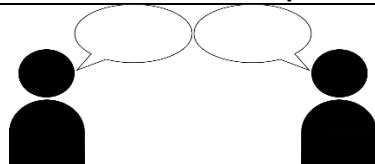
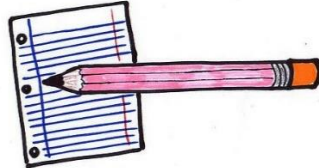
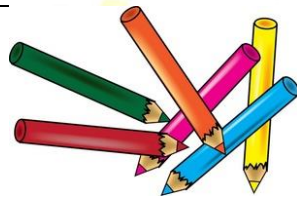
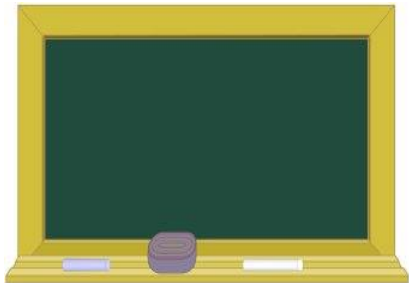



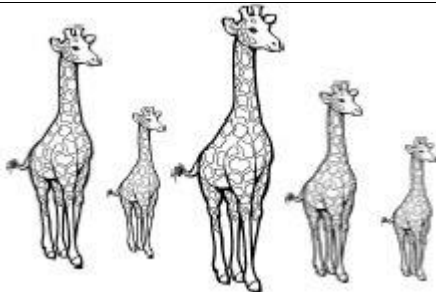


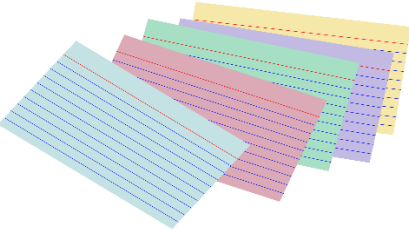


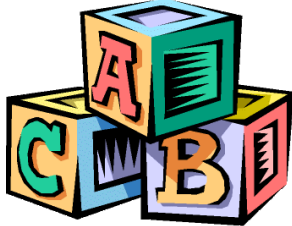







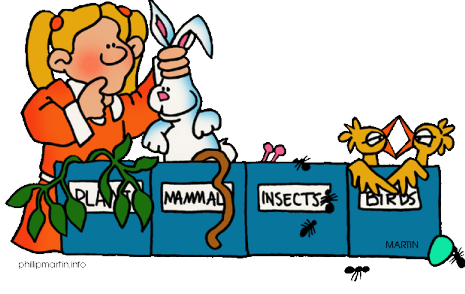
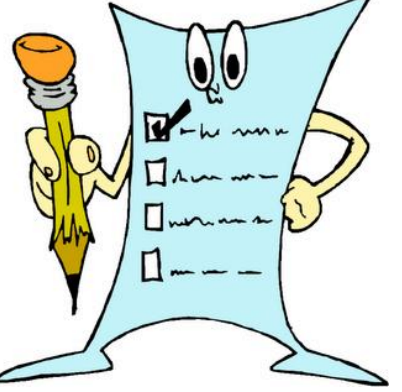
Technique	Summary	High Order Thinking	Visual Representation
Think-Pair-Share	Ask a question and give students some time to think (about 30 seconds or so). Tell them to discuss their responses with their partner.	Ask students to explain how components fit together or affect one another, and ask them to evaluate something by defending it based on concepts learned.	
Quick-Writes	Select a prompt for students to address and give them a specified time to think and write down their response. Follow up with a Pair-Share or other TPT.	Ask students to make connections between concepts and their effect on the world around them.	
Quick-Draws	Select a major concept/big idea from the lesson and ask students to reflect on the meaning. Have them draw an image representing the concept. Have the students share and explain their image with a partner or with a group.	Have students explain why they chose their visual to represent the concept.	
Chalkboard Splash	Create a prompt or question that you want all students to see all the answers to. Have students write their responses on whiteboards or chart papers. Have the students walk around and write down similarities, differences, and surprises. Have the students get into small groups and share what they noticed before asking volunteers to share with the entire class.	Use chalkboard splashes to address higher order thinking questions such as “so what?” and “why is this important?”	




