

INQUIRY PROCESS: SYNTHESIZE

Lesson Plan

Purpose: Students will reorganize and distill the information they found in order to make sense of it all. They will also determine if they have found enough information to answer their Big Question.

OUTCOMES

LESSON GOALS	QEP COMPETENCIES
Students will be able to... <ul style="list-style-type: none"> Interpret and synthesize information from various sources in relation to each Little Question, organize ideas, and form conclusions about their big question. 	<p><i>Arts Education: Visual Arts</i></p> <ul style="list-style-type: none"> 2 – To produce media works in the visual arts 3 – To appreciate works of art, traditional artistic objects, media images, personal productions and those of classmates <p><i>Languages: English Language Arts</i></p> <ul style="list-style-type: none"> 1 – To read and listen to literary, popular and information-based texts 2 – To write self-expressive, narrative and information-based texts 3 – To represent her/his literacy in different media 4 – To use language to communicate and learn <p><i>Cross Curricular</i></p> <ul style="list-style-type: none"> 1 – To use information 3 – To exercise critical judgment 5 – To adopt effective work methods 6 – To use information and communication technologies 8 – To cooperate with others 9 – To communicate appropriately

Materials:

- Whiteboard and markers.
- Papers and pens (for each student).
- Computers and Internet access.
- Optional: Print out of the various graphic organizers (linked in the Synthesize Step or they can be found on teacher resources page).*
- Optional: Cue cards/index cards (from previous lesson).*

ORGANIZING AN OUTLINE (BIRD EXAMPLE)

- 1) *Encourage* students to propose the possible next step.
Students should brainstorm what steps they need to take to go from their notes on their sources to their final product. They should come up with suggestions such as create outlines, reorganize the information, and determine if anything is missing.
- 2) *Ask* students to share some facts that they know about birds.
Introduce the topic by having students share their prior knowledge about birds. Ask

them what they know about the types of birds that live in the city.

3) *Provide* the bird outline example.

Give students the following list and ask them to rank two major ideas. Then minor ideas as subheadings under the appropriate heading:

- Annoy city residents
- Spread seeds
- Eat vineyards
- Helpful birds
- Eat orchards
- Eat insects
- Harmful birds
- Provide fertilizer
- Cause ugly splotches on cars
- Spread diseases
- Offer beauty and music

4) *Group* headings and subheadings as a class.

Compose the outline as a class and write them on the whiteboard. Students should come up with the following outline:

a) Helpful birds

- a) Eat insects
- b) Provide fertilizer
- c) Offer beauty and music
- d) Spread seeds

b) Harmful birds

- a) Annoy city residents
- b) Eat orchards
- c) Cause ugly splotches on cars
- d) Spread diseases
- e) Eat vineyards

Feel free to add additional points if students mentioned something else when discussing their prior knowledge of birds.

5) *Review* the outline with the class.

Make sure that students recognize that in the example, someone would use this outline to compare how birds are helpful and harmful. The points a-e in each section would be how they justify why the birds are either helpful or harmful.

REORGANIZING INFORMATION

1) *Have* students log into IS-21.

Students should navigate to the IS-21 task that they created. They should be on the **SYNTHESIZE** step.

2) *Suggest* that students review their prior knowledge.

Students should review what they had written in the **Brainstorm** step under “What I know”. If the information fits with what they have learned and is still valid after all of the research they have done, then they can link it to a Little Question and incorporate it into the information they have gathered.



- 3) *Have students review and organize their information into major and minor topics.* IS-21 will group the information based on Little Questions. Students should take the time to consider if it is in the most logical and clear order. If not, they should use the arrows to reorder information.

Teacher Tip

There are blank visual organizers available on this step. If appropriate, suggest that students select one and print it out. They can use these organizers to arrange their information in a different manner than the one that the system does for them. They should select a visual organizer appropriate for their Big Question and use it to see connections and draw conclusions. If possible, they should scan and attach their document to the Synthesize step.

Optional Modifications to the Lesson

If students put their quotations and notes on index cards in the previous lesson, then have them return to those index cards. They can manually reorganize the information by rearranging the cue cards/index cards.

- 4) *Direct students to consider if their information is complete.* Students should determine if they are able to answer their Big Question with the information that they have found. If the answer is yes then they should be able to provide a brief summary in their own words. If not, they should determine what is missing and return to the appropriate step in the process.
- 5) *Hand out the task details sheet and rubric.* Provide students with a worksheet to remind them of the end goal they will work towards, and the rubric that you will be evaluating them on. An *Inquiry Process* rubric can be found in the teacher resources page. If students have indicated that they have enough information to answer their Big Question then they can begin creating their product. Go over what is expected from them for this project.

Note: The thematic projects that we provide in the teacher resources page also have rubric that focuses on objectives about the topic that they are studying. You can combine the inquiry process rubric with the topic rubric to create a comprehensive rubric.

- 6) Use the **Report** feature of IS-21 to review the students' work.

ePEARL Users

Remember the Report may also be viewed in a student artifact. Think about viewing it there and providing feedback through the Teacher Feedback feature.



REFLECTION

For students that have completed the step quickly, suggest they use the extra class time to begin reflecting. Direct them to the reflections window in IS-21 and suggest they use the prompts as needed. There are additional prompts listed on the teacher resource page if you would like to have them broken down by each step.

This is an individual task. Students should not be completing this portion with their group member(s). Even if reflection is not a big part of your classroom, we recommend that you have students reflect at least once.

ePEARL Users

There are two locations that students can reflect- either within their IS-21 task or within the ePEARL artifact that is automatically created whenever a new IS-21 task is started. The reflection ends up in the same place though!

This lesson is an adaptation of a lesson from *AT&T/UCLA's Initiative for the 21st Century Literacies'* teacher resources. It was modified with permission.

