

## Plan For The Week Students Template

Plan for the week of: April 13 - April 17

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 "Dangerously Bold", find the meaning of any words you do not understand, and underline the hypothesis.
- Tuesday: Answer the questions on Dangerously Bold Check for Understanding.
- Wednesday: Answer the scientific data page 4
- Thursday: 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 labeled as A, B, or C  
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
- Friday: Answer the Interpret the Data questions. I included Sentence Starters: Claim, Evidence, Reasoning to help shape your response.

Who To Ask For Help and How To Reach Them

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

# SENTENCE STARTERS: CLAIM, EVIDENCE, REASONING

## CLAIM

- Directly answer the question/ prompt.

### Sentence Starters

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

## 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 \_\_\_\_\_.

## REASONING

- Explains why the evidence supports the claim, providing a logical connection between the evidence and claim.
  - Why is 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 \_\_\_\_\_.

# DATA *Nugget*

## Dangerously bold

Featured scientist: Melissa Kjelvik from Michigan State University

### Research Background:

Just as each person has her or his own personality, animals of the same species can behave very differently from one another! For example, pets, like dogs, have different personalities. Some have a lot of energy, some are cuddly, and some like to be alone. **Boldness** is a behavior that describes whether or not an individual takes risks. Bold individuals take risks while shy individuals do not. The risks animals take have a big impact on their survival and the habitats they choose to search for food.

Bluegill sunfish are a type of fish that lives in freshwater lakes and ponds across the world. Open water and cover are two habitat types where young bluegill are found. The **open water** habitat in the center of the pond is the best place for bluegill to eat a lot of food. However, the open water is risky and has very few plants or other places to hide. Predators, like large birds, can easily find and eat bluegill in the open water. The **cover** habitat at the edge of the pond has many plants and places to hide from predators, but it has less food that is best for bluegill to grow fast. Both habitats have costs and benefits—called a **tradeoff**.



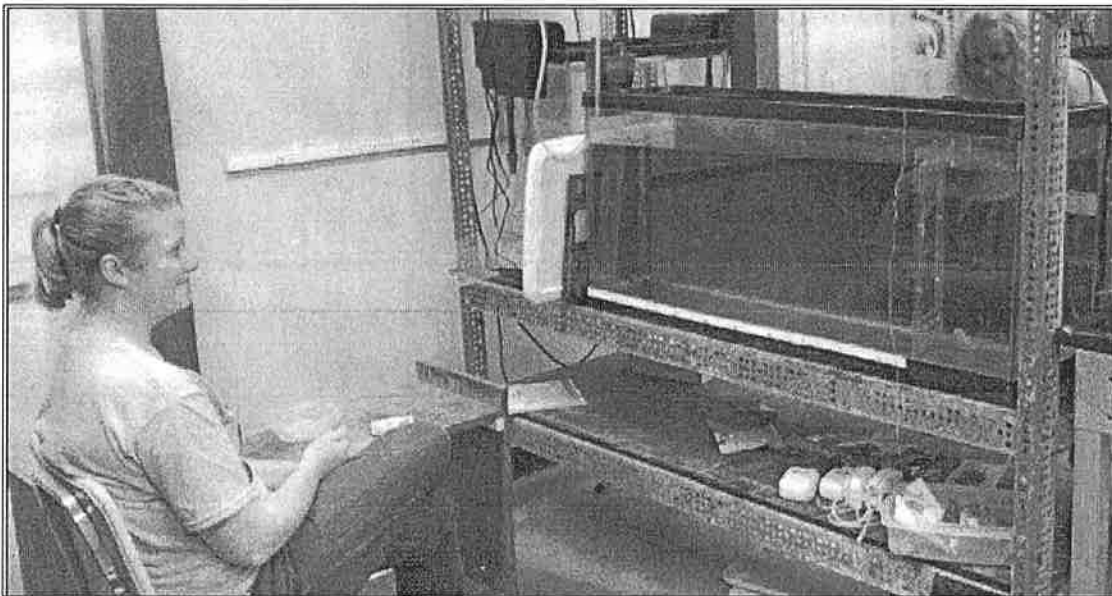
A view of the experimental pond. The center of the pond is the open water habitat with no plants. At the edge of the pond is the cover habitat with plants. At the start of the experiment, 100 bold bluegill, 100 shy bluegill, and 2 largemouth bass predators were placed in the pond. Here, scientists are using a net to collect the surviving bluegill at the end of the experiment.

