



Master Lesson Plan

For

Jugs and Mugs

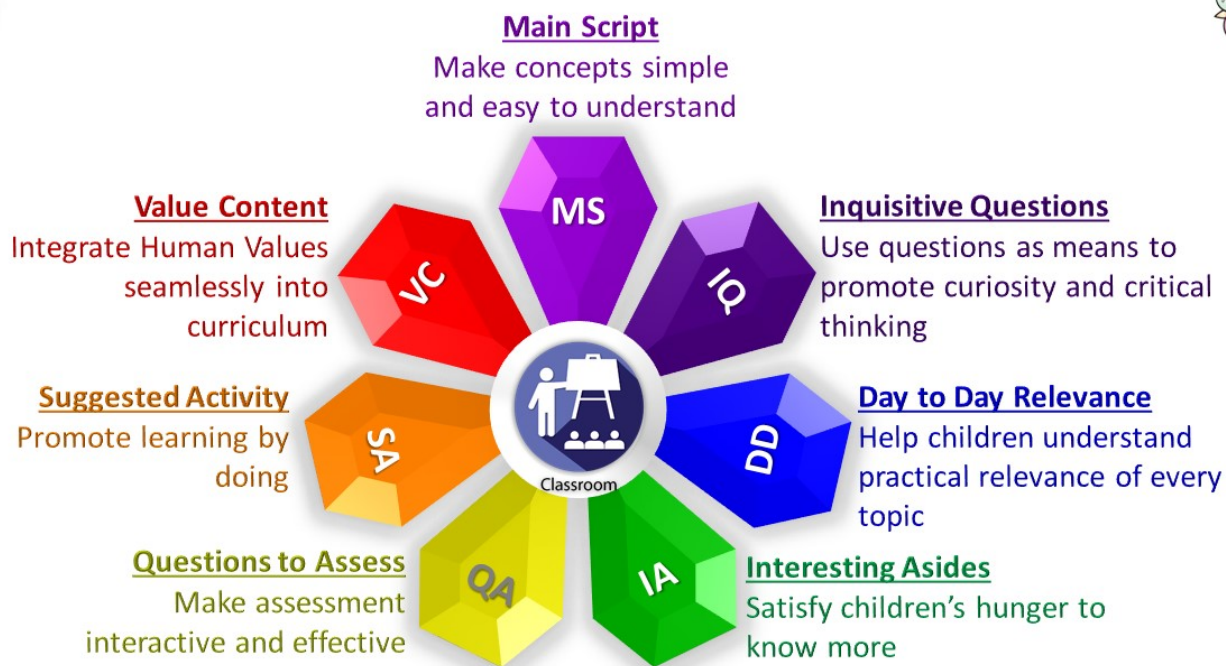
Board	Standard	Subject	Chapter	Language	Reference Link	Creation date
CBSE	STD III	Mathematics	Jugs and Mugs	English	Jugs and Mugs	2021-03-12 02:49:33

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Master Lesson Plan (MLP) - Covers the entire chapter with the help of these 7 asset types



For more information on how to use the lesson plan effectively, please scroll to the guidelines at the end of this document.

Jugs and Mugs

1. MS_Objectives_Jugs and Mugs

Objectives - Jugs and Mugs

Notes to the teacher: This asset lays down the proposed plan for transacting this chapter.

It states the asset objectives of the MLP.

This asset is for teacher's reference and need not be taught to the students.

Students will be able to

1. Explain the concept of capacity of various vessels for liquids
2. **Inter convert** the units of liquid volume
3. Analyse ,estimate and compare the capacities of various water bodies and containers
4. Know the differences in capacities in various kinds of vessels
5. Demonstrate different capacities of vessels
6. Recall various concepts they've learnt about capacities
7. Know that having enough of what is needed is always better than having more

Time to teach	Asset Type	Theme	SubTheme
2 Minutes	Main Script	Measurement	Measurements of Liquids, Measurements of Liquids

2. IQ_Capacity-Which holds more?

The teacher could ask the following questions to the students and allow them to give their responses:

1. Which holds more water - the sea or a lake?

Answer: Area of the sea is more than that of the lake. Hence the sea holds more water.

(The teacher could explain this to the class by giving the area of a lake and sea.)

Which holds more water - sea or lake?



2. There are two different sized buckets. Bucket A holds 15 mugs of water and Bucket B holds twice as much water as Bucket A. How many mugs of water can Bucket B hold.

