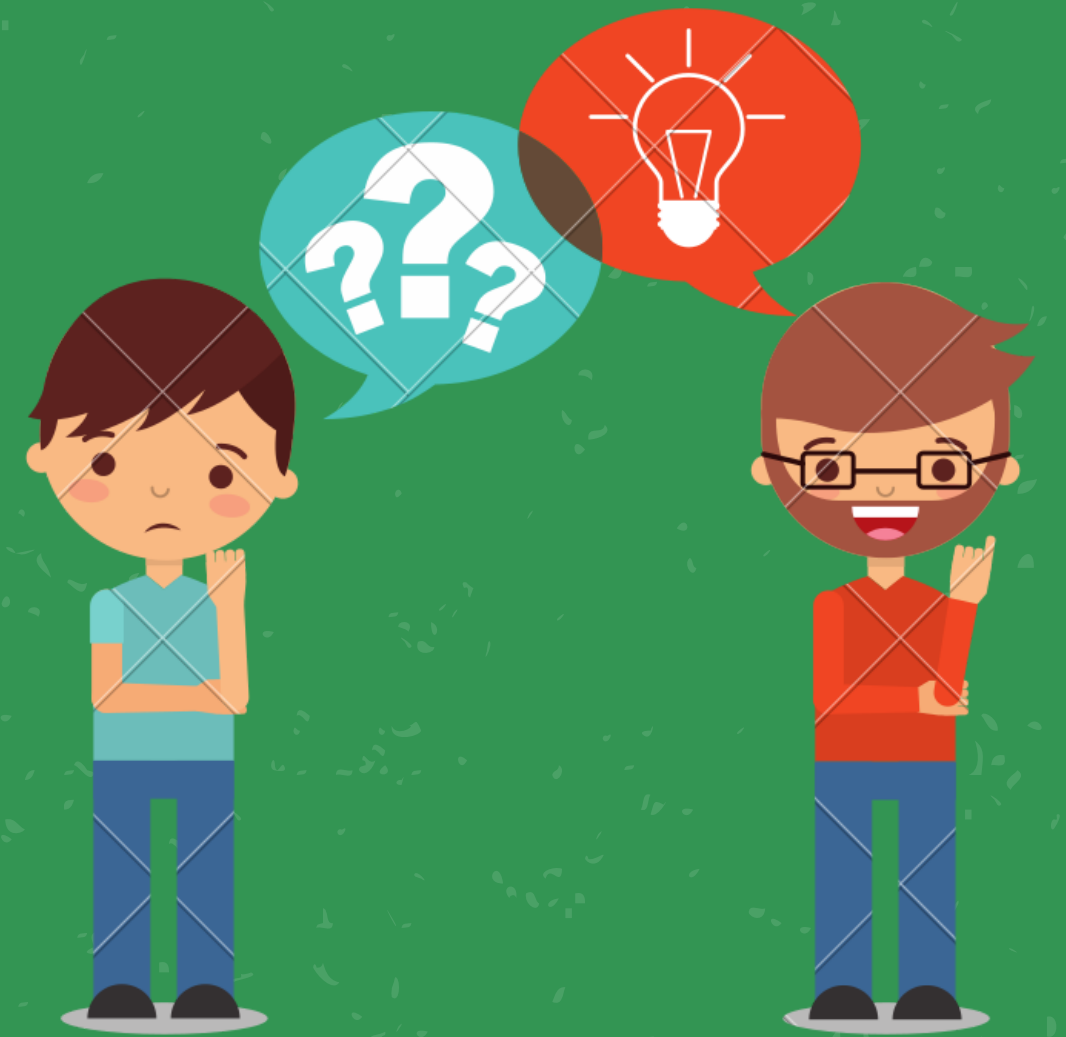


# INQUIRY BASED PRACTICES

## What is inquiry?

In inquiry-based learning, teachers use questions, problems and scenarios to help students learn through individual thought and investigation. Instead of simply presenting facts, the teacher encourages students to talk about a problem and draw on their intuition to understand it.

How Inquiry-Based Learning Can Work in a Math Classroom. (2017, September 8). Retrieved from <https://academicpartnerships.uta.edu/articles/education/inquiry-based-learning-math-classroom.aspx>.