Name \_\_\_\_\_

Melissa is a scientist who is interested in whether differences in young bluegill behavior changes the habitats in which they choose to search for food. First, she looked at whether young bluegill have different personalities by bringing them into an aquarium lab and watching their behavior. Melissa observed that, just like in humans and dogs, bluegill sunfish have different personalities. She noticed that some bluegill took more risks and were bolder than others. Melissa wanted to know if these differences in behavior could also be observed in her experimental pond. She reasoned that being in open water is risky, but results in more access to food. Therefore, bold fish should take more risks and use the open water habitat more than shy fish, giving them more food, allowing them to grow faster and larger, but exposing them to more predation. Just the opposite should be true about shy fish: more time for them in the cover habitat of the pond exposing them to less predation, but also giving them less access to food and an overall smaller body size than bold fish. A tradeoff for both types of fish based on personality.

Melissa designed a study to test the growth and survival of bold and shy fish. When she was watching the fish's behavior in the lab, she determined if a fish was bold or shy. If a fish took the risk of leaving the safety of the vegetation in a tank so that it could eat food while there was a predator behind a mesh screen, it was called bold. If it did not eat, it was called shy. She marked each fish by clipping the right fin if it was bold or the left fin if it was shy. She placed 100 bold and 100 shy bluegill into an experimental pond with two largemouth bass (predators). The shy and bold fish started the experiment at similar lengths and weights. After two months, she drained the pond and found every bluegill that survived. She recorded whether each fish that survived was bold or shy and measured their growth (length and weight).

Scientific Questions: How does the boldness of bluegill affect their survival and growth? Is there a tradeoff in bold and shy behaviors?



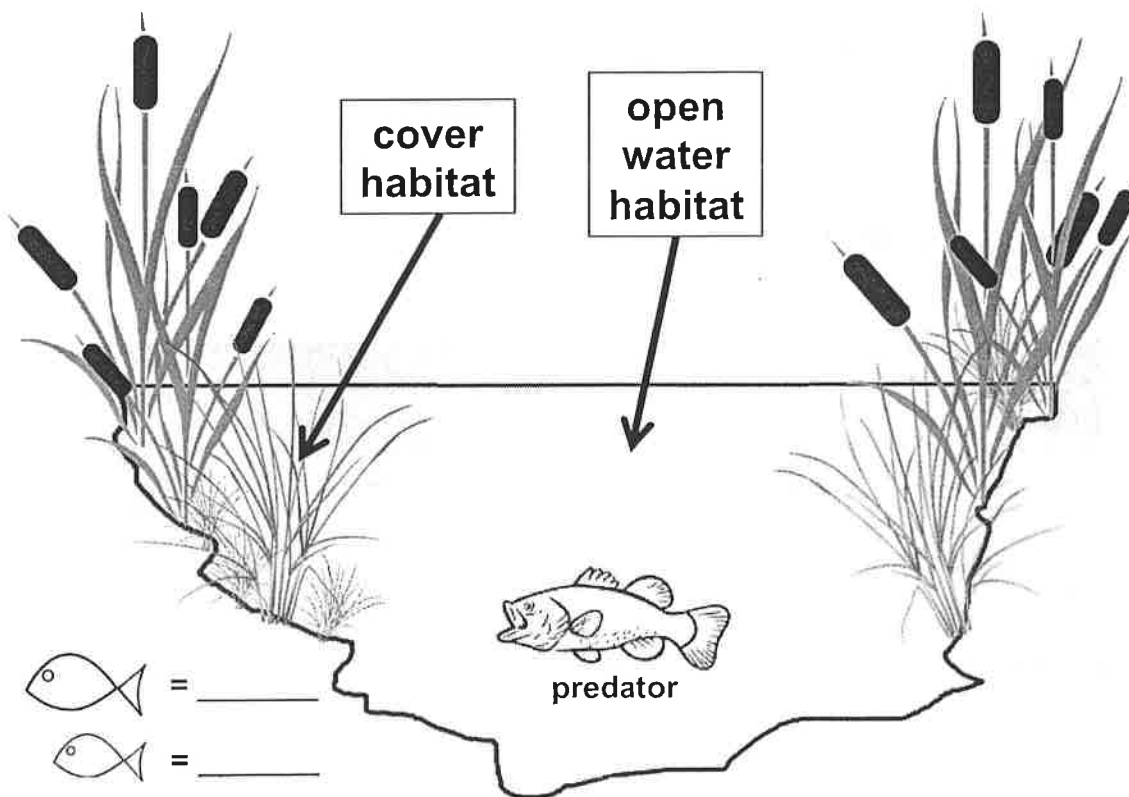
To determine their personality, Melissa observed young bluegill sunfish in the aquarium lab.