Answer: Bucket B is twice the size of Bucket A. Hence bucket B can hold two times the size of Bucket A.

$$2 \times 15 = 30 \text{ mugs}$$

List of the image links in the asset:

Lake: <https://pixabay.com/photos/boat-rowing-boat-lake-water-1620452/>

Sea: <https://pixabay.com/photos/california-sunset-dusk-sky-clouds-1751455/>

Time to teach	Asset Type	Theme	SubTheme
2 Minutes	Inquisitive Questions	Measurement	Measurements of Liquids, Measurements of Liquids

3. MS_Capacity

The teacher could demonstrate the concept of capacity in liquids with the help of the following materials:

Materials Required: PowerPoint presentation and materials like pots, cups, spoons, mug bucket, glass.

Teacher starts the class by asking about some measuring tools.

How can we measure the height of a person? Can we use a weighing scale to measure the height?

Can we measure liquid like water using a scale?

“What is liquid?”

Liquid is a substance that can flow freely like water, oil, juice, petrol etc.

Solids are weighed using weights, but liquids are weighed using weight and volume. Because liquids take the shape of the container in which it is contained. It is convenient to measure liquids using volume.



In the above picture liquids are in different containers, the shape of the liquid is different in each container because liquids take the shape of the container.

The teacher can explain using different liquids like, juice, oil, buttermilk etc.

Teacher can show two objects, a spoon and a glass and ask which can hold more water.



The glass can hold more water.

The teacher can show a bucket and a mug and ask which can hold more water.



The bucket can hold more water than the mug.

The teacher can ask which will hold less water between the bucket and the bathtub.



The bucket will hold less water.

Then the teacher can show a mug and a bowl and ask which of the two will hold less water.



The bowl will hold less water.

For liquids like water, juice, oil, the maximum quantity a container can hold is called **capacity**.

Can you guess how many glasses of water this jug can hold?



- Fill the glass with water and pour it into the jug.

- The water jug can hold 6 glasses of water.
- **The capacity of the water jug is six times the capacity of the glass.**

Teacher shall take a mug and a bowl. Have a bucket filled with water. Ask the students how many bowls of water can the mug hold.

- Call one of the students to come and fill the mug with the bowl of water and count the number of bowls it can hold.
- The mug can hold about four bowls.
- **The capacity of the mug is 4 times the capacity of the bowl.**



Teacher can explain capacity with one more example. Take a mug and an empty bucket. Keep another bucket filled with water.



- Call another student to come and fill the bucket with the mug and count the number of mugs full of water it can hold.
- The bucket can hold about 20 mugs.
- **The capacity of the bucket is 20 times the capacity of the mug.**

List of the image links in the asset:

Glass: <https://pixabay.com/photos/calm-water-clear-drink-glass-2315559/>

Bottle: <https://pixabay.com/photos/olive-oil-greek-oil-olive-bottle-356102/>

Bowl: <https://pixabay.com/photos/tea-herbal-tea-drink-hot-useful-3833600/>

Jug: <https://pixabay.com/photos/jug-water-desire-boiling-hot-3464829/>

Can: <https://pixabay.com/photos/milk-can-glass-milk-glass-of-milk-1990075/>

Glass: <https://pixabay.com/photos/glass-water-napkin-sky-reflection-2875091/>

Spoon: <https://pixabay.com/photos/teaspoon-coffee-spoon-metal-eat-554065/>

Mug: <https://openclipart.org/detail/84601/mug>

Bucket: <https://openclipart.org/detail/213904/bucket-coloured>

Bath Tub: <https://openclipart.org/detail/213904/bucket-coloured>

Bowl: <https://pixabay.com/photos/singing-bowl-bobbin-with-felt-cover-185211/>

Jug: <https://pixabay.com/illustrations/ceramic-jug-water-jug-white-jug-1779307/>

Glass: <https://openclipart.org/detail/13842/beverage-glass-tumbler>

Time to teach	Asset Type	Theme	SubTheme
25 Minutes	Main Script	Measurement	Measurements of Liquids, Measurements of Liquids

4. MS_Unit and comparison

Unit And Comparison

Materials Required: PowerPoint presentation and materials like different containers

Teacher shall start the class by showing the power point presentation.

Take any six different sized and shaped containers.

Pour the same quantity of water in different shaped containers and mix different food colours in each container.



Ask the students to figure out which container holds the maximum amount of water.

