General Interaction Ideas: Measurement

Step in Progression	Interaction Ideas
Identifying the attribute	As children are exploring their environment draw their attention to the attributes of the objects they are playing with. For example, let's go and find … • A long stick • A short piece of string • A heavy rock • A light bag • A short teddy • A full cup • An empty box Extend children's understanding by showing them what you mean before you ask them to find certain objects. For example: • That's a heavy rock, you feel it. Can you find another heavy one? • Laura's got an empty box. Can you find another empty one? Ask children to describe their thinking: • How do you know that is a short one? • Why do you think that is a heavy one? • Why is that an empty one? Watch for: Do children show their understanding of concepts such as long, heavy and empty by using these words appropriately in their play?
Direct comparison	As children play with objects ask questions which encourage the comparison of the length, weight and volume of two or more items. Support them as they make these comparisons. • Which is longer? How could we check? • Which is shorter? How could we find out? • Which is lighter? Let's check both and find out. • Which is heavier? How can we check? • Which holds more? Let's find out. • Which holds less? Let's try both and see. Ask children to describe their thinking: • How do you know that is the shortest one? • Why do you think that is the heaviest one? • How can you tell that one holds more? Watch for: Can children check their thinking by directly comparing objects to see which are longer/shorter, lighter/heavier, and hold more or less? Do they change their thinking on the basis of these comparisons?

Indirect comparison	As opportunities arise in play, support children to compare the length of objects that cannot be moved. Use items such as string, wool, or sticks to make these comparisons. Use questions to guide the children's thinking. For example: • We can't move the two tables to compare them. How can we find out which is longer? • Let's use this string/wool/tape. How far along the string does this table come? • Now let's move the string to the other table. How far along the string does this table come? • Which is longer? How do you know? Ask children to describe their thinking as they measure: • How are you going to use the string to measure? • What are you doing with the string? What are you going to find out? • How do you know this one is shorter? Show me. Watch for: Can children use the string/wool accurately to compare the length of two objects? Do their comments show they understand how the string is used to make the comparison?
Using something to measure	Use the wide variety of objects available in the learning environment to measure. Suitable objects include: • Hands • Steps • Straws • Ice cream sticks • Bottle tops As opportunities arise in play encourage children to use objects to measure. Use questioning to guide children through the process. For example: • Do you think that jug or the bucket holds more? Let's use a cup to measure and find out. • I wonder, how many cups does that jug hold? • How many cups does the bucket hold? • So which holds the most? How many more cups does it hold? Ask children to describe their thinking as they measure: • What are you going to use to find out which container is larger? Can you tell me about it? • What are you doing with the cup? Can you tell me about it? • How do you know the pencil is longer? Show me. Where appropriate, ask children to estimate before they measure: • How many cups do you think it will take to fill the bucket? Let's find out. • How many paces long do you think your hut is? Let's check. Watch for:

	Do children demonstrate their understanding by making sure the unit stays the same? For example, do they make sure cups are always completely filled when measuring? Do children select an appropriate object to measure with? How reliable are their estimates?