## Let *them* lead!

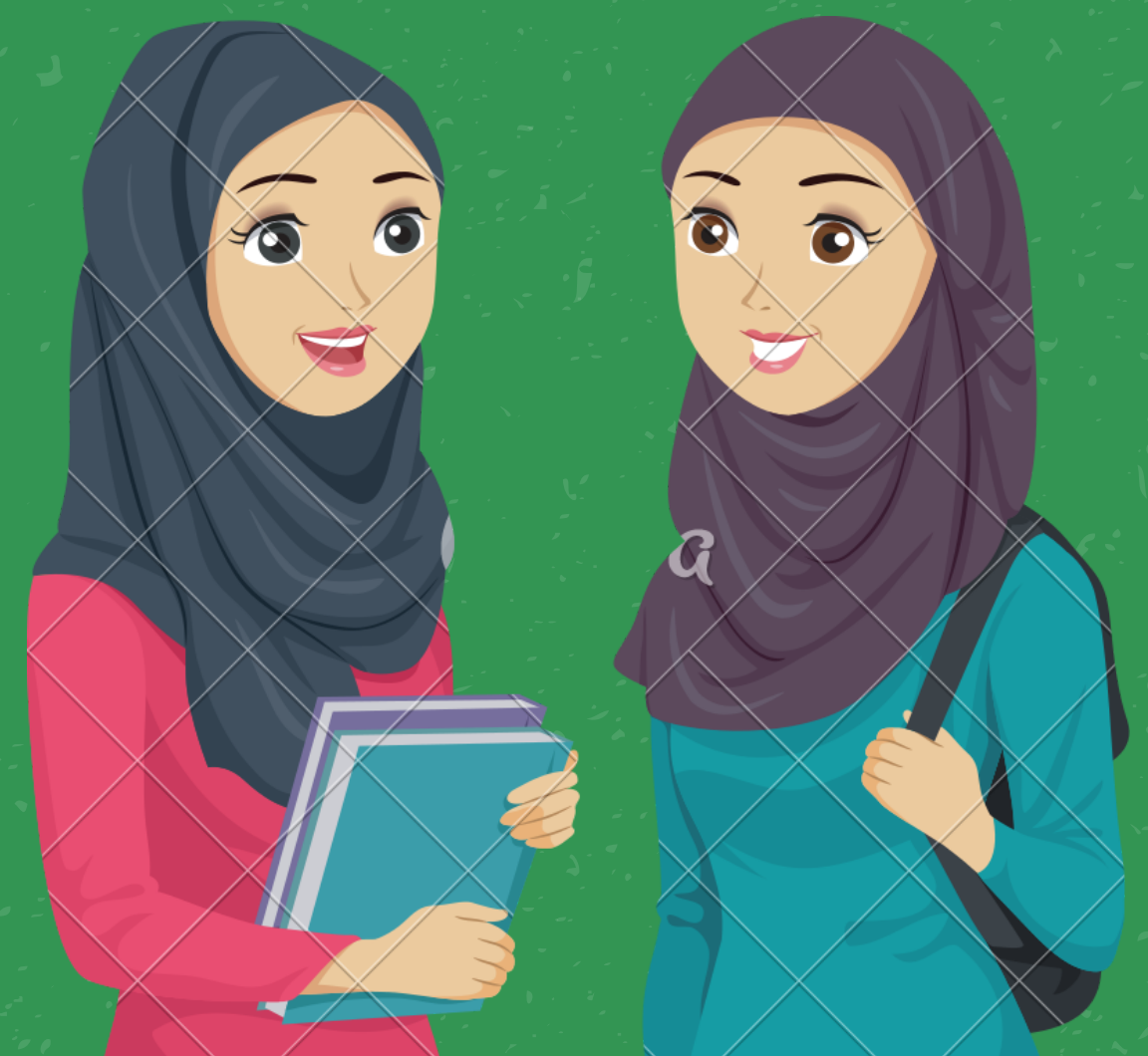
Inquiry-based learning encourages students to ask their own questions and take the lead in the lesson or activity. Teachers or mentors can help facilitate student's questions by tapping into their curiosity. Questions Instead of lecturing about learning goals, the teacher cultivates a learning environment and helps students explore it through questions and experiences."

How Inquiry-Based Learning Can Work in a Math Classroom. (2017, September 8). Retrieved from <https://academicpartnerships.uta.edu/articles/education/inquiry-based-learning-math-classroom.aspx>.

## Why is it important?

Inquiry is important because it helps to...

- Promotes deeper learning
- Supports females and minorities
- Promotes critical thinking skills
- Increases student motivation and autonomy
- Promotes student knowledge and participation



# TIPS FOR USING INQUIRY

## 1 Some general guidelines

- Have a good curriculum
- Listening with purpose
- Find evidence of understanding
- Build on this through questions

Meyer, D. (2015, November 11). Redefining Inquiry-Based Learning. Retrieved from <https://blog.mrmeyer.com/2015/defining-inquiry-based-learning/>.

## 2 Some questions you can ask

What happens if...?

What if not....?

Why...?

What do we mean by...?

How do you know...?

Is it always true...?

Is there a similarity between...?

What are the properties of...?

## 3 Rethink the Mentor Role

- Play the role of an experienced co-researcher rather than of someone with all answers.
- Don't give too many hints.
- Give encouragement for good thinking, not just for right answers.
- Treat right answers as discussion topics until the class agrees on them.

## 4 Rethink the Student Role

- Make clear to your students that mathematics is much more than a collection of facts and procedures.
- Remind them that mathematical investigations don't have just one answer, and rarely is there only one valid approach to a solution.
- Emphasize that justifying ideas and problem solving become more important than the actual solutions.
- Remember the goal for students is to experience mathematics as a process of finding and connecting ideas.
- Let the students know that the thinking and problem solving skills they develop can serve them in all aspects of their lives.
- We ask them to question, explore, observe, assume, explain, and prove.