Our eyes deceive us, and students would say the tall vase filled with red colour.

In reality, all the containers contain the same amount of water.

To make them understand, show the standard cup which you used to pour water in the container.

Same amount of water will be at different levels in different containers.

This shows that we need a container of known quantity to measure the capacity of liquids.

The standard unit to measure the capacity of liquids is called **litres**.

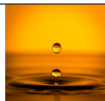
It is represented as ***l***

To measure the capacity of a very small quantity we use **millilitres**.

It is represented as ***ml***

1 litre = 1000 millilitres

A drop of water is about **1 *ml***



The capacity of a standard teaspoon is **5 ml**



Measuring jars are available in different capacities.



Show one litre bottle to the students. Collect different containers like a mug, jug, bowl, bucket, cooking pot, pot.

Pour water into these containers using one litre bottle and show the students which one holds more than one litre of water and which one holds less than one litre of water.

Draw a table on the board and fill it up.



Less than one litre	More than one litre

Then the teacher can take three different sized buckets.



Ask each student to guess and write in their notebook how many litres of water they can hold.

Check their answer by using a one litre bottle.

Draw the table given below on the board and ask them to draw it in their notebook and note their answer.

Bucket	My Guess	Actual Measure
Bucket 1		
Bucket 2		
Bucket 3		

Next take two pots of the same size. Call any two students to come to the front. Give them two different sized bottles to fill the pot. Keep a bucket full of water to use it to fill the pot.



Ask both the students to fill the pot using the water bottle. The student who used bottle one must have filled the bottle 16 times while the student who used bottle two must have filled the bottle 8 times to fill the pot.

The student who used the bottle one filled his bottle more because his bottle is half the size of the bottle two.

Bottle two can hold twice the amount of water than bottle one.

$$1\text{ l} = 500\text{ ml} + 500\text{ ml} = 2 \times 500\text{ ml} = 1000\text{ ml}$$

$$1\text{ l} = 250\text{ ml} + 250\text{ ml} + 250\text{ ml} + 250\text{ ml}$$

$$= 4 \times 250\text{ ml} = 1000\text{ ml}$$

List of the image links in the asset:

<https://pixabay.com/photos/lab-research-chemistry-test-217074/>

<https://www.pexels.com/photo/clean-clear-close-up-color-268858>

<https://www.pexels.com/photo/stainless-steel-spoon-39580/>

<https://openclipart.org/detail/182485/beakers>

<https://openclipart.org/detail/46069/coke-pet-bottle>

<https://openclipart.org/detail/169805/jug>

<https://openclipart.org/detail/213904/bucket-coloured>

<https://openclipart.org/detail/88981/earthen-pot>

<https://openclipart.org/detail/5182/pot>

<https://openclipart.org/detail/84601/mug>

<https://openclipart.org/detail/179982/stone-crockery-bowl>

<https://pixabay.com/illustrations/bucket-cleaning-wash-capacity-pen-1643406/>

<https://pixabay.com/vectors/pot-jug-jar-terracotta-pot-311492/>

<https://pixabay.com/vectors/bottle-mineral-water-1295207/>

Time to teach	Asset Type	Theme	SubTheme
25 Minutes	Main Script	Measurement	Measurements of Liquids, Measurements of Liquids

5. DD_Uses of Capacity in Daily Life

Uses Of Capacity In Daily Life

The teacher could discuss the following examples where the concept of capacity is applied:

1. Measurement of capacity and volume is important in our day to day life.
2. When we fall sick the doctor prescribes medicine to be taken in specific quantities. If we take too little there won't be any result and if we take more it would be dangerous.



3. Cooking any meal requires measurement.



4. The simplest recipe of preparing lemonade requires a specific amount of all ingredients - lemon, sugar and water, without the specific quantity the juice will not be tasty.