Thumbs-Up When Ready	Ask students to reflect on your prompt. Tell the students that when they have a thought or have finished to put their thumb up indicating they are ready to move on.	Have students share their thoughts with a peer or in a small group.	
Processing Cards	Ask students to reflect on your prompt. Give them laminated papers that are folded in half like a tent with “Ready to Share” on one side and “Still THINKING” on the other. Tell them to place the cards on the edge of their desks with the “Still THINKING” facing the front. Have them turn the cards to the “READY to Share” when they have completed their task or finished thinking of an answer to a prompt.	Ask students to justify their responses and give the basis for their justification. For example, are they justifying their responses based on personal experiences or learned concepts?	
Similes	Create similes using the topics you are studying. Ask students to formulate an explanation for how the simile might be true and then share with a partner or in a group. After similes have been modeled several times, ask students to create their own based on the topic they are learning.	Create your own similes based on the topics you’re teaching and you’re your students come up with explanations for how the statements might be true.	
Ranking	Create a list of items, concepts, steps, events, or other things that can be analyzed and ranked within your unit or lesson. Have your students rank them according to criteria you specify, and have them justify why they chose to rank the concepts the way they did. Have them share in groups and allow them to make changes to their rankings if they want to.	Have students justify their thinking and reasoning for their rankings.	



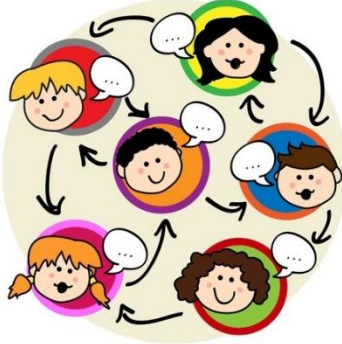
<p>Numbered Heads Together</p>	<p>Before beginning an activity, ask the students to number off. Confirm numbers by asking all of the ones to stand then all of the twos and so on. Make sure there is only one number in each group. Tell the students that all of them need to be responsible for knowing the information. After letting the groups complete their work, tell them which number will be presenting. Because students don't know who will be presenting, they are all responsible for knowing the information and making sure their peers know it too.</p>	<p>For higher order thinking, it depends on the activity you choose to use. You can have students provide analyze and provide justifications for their answers or discuss the responses form the other groups.</p>	
<p>Thumb Up/Thumb Down Vote</p>	<p>Ask a question for which a yes/no or agree/disagree response is appropriate. Ask students to point their thumb up if the answer is a yes or agree and down if the answer is no or disagree (You can give them the option to put their thumb sideways if they aren't sure). Make sure all students have a chance to vote.</p>	<p>For higher order think pair this technique with a Pair-Share. There are rarely black and white answers. Allow students to put their thumb at an angle or sideways to take the middle road. Make sure students always justify their responses.</p>	
<p>Selected-Response Hold-Ups</p>	<p>Give students a set of preselected relevant choices cards (true and false, L, E, and J to represent legislative, executive, and judicial branches etc.). Have students vote on the answer by raising the appropriate card.</p>	<p>Turn wrong answers into teachable moments. Give students opportunities to explain their thinking. Listen to opposing responses and help them come to their own conclusions through re-votes. If students still don't understand re-teach while the concepts are fresh.</p>	