Data Nuggets developed by Michigan State University fellows in the NSF BEACON and GK-12 programs

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.

Draw your predictions: Below is a diagram of a pond where you can draw your predictions. Think about how bold and shy fish might respond to a predator.

1. Start by looking at the legend. Do you predict bold or shy fish will grow larger? Label which fish is bold and which is shy and choose a color for each.
2. Now move to the pond diagram. Draw bold and shy fish in the habitats where you predict they will spend most of their time.
3. Draw your survival predictions. Do you predict there will be more bold or shy fish left at the end of the experiment? Add more fish to your diagram if necessary.



Name \_\_\_\_\_

Scientific Data:

Finish filling in the table below. Use the data to answer the scientific questions.

Bluegill Behavior	Proportion Survived	Percent Survival	Average Length (mm)	Length SE**	Average Weight (g)	Weight SE
Bold	66/100		68.6	0.8	5.5	0.2
Shy	74/100		65.6	0.8	4.8	0.2

\*\* Standard error (SE) tells us how confident we are in our estimate of the mean, and depends on the number of replicates in an experiment and the amount of variation in the data. A large SE means we are not very confident, while a small SE means we are more confident.

What data will you graph to answer the questions?

**Graph 1: Survival**

Independent variable: \_\_\_\_\_

Dependent variable: \_\_\_\_\_

**Graph 2: Length**

Independent variable: \_\_\_\_\_

Dependent variable: \_\_\_\_\_

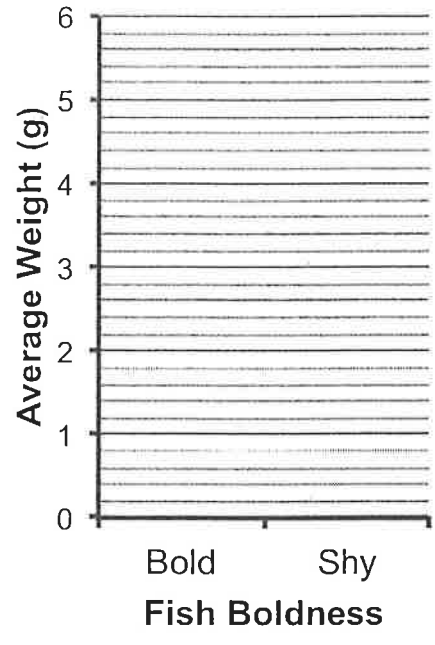
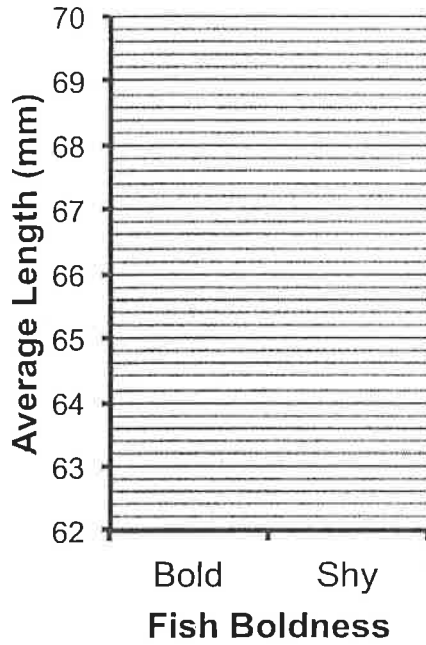
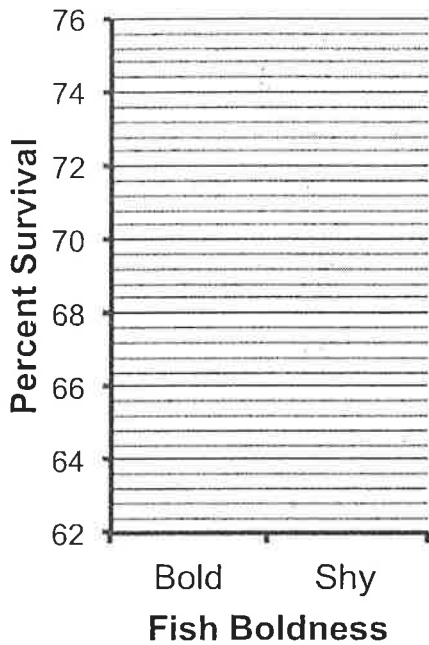
**Graph 3: Weight**

Independent variable: \_\_\_\_\_

Dependent variable: \_\_\_\_\_

Name \_\_\_\_\_

Draw your graphs below: Identify any changes, trends, or differences you see in your graphs. Draw arrows pointing out what you see, and write one sentence describing what you see next to each arrow.



