Plan For The Week Students Template

Plan for the week of: _April 20 - April 24_____

At the end of the week you will know, understand, and/or be able to do the following:

I can use mathematics and statistics to analyze data.
I can use tables and graphs to display and analyze data.
I can communicate findings clearly and persuasively.
I can defend my explanation.

Why does this learning matter?

You will be able to use cross cutting concepts that span all subject areas and engage in science and engineering practices.

The plan for the week :

- Monday: Read the Data Nugget Research Background "Do invasive species escape their enemies", Answer the scientific questions, find and underline the hypothesis and determine your variables. (page 1-2)
  **find the meaning of any words you do not understand..

- Tuesday: Graph the data, then interpret the data. Your answer for interpreting data should be at least 4 sentences in paragraph form. I included Sentence Starters: Claim, Evidence, Reasoning to help shape your response.
  Select the level that is most appropriate for your current skills and complete the graphing portion. You only need to do one of these graphs. Start with Level C and see if you can complete the graph. If that is beyond your current skills then look at Level B or Level A. The graphs are not labeled as A, B, or C but you can tell the difference by the following.
  Level A: Make observations of a completed graph
  Level B: Complete a graph that has the x and y axes labeled and intervals already selected
  Level C: Complete the graph on a blank graph

- Wednesday: Answer the 'Your next step as a scientist' in at least 5 sentences using paragraph form.
- Thursday: Complete Scientific Method practice - independent & dependent variables - worksheet page 5 & 6

- Friday: Complete The Language of Science worksheet pg 7 & 8

Who To Ask For Help and How To Reach Them

Ms. Davis, 6th & 7th Grade Science Teacher ☺
Email: wdavis@fernridge.k12.or.us
Phone: (541) 972-3156

7th Science

7th grade Science Article pg 1

Name_____

DATA Nugget

Do invasive species escape their enemies?
Featured scientist: Elizabeth Schultheis from Michigan State University

Research Background:

Invasive species, like zebra mussels and garlic mustard, are species that have been introduced by humans to a new area. Where they invade they cause harm. For example, invasive species outcompete native species and reduce diversity, damage habitats, and interfere with human interests. Damage from invasive species costs the United States over $100 billion per year.

Scientists want to know, what makes an invasive species become such a problem once it is introduced? Is there something that is different for an invasive species compared to native species that have not been moved to a new area? Many things change for an invasive species when it is introduced somewhere new. For example, a plant that is moved across oceans may not bring enemies (like disease, predators, and herbivores) along for the ride. Now that the plant is in a new area with no enemies, it may do very well and become invasive.

Scientists at Michigan State University wanted to test whether invasive species are successful because they have escaped their enemies. They predicted invasive species would get less damage from enemies, compared to native species that still live near to their enemies. If native plants have tons of insects that can eat them, while an invasive plant has few or none, this would support enemy escape explaining invasiveness. However, if researchers find that native and invasive species have the same levels of herbivory, this would no support enemy escape. To test this hypothesis, a lab collected data on invasive and native plant species in Kalamazoo County. They measured how many insects were found on each species of plant, and the percent of leaves that had been damaged by insect herbivores. The data they collected is found below and can be used to test whether invasive plants are successful because they get less damage from insects compared to native plants.

Scientists at Michigan State University collecting data on invasive and native plant species, such as the number of insects found on each plant and the percent of leaves damaged by insect herbivores.

7th Science

7th grade Science Article

Name_____

Scientific Question: How does insect herbivore damage and insect herbivore numbers compare for native and invasive plants? Are invasive species successful because they have escaped insect herbivores?

What is the hypothesis? Find the hypothesis in the Research Background and underline it. A hypothesis is a proposed explanation for an observation, which can then be tested with experimentation or other types of studies.

