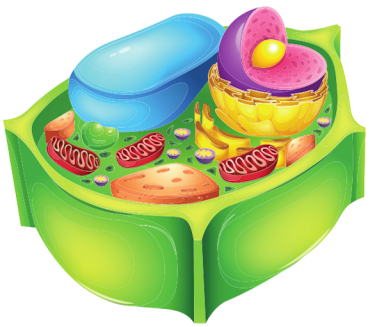












PLANT CELL