Interpret the data:

Make a claim that answers each of the scientific questions.

What evidence was used to write your claims? Reference specific parts of the table or graphs.

# Level A

Name \_\_\_\_\_

Explain your reasoning and why the evidence supports your claims. Connect the data back to what you learned about the tradeoff for using the cover and open water habitats.

Did the data support Melissa's hypothesis? Use evidence to explain why or why not. If you feel the data were inconclusive, explain why.

*Your next steps as a scientist:* Science is an ongoing process. What new question(s) should be investigated to build on Melissa's research? What future data should be collected to answer your question(s)?



Name \_\_\_\_\_

Scientific Data:

Finish filling in the table below. Use the data to answer the scientific questions.

Bluegill Behavior	Proportion Survived	Percent Survival	Average Length (mm)	Length SE**	Average Weight (g)	Weight SE
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Dependent variable: \_\_\_\_\_

**Graph 2: Length**

Independent variable: \_\_\_\_\_

Dependent variable: \_\_\_\_\_

**Graph 3: Weight**

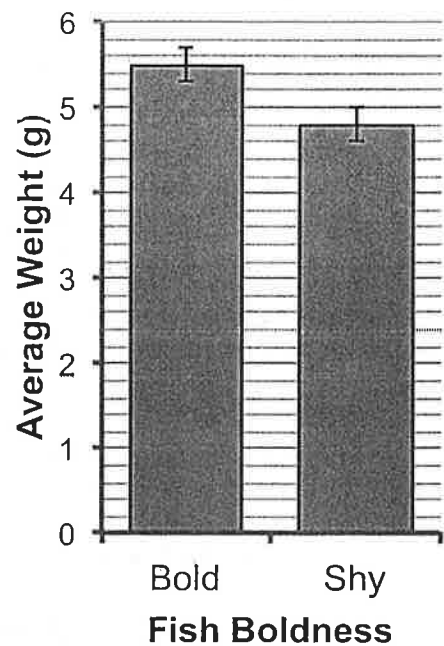
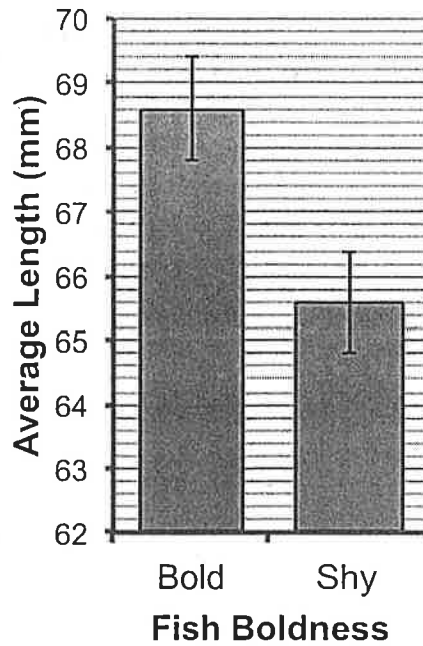
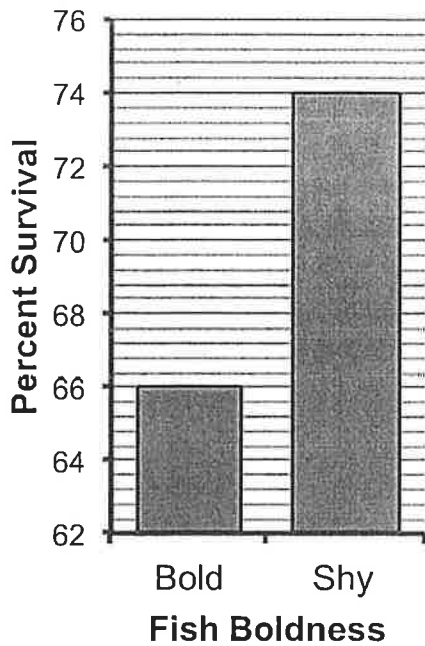
Independent variable: \_\_\_\_\_

Dependent variable: \_\_\_\_\_

Level B

Name \_\_\_\_\_

Below are graphs of the data: Identify any changes, trends, or differences you see in your graphs. Draw arrows pointing out what you see, and write one sentence describing what you see next to each arrow.