Scientific Data:

Use the data below to answer the scientific question:

Scientific Name	Species Status	Average number of insects per plant	Percent leaves with damage from insect herbivores
Trifolium repens	invasive	0.09	67.5
Silene latifolia	invasive	0.08	33.9
Daucus carota	invasive	0	13.3
Robinia pseudoacacia	invasive	0.57	86.3
Dianthus armeria	invasive	0.03	34.7
Hieracium caespitosum	invasive	0.06	27.2
Stellaria graminea	invasive	0	8.3
Rumex acetosella	invasive	0	47.5
Chenopodium album	invasive	0	0
Phleum pratense	invasive	0.06	29.1
Danthonia spicata	native	0	10.4
Apocynum cannabinum	native	0	21.6
Hieracium gronovii	native	0	20
Lespedeza capitata	native	0.08	66.7
Ambrosia artemisiifolia	native	0	40.5
Vitis riparia	native	0	100
Monarda fistulosa	native	0	30.5
Antennaria parlinii	native	0	17.7
Euphorbia corollata	native	0	8.3
Asclepias tuberosa	native	0.8	11.6

Average for Invasive		
Average for Native		

What data will you graph to answer the question?

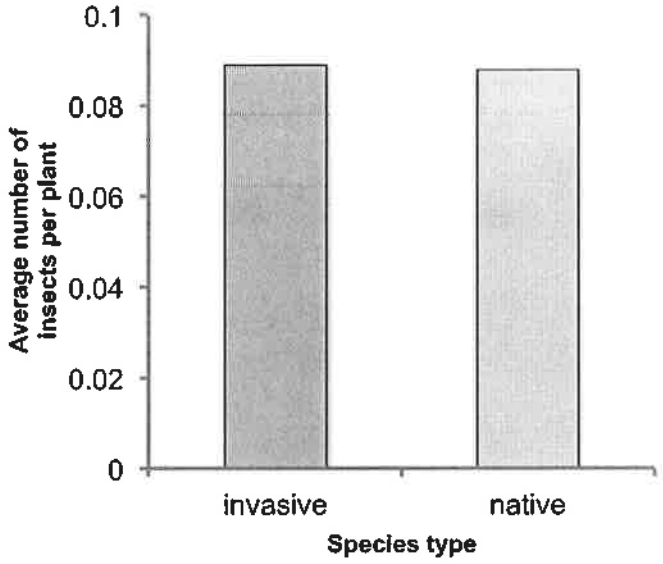
Predictor variable: _____

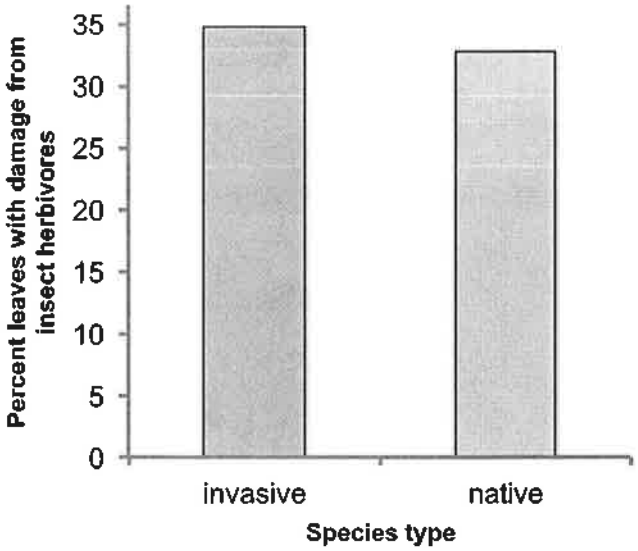
Response variables: _____

7th grade Science graphing Level A pg 3

Name_____

Below are two graphs of the data:





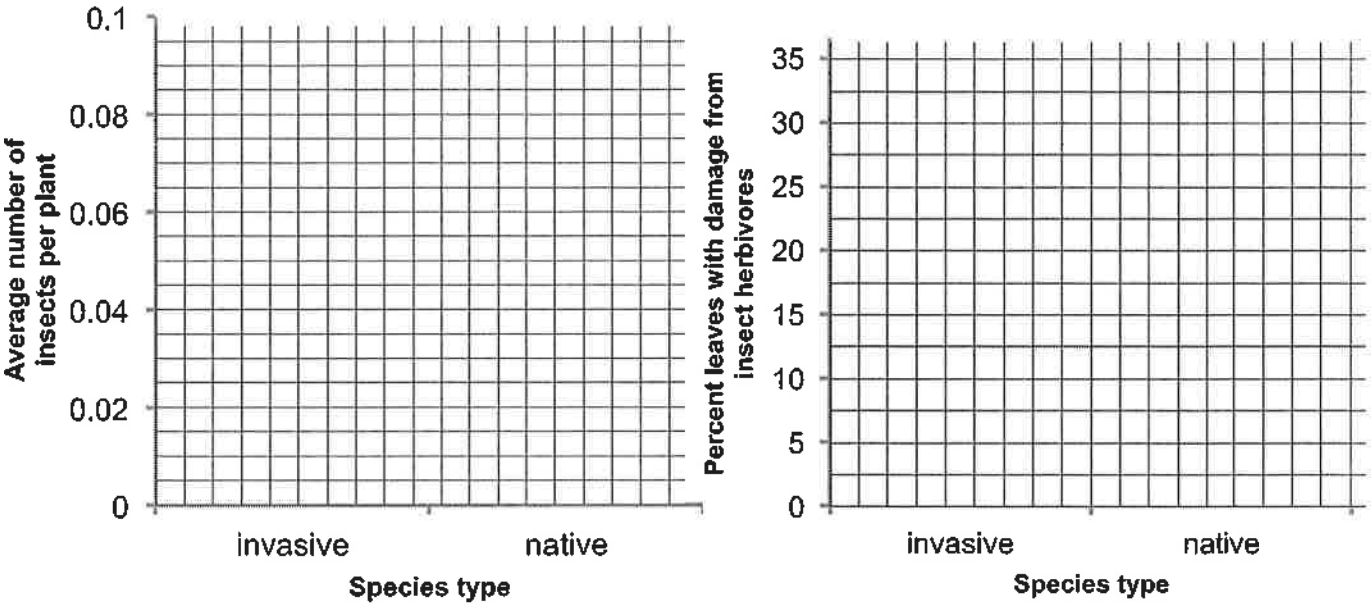
Interpret the data: Make a claim based on the evidence that helps answer the original research question. Connect the pattern in the data to a pattern in the natural world. Justify your reasoning using data.

7th Science

7th grade science graphing Level B pg 3

Name_____

Graph the data below:

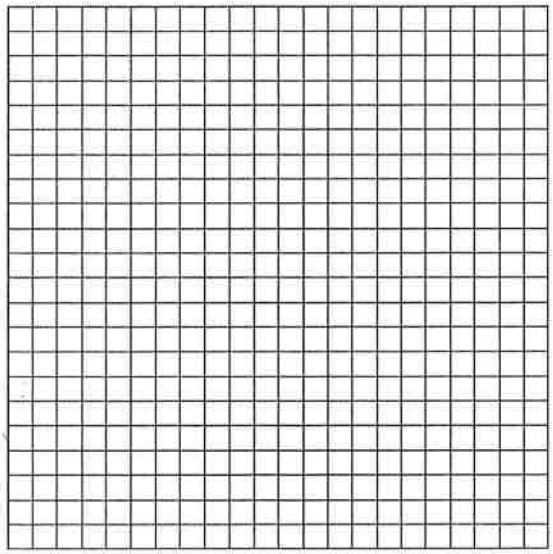


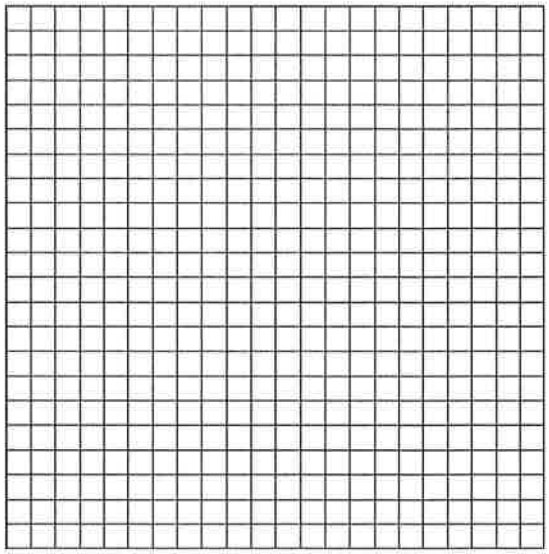
Interpret the data: Make a claim based on the evidence that helps answer the original research question. Connect the pattern in the data to a pattern in the natural world. Justify your reasoning using data.

7th grade science graphing Level C pg 3

Name_____

Graph the data below:





Interpret the data: Make a claim based on the evidence that helps answer the original research question. Connect the pattern in the data to a pattern in the natural world. Justify your reasoning using data.

