



Reading matters in science

For students in primary and junior grades

As students progress through their elementary years, they shift from "learning to read" to "reading to learn." Most of the reading they will do in life will be for information, or non-fiction. This includes texts on science, math, social studies, arts and healthy living. This tip sheet will provide an overview on how to support your child when reading non-fiction materials.

When reading, consider these special points of interest:

- Reading non-fiction is more challenging than reading fiction.
- Reading must be strategic.
- Reading non-fiction will support student success across the curriculum.
- Reading non-fiction motivates students.

Engage in activities before reading to read successfully

To read non-fiction successfully, students need to do more than just read words on the page. They must make meaning from the words. They need to think about what they already know, make connections and become engaged in a topic.

Teachers use many strategies to "activate prior knowledge." This allows students to review what they already know, and expand their knowledge base through discussion and sharing of information. In this process, vocabulary, concepts, questions and personal stories will often emerge. This helps students predict, reflect on and organize information and extend learning.

Using what you already know is key to learning



Here are some things you can do with your child before he reads:

- talk about the topic
- talk about where the topic fits in with your child's life and look for examples
- tell your child what you wonder about
- ask your child what she wonders about
- help him set a purpose—your child needs to know why he is reading this material and what is in it for him
- read aloud from material just above her reading level
- show your child how you read for information

Consider different techniques while reading to enhance comprehension

While reading in science, students need to think about what they are reading and evaluate their success.

Since texts are more complex and vocabulary is specific, a level of background knowledge is often assumed. Students need to be taught and supported with specific strategies for learning through text.

When reading stories, we tend to start at the beginning and work our way through to the end. However, this is not how we generally read non-fiction. Students need be able to:

- flip or browse through the text from front to back, or from back to front to see if it is useful
- skim and scan headings, pictures and diagrams
- read text and pictures that must go together to make meaning

- locate information using the table of content, index, glossary, headings, pictures and captions
- read diagrams, maps, graphs and page spreads—with or without words—from bottom to top, right to left, zigzag, randomly or in a circular motion

Here are some effective strategies:

- **Look at the text structure** – Help your child break the text into manageable chunks. He can skim and scan through key features, and preview the text to become familiar with it.
- **Organize information** – Have your child make notes of key points and words. She can use sticky notes to mark pages of interest. Your child can also use graphic organizers to rewrite information. The following web sites will provide explanations and information about organizers:
 - http://home.earthlink.net/~tsdobbs/Graphic_Organizers/graphic_organizers.html
 - <http://www.smeps.k12.md.us/mbms/writing/graphorg.html>
 - <http://www.eduplace.com/graphicorganizer>
- **Self monitor for understanding** – For further clarification, your child could reread the text. He can visualize or use mind pictures to understand the information. Allow him to ask questions to identify confusing parts. Or, he can summarize the text by trying to explain it to someone else.
- **Identify personal connections** – Have your child ask herself, "how does this make sense to me? Why is this important? How will I use this information?"
- **Recompose information** – Ask your child to rewrite the information into another format. For example, if he reads a paragraph, he could show the information using a table, diagram, graph or map.

What else can you do while your child reads?

- Talk with your child. Have her explain what she is reading. Have a conversation about the topic.
- Provide him with materials to record information
- Help her with vocabulary.

After reading

After reading, we want to provide students with opportunities to consolidate, transfer and take ownership of their new learning. They need to make connections to their own lives and to prior learning.

This is the time for students to evaluate how well they understand the reading, how effective the reading strategies were, and how they can improve.

What can you do after your child reads?

- Ask questions about the topic in general.
- Talk about what he has just read.
- Discuss the different ways in which the information can be presented.

Perhaps most importantly, allow your child the opportunity to read non-fiction for pleasure. Provide access to books on topics of interest through purchased books or the library. Consider subscriptions to non-fiction magazines. Read maps and schedules together. Model through your own reading.

Often, having access to books and magazines on topics of interest is the greatest motivator for reading success. This success can then be transferred to required reading material.

This tip sheet was prepared by Beverly Vinski,
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