

Dependent Sequence

Source lesson: From One Dot To A Wall

Full lesson	
TIME	32 minutes
OBJECTIVE	Put Vashti's dots in the order she made them, and explain why the order matters.
STUDENT PRODUCT	A labelled strip of dots in order
FOCUS	A sequence where each step depends on the one before
ESSENTIAL QUESTION	Could she have made the last dot first?

Materials

- The book
- Pages 6, 12 and 15, found before the lesson
- One strip each, with the first dot drawn in

Text to mark before teaching

- Passage 6 — one small dot, pushed back across the table
- Passage 12 — mixing, at an easel
- Passage 14 — a canvas taller than she is, and a brush on a long pole
- Passage 15 — the school art show, a wall of framed dots and a sculpture on a plinth

Lesson sequence

1 Launch · 4 min

Focus:	From one dot to a whole wall
Teacher direction:	Show the page with one small dot on it and then the page of the art show. Ask how you get from the first to the second. Then say the book shows every step, in order.
Prepared text:	Passage 6, Passage 15

2 Teacher model · 6 min

Teacher model:	I read the mixing page and I stop on the word discovered. She did not plan the purple dot. She had a blue one and a red one, they ran into each other, and she found out something. That is a step you could not have taken first, because you need two colors before you can mix any.
Prepared text:	Passage 12

3 Put the dots in order · 12 min

Focus:	Each step needs the last one
Teacher direction:	Using Passages 6, 12 and 15, put Vashti's dots in the order she made them, and say why each step had to come after the one before.

Expected answer:	First there is one small dot on a sheet of paper, signed. Then come dots in single colors - yellow, green, red, blue - and then purple, which she does not plan but discovers when the blue runs into the red, so it has to come after having two colors. Then lots of little dots in many colors, then bigger dots on bigger paper with a bigger brush, and then a dot made by painting everything except the dot. By the art show they fill a wall, in every size, all signed. Each step uses what the step before taught her.
Student product:	A strip of dots in order, labelled
Prepared text:	Passage 6, Passage 12, Passage 15

4 The strangest step · 10 min

Focus:	A dot made of nothing
Teacher direction:	Using Passages 12 and 14, write which step is the odd one out, and why it could not have come first.
Expected answer:	The odd one is the dot she makes by not painting a dot: she covers the whole of a canvas taller than she is, using a brush on a long pole, and the dot is the piece she leaves alone. It could not have come first, because to see that a dot could be the part you do not paint, you have to have painted a great many dots the ordinary way. The purple step is the same kind of thing - it needed the blue and the red to exist before it could be discovered.
Prepared text:	Passage 12, Passage 14

Teacher guidance

Why this text works: Sequence lessons are often just retelling with numbers on. This one is not, because the steps genuinely depend on each other and the class can test that by trying to reorder them: you cannot mix purple before you have two colors, and you cannot leave a dot unpainted until you have understood what a dot is. Ask could this one have come first about each step and let them argue. Watercolors and one big sheet afterwards would not be wasted - the purple discovery is worth having for real.

Expected answer:	Vashti's dots come in an order and the order is not arbitrary. One small dot, signed. Then single colors, one at a time. Then purple, which she does not set out to make - the blue runs into the red and she discovers it. Then many little dots in many colors; then bigger dots, on bigger paper, with a bigger brush; and then a dot made by painting all of a canvas except the dot.
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By the school art show they cover a wall in every size, and one of them is not a painting at all. Every step uses something the step before it taught her.

Model: I notice the word discovered. The purple dot is not something Vashti decided to do - it happened because two of her dots ran together, and she noticed. That is different from every other step, and it is exactly what her teacher told her to do on the first page: make a mark and see where it takes you.

Support and extension

Above: Choose the step you think Vashti was proudest of and defend it with the pictures.

Below: Fill in the strip in order, then write which step could not have come first.

Assessment

Look for:

- Puts the single dot first.
- Puts the colored dots before the purple one.
- Says the purple dot came from blue and red mixing.
- Puts the biggest dots near the end.
- Says the wall of dots at the art show came last.

Short version	
TIME	17 minutes
OBJECTIVE	Put Vashti's dots in the order she made them, and explain why the order matters.
STUDENT PRODUCT	A labelled strip of dots in order
FOCUS	A sequence where each step depends on the one before
ESSENTIAL QUESTION	Could she have made the last dot first?

Materials

- The book
- Pages 6, 12 and 15, found before the lesson
- One strip each, with the first dot drawn in

Text to mark before teaching

- Passage 6 — one small dot, pushed back across the table
- Passage 12 — mixing, at an easel
- Passage 14 — a canvas taller than she is, and a brush on a long pole
- Passage 15 — the school art show, a wall of framed dots and a sculpture on a plinth

Lesson sequence

1 Launch · 3 min

Focus:	From one dot to a whole wall
Teacher direction:	Show the page with one small dot on it and then the page of the art show. Ask how you get from the first to the second. Then say the book shows every step, in order.
Prepared text:	Passage 6, Passage 15

2 Teacher model · 4 min

Teacher model:	I read the mixing page and I stop on the word discovered. She did not plan the purple dot. She had a blue one and a red one, they ran into each other, and she found out something. That is a step you could not have taken first, because you need two colors before you can mix any.
Prepared text:	Passage 12

3 Put the dots in order · 6 min

Focus:	Each step needs the last one
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Teacher direction:	Using Passages 6, 12 and 15, put Vashti's dots in the order she made them, and say why each step had to come after the one before.
Expected answer:	First there is one small dot on a sheet of paper, signed. Then come dots in single colors - yellow, green, red, blue - and then purple, which she does not plan but discovers when the blue runs into the red, so it has to come after having two colors. Then lots of little dots in many colors, then bigger dots on bigger paper with a bigger brush, and then a dot made by painting everything except the dot. By the art show they fill a wall, in every size, all signed. Each step uses what the step before taught her.
Student product:	A strip of dots in order, labelled
Prepared text:	Passage 6, Passage 12, Passage 15

4 The strangest step · 4 min

Focus:	A dot made of nothing
Teacher direction:	Using Passages 12 and 14, write which step is the odd one out, and why it could not have come first.
Expected answer:	The odd one is the dot she makes by not painting a dot: she covers the whole of a canvas taller than she is, using a brush on a long pole, and the dot is the piece she leaves alone. It could not have come first, because to see that a dot could be the part you do not paint, you have to have painted a great many dots the ordinary way. The purple step is the same kind of thing - it needed the blue and the red to exist before it could be discovered.
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