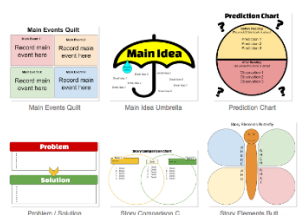

Number Card Hold-Ups	When teaching math, have students keep a set of cards (numbers 0-9). Students can hold up whatever number is the correct to questions such as “which number is greater?” or “what is the sum of these two numbers?”	Give students opportunities to explain their thinking. Have them show their work on a whiteboard.	
True/Not True Hold-Ups	Ask students a question and tell them to put of the true or the not true side of the card to show their answer. Additionally, the cards could be used to have students tell you how well they understand a concept.	Turn wrong answers into teachable moments. Give students opportunities to explain their thinking. Listen to opposing responses and help them come to their own conclusions through re-votes. If students still don’t understand re-teach while the concepts are fresh.	
Multiple-Choice Hold-Ups	Put multiple choice questions on the board and have students choose an answer then talk with a buddy. When you say to, have them hold up the card with the letter or number that corresponds to their answer.	Listen to opposing responses and help them come to their own conclusions through re-votes. If students still don’t understand re-teach while the concepts are fresh.	
Whiteboard Hold-Ups	Ask your students a question and have them write their answers on their individual white boards or laminated pieces of paper.	Give students opportunities to explain their thinking. You can also have your students write down their own questions on their whiteboards.	




Line-Ups	Have students stand in two rows facing each other. Ask them a question or give them a prompt to discuss. Tell them to take turns talking about their answers with the person directly in front of them. Give the students a signal and tell one of the lines to take two steps to the left so they are in front of a new person. Make sure to walk along the line so you can hear what students are understanding.	Avoid using literal and factual questions. Instead, ask questions that require discussion, connection-making, and justifications for student rationales.	
Inside-Outside Circles	Ask the students to stand in two circles (one inside the other) facing each other. Ask them a question or give them a prompt to discuss. Tell them to take turns talking about their answers with the person directly in front of them. Give the students a signal and tell one of the lines to take two steps to the left so they are in front of a new person. Make sure to walk along the line so you can hear what students are understanding.	Don't use literal and factual questions. Instead, ask questions that require discussion, connection-making, and justifications for student rationales.	
Three 3's in a Row	Prepare 9 questions and type them in three columns of three with room at the bottom of each question for writing notes. Have your students walk around the room and ask their peers to answer one and only one of the questions on the chart. Students can return to their seats when they've gotten answers for all of their questions. Students should be writing a summary of what their peers said in their boxes.	Write at least some of the questions so that they have to analyze, synthesis, and evaluate components of the concepts. Make sure students fill out all nine question boxes so that they don't only choose to answer lower-order thinking questions.	


Networking Sessions	Prepare 1-4 prompts/questions and have the students reflect on or do a quick-write response to the prompts. Have the students find someone they haven't talked to today and discuss their responses to one of the prompts. After a set amount of time have the students find a new partner they haven't spoken to today and discuss a different prompt.	For higher order thinking use prompts and questions that require students to dig into implications of concepts and give them opportunities to apply them to their own worlds.	
Categorizing and Sorting	Categorizing: Give students a specific number of items or a list of items. Ask them to sort them into piles and create category titles based on features in the groups and ask them to be prepared to give an explanation. For sorting, give the students specific names and features for categories and have them sort the items into those	For higher order thinking, make sure to have students give an explanation for their categorization and have them discuss with a partner or group.	
Appointment Agendas	Give your students an appointment agenda with different times for appointments (8:00am, 9:00am etc.). Have them walk around the room and make "appointments" with different partners. Both partners should pick a time that is open and write each other's name in the time slot. If someone doesn't have a partner have them triple up. You can use this as a pairing tool. Have students pull out their agendas and pair up with their 5:00pm buddy).	Higher order thinking depends on the activity. You can have students justify their answers to their buddy or analyze a piece of information.	