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7th grade Science

Please answer in paragraph form using at least 5-7 sentences

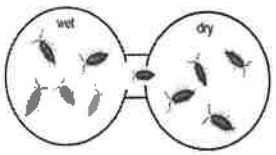
Name_____

Your next step as a scientist: Science is an ongoing process. Did this study fully answer your original question? What new questions do you think should be investigated? What future data should be collected to answer them?

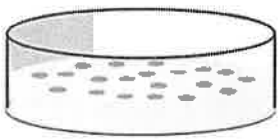
Name_____ Date_____

Independent and Dependent Variables Scenarios

(Manipulated) (Responding)

Scenario		Independent	Dependent
1. A cow is given a growth hormone and then compared to another cow that was not given a growth hormone. Both cows were weighed at 2 years.		a) growth hormone b) weight of cow c) cows	a) growth hormone b) weight of cow c) cows
2. Mosquito repellent is sprayed on one arm and the other arm is not sprayed. The number of mosquito bites is counted after 2 hours.		a) mosquito bites b) repellant c) 2 hours	a) mosquito bites b) repellant c) 2 hours
3. One grape is placed in tap water and another grape is placed in salt water. The change in their mass is measured after a day.		a) salt water b) mass of grapes c) type of water	a) salt water b) mass of grapes c) type of water
4. Two different cars are traveling at 60 mph. At a certain point, both cars slam on the brakes. The distance it takes for each car to stop is then measured.		a) speed of cars b) type of car c) stopping distance	a) speed of cars b) type of car c) stopping distance
5. Pillbugs are placed in a container where they have a choice of a wet or a dry environment. Researchers record how much time was spent on each side.		a) container b) environment c) time spent	a) container b) environment c) time spent
6. A stapler is used to staple 100 papers, it jams 5 times during the trial. A different brand of stapler performs the same test; it jams 22 times.		a) type of stapler b) 100 papers c) number of jams	a) type of stapler b) 100 papers c) number of jams
7. Cockroaches are exposed to a pesticide. After 3 hours, 95% of the insects are dead.		a) pesticide b) 3 hours c) number of deaths	a) pesticide b) 3 hours c) number of deaths

7th Science

8. Two plants are grown using the same light and pots. One plant is given water that has been microwaved and the other plant is given regular tap water. Their height is measured after 2 weeks.		a) height of plant b) type of water c) microwave	a) height of plant b) type of water c) microwave
9. The blood pressure of a soldier is measured while he is resting. The soldier is then exposed to a stressful environment and his blood pressure is measured again.		a) soldier b) blood pressure c) stress	a) soldier b) blood pressure c) stress
10. An apple is cut into slices. Half of the slices are sprayed with lemon juice. All slices are stored in a sealed plastic bag. After 4 days, they are observed to see how brown they turned.		a) browning b) lemon juice c) type of apple	a) browning b) lemon juice c) type of apple
11.The respiration rate of a goldfish is measured. The goldfish is then placed in cold water and the respiration rate is measured again.		a) type of fish b) temperature c) respiration rate	a) type of fish b) temperature c) respiration rate
12. Bacteria are grown in a petri dish. One side of the dish is sprayed with an antibiotic. After a week, the number of bacteria colonies are counted on each side.		a) petri dish b) number of colonies c) antibiotic	a) petri dish b) number of colonies c) antibiotic

Extension: Design your own scenario. Identify the independent and dependent variables.

Name: _____

The Language of Science

The main reason students find it difficult to understand science is because of all the hard to write, spell and read words. Actually, scientific vocabulary is a hodge podge of little words that are linked together to have different meanings. If you learn the meanings of the little words, you'll find scientific vocabulary much easier to understand. Use this list to guess the meaning of each of the terms.

Word	Meaning
a or an	not, without, lacking
auto	self
aero	air
endo	inner, inside
entero	intestine
aero	needing oxygen or air
anti	against
amphi	both, doubly
aqua	water
arthro	joint
auto	self
bi	two, twice, double
bio	life, living
carne	flesh
cephal	head
chloro	green
chromo	color
cide	killer, kill, killing
cyto	cell
derm	skin
di	two, double
ecto (exo)	outer, external
endo	internal
epi	above
gastro	stomach
genesis	origin, beginning
herba	plants
hetero	different
homo	alike, similar
hydro	water