Interpret the data:

Make a claim that answers each of the scientific questions.

What evidence was used to write your claims? Reference specific parts of the table or graphs.

Level B

Name \_\_\_\_\_

Explain your reasoning and why the evidence supports your claims. Connect the data back to what you learned about the tradeoff for using the cover and open water habitats.

Did the data support Melissa's hypothesis? Use evidence to explain why or why not. If you feel the data were inconclusive, explain why.

Your next steps as a scientist: Science is an ongoing process. What new question(s) should be investigated to build on Melissa's research? What future data should be collected to answer your question(s)?

Scientific Data:

Finish filling in the table below. Use the data to answer the scientific questions.

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What data will you graph to answer the questions?

**Graph 1: Survival**

Independent variable: \_\_\_\_\_

Dependent variable: \_\_\_\_\_

**Graph 2: Length**

Independent variable: \_\_\_\_\_

Dependent variable: \_\_\_\_\_

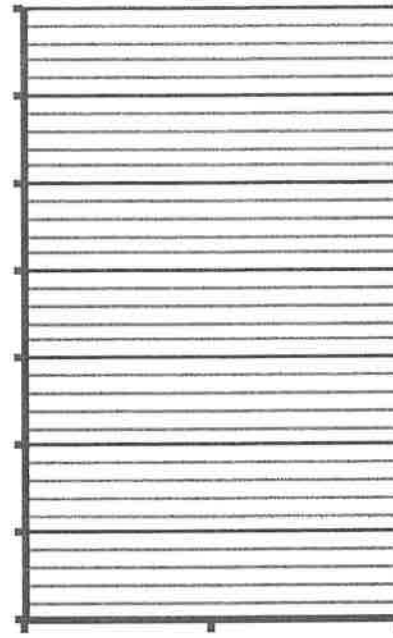
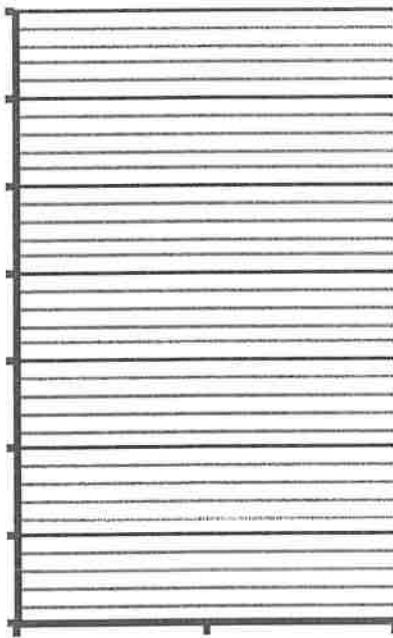
**Graph 3: Weight**

Independent variable: \_\_\_\_\_

Dependent variable: \_\_\_\_\_

Name \_\_\_\_\_

Draw your graphs below: Identify any changes, trends, or differences you see in your graphs. Draw arrows pointing out what you see, and write one sentence describing what you see next to each arrow.



Interpret the data:

Make a claim that answers each of the scientific questions.

What evidence was used to write your claims? Reference specific parts of the table or graphs.

Level C

Name \_\_\_\_\_

Explain your reasoning and why the evidence supports your claims. Connect the data back to what you learned about the tradeoff for using the cover and open water habitats.

Did the data support Melissa's hypothesis? Use evidence to explain why or why not. If you feel the data were inconclusive, explain why.

Your next steps as a scientist: Science is an ongoing process. What new question(s) should be investigated to build on Melissa's research? What future data should be collected to answer your question(s)?

## 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 Michaelangelo. 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.

Who To Ask For Help and How To Reach Them

Mr. Davis, 6th Grade Social Studies Teacher

Email: [bdavis@fernridge.k12.or.us](mailto:bdavis@fernridge.k12.or.us)



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 were 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: \_\_\_\_\_

\_\_\_\_\_

Question #2: \_\_\_\_\_

\_\_\_\_\_

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: \_\_\_\_\_

Answer: \_\_\_\_\_

Question #8: \_\_\_\_\_

Answer: \_\_\_\_\_

Question #9: \_\_\_\_\_

Answer: \_\_\_\_\_

Question #10: \_\_\_\_\_

Answer: \_\_\_\_\_

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