List of the image links in the asset:

Syringe: <https://www.pexels.com/photo/close-up-of-white-syringe-1537009/>

White Tablets: <https://www.pexels.com/photo/person-holding-white-medication-tablet-1389104/>

Ingredients: <https://www.pexels.com/photo/aroma-chili-condiments-cook-357743/>

Lemon: <https://www.pexels.com/photo/close-up-photo-of-sliced-yellow-lemon-on-white-surface-1414110/>

Sugar: <https://www.pexels.com/photo/berry-close-up-cooking-delicious-141815/>

Water: <https://www.pexels.com/photo/adult-blur-bottle-close-up-279947/>

Cooking Items: <https://www.pexels.com/photo/food-vegetarian-kitchen-cooking-33242/>

Time to teach	Asset Type	Theme	SubTheme
2 Minutes	Day-to-day Relevance	Measurement	Measurements of Liquids, Measurements of Liquids

6. IA_More or Less

The following demonstration could be used to help students assimilate the concept of different capacities:

1. Teacher can keep an empty bucket, a mug, a bowl, a spoon and a glass on the table with a bucket full of water beside it.
2. Ask a student to fill the different containers with water using the bowl and find out which holds more water than a bowl and which holds less water than a bowl.



**** Capacity is nothing but the amount of liquid a container can hold. The standard units of measuring capacity are liters(l) , milliliters(ml) for example water bottle can hold 2 liters, a cup can hold 250 ml of milk.**

***** Three countries in the world do not use this standard metric system. They are Liberia, Myanmar and the United states of America. In the United states of America, liquids are measured in gallon, quart, pint, cup, fluid ounce, table spoon and teaspoon.**

List of the image links in the asset:

Bucket: <https://openclipart.org/detail/213904/bucket-coloured>

Mug: <https://openclipart.org/detail/84601/mug>

Bowl: <https://openclipart.org/detail/216370/empty-bowl>

Spoon: <https://openclipart.org/detail/174135/spoon>

Glass: <https://openclipart.org/detail/217721/water-glass-lineart>

Water Bucket: <https://pixabay.com/illustrations/bucket-cleaning-wash-capacity-pen-1643406/>

Time to teach	Asset Type	Theme	SubTheme
3 Minutes	Interesting Asides	Measurement	Measurements of Liquids, Measurements of Liquids

7. IQ_Critically Think

Critically Think

The following question could be presented to the students and their responses could be noted:

If one bucket of water can hold 9 litres. How many litres can 8 such buckets hold?

Answer:

Write the statements

$$9 \times 8 = 72 \text{ litres}$$



List of the image links in the asset:

<https://pixabay.com/illustrations/bucket-cleaning-wash-capacity-pen-1643406/>

Time to teach	Asset Type	Theme	SubTheme
3 Minutes	Inquisitive Questions	Measurement	Measurements of Liquids, Measurements of Liquids

8. SA_Comparing the capacities

Comparing The Capacities

Aim: To find the capacity of three different bowls.

Resources Required: Three small different sized bowls, a table spoon and a pack of green gram dal.

Procedure:

1. Ask each student to fill their bowl with green gram dal using the table spoon..



2. Let them note down the capacity of each bowl in terms of a table spoon and fill the table below.

Container	Number of tablespoons of green gram dhal it can hold. (Capacity)
Bowl 1	
Bowl 2	
Bowl 3	

Instructions to Teacher:

This is an individual activity. Can be given as homework.

Conclusion : Capacity of different bowls are identified and tabulated.

List of the image links in the asset:

<https://pixabay.com/vectors/bowl-breakfast-muesli-red-water-307839/>

<https://pixabay.com/vectors/bowl-dish-grey-brown-empty-plain-307250/>

<https://pixabay.com/vectors/bowl-empty-dish-container-eat-305735/>

Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Suggested Activity	Measurement	Measurements of Liquids, Measurements of Liquids

9. VC_More is not always good

Children! You can drink a glassful of milk. But can you drink a 'bucketful' of milk? No possible.

More of anything which we don't need is called excess and excess always leads to trouble.

Story Time:



A mouse once saw a basket full of corn. He wanted to eat it. So he made a small hole in the basket. He squeezed himself inside the basket through the hole. He ate a lot of corn. He fel

full and was very happy. Now he wanted to come out. He tried to come out through the small hole. He could not. His belly was full. He tried again. But it was of no use.

The mouse fell asleep in the basket. The next morning his belly had shrunk and he could have squeezed himself out again. But he wanted to eat some more corn. He forgot all about getting out of the basket. So he ate the corn and his belly was really big again.

After eating, the mouse remembered that he had to escape. But obviously, he could not. So he went back to sleep again.

A snake was passing by. He smelt the mouse in the basket. He lifted its lid and ate the mouse.



So Children! More is not always good. But enough of what is needed is always good.

Story source: Sri Sathya Sai Vidya Jyothi Bal Vikas Guru Manual Group I for Sri Sathya Sai Vidya Jyothi adopted schools.