<p>Bounce Cards</p>	<p>Demonstrate having a conversation with one of the students. First, model the wrong way where the conversation ends after each response with no back-and-forth dialogue. Discuss the importance of conversational skills that allow ideas to bounce from one person to the next. Discuss the following 3 approaches: <i>Bounce</i> - students take what their peers say and bounce an idea off of it (extend the comment). <i>Sum it up</i> - students rephrase what their peers say and comment on certain parts. <i>Inquire</i> – Students ask a question about what their peers say.</p>	<p>Ask students to think about and then discuss with a buddy why it's important to develop conversational skills.</p>	
<p>Mouth It, Air Write It, or Show Me Using Your Fingers</p>	<p>Ask students to mouth their answer or you can have them use their fingers write their answers in the air. When working with number answers have students hold up the number of fingers they think is the correct answer. For all of these, make sure students wait for you to tell them to give their answers so that every student has the chance to think about their own answer.</p>	<p>Have students think about their answer and then justify it to a partner or to you.</p>	
<p>Acting It Out, Role Plays, and Concept Charades</p>	<p>Have children act out the roles in a story or play charades and have the children act out a concept taught in class.</p>	<p>Having children act things out demonstrates comprehension and allows teachers to see what their students understand. Having students act out the parts of certain concepts such as molecules helps them remember better.</p>	

Simulations	Create scenarios of situations that happened in the past and turn them into modern scenarios. (Take a situation that happened in history and create a similar scenario that would be seen today).	Have students discuss and analyze the scenarios and how they feel about them.	
Cut-and-Pastes	Have students cut out a list of items and organize them into the correct order.	Have justify their placements. Additionally, don't choose items that have a set order. Choose items that allow for multiple orders.	
Confer, Compare, and Clarify	Ask students to pair up and confer, compare, and clarify. Confer means getting together and sharing a one-sentence summary of what they believe was the most important part of the presentation. Compare refers to students reading each other's notes. They should compare what they wrote to what their peers wrote. They can "borrow" ideas from their peers and write them in their own notes. Clarify means students record any questions they have regarding what was presented. Ask each pair to join with another pair and share questions. Ask the students to record any questions that weren't answered in the groups of four on whiteboards or index cards. Address these questions before moving on.	Ask students whether or not the notes they recorded captured the most important pieces of the presentation and if they have picked up any note-taking tips from their peers.	

Graphic Organizers and Prepared Packets	Search websites for prepared packets and graphic organizers to enhance student learning.	During the lesson prompt students to connect what they are learning to the world around them.	<div>GRAPHIC ORGANIZER TEMPLATES</div> <div></div> <div>Name _____ Date _____</div> <div>Chapter _____ Pages _____</div> <div><div>Anticipation Guide</div><div>Use the following anticipation guide to preview Chapter 11.1 before you read it. Before reading, mark whether or not you agree or disagree with each statement. After reading, fill in the page number where you found the answer to each statement, tell whether or not you were right, and reflect on what you found.</div><table><thead><tr><th></th><th>Agree/Disagree</th><th>Page #</th><th>Were you right?</th><th>Reflect</th></tr></thead><tbody><tr><td>1. Harmonic motion isn't found very often in everyday life.</td><td></td><td></td><td></td><td></td></tr><tr><td>2. Understanding harmonic motions is fundamental to several processes.</td><td></td><td></td><td></td><td></td></tr><tr><td>3. A period is commonly used in punctuation. In waves, it represents the time of one cycle.</td><td></td><td></td><td></td><td></td></tr><tr><td>4. Frequency uses periods and applies it to a specific time period.</td><td></td><td></td><td></td><td></td></tr><tr><td>5. Oscillators used to be important to modern communication technologies.</td><td></td><td></td><td></td><td></td></tr><tr><td>6. Changing the frequency of a pendulum makes the biggest difference in its motion.</td><td></td><td></td><td></td><td></td></tr><tr><td>7.</td><td></td><td></td><td></td><td></td></tr></tbody></table><div><div>read-write-think</div><div>©2013 BLANCKE. All rights reserved. ReadWriteThink materials may be reproduced for educational purposes.</div></div></div>		Agree/Disagree	Page #	Were you right?	Reflect	1. Harmonic motion isn't found very often in everyday life.					2. Understanding harmonic motions is fundamental to several processes.					3. A period is commonly used in punctuation. In waves, it represents the time of one cycle.					4. Frequency uses periods and applies it to a specific time period.					5. Oscillators used to be important to modern communication technologies.					6. Changing the frequency of a pendulum makes the biggest difference in its motion.					7.				
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Anticipatory Guides	Create true/false statements related to the topic you're teaching. Have students read the statements and predict the responses based on what they already know. There answers should go in a column before the statements. Have students pair-share their responses and explain their rationales. Ask them to create questions to bring to the whole class. You can debrief by doing a thumb up/thumb down vote or addressing each statement as it comes up in the unit.	Write statements that aren't completely true or false. Don't use words such as always or never. Also use statements that are both true and false depending on the point of view you have.																																									
Picture Notes	Select strategic points in your lesson when students will stop, process, and draw a picture that illustrates what they learned. Have students share their picture with a peer and keep track of any questions they have. Address any questions. At the end of the lesson, have students draw one final picture representing the big picture of the topic. You can use a chalkboard splash to allow students to see each other's and compare them.	Encourage students to use symbolism to represent the concepts that are abstract. Have students share their pictures with the class and explain the symbolism behind it.																																									