Word	Meaning
hemo	blood
hyper	above
hypo	below
intra	within, inside
itis	disease, inflammation
lateral	side
logy	study of
lys	break down
meter	measurement
meso	middle
mono	one, single
morph	form
micro	small
macro	large
multi	many
pod	foot
phage	to eat
phobia	dislike, fear
philia	like
plasm	form
proto	first
photo	light
poly	many
sclera	harden
synthesis	to make
sub	lesser, below
troph	eat, consume
therm	heat
vore	swallow, devour
zoo, zoa	animal

7th Science

1. Hydrology _____
2. Cytology _____
3. Protozoa _____
4. Epidermis _____
5. Spermatogenesis _____
6. Cytoskeleton _____
7. Abiotic _____
8. Dermatitis _____
9. Hypodermic _____
10. Hemophilia _____
11. Endocytosis _____
12. Insecticide _____
13. Anaerobic _____
14. Bilateral _____
15. Endotherm _____
16. Subspecies _____
17. Arthropod _____
18. Micrometer _____
19. Hypothermia _____
20. Polymorph _____
21. Photosynthesis _____
22. Amphibios (amphibian) _____
23. Heterotroph _____
24. Encephalitis _____
25. Monochrome _____
26. Autolysis _____
27. Herbivore _____
28. Homology _____
29. Macrophage _____
30. Carnivore _____
31. Gastroenterologist _____
32. Scleroderma _____
33. Autotroph _____
34. Autolysis _____
35. Podiatrist _____

What scientific words can you create or think of from the list? (Come up with at least 4)

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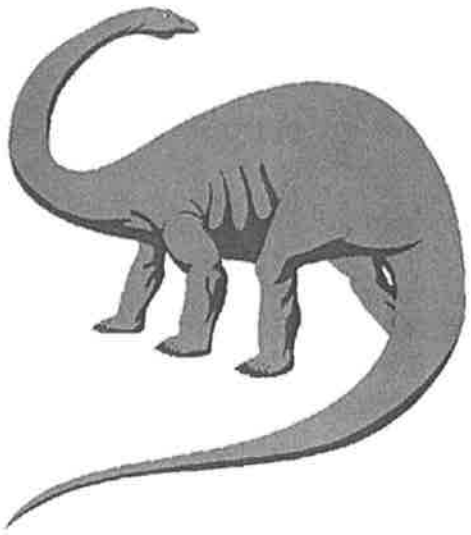


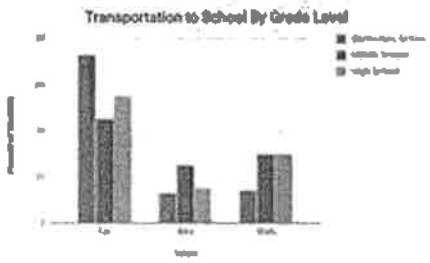
Apatasaurus, or "deceptive lizard"

RESOURCE: Graphing

SCIENCE AND ENGINEERING PRACTICES

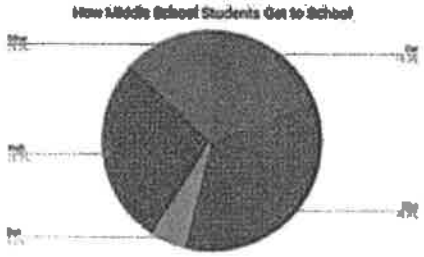
Analyzing & Interpreting Data

Bar Graph



- Best for: Comparing different groups
- Example: Comparing how students get to school in elementary, middle and high school

Pie Chart

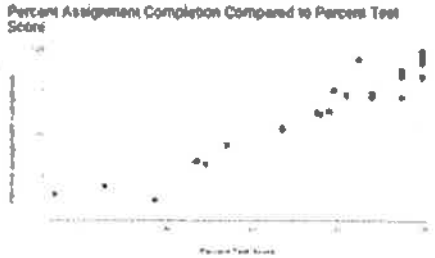


- Best for: Comparing parts of a whole
- Example: Showing the percentage of students that use each transportation type to get to school

Line Graph

- Best for: Showing change over time
- Example: Showing how the percent of students getting school lunch changes throughout the school year

Scatter Plot



- Best for: Showing correlation between variables, often used when looking at larger data sets
- Example: Comparing assignment completion to test score

Graphing Practice:
Students will practice choosing the correct graph type and graphing the data

saddlerscience

7th Science

Resource sentence starters

SENTENCE STARTERS: CLAIM, EVIDENCE, REASONING

1. **CLAIM** - Directly answers the question

Sentence Starters

- I observed _____ when _____.
- I compared _____ and _____.
- I noticed _____, when _____.
- The effect of _____ on _____ is _____

2. **EVIDENCE** - The scientific data that supports the claim.

