

WHAT DID SANTA BRING ?

Santa and the elves have been working very hard up at the North Pole to get ready for Christmas. Unfortunately, some of the elves decided to play tricks on Santa this year. Instead of putting toys in all of the packages they put small lumps of coal in some! Santa needs you to help him find which packages have the lumps of coal. The lumps of coal were only placed in plain boxes. Boxes with fancy interiors do not have coal. You will need to work with your group to determine what the inside of each box "looks like". By gently tipping, shaking, and moving the packages your group will draw a diagram of the inside of each box.



QUESTIONS TO ASK STUDENTS:

- ⊗ Do you think all of the boxes will be the same?
- ⊗ How many do you think will have coal?
Carefully investigate one box with your group.
- ⊗ What shape is the inside?
- ⊗ Does it match the outside?
- ⊗ When you tip, shake and move the box what do you feel? What do you hear?
- ⊗ How many corners do you think are inside the box? How can you tell?
- ⊗ What helped you form ideas on what the box looked like on the inside?
- ⊗ Are all the boxes the same?

Trade your package with another group and investigate the new package. Continue until you have examined all of the packages.

- ⊗ How many different fancy interiors did your group find?
- ⊗ Compare what is happening inside each gift. Diagram and share your inferences about what Santa has brought.
- ⊗ Where the interiors your group drew the same as the interiors other groups drew? Why or why not?
- ⊗ Did your group find any packages with coal?

INSTRUCTIONS FOR SANTA'S HELPER



Using 6 boxes with the same dimensions make a change in five of the boxes using cardboard and tape so the marble doesn't roll directly to at least one corner. Leave one box unaltered. This is the box with the "coal". Place a marble or two in each box before carefully sealing up the boxes and wrapping them up like gifts. Place gift labels on each package for identification. Have groups of children investigate one box for each group and try to come to a consensus on what the interior "looks like". Then have them trade packages and investigate a new box. When everyone has "seen" all the packages have the class compare their drawings.

Possible box configurations

