

2016-2017 VTAAP INQUIRY TARGET BEHAVIORS

STAGE I: Develop Question and Plan Investigation		
Inquiry GE: 1- Identify a Question		
<i>Students demonstrate their understanding of scientific questioning by:</i>		
Required	Extended	Not allowed
<ul style="list-style-type: none"> • Using personal experience or interest to generate question • Identifying a question that can be answered either through close observation or an experiment (cause/effect) 	<ul style="list-style-type: none"> ○ Developing a question that shows evidence of prior scientific knowledge 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Using a Research question
Inquiry GE: 2- Make a Prediction		
<i>Students demonstrate their understanding of predicting and hypothesizing by:</i>		
Required	Extended	Not allowed
<ul style="list-style-type: none"> • Identifying what may happen in the future • Supporting the prediction with logical reasoning 	<ul style="list-style-type: none"> ○ Using personal experience to support prediction ○ Supporting prediction with scientific reasoning 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Random guessing
Inquiry GE: 3- Develop a Procedure		
<i>Students will demonstrate their understanding of experimental design by:</i>		
Required	Extended	Not allowed
<ul style="list-style-type: none"> • Developing a procedure that will gather evidence to answer the question posed • Identifying a logical sequence of steps 	<ul style="list-style-type: none"> ○ Identifying the independent and dependent variables for experimental questions ○ Using scientific terminology appropriate to the investigation ○ Specifying a list of materials and/or measurement tools 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Providing single photograph of materials and set up

STAGE II: Conduct Investigations		
Inquiry GE: 4- Perform the Procedure		
<i>Students demonstrate their ability to conduct experiments by:</i>		
Required	Extended	Not allowed

<ul style="list-style-type: none"> • Completing steps identified in the planned procedure • Conducting multiple trials 	<ul style="list-style-type: none"> ○ Using appropriate measurement tools ○ Using scientific notebook or other suitable format to record findings/ observations throughout procedure ○ Using technology to collect and store information 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Random investigation <input checked="" type="checkbox"/> Directional prompting
Inquiry GE: 5- Collect and Organize the Data		
<i>Students demonstrate their understanding of predicting and hypothesizing by:</i>		
Required	Extended	Not allowed
<ul style="list-style-type: none"> • Collecting relevant data • Organizing data into related categories • Using appropriate representation to display data (e.g., graph, table, chart, scientific drawing) 	<ul style="list-style-type: none"> ○ Representing data quantitatively ○ Using scientific language to label or represent data ○ Using technology effectively to organize and represent data 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Random or unorganized notes and/or observations

STAGE III: Develop and Communicate Conclusions		
Inquiry GE: 6- Analyze the Data and Construct a Conclusion		
<i>Students demonstrate their ability to analyze data by:</i>		
Required	Extended	Not allowed
<ul style="list-style-type: none"> • Relating data to the original question • Providing a reasonable explanation that accurately reflects the data • Interpreting the data for patterns and trends 	<ul style="list-style-type: none"> ○ Identifying limitations and sources of error within the design ○ Analyzing significance of data ○ Using knowledge of scientific concepts to evaluate data 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Simply restating the data
Inquiry GE: 7- Evaluate the Prediction		
<i>Students demonstrate their ability to explain data by:</i>		
Required	Extended	Not allowed
<ul style="list-style-type: none"> • Comparing the proposed predication and actual data • Declaring whether original predication was/was not supported 	<ul style="list-style-type: none"> ○ Identifying changes in thinking or beliefs 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Simply restating original prediction
Inquiry GE: 8- Communicate the Results		
<i>Students will demonstrate their ability to apply results by:</i>		

Required	Extended	Not allowed
<ul style="list-style-type: none"> • Re-stating the original question to peers or adults other than instructing teacher • Sharing findings related to the question with peers or adults other than instructing teacher • Stating conclusion(s) to peers or adults other than instructing teacher 	<ul style="list-style-type: none"> ○ Sharing with a variety of audiences ○ Comparing results to findings of others ○ Proposing new questions or investigations ○ Using technology to communicate results effectively 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Sharing results with instructing teacher only