Name: _____ Date: _____

Railroad Tracks Meet at a Dot

Circle group

Stand on a long train track. Look far down the line. The two rails seem to come close. Far away, they seem to meet at one spot. But they do not touch. They stay the same space apart. Your eyes just see them squeeze together.

Artists use this trick. It makes a flat page look deep. First, the artist draws a line across the page. It is the horizon, where the land meets the sky. Next she puts a dot on that line. The dot is the vanishing point. Then she draws lines from near her to the dot. Roads, fences, and tracks can be drawn this way.

Far things look small. A tree near the dot is drawn tiny. A tree in front is drawn big. Now the flat page looks like a window.

Questions

1. Do the two rails really touch?

_____

_____

2. What is the line where the land meets the sky called?

_____

_____

3. What is the dot on the line called?

_____

_____

4. What can be drawn with lines that go to the dot?

_____

_____

5. Why is a far tree drawn small?

_____

_____

6. Why does the page look like a window?

_____

Words to know

horizon: the line far away where the land seems to meet the sky

vanishing point: the spot where lines in a drawing seem to meet

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Railroad Tracks Meet at a Dot

Triangle group

Stand on a long, straight railroad track and look far down the line. Something odd seems to happen. The two rails look as if they are coming closer together. Far away, they seem to meet in a single point. Of course, the rails never really touch. They stay the same distance apart all the way. But your eyes see them squeeze together as they stretch away from you.

Artists use this trick to make a flat sheet of paper look deep. Here is how it works. First, the artist draws a line across the page for the horizon, where the land meets the sky. Next, she makes a small dot on that line. This dot is called the vanishing point. Then she draws lines that start near her and slope toward the dot. Roads, fences, and railroad tracks can all be drawn this way.

Things in the distance also look smaller than things close up. A tree near the dot is drawn tiny, while a tree at the front is drawn large. Put the two ideas together, and a flat drawing seems to open up like a window. Your eye can walk right into the picture.

Questions

1. What does the passage say really happens to the two rails of a track?

_____

_____

2. What is the line called where the land meets the sky?

_____

_____

3. What is the dot on the horizon called?

_____

_____

4. What kinds of things can be drawn with lines that go toward the dot?

_____

_____

5. Why does an artist draw a faraway tree smaller than a tree up front?

_____

_____

6. Why does the passage say the picture opens up like a window?

_____

_____

Words to know

horizon: the line far away where the land seems to meet the sky
vanishing point: the spot where lines in a drawing seem to meet
distance: how far apart two things are
slope: to lean or slant up or down

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Railroad Tracks Meet at a Dot

Square group

Stand on a long, straight railroad track and gaze far down the line, and something curious seems to occur. The two rails appear to drift closer together until, in the distance, they seem to meet at a single point. In truth, the rails never touch, since they remain exactly the same distance apart along their whole length. It is only your eyes that see them squeeze together as they stretch away from you.

Artists borrow this effect to make a flat sheet of paper look deep. The process begins when the artist draws a line across the page to stand for the horizon, the place where the land seems to meet the sky. Next, she places a small dot on that line, and this dot is known as the vanishing point. Then she draws lines that begin near her and slope toward the dot. Roads, fences, and railroad tracks can all be drawn in this manner.

Objects in the distance also look smaller than objects nearby. A tree close to the dot is drawn tiny, whereas a tree at the front is drawn large. Combine the two ideas, and the flat drawing seems to open like a window, inviting the viewer's eye to wander into the scene.

Questions

1. What does the passage say is truly happening to the two rails of a track?

_____

_____

2. What is the line where the land seems to meet the sky called?

_____

_____

3. What name is given to the dot on the horizon?

_____

_____

4. Which things can be drawn using lines that slope toward the dot?

_____

_____

5. Why does an artist draw a distant tree smaller than a tree at the front?

_____

_____

6. Why does the passage compare the finished drawing to a window?

_____

_____

Words to know

horizon: the line far away where the land seems to meet the sky
vanishing point: the spot where lines in a drawing seem to meet
distance: how far apart two things are
slope: to lean or slant up or down

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

For the teacher: Railroad Tracks Meet at a Dot

Each student sheet carries a shape, not a level. The same topic and facts, written three ways.

Circle: Railroad Tracks Meet at a Dot

Easier · 135 words · Flesch-Kincaid grade 0.2

1. No. They stay the same space apart.
2. The horizon.
3. The vanishing point.
4. Roads, fences, and tracks.
5. Far things look small to our eyes.
6. The tricks make a flat page look deep.

Triangle: Railroad Tracks Meet at a Dot

This passage · 196 words · Flesch-Kincaid grade 2.9

1. They never touch and stay the same distance apart.
2. The horizon.
3. The vanishing point.
4. Roads, fences, and railroad tracks.
5. Things far away look smaller to our eyes, so the drawing matches what we see.
6. The tricks make a flat page seem deep, as if you could look through it.

Square: Railroad Tracks Meet at a Dot

Harder · 207 words · Flesch-Kincaid grade 6.4

1. They never touch and stay the same distance apart.
2. The horizon.
3. The vanishing point.
4. Roads, fences, and railroad tracks.
5. Distant things look smaller to our eyes, so the drawing matches what we see.
6. The tricks make a flat page seem deep, as though you could look through it.