List of the image links in the asset:

Basket: <https://pixabay.com/photos/basket-shopping-basket-isolated-1710064/>

Corn: <https://www.pexels.com/photo/close-up-photo-of-popcorn-806880/>

Mouse brown: <https://pixabay.com/photos/animal-attractive-beautiful-boy-1238228/>

https://cdn.pixabay.com/photo/2016/03/29/19/57/snake-1289159__340.jpg

Time to teach	Value Type	Value Sub Type	Value Attribute
3 Minutes	Truth	Discrimination	Stories

10. SA_Estimate and check the capacity

Estimate And Check The Capacity

Aim: To estimate the capacity of each container and check it with the actual capacity.

Resources Required: Cooker, Vessel, Bucket, Pot

Procedure:

1. Either take a printout or write the table on the board and ask the students to copy it.
2. Ask them to estimate the capacity of each item at their home and check it using a one liter bottle to get the actual value.

Items	Estimated value in litres	Actual capacity in litres
Cooker		
Vessel		
Bucket		
Pot		

Instructions to Teacher: This is an individual activity. To identify the actual capacities of the containers using labels available on the container. Can be given as homework.

Conclusion: Students learn to estimate the capacity of various containers.

Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Suggested Activity	Measurement	Measurements of Liquids, Measurements of Liquids

11. QA_Lets Recall- I

The following questions are to be presented to the students:

1. Color the correct amount of liquid in each container.



Full



Half



Empty

1. The maximum quantity of liquid a container can hold is called _____.
2. A bucket holds _____ water than a cup.
3. A cup holds _____ water than a bathtub.

4. A small jug can hold 5 cups of water. How many cups of water would another jug which is twice the size of the small jug can hold?

Answers:

1. Colour the correct amount of liquid in each container.



2. The maximum quantity of liquid a container can hold is called **Capacity**.

3. A bucket holds **More** water than a cup.

4. A cup holds **less** water than a bathtub.

5. A small jug can hold 5 cups of water. How many cups of water does another jug which is twice the size of the small jug can hold?

The other jug is twice the size of this jug, it is two times the capacity of this, so $2 \times 5 = 10$. It can hold 10 cups of water.

Time to teach	Asset Type	Theme	SubTheme
5 Minutes	Assessments	Measurement	Measurements of Liquids, Measurements of Liquids

12. QA_Lets Recall - II

1. Write the following questions on the board or take a print out of the questions

- _____ *ml* makes one litre.
- 4l is equal to _____ *ml*.
- Compare with >, < or = sign, 2000 l _____ 200 l
- Which is more 3l or 3ml?
- What is the capacity of a bucket? Is it less than 2l or more than 2l.
- _____ is the unit used to measure the cough syrup.
- Water in a tub is measured with the unit _____
- The capacity of a mug is about 1 *ml* or 1l. _____

9. The capacity of a water tank A is 150/ and the capacity of water tank B is 320/. Which water tank weighs more and by how much.
0. Circle the unit to measure the quantity of tea in a cup.

ml g cm

Answers:

1. **1000 ml** are in one litre.
2. 4 / is equal to **4000 ml**.
3. Compare with >, < or = sign, 2000 / **>** 200 /
4. Which is more 3 / or 3 ml? **3 / is more**
5. What is the capacity of a bucket? Is it less than 2 / or more than 2 /.

More than 2 /

6. **ml** is the unit used to measure the cough syrup.
7. Water in a tub is measured in the unit **litre**
8. **The capacity of a mug is about 1 ml or 1 l . 1 l**

9. The capacity of water tank A is 150 / and the capacity of water tank B is 320 /. Which water tank weighs more and by how much.

Water tank B is more.

$$320 - 150 = \mathbf{170 /}$$

10. Circle the unit to measure the quantity of tea in a cup.

ml g cm

Time to teach	Asset Type	Theme	SubTheme
5 Minutes	Assessments	Measurement	Measurements of Liquids, Measurements of Liquids

13. MS_Summary_Jugs and Mugs

Summary - Jugs and Mugs

In this lesson we learnt:

1. The concept of capacity of various vessels for liquids
2. To **inter convert** the units of liquid volume
3. To analyze, estimate and compare the capacities of various water bodies and containers that can hold liquids
4. To demonstrate capacities of different vessels
5. To apply, what they've learnt about capacities
6. To know that having enough of what is needed is always better than having more