Lecture T-Chart	Create a chart with “notes” on the left side of a line and “sum it up” on the other side. During the presentation have students take notes on the “notes” side. Stop periodically and allow students to read over their notes and sum them up on the “sum it up” side. Allow time for pair-sharing summaries and recording questions on index cards or a chalkboard splash. Allow time to answer any questions students have.	Ask students to not only summarize, but also predict what they think is coming in the next presentation. Asks students to think about how what they are learning about would apply and effect the world today.	
The 3-Sentence Wrap-Up	At the end of your presentation have students summarize it in three sentences or less. Have small groups get together and share and refine their summaries.	Have students think about ways to shorten summaries. Have them think about what parts are absolutely essential.	
A-Z Sentence Summaries	At the end of a lesson, assign students a letter of the alphabet. Have students create a one-sentence summary of the presentation starting with the letter they were assigned. Do a chalkboard Splash and pin or tape up the summaries to the board so the students can review them. Call out the letters in order as a cue for the students to read their sentences out loud.	Students can write a second sentence using the starter “this is important because...” or “This affects us today because ...”	

Pause, Star, Rank	At the end of the presentation, have students review their notes and put stars next to the most important concepts. Have them select the three most important concepts and write a summary for each one. Have them rank the sentences I order of most important. Have students share what they starred and how they ranked their summaries in small groups than as a whole group.	Have students look over their notes and analyze the pros and cons of each concept as they rank them.	
Key-Word Dance	After a presentation, have students review their notes and select a specific number of the most important words that describe the big idea from their notes (15-20). Have the students create a Key-Word Dance. Students use the words they chose to write their own poem. In small groups ask them to share their poems and explain why the words they chose represent the big ideas. Ask for volunteers to share.	Have students defend and explain why they chose the words they did and how they made them “dance” in their poems.	
Debate Team Carousel	Create a prompt that requires students to use their judgment and the content presented to take a position. Have the prompt visible so students can refer to it while completing the boxes on the worksheet. All students need the worksheet. Have them record their judgment and rationale in the first box. Have them pass their papers to the right, read and add supporting rationale to their peer’s judgment. Ask them to pass their papers to the right and	Don’t explicitly tell students what typical sides of the argument are. Let them form their own opinions.	

	<p>read what is in both of the boxes their peers have written in. Have them add something in the third box that could be used as an opposing rationale. Have them pass their papers to the right and add their own opinion in the last box. Have them return the papers to their original owner. Ask for volunteers to share some of their arguments for or against the argument.</p>		
Blogging	<p>Have students each create their own blog. These blogs can be used like a journal. They can also be used to have students respond to prompts. Students can comment on each other's posts and give constructive feedback.</p>	<p>Allow students to take their own side on arguments and back up their rationale with research and evidence.</p>	
Classroom Clickers	<p>Students are given a classroom clicker which they can use to answer questions on the board. Results can be shown in a graph so that students can see how many of their peers believe certain things.</p>	<p>Have students talk with each other and explain how they got their answers and discuss any wrong answers they may have gotten. Ask questions that aren't straight forward and allow opportunities for students to justify their responses.</p>	