- Data are observations or measurements OR results from an experiment.
- Specific Examples
- Use numbers and data table information

Sentence Starters

- In the data …
- The evidence I use to support _____ is _____.
- I believe _____ (statement) because _____ (justification).
- I know that _____ is _____ because _____ .
- Based on _____ , I think _____ .
- Based upon _____ , my hypothesis is _____ .

3. **REASONING** - Explains why the evidence supports the claim, providing a logical connection between the evidence and claim.

- Why is the claim valid?
- include general scientific principle
- background/ prior knowledge

Sentence Starters

- Based on the evidence, we must conclude… because…..
- The most logical conclusion we can draw from this evidence is that…. because….
- These facts work together to build a case that… because…
- All of this proves that….. because…
- The reason I believe _____ is _____ .

Plan For The Week Students Template

Plan for the week of: April 13th

At the end of the week you will know, understand, and/or be able to do the following:

Learn & interpret through oral history about specific experiences of their family members centered around an important historical event (i.e. 9/11, WWII, Pearl Harbor, the Kennedy Assassination, Y2K, the End of the Cold War, ect.).

Why does this learning matter?

You'll be learning about the personal experiences and thoughts of the someone in your family, while also learning history.

The plan for the week :

- **Monday**: Decide which family member to interview in person or via video or phone chat. Use the **"Ten Questions"** page to develop the ***first*** ten questions that you ask the interviewee.
- **Tuesday**: **Interview** the family member in person, or via video or the phone, asking the first ten questions you created on the "Ten Questions" page. Be sure to write down notes on the answers given for each question. You don't have to stop at ten questions... there is space on the page(s) for more information. You don't have to write using complete sentences... these are just notes.
- Wednesday & Thursday: Using the questions and answers from the interview, write up a full one page summary of the interview. You can hand write the page, or you can choose to type it out. You do have to use complete sentences for this. You do not have to stop at one page, you can make it two pages if you prefer.
- **Friday**: Using the historical information gained in the interview, draw a picture related to the historical event. You can use stick figures and very basic shapes if you want, or you can be as detailed as Michaeangelo. You will not be graded on your art for the pic, just how it addresses the content of your interview and write-up. Consider this a cover page for your report on the interview.

If you want to go ***above and beyond*** you can do some research on the topic you discuss in the interview, either while you are creating your questions, or after the interview, comparing what you find to the answers that were given.

If you struggle with writing the notes on what their answers are, simply write down keywords for what they answered... remember, the answers you write down do not need to be in complete sentences.

7th SS

Who To Ask For Help and How To Reach Them

Mr. Wondra, 7th Grade Social Studies Teacher

Email: pwondra@fernridge.k12.or.us
Phone: 541-887-0154

Student name: _____ Date: _____

INTERVIEW – TEN QUESTIONS WORKSHEET

Instructions: Create ten questions you will ask the person you will interview about a specific, crucial event in world history (like 9/11, WWII, Pearl Harbor, the Kennedy Assassination, Y2K, the End of the Cold War, ect.). Answers do not need to be in complete sentences.

Sample Questions:

- How old where you when the event occurred?
- Where were you living when the event occurred?
- How did you find out about the event?
- What did you think about what was going on?
- How did the event affect you and your family?
- Ect.

NOTE: There is space provided at the end of this worksheet for further notes after the tenth question is asked. Use that space to write down any further information you gain after the last question... (a.k.a. the last question doesn't have to be the end of the conversation).

Question #1: _____

_____

Answer: _____

_____

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Question #2: _____

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Answer: _____

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Question #3: _____

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Answer: _____

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Question #4: _____

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Answer: _____

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Question #5: _____

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Answer: _____

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Question #6: _____

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Answer: _____

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Question #7: _____

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Answer: _____

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Question #8: _____

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Answer: _____

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Question #9: _____

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Answer: _____

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Question #10: _____

_____

Answer: _____

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Further Discussion Notes (Anything else you discuss related to this topic, including, but not limited to, further questions and answers)

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7th SS