Time to teach	Asset Type	Theme	SubTheme
2 Minutes	Main Script	Measurement	Measurements of Liquids, Measurements of Liquids

Master Lesson Plan

Seven Asset Methodology for MLP

What is the purpose of this Master lesson Plan?	This Master Lesson Plan (MLP) prepared by Sri Sathya Sai Vidya Vahini (SSSVV), covers the entire chapter for the given board. The MLP for the chapter given in the textbook is broken down into smaller modules known as assets. Any chapter can be taught using the 7 asset types in SSSVV methodology. Several different assets together complete the entire chapter. Depending on the requirement, each asset is supported by teaching aids such as animated presentation, audio, video, and learning aids such as worksheets. The MLP is for the teacher's preparation and the teaching aids are for use in the classroom.
How to use it?	You can prepare for your class with this MLP by following 3 simple steps: 1. Read your textbook; 2. Go through the information given in the assets (document & multimedia); 3. Prepare your teaching notes. Great! Now you are ready to transact the chapter.
Duration	Kindly note the duration given for each asset. Due care has been taken in planning the assets, to ensure the chapter is completed within the time specified by the Board. Note: Preparation time is not included in the asset duration. The teaching time depends on the duration of the teaching aids and is not impacted by the length of the MLP.
What is a 'Main Script' (MS) Asset?	The Main Script asset is there for explaining the main concepts of the chapter clearly. The information given in the textbook is simplified, organised and structured to give more clarity. Additionally, you may find a video or mnemonics or a graphic organiser to deepen the understanding of the concept.
How to teach using the MS asset?	Please use the blackboard, slides and interaction to develop the concept.
What is an 'Inquisitive Questions' (IQ) asset?	The Inquisitive Questions asset uses questions to promote higher order thinking like the n^{th} why, what-if, new perspectives, cause-effect, and others, creating curiosity.
How to teach using the IQ asset?	You may use the questions to connect with the students, encourage exploration to engage them in the learning process. You may allow multiple responses and instead of rejecting any of the responses, ask why, before revealing the suggested answer or hints.
What is a 'Day to day Relevance' (DD) Asset?	The Day to Day Relevance asset helps students understand the practical relevance of every topic, making them eager participants in the classroom. If students connect the concepts to their environment, they would learn meaningfully without dislike or simply memorizing for exams.

How to teach using the DD asset?	You may use the asset by asking questions about their experience and use it to establish why they are learning the topic. If necessary you may substitute with a recent or local example.
What is an 'Interesting Aside' (IA) asset?	The Interesting Aside asset uses attention grabbing titbits or anecdotes to bring joy and satisfy the child's hunger to know more. This is a quick/short asset intended to bring attention back to the main concept being taught.
How to teach using the IA asset?	You may use this asset to give a piece of interesting information relevant to the topic, without prolonged explanation/discussion. You may suggest appropriate books for further reading.
What is a 'Suggested Activity' (SA) Asset?	The Suggested Activity asset provides a detailed step by step procedure for the teacher to conduct a hands-on activity. This promotes Activity Based Learning.
How to teach using the SA asset?	You may use this asset to energise your students to learn by doing simple, fun-filled activities based on the topic. The asset includes - preparation, activity, and follow-up. You may engage the students in the preparation and follow-up stages to develop collaboration and responsibility. You could try it once, yourself, before the actual delivery to be more comfortable with it. Note: The duration mentioned in the asset is usually for the activity part only.
What is a 'Value Content' (VC) Asset?	The Value Content asset integrates Universal Human Values (such as empathy, inclusivity, respect for nature that translates into responsible behaviour) seamlessly into the curriculum, as the "End of education is character".
How to teach using the VC asset?	You may use this asset to engage with the students to bring out their innate values and connect with the intrinsic values in the topic/concept. The asset includes pointers on the specific pedagogical technique followed.
What is a 'Questions to Assess' (QA) asset?	The Questions to Assess asset uses an interactive approach to check learning of different types of learners, and provides feedback to the teacher for appropriate action. The questions cater to all the levels of Bloom's Taxonomy. Questions from 'Apply' level and above enable students to reflect on their learning.
How to teach using the QA asset?	You may go through the slides to understand its flow and know when to click for the answer (slides include suggested answers). While presenting in the class, you may display the question and encourage multiple responses, before revealing the answer. In some cases, this asset may include extra questions/worksheet that can